The importance of establishing National Access Points for providing multimodal travel information

Bia Mandžuka¹, Krešimir Vidović², Marinko Jurčević¹, Charalampos Alexopoulos³

¹ University of Zagreb, Faculty of Transport and Traffic Sciences, Vukelićeva ulica 4, 10 000 Zagreb

²Ericsson Nikola Tesla, Krapinska ulica 45, 10 000 Zagreb

³University of Aegean, Karlovassi, 83200 Samos, Greece

Abstract:

Inefficient transport systems and urban transport networks, inadequate transport infrastructure, reduced mobility and accessibility, increased congestion, and negative effects on the environment are some of the main problems that indicate the need for a systematic approach in solving them. By applying modern technologies in transport - specifically Intelligent Transport Systems (ITS) services, it is possible to achieve - sustainable, clean, and energy-efficient transport. ITS presents new approaches, models, and technologies that solve a number of problems in traffic and transport. ITS can be defined as a holistic, control, and informationcommunication (cyber) upgrade of a classic traffic and transport system that significantly improves performance, traffic flow, more efficient transport of passengers and goods, comfort, passenger safety, and less environmental pollution, etc. The need for mobility is one of the fundamental requirements and thus a challenge and a complex task for transport experts, urban planners, economists, and other experts involved in establishing sustainable mobility. In solving traffic problems, a concept called multimodal mobility has great potential. The approach is not so new and combines available modes of transport, forming a single, chainconnected journey from point A to point B. Without which such systems would not be relevant to end-users (especially when it comes to personalization of the service) is data availability. National Access Point (NAP) for multimodal information is a digital interface in which at least static travel and historical traffic data (together with relevant metadata) are available to users for re-use. Also, where the sources and metadata (of that data) are available for re-use by users. Effective data exchange and re-use to provide comprehensive travel information services are key drivers of establishing this system. All stakeholders should make data, relevant metadata, and quality information available to users through an access point. NAP can take different forms from a technical perspective, such as a database, data warehouse, data market, repository and registry, web portal, etc. NAP requires various stakeholder groups (public authorities in charge of transport, carriers, transport infrastructure managers, etc.) who contribute to the data collected and available in a machine-readable format. It is also important to emphasize that a particular challenge is the cross-border exchange of this type of data (within the EU). This challenge is addressed by the project OJP4Danube - Coordination mechanisms for a multimodal cross-border traveller information network based on OJP for Danube Region. By personalizing the multimodal travel planning service, it is possible to build a user-oriented service, thus attracting potential public transport users and keeping the existing ones. The future of mobility, where data is shared and used in ways that combine openness and innovation while based on ethical principles, has a powerful global potential for the development of society and the economy.

Key Words: National Access Points, Open Data, Intelligent Transport Systems, Multimodal Travel, Users

References:

- 1. Bošnjak I. Intelligent Transport systems- ITS 1. Zagreb: Fakultet prometnih znanosti, Sveučilište u Zagrebu; 2006.
- 2. Mandzuka B, Brcic D, Skorput P. Open data set for multimodal journey planner. In: Rijavec R, Hernavs B, Godec A, Gostišta B, Gorup S, Anžek M, et al., editors. 23rd International Symposium on Electronics in Transport ISEP 2015 ITS for autonomous and cooperative transport. Ljubljana, Slovenia: Electrotechnical Association of Slovenia; p. R2-1.
- 3. Spickermann A, Grienitz V, von der Gracht HA. Heading towards a multimodal city of the future? Technological Forecasting and Social Change. 2014;89: 201-21.
- 4. Gao L, Juan Z, Ni A, Jing P. The Effect of Travel Information on Travelers' Choice of Travel Modes and Routes: A Case Study of the Travel between the Campuses. Mathematical Problems in Engineering. 2014;2014: 1-9.
- 5. Pronello C, Simão JPRV, Rappazzo V. The effects of the multimodal real time information systems on the travel behaviour. Transportation Research Procedia. 2017;25: 2677-2689.
- Mandžuka S, Vidović K, Šoštarić M. National Access Point for provision of Multimodal travel data. 28th Telecommunications Forum TELFOR 2020 [Internet]. Belgrade: IEEE; 2020. p. 4. Available from:https://ieeexplore.ieee.org/document/9306634
- Vidović K, Mandžuka S, Šoštarić M. Data Quality within National Access Point for Provision of Multimodal Travel Information within European Union. In: 61st International Symposium ELMAR [Internet]. Zadar, Croatia: Faculty of Electrical Engineering and Computing, Zagreb; 2019. Available from: https://www.bib.irb.hr/1024886