

## IDEAS REFLECTED IN THE FUTURE PUBLIC TRANSPORT ASSOCIATION IN THE AREA OF BUDAPEST

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Received: November 10, 2000; Revised: February 6, 2001

### Abstract

Western countries with high motorisation realised years ago the fact that the excessive increase in the rate of motorisation would have to be restricted especially in densely populated urban areas. There have been enormous efforts to promote the public way of transport, which, however, can only be maintained with a highly professional structure and a management coupled with adequate financial provisions from the state. In the ex-socialist countries including Hungary, a great deal of change has been observed in the modal split towards the share of private cars. The increased use of private cars is threatening the dominance of the heritage of the past system, the rather low profile in terms of service standards but quite reliable in terms of timetable density and relatively cheap public transport. Following the examples of the West in this regard without paying attention to adjusting the specific characteristics in solutions of the problem can only bring about committing similar mistakes and thus paying an enormous price.

*Keywords:* Budapest Transport Association, urban public transport, setting fair tariffs.

### 1. Problems in Urban Transport in Hungarian Cities

It is only wise to learn from the mistakes of the West, i.e. of the almost total abandoning of public transport. On the other hand, where reasonable, cutbacks cannot be avoided. The clear solution seems to be a partly state-financed structure. We have had the opportunity for several years to closely look at the examples and to learn the lessons in France and in Germany [1] where public transport is totally market-oriented but partly state-financed.

Of course, the modal split in both countries is less favourable than in Hungary but due to enormous efforts it is on the increase and, moreover, the structure applied there deserves more attention. Our benefit of learning from the Western past could be a much more economic outcome of events and could also mean the retaining of the existing modal split values.

Beside the continuous decrease of modal split, a most important problem of the present Hungarian public transport sector, and in a way a reason for that, is the

very old rolling stock or more explicitly the lack of sufficient funds for the renewal. It must be examined what sort of state financing construction from what resources and the application of what kind of service standards will bring about the needed changes in the present situation.

The problems concern the country in various ways but the most interesting and also mostly affected areas are the urban centres and their catchment areas. Among them Budapest ranks the first, a capital and in many aspects a present and in many others a future regional centre in this Eastern part of Europe. The heritage of the past economic system is less and less able to cope with the dynamic challenges of increased quality standards and therefore, and partly due to the cancelling of certain lines and the decreasing of the timetable frequency of others, public transport is losing share. However, Budapest being a metropolis has the potential and the most chances to gradually switch to a market-oriented public transport service.

## **2. Justification of the Budapest Transport Association**

As the Budapest Transport Company, the BKV is dominating the market it would be more favourable to change the quality standards of transport service from inside. The idea of the complex unified tariff system of the Budapest Transport Association, the BKSZ [2] could mean changes of the present situation. However, this integrated system will hopefully bring about positive future changes in the perceived utility of travellers, it will be implemented with many difficulties and through long debates, since all the parties [3] concerned will experience a decrease of tariff income at first.

It is of utmost importance to realise this fact and to elaborate methods for making up this 'lost income' and to identify possible resources. Elaboration of a more competitive tariff system than the present one is a must.

### *2.1. Specific Problems of Partners of the BKV*

Debates on authority will result from the fact that the tariff policies of the three companies are dependent either on the municipality or the state. For example, the Volán companies still use cross financing for making up the inequalities between the profitability of their inter-city and city branches. While inter-city branches are free to set tariff levels and are thus profitable well explained by the rules of market economy, city lines struggle with losses resulting from their obligation to accept the decision of each city council to set tariffs at a socially acceptable level, which levels in many cases do not assure the conditions for profitability. The city council cannot decide on standards without granting funds. In this situation for the Volán companies the only choice is cross financing. And it is a certain share of the inter-city profit that will be the victim of the integration.

The situation is even worse if we look at what a small segment of the MÁV (Hungarian Railways) will be concerned by the changes induced by setting up the Budapest Transport Association. Therefore, any positive changes resulting from the new system will not coincide with the interests of the MÁV who will feel the adverse impacts rather than the positive changes.

In this regard, it is the BKV that should most enthusiastically emphasise the formation of the association, since the future operation territory of the BKSZ is the very territory of BKV's present activities and a good solution will contribute to the promotion of the BKV itself.

### *2.2. The Possible Scenario Regarding Tariff Changes*

By applying in-depth investigation of existing tariff differences for each possible journey the company now setting the lower tariff will perceive that the elimination of the differences in price will adversely change the present excess of travellers and thus the turnover so far experienced. However, it must also be examined whether the balance of cost-benefit is positive or not for each line, since in the latter case more passengers will only increase the deficit.

So the reasoning based on the fact that a company attracting more travellers must in the new system be entitled to receive the major part of the income cannot be judged right or wrong in itself. Projecting present shares of low profile service to future rights of income from higher service standard activities is totally false. Instead, it should be examined which provider to what extent will add to the building up of higher service standards.

### *2.3. A Just Allocation of Income Based on Quality Output*

As expected a pivot of debates will be the allocation of the income from the activities concerned. The allocation based on the share of use, i.e. on the result of simple traffic counts would seem evident for some parties but this simple technological-organisational method does not take into consideration the different cost-benefit ratios and the perceived utility of the passengers at each company at all (consult *Table 1* and *Fig. 1* where the thickness of the arrows shows the value of each input and output). However, this would be the most important point in the debate if we want to reject the still existing esprit and want to recur to the market-oriented way of thinking.

The most important fact is whether the travellers will experience better service standards in an aggregate way or not. In addition, no matter what the changes might be if there is no traffic volume increase, or at least the decrease does not slow down or even stop.

For a better understanding suppose that in the context of *S* (designating the complex technical, organisational and financial system of transport activities) there

are three providers X, Y and Z, using indices  $x$ ,  $y$  and  $z$ , respectively or in general  $i$ ?

- with allocated income  $I$  ( $I_x$ ,  $I_y$  and  $I_z$ , respectively),
- with aggregated network performance  $p$  ( $p_x$ ,  $p_y$ , and  $p_z$ , respectively) in terms of passenger-kilometres,
- and with quality indicator  $q$  ( $q_x$ ,  $q_y$  and  $q_z$ , respectively), which is a function of factors such as the sum of perceived utility ( $U$ ) of each passenger and the cost benefit ratio ( $CB$ ) of the service, i.e.  $q = f(U, CB)$ .

Thus, there are two possible income allocation procedures/functions as described in Table 1, whilst the more just, second one is also detailed in Fig. 1:

Table 1. Allocation of income according to two different approaches

Allocation of income according to traffic counts	Complex allocation of income according to traffic counts and quality indicators
$I_i = f(pi)$	$I_i = f(pi) * q_x / (q_x + q_y + q_z)$

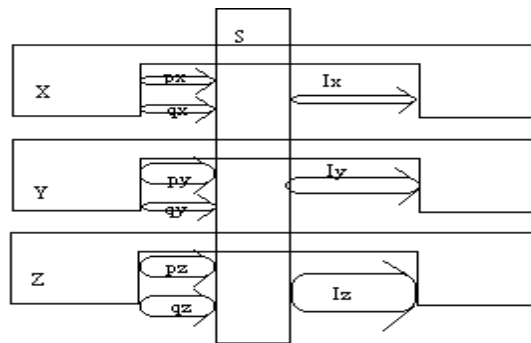


Fig. 1. Complex allocation of income according to traffic counts and quality indicators

The tariff levels will be set most probably near the present two or three different values. It is hard to imagine, however, that it will be at the present lowest level in spite of all synergic effects. The introduction of new prices with conditions rather unchanged cannot be made accepted by the users. A possible higher price level must be counterbalanced if not overwhelmed by the resulting synergic effect of joint systems and the user must perceive the improved quality in the service, such as more rational integrated timetables and reliable connections in reality.

### 3. State Funding with Strictly Activity-Specific Allocations

Is it wise to accept the above-mentioned different cost-benefit ratios for different modes of transport or is it more expedient advisory to try to modify these values so that they all will approximate a certain optimum level? It is essential for the solution that the activities be based on a market-oriented platform, which will implicitly mean that these figures will by themselves become optimal.

For the sake of avoiding abrupt increase in tariff levels due to the application of market rules it is expedient to apply the well-accepted rule in urban public transport of making profit with handling state funds as commercial income. Of course, the rate of the state's contribution must be controlled through strict and rational accounting.

Moreover, in order that the change of cost-benefit ratios does not concern the whole companies – since this way the positive processes launched in the local context would be hindered by the massive inertial potential of the companies in the case of MÁV and Volán – it is very much advised to allocate the amount needed directly to the Budapest-specific division of each company. State contribution already exists but without any transparency and the above mechanism would allow a responsible way of use of public funds in transport.

### 4. Conclusion

All these ideas are, however, subject to debate and can only be implemented fully if besides inter-company contracts changes will affect the legal context providing adequate conditions. The legal context has also to set certain directives for the companies and the authorities.

#### Remarks:

*Note 1:* The Department of Transport Economics has had extended relationships with the University of Karlsruhe (W. Rothengatter) and the Laboratoire d'Economie des Transports de Lyon (J. M. Cusset)

*Note 2:* It is expected that a unified tariff system based on an association incorporating the services of the *city transport* buses, tramways, trolleys, underground and light rails, the *national railways* and the *inter-city bus service* providers with their lines that run inside or in the agglomeration area would bring about positive synergic effects for both providers and travellers. The idea is mostly based on the presence of masses of people for whom commuting is an everyday reality. The actuality of the problem is backed by the phenomena of the urban sprawl which is more and more a reality for Budapest and the agglomeration.

*Note 3:* The three companies concerned are BKV as predominant service provider, the Hungarian Railways, MÁV, having radial connections to the city centre with

three railway head stations and the inter-city bus operator Volán company also running lines inside the heart of the city.

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