



Transport Geography Papers of Polish Geographical Society

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INTRODUCTION

Wprowadzenie

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The fourth volume of Transport Geography Papers of Polish Geographical Society published in 2018 includes six research articles and one review article. The subjects of the presented papers are diverse. They include the challenges for transport systems connected with a crucial innovation which are autonomous vehicles but also with a well-known but still increasing problem of congestion. Another important subject of the papers are studies devoted to the shape and functioning of different transport systems in the scale of regions and cities.

In the first article Andrei Bezruchonak presents problems connected with one of the most important challenges for the future of transport – autonomous vehicles. The aim of the author was to analyse the geographic structure of start-ups active in the development of driverless cars. He carried out his geographic analysis for 265 companies which are working on numerous problems connected with the implementation of this kind of vehicles: services, infrastructure, in-car assistance and intelligence, safety, security, autonomy, sensors, materials and manufacturing. As it results from the research, the leader in

the segment of automotive vehicles is USA followed by Israel, India, UK and Canada.

The next two papers are devoted to analysis of transport systems in two Russian regions from the point of view of their connection with other regions of the country and Europe.

In the article by Ivan S. Gumenyuk the author shows the present state of transport system of Kaliningrad region from the point of view of its accessibility from the main territory of Russia and from the neighbouring countries. As far as links with the main territory of Russia are concerned, we can observe the increase in the role of airplanes whereas the share of rail is falling. Paradoxically, in this coastal region ferry transport is practically insignificant in passenger traffic. In the final part of the paper various proposals of new cross-border projects in the fields of all modes of transport are discussed.

The subject of the next article, by Vasilii Martynov and Yuri Sherstobitov is transport and geographical position of St. Petersburg (former Leningrad) in the passenger transport system. This Russian city is a good example of a difference in transport and geo-

graphical location between the systems of freight and passenger traffic. In fact, for the former segment St. Petersburg is an important hub where goods are exchanged between different modes of transport. For the latter segment, however, the city has a weak position being rather a deadlock direction. The authors estimate the changes in the transport and geographic position of St. Petersburg in passenger air and rail transport utilising an original method of Coefficient of Transport Compendency (C_{TC}). It enables to measure the changes in the number and frequency of transport connections to different regions of Russia, Europe and the world. As the authors show, after 1989 in both air and rail transport a general "shift" from the East to the West can be observed with the increasing role of air connections to Western Europe and rail links to the European part of Russia.

The next three papers treat the problems of regional and urban transport.

Damian Otta, Renata Anisiewicz and Tadeusz Palowski present the transformation of an important railway junction located in the Pomeranian town of Chojnice in Northern Poland between 1989 and 2017. After presenting the history of the station and the railway lines in its vicinity the authors analyse the present state of infrastructure and traffic of passenger and freight trains on them. As the results of general regress of rail transport in Poland in the 1990s the number of lines and trains operated in Chojnice region has decreased significantly if compared with the period before 1989. After describing the organisational transition of the rail industry with reference to the analysed junction and its facilities the authors present the prospects for modernisation of the station and the neighbouring railway lines according to the plans of the national railway infrastructure manager and regional governments.

Marcin Połom presented changes in the functioning of trolleybus transport in Polish cities in the second decade of the 21st century. Due to the im-

plementation of many projects co-financed by the European Union, the face of trolleybus transport has significantly changed over the last several years. However, particularly large changes are associated with the development of traction battery technology from which trolleybuses are powered on sections without traction network.

In their article devoted to the road network of the city of Fayoum, Egypt Ahmed Younes Saleh, Saeed Ahmed Abdu and Hanaa Nazer Ali analyse the connectivity in each part of the road network using geographic information systems application. After having analysed the road system of Fayoum using indexes known in the graph theory, the authors propose a new method of connectivity evaluation utilising the Total Connectivity Index (TCI). In conclusions the consequences of the connectivity of road networks for the flexibility and reliability of transport systems are presented.

The final article in the volume is the paper by Sergey Tarkhov in which we come back to crucial challenges for transport systems. The author presents the ways to deal with one of the most negative effects of large-scale car use in urban areas – traffic congestion. The author highlights the rapid increase of motorisation rate all over the world which results in quick growth of traffic jams which cause not only waste of time but also tangible economic losses. Several strategies aimed at solving this problem are presented: construction of rapid rail transit lines, development of bus lanes or BRT (Bus Rapid Transit) systems, carpooling, park-and-ride, telecommuting, creation of edge cities and finally introducing of congestion charges which according to the author is the only way to compensate of lost downtime in traffic jams.

On behalf of the Editorial Board, I wish all readers an interesting and pleasant reading and inspiration for further scientific research.

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