



Credit: ZTM Warsaw

The changing mobility landscape in Central and Eastern Europe

The urban mobility revival in Central and Eastern European (CEE) countries is hard to overlook. Fuelled by EU funds and evolving mobility patterns, the shift towards modern, low-carbon and customer-oriented collective transportation marches throughout the region. And although there is an array of challenges ahead, including dropping ridership levels or lower EU funds' absorption rates, a number of key mobility trends should be recognised as critical for CEE's success story. **Artur Perchel**, Manager, Central Eastern Europe at UITP, expands upon this point and its implications for the future of urban mobility in the region.

No progress without EU funds

It is difficult to imagine the ongoing surge in urban mobility investments in the Central and Eastern Europe region without the Structural Funds and the Cohesion Fund. The EU cohesion policy-related financing has been the main source of public transport investment since 2004 and will certainly continue to do so during the 2014-2020 EU programming period. EU-funded mobility projects will be traditionally devoted to metro, tram and agglomeration railway extensions, purchases of rolling stock and buses, traffic management and ITS optimisation, park and ride facilities, plus new bicycle infrastructure, to name just a few.

In Poland alone, the EU financial assistance between 2014 and 2020 has skyrocketed to €82.5 billion from €68 billion during 2007-2013. A record high €27.4 billion will be allocated under the Infrastructure

and Environment Operational Programme (OP) and financing road (€12.4 billion), rail (€5 billion) and public transport (€2.3 billion) investments, all three under separate priority axes. Yet also other CEE countries are heavily investing in transport and urban mobility. In Slovakia, national and regional authorities plan to spend €4.6 billion of structural funds for TEN-T-related projects in rail, road and waterborne transport, but also to purchase 78 new trams and trolleybuses serving major urban areas. In the Czech Republic, the same amount of €4.7 billion will be pumped into sustainable transport networks and modes, including Prague's metro extension, ITS technology deployment in the capital and the upgrade of existing road and 140km rail infrastructure. In Bulgaria, around €1.6 billion will be devoted to Sofia's third metro line extension, traffic management systems and intermodal

terminals all over the country. In Romania, the Large Infrastructure OP will attract up to €6.4 billion – more than 25% of the total EU funds' volume available to Romania – on mobility-related projects like the Bucharest metro extension and the further development of TEN-T road and rail corridors. Around €2.3 billion of these funds will be solely allocated to urban mobility projects through the Regional OP. In Hungary, the European Commission has approved €3.4 billion under the Integrated Transport OP with projects ranging from railway electrification to rolling stock purchases. Budapest itself will feature, among others, metro line 3 reconstruction, new and extended tram lines, intermodal hub at Kelenföld and new tram and trolleybus units.

Furthermore, the European Commission has recently opened the 2015 Connecting Europe Facility call for projects with a large focus on Central and Eastern Europe, where only the Cohesion countries will have earmarked up to €6.5 billion, also for urban nodes projects. Life is great, one may say, but the reality is far more complex than that. While both the volume and the availability of the EU funds is larger than ever, many countries actually do struggle to absorb this money. The absorption capacity, that is the extent to which a Member State effectively allocates EU financial assistance, varies heavily across the region. While in Lithuania, Estonia and Latvia, the absorption rate in October 2014 was respectively 82%,

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81% and 70%, Romania's structural funds usage rate was barely 29.8% at the end of 2013 while the one of Bulgaria was only around 40%. During the last EU financial perspective, other countries were scoring slightly better and on average between 50-70%, with Poland drawing 68% of its EU funds, while Hungary and the Czech Republic respectively 59% and 51%. Yet many, even relatively well-performing countries are seriously rethinking how to improve these figures. The novelty in Poland, for instance, being the Integrated Territorial Investments (ZIT). ZITs may encompass, among others, transport projects – particularly focused on fare and ticket integration – that can be managed and implemented by associations of local authorities located within a larger agglomeration area. This new legal approach is said to increase the funds' absorption capacity between 2014 and 2020 through a better cooperation among a number of localities, more optimal project planning and execution, and better assessment of transport needs at the metropolitan level.

ITS revolution is getting smart cities moving

One of the key mobility investments planned in many Central and Eastern European cities are Intelligent Transport Systems (ITS), with many major ITS projects shifted even at the top of local investment priorities for 2014-2020. Being at the cornerstone of smart cities and smart urban mobility, ITS offer unrivalled benefits ranging from ensuring road safety and predicting traffic volumes to lowering infrastructure expenses.

For instance, Polish Trójmiasto (Gdańsk-Sopot-Gdynia) is currently finalising the biggest and most complex national ITS investment so far called TRISTAR – Tricity Intelligent Agglomeration Transport System.

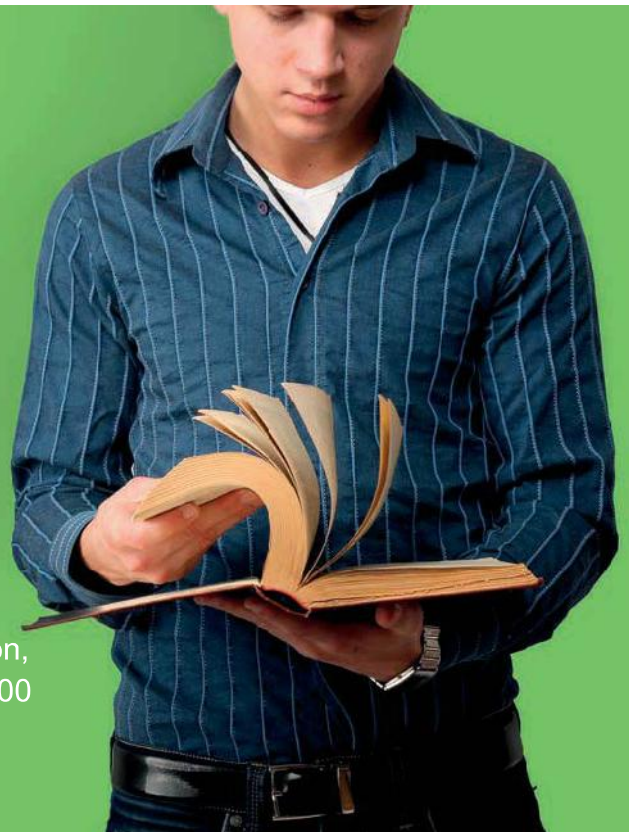
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The €31 million project includes two Traffic Management and Coordination Centres in Gdynia and Gdańsk, 161 intelligent junctions and nearly 100 DPI and VMS screens across the agglomeration of 750,000 inhabitants. While the whole system is built around two main modules, traffic management and public transport/fleet management, the key idea behind its functioning is relatively straightforward – to increase the attractiveness and the modal share of public transport and improve the overall traffic flow by cutting congestion. Currently, TRISTAR undergoes final calibrations and once in full swing it is estimated to reduce the travel time with public transport by almost 6.5%.

East of Poland, in Latvia, an innovative VIITS project – the Vilnius Intelligent and Integrated Transportation System – is currently being implemented and is much believed in. As many capital cities across the region, Vilnius has been confronted with sharply dropping public transport ridership levels – from 87.6% in 1980 to 39.6% in 2011 – and it has become the city's ambition to reverse these trends around as swiftly as possible. Therefore it is no surprise that – also thanks to securing the main prize in 2014 IBM Smarter Cities Challenge – Vilnius has been making a breakthrough in terms of urban and mobility data collection, analysis and informed decision-making. These initiatives have later on fed projects ranging from an urban smartcard, smart route planners and energy-saving LED street lighting to a traffic monitoring and management system, and contributing to Vilnius' recent recognition by *The New York Times* as one of the world's top 10 best managed municipalities.

Yet another interesting take on public transport – and energy-driven smart city – can be found in Riga. Latvia's capital has set up a strong objective to approach the smart city status through its strategic 'Riga City Sustainable Energy Action Plan for Smart Cities 2010 to 2020' project. One of the key components of the transmission towards energy efficiency and low-carbon economy is investment in zero-emission vehicles and electromobility. Already, Rīgas Satiksme's 600+ trams and trolleybuses are good for around 54% of the total passenger transport

services in the city. By moving further along this road, the municipal authorities aim for a reduction of 60% in CO₂ emissions from 1990 by 2020. Also on the bus and ITS front, the city's ambition to become more 'liveable' and 'green' for its citizens is realised through the deployment of hydrogen buses, but also Wi-Fi friendly vehicles and an efficient ticketing system built by Rīgas Karte.

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The booming agglomeration railways

The agglomeration railways, particularly in and around bigger metropolitan areas, are currently one of the fastest growing segments of the whole railway market in Central and Eastern Europe. The rising attractiveness of the local and suburban rail in the region rests upon two fundamental dynamics: a strong financial impetus of the EU co-financing devoted to rail capacity and infrastructure upgrades as well as growing road congestion both within and around main agglomeration traffic corridors. The main success measures behind suburban and metropolitan railways in CEE are more often than not well maintained or re-developed (sub-)urban rail infrastructure, long-term investment planning, relatively good frequency and ongoing integration (both in terms of schedules and tariff) with other local public transport modes at multimodal interfaces. On the top of this, some countries, notably Poland, have further regionalised their railway markets and operations by establishing voivodships-owned regional railways. Meanwhile, newcomers, like Arriva, have managed to successfully compete from local incumbents in open tenders for long-term regional rail services, though the rail passenger market is still far from liberalised.

In Warsaw, both SKM and Mazowieckie Railways service around 30% of the total passenger traffic, while in Tricity (SKM Trójmiasto) it is up to 13%. In the last two years alone, Poland saw the creation of two brand new agglomeration railway systems around Łódź (ŁKA) and Gdańsk (PKM), in the latter case with a part of the track infrastructure built and financed solely by the voivodship. Yet, the Polish regional governments, spending on average up to a quarter of their transportation budgets on railways, are further planning to spend EU funds to service their key cities with suburban railways. Already now, three other Polish voivodships are implementing feasibility studies for new regional railways around Rzeszów (PKM), Szczecin (SKM) and Poznań (PKM). It is said that these and other examples of agglomeration railways may successfully contribute to reverse Poland's dropping public transport ridership, which decreased from five billion passengers in 2000 to 3.6 billion in 2013.



There are plans for new and extended tram lines in Budapest over the coming years



A trolleybus in the Polish city of Gdynia

The agglomeration railways also form the backbone of urban mobility systems in Belgrade, Budapest and Tallinn. In the Serbian capital, Serbian Railways-operated Beovoz provides commuter suburban railway transit in and around the city, although is still struggling with infrastructure and rolling stock obsolescence. In Budapest, the five-line BKV-operated BHÉV commuter rail service is one of the oldest commuter rail lines in Europe, dating back to 1887. Some parts of its network will potentially be integrated into the existing metro line 2 system in the near future, particularly the €970 million-worth Gödöllő line connection. Likewise, in Tallinn, the commuter rail service operated by Elron, is strongly investing in intermodal solutions and the accessibility of railway stops, aiming at improved service quality and growing ridership, particularly under the free public transport regime within the borders of the Tallinn area.

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It's the electromobility, stupid

UITP is currently coordinating one of the largest electromobility projects ever funded by the European Commission called ZeEUS (Zero Emission Urban Bus System) which strives to extend the fully electric solution to a wider part of European urban bus networks. Developing electric vehicles of large capacity and creating adequate charging infrastructure, the project will also facilitate the market uptake of electric buses in Central and Eastern Europe. Among 10 core demos and 30 other project partners from throughout the mobility chain, unsurprisingly two of the main demonstrators are public transport operators from Pilsner and Warsaw, while the two main manufacturers from the region, Solaris and Škoda, are also involved.

In the CEE region, both electricity and gas as fuel sources have been identified as one of the most promising alternative fuels for public transport. The Baltic States are heavily investing in CNG bus fleets with 33 CNG buses currently operating in Klaipeda – which nota bene enjoys the highest average number of trips per capita in Lithuania – and 39 others in Kaunas, which with its 110 trolleybuses is one of the most electrified Lithuanian city transport-wise. In Skopje, the local municipality plans to spend up to €250 million for the first, 12km-long tram line in Macedonia in a public-private partnership project. Also in Tirana, the local municipality is currently constructing the first ever tram line to connect Kombinat with Kinostudio districts and cutting through the busy city centre. The €155 million project is said to reduce travel time by half to around 24 minutes, seriously empowering populations living on the two city outskirts. Along these lines, Szeged, the fourth largest city in Hungary, has recently seen the extension and upgrade of its tram and trolleybus infrastructure and depots in a €98 million project with 86% EU co-financing. The very trolleybus networks are also undergoing a relative boom with thriving systems in Brno, Riga, Bratislava, Gdynia, Budapest, Lublin, Bucharest, Sofia and Vilnius, although in the latter case the local municipality is seriously considering to cut its trolleybus operations and introduce a possible light-rail instead.

In Poland, Warsaw bus operator MZA is currently operating 10 Solaris Urbino Electrics on one of the central lines and plans to purchase up to 130 electric buses by 2017. Moreover, the city has recently received 35 LNG articulated buses and has ordered another 80 buses equipped in photovoltaic panels which will provide an additional source of energy and reduce the fuel consumption in regular urban traffic by up to 5%. In Olsztyn, the newly built, 10km-long tram line will soon be opened in a large-scale, €105 million urban mobility project seeing the purchase of 15 brand new trams, a new tram depot and an intelligent ITS system deployed. In Kraków, the city has recently

adopted a Low-Carbon Economy Plan (PGN) 2020, a strategic document elaborating on the 'green' city development, including transportation with plans to reduce CO₂ emissions by 17.6%. In this framework, the city is currently tendering for five electric buses and extensively re-developing its tram rolling stock and infrastructure, with 100 new trams and 60 electric buses planned to hit the streets by 2020. Further afield, including Bratislava, Tallinn, Belgrade, Skopje and Bucharest, the first electric buses are also currently on test trials or in operations, including interesting electric minibus schemes.

Transport governance: from UBER to free public transport

Increasing demand and changing customer expectations are forcing European operators and transport authorities to rethink the concept of urban mobility. In Central and Eastern Europe as well, new business models for the sustainable urban mobility sector are being tried and tested as we speak. One of the better examples of

urban mobility where the individual is at the core of the business is UBER. The California-based technology platform that provides an array of personalised, digitised and easily accessible mobility services has recently taken major urban transportation markets in CEE by storm. The UberPOP or UberX applications are functional and are seeing rising popularity in Warsaw, Prague, Tallinn, Krakow, Sofia, Zagreb, Gdańsk, Bucharest and Budapest, to name just a few key cities, although on many markets UBER still operates in the shadow of formal legislation or simply in its absence.

New business models are making local authorities rethink the mobility governance, including the whole financing aspect. One of the hottest mobility concepts in the region has undoubtedly been free public transport. Its world 'capital', Estonia's Tallinn, has introduced the free collective transportation scheme for its citizens and taxpayers in January 2013. Tallinn's public transportation budget, in 2014 at the level of €63 million, covered the lost farebox revenue of €12 million with around €10 million tax income from newly settled residents in 2013. Yet, although free public transport has now become a marketing and political trademark of Tallinn, the researchers from the Royal Institute of Technology in Sweden, who evaluated the programme found an increase passenger of only 3% and with no significant change in traffic speed. However, the strongly discussed concept has become



One of the trolleybuses in Budapest

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contagious ever since with smaller cities around the region, particularly in Poland, implementing it in various forms and variants. In Lubin or Żory, public transport is fare-free for all, while in Kościerzyna or Ząbki only for local residents, which may confirm that the concept could indeed work in smaller towns with relatively limited, closed and highly-subsidized transportation systems.

CEE is the mobility's place to be

Undoubtedly, public transport in Central and Eastern Europe is currently undergoing a major quality shift. A plethora of ongoing and planned investments, particularly in the 2014-2020 EU financial perspective, are indeed of a substantial magnitude. Yet one will not have to wait long until this bears great fruits. The recent 2012 European Mobility Award for Zagreb, 2014 European Cycling Challenge for Warsaw or 2013 European Sustainable Mobility Week Award, plus the 2016 Green Capital of Europe for Ljubljana speak for themselves and the quality of local urban mobility that these and other CEE cities already enjoy. Most important, however, is the historic development gap between Western and Eastern Europe that is slowly beginning to vanish, and that it partially thanks to inspiring progress in urban mobility in CEE. The region mobility's success is surely far from over. ☺



Artur Perchel is managing all of UITP's operations and activities in Central Eastern European countries and in Israel. Before joining the organisation at the end of 2012, he gained public affairs and corporate experience from London-based research consultancy ComRes and Brussels-based trade association AmCham Belgium. Earlier, Artur worked as a PhD Researcher at Ghent University.