

OPTIONS FOR THE INTEGRATION OF TRANSPORT IN THE SLOVAK REPUBLIC

MOŽNOSTI INTEGRÁCIE DOPRAVY V SLOVENSKEJ REPUBLIKE

Ing. Edina Jenčová, PhD.¹

Faculty of Aeronautics, Department of Air Transport Management
Technical University of Košice
e-mail: edina.jencova@tuke.sk

Ing. Juraj Vagner, PhD.²

Faculty of Aeronautics, Department of Flight Training
Technical University of Košice
e-mail: juraj.vagner@tuke.sk

Ing. Peter Koščák, PhD.³

Faculty of Aeronautics, Department of Air Transport Management
Technical University of Košice
e-mail: peter.koscak@tuke.sk

Ing. Žaneta Miženková⁴

Faculty of Aeronautics, Department of Flight Training
Technical University of Košice
e-mail: zaneta.mizenkova@tuke.sk

Abstract

The aim of the contribution is to discuss options for the integration of transport in the Slovak republic. Experiences from abroad suggest a potential for improving the quality of transport services in regions of Slovakia and thereby improving the attractiveness of public transportation through the creation of integrated systems of transportation. The paper deal with the integrated transport systems in general, explains their historical development and conditions for their establishment. It defines the basic pillars of integration and highlights the problem of funding of integrated transport systems and the absence of the Public Transport Act in the Slovak Republic, which would establish rules for public transport and the service of the territory. The conclusion consists of an analysis of regional transport in the Košice Region.

Abstrakt

Cieľom príspevku je pojednať o možnostiach integrácie dopravy v Slovenskej republike. Skúsenosti zo zahraničia poukazujú na možnosť skvalitnenia dopravnej obsluhy regiónov na Slovensku, a tým aj zatraktívnenia verejnej hromadnej dopravy prostredníctvom

¹ Assistant Professor

² Assistant Professor

³ Assistant Professor

⁴ Internal PhD. student

vytvárania integrovaných dopravných systémov. Príspevok pojednáva o integrovaných dopravných systémoch všeobecne, objasňuje ich historický vývoj a predpoklady vzniku. Definuje základné piliere integrácie a poukazuje na problém financovania integrovaných dopravných systémov a na absenciu zákona o verejnej doprave v Slovenskej republike, ktorý by stanovil pravidlá pre verejnú dopravu a obslužnosť územia. V závere je uvedená analýza regionálnej dopravy v Košickom samosprávnom kraji.

Key words

transport, integrated transport system, pillars of integration, options for integration

Klíčová slova

doprava, integrovaný dopravný systém, piliere integrácie, možnosti integrácie

INTRODUCTION

Steadily increasing share of individual motorized transport at the expense of public transport (PT) has a negative impact on the environment, which is accompanied by an increase in number of congestions, increased number of accidents, environmental problems (emissions, noise, vibrations), as well as the constantly increasing demands on infrastructure quality.

Experiences from abroad suggest a potential for improving the quality of transport services in regions of Slovakia and thereby improving the attractiveness of PT through the creation of integrated systems of transportation. The advantage of this method of transport services is that the population of the region and the state has access to better PT.

1 INTEGRATED TRANSPORT SYSTEMS

Integrated Transport System (ITS) is a way of ensuring transport services of the area by integrating all modes of transportation, including individual forms, all public carriers operating in the region, which are characterized by optimizing the transportation supply, interconnection of lines of transport modes, coordinating timetables of individual carriers and minimizing time losses related with changing the transport modes.

For the passenger, traveling within the ITS becomes simple, with the possibility of season pass cheaper and above all more comfortable compared to the current form. ITS features a single information system for all modes and carriers, unified tariff system and unified transport conditions throughout the system. [1]

1.1 Historical background, objectives and organization of integrated transport systems

Opportunity to address transport service based on the integrated transport system (in Slovakia too) emerged in the early nineties of the last century. For first integrated transport system of similar type is considered one that was established in 1965 in Hamburg, Germany.

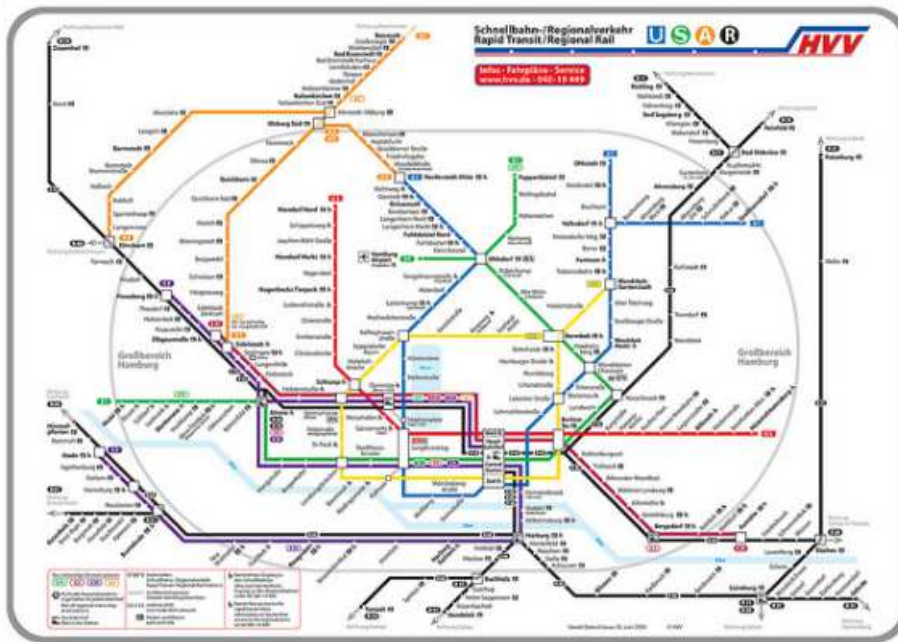


Fig. 1 Map of the integrated transport system in Hamburg, Germany
 Source: (<https://www.flickr.com/photos/rllayman/18162935352>)

Another was established in 1972 in Munich on the occasion of launching the backbone line of S-Bahn. Initially, the organizing companies were the community of carriers. Around 1996 there was a reorganization of public transport and the organizing companies have moved from the ownership by the carriers to a joint ownership by contracting authorities, i.e. cities, federal states and districts. [1]

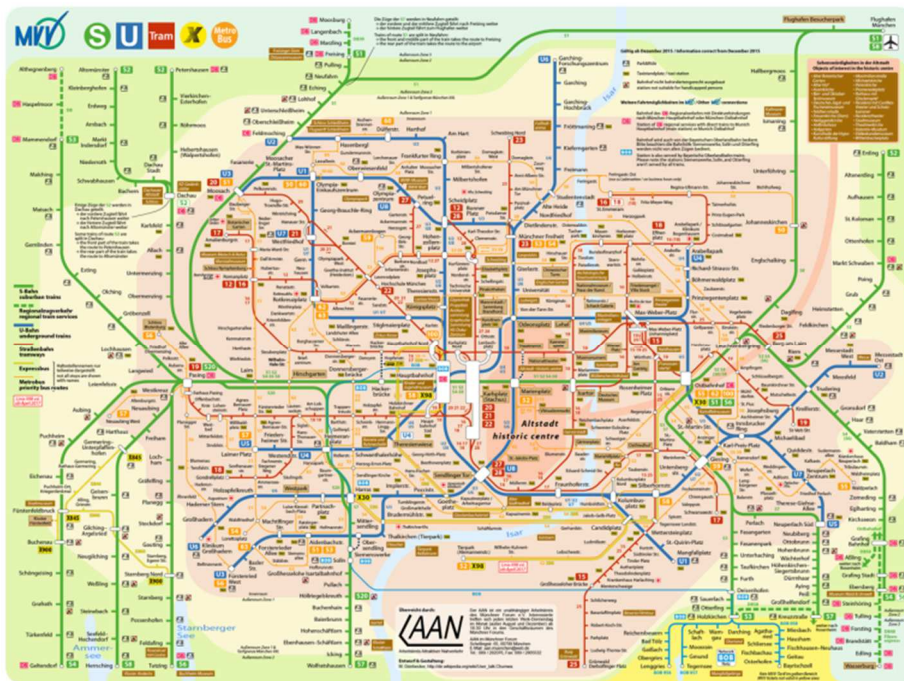


Fig. 2 Map of the integrated transport system in München, Germany
 Source: (<http://www.mvv-muenchen.de/>)

Aim of the ITS is to optimize the transport process, which in practice means the use of a single pass or ticket during the journey, regardless of the operator and mutual spatial and temporal coordination of transport means of transport modes involved in ITS. Generally, this means ensuring the availability of destinations as efficiently as possible.

The organizational structure of integrated transport systems should meet the requirements and needs of passengers. To optimize operational costs, it is important to coordinate all modes and carriers in ITS. It means to map the spatial needs of the conurbation, optimize the network of ITS and ensure that it is operated by reliable carriers.

At the same time there is need for coordination of schedules so individual lines follow each other and meet needs of as many customers (passengers) as possible. Of particular importance is cooperation between carriers. They can collaborate together on the basis of tariff community transport community or the transport association. [1]

1.2 Basic pillars of integration

The basic pillars of traffic integration are:

a) *Territorial integration.*

Initially it was the unification of urban and suburban transport, later, the involvement of the local transport occurred. Finally, there was a unification of the entire territory, regardless of the nature of the settlement or state-legal organization.

b) *Tariff integration.*

It creates a single tariff between carriers, which must be accepted by all carriers. They must accept these tariffs, but in addition the carrier may also use its own tariff. Both tariffs must be valid on the territory of ITS.

c) *Operational integration.*

The basic principle is to coordinate transport offer since there are multiple carriers involved in ITS. It is set up by a responsible entity, which may be either one of the carriers or the coordinator, in order to set clear rules for serviceability. A unified planning system must operate in the entire ITS, so the carriers do not compete, but rather work together.

It is necessary to create a transparent system of codes for lines by means of transport, area or the type of line. Coding of lines is fundamentally not made by carriers. The coding will use different numerical sequences, letters and the like. [3]

1.3 Financing of integrated transport systems

In public transport, as with the organizational structure, financial flows are simple and clear, unlike ITS, where everything is more complicated.

In the integrated transport system there are three financial flows that need to be redistributed:

- The division of revenues – with single tariff, revenues from sales and revenues of selected carriers are uneven.
- Liquidation of loss by contracting authorities.
- Liquidation of loss for the carriers.

For the redistribution itself, several methods are used.

In general, various methods are suitable for various flows. These methods can be combined, but it is not appropriate to combine several methods in a single redistribution of package.

For example, the subsidies can be redistributed according to the population, according to offered transport performance, according to the results of research and other transport. [3]

2 OPTIONS FOR THE INTEGRATION OF TRANSPORT IN THE SLOVAK REPUBLIC

In Slovakia, there is no law on public transport, which would set rules for public transport and accessibility of the territory, and thus does not and cannot operate any integrated transport system.

At present, public sources fund more traffic systems simultaneously in many areas. ITS could save the state budget nearly a third of spending on transport and savings could possibly be used for additional subsidies of public transport, as in Slovakia there are still municipalities where no bus or train is available.

The law on public transport would clearly set the parameters of overlapping lines. Rail transport would be the main system. Bus services would provide mainly the transfer of passengers from rail stops to final destinations and vice versa. Such a system is a prerequisite in order to create real integrated transport systems.

The law should also stipulate, however, other key rule that the purchaser of public transportation in Slovakia would be only one entity. Currently, the transportation is ordered by government, autonomous regions and municipalities. The question is whether it would be a single purchaser for the whole of Slovakia, or each of the eight regional units would order transport for its own territory. The Manifesto of the Government in section 2.3 Transport, Regional Development and Tourism, the Government undertook to promote public passenger transport (the "PPT") and create conditions for the expansion of integrated transport systems (hereinafter referred to as "ITS") in the largest cities of Slovak Republic. The purpose of this document is to define the conditions for the deployment of ITS in the largest cities of Slovakia. The document builds on the material "Development of public transport before individual transport" approved by the Government Resolution no. 675 of 1 October 2008, in which the Government of the Slovak Republic for the area of passenger transport undertakes to support the development of public transport to individual automobile transport. Text is divided into paragraphs. [2]

The main objectives in the document approved by the Government Resolution no. 675/2008 are:

- more attractive public transport as a mean of personal mobility in cities and regions, for it to be an alternative to individual automobile transport.
- create external conditions for increasing the competitiveness of public transport to individual automobile transport.

Measures to increase the share of public transport must focus primarily on improving basic parameters affecting passenger in the choosing the means of transport (PT or IAT), which are:

- temporal and spatial availability,
- awareness,

- comfort,
- quality,
- range of additional services,
- the costs of realization of the transportation process (cost to the user).

3 ANALYSIS OF REGIONAL TRANSPORT IN THE KOŠICE REGION

Strengths

- Self-functioning public transport (suburban bus transport, rail transport and urban transport) with all suburban and urban bus operators mutually accepting each other smart cards - make the basic prerequisite for the establishment of an integrated transport system.
- The developed system of public transport in terms of area coverage - particularly dense network of lines of regular bus service adequately covers the entire territory of the region and ensures basic transport services to the extent necessary for travel to school and work.
- A sufficient supply of transport - especially the suburban bus transport is aiming to maintain long-term performance of suburban bus services stable.
- The effort to create an integrated transport system, which is given by the requirement to manage the amount of transport demands, increasing demands on the quality of public transport and efficient use of public resources. [4]

Weaknesses

- Lack of coordination of transport systems - transport systems are only coordinated in the field of coordination of suburban bus transport and rail transport timetables, but without any tariff integration between different transport systems (in urban bus transport, leap traveling with the smart card is possible).
- Less attractive rail transport compared with the suburban bus transport - rail transport is convenient only for some passengers that are provided with direct connections (that fact is most obvious on the line Košice - Prešov).
- The steady decrease in passengers carried by public transport - a significant influence on a higher demands for public resources (Košice Region paid up to 17.1% of its budget to secure the suburban bus transport in 2011 - in 2007 it was 13.1% of budget).
- Fragmentation of the management of various public transport systems - lack of central control room to manage the various transport systems as a whole. [4]

Opportunities

- To increase the efficiency of public transport and financing of services in the public transport.
- To create favorable conditions for increasing the competitiveness of public transport to individual transport.
- To modernize the infrastructure using EU funds.
- Better use of railways in regional transport.

- The possibility to establish ITS for conurbation Košice, Prešov.
- The possibility to raise capacity of railway track in the section Prešov - Kysak. [4]

Threats

- Fragmentation of ordering and financing of public transport.
- The lack of legislation concerning the organizer of an integrated transport system.
- Concerns of the participants according the system changes.
- The current weak preference of public transport. [4]

CONCLUSION

The geographical location of the Slovak Republic predetermines and highlights the importance of transit traffic in the west - east and north – south directions. Intermodal transport in Slovakia has very good conditions in the system of road - rail - water, because SR has developed railway and road networks in its transport infrastructure that can be connected to the waterway.

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