

EXCLUSION IN TRANSPORT AS A CHALLENGE FOR THE OPERATION OF THE SILESIA-ZAGŁĘBIE METROPOLY

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Abstract: The issue of the article focuses on the issue of exclusion in transport in the area of the Silesia-Zagłębie Metropolis. The purpose of the article is to assess the level of transport exclusions in the area of the Silesia-Zagłębie Metropolis among a selected group of residents. The article presents, in addition to discussing the theoretical aspects, the results of empirical diagnoses related to exclusions in transport in the area of the Silesia-Zagłębie Metropolis. The research structure concerned issues of strength and direction of exclusion in the Silesia-Zagłębie metropolis. The results of the empirical studies carried out indicate a rather worrying level of intensity of exclusion in the transport of the Silesia-Zagłębie metropolis. The highest level of exclusion in transport in the Silesia-Zagłębie Metropolis was recorded in the direction from cities and community furthest away from the center 39.3%. The intensity of exclusion in transport in the Silesia-Zagłębie Metropolis is decreasing towards the center. However, the structure and level of exclusions in transport in the Silesia-Zagłębie Metropolis should be considered significant as it reaches over 50%.

Key words: *exclusions in transport, region, metropolis*

JEL codes: *R41; R110; H50*

1. Introduction

The limitations of exclusion in transport have for some time been a matter of keen interest in the political agenda, but also for the inhabitants of the Silesia-Zagłębie Metropolis. Both politicians and inhabitants of the Silesia-Zagłębie Metropolis see improvement in the quality of life and development. Although exclusion in transport covers many issues, the transport dimension seems to be the key issue of the functioning of the Silesia-Zagłębie Metropolis. Efficiently functioning transport is able to overcome many problems related to the exclusion associated with the movement of passengers, enabling the achievement of the essential goals of every inhabitant of the Silesia-Zagłębie Metropolis. Many studies have shown that the lack of access to transport determines poor access to goods and services, and consequently leads to the exclusion of not only individual people but also entire social groups, as well as limits economic development. Exclusions in transport relate to restrictions that prevent people from functioning in social life. Thus, by definition, exclusion in transport is part of social exclusion.

2. Methodology and Data

The concept of exclusion in transport is related to the limitation of the basic mobility associated with overcoming space, which usually results in various economic disturbances, but also personal and social perturbations. The terminology of transport exclusion is not widely known and widely popularized, it is also a concept that is rarely used and characterized in transport policy. Most often, the concept of transport exclusion is defined as the lack of basic mobility in order to gain access to goods and services. Basic mobility can therefore be considered good or even right. Given the often controversial character of the concept of transport exclusion, it should be stated that the modern understanding of this term refers to the process in which the unit of society – a man, a citizen – is restricted by the possibility of, for example, getting a job or education. Transport exclusion also affects various social issues, affecting negatively the level of culture, education, health, but also unemployment and crime. The exclusion in transport in a broader aspect can be traced back, according to Mernagh and Commins (1997), the

exclusion in transport in a broader sense can be traced to determination with the democratic and legal system of functioning of specific organizations such as the state and civic integration, the labor market, which determines economic development, medical care thus shaping the level of health and family relationships and entire social groups, promotes interpersonal integration. In turn, Burchardt, Grand and Piachaud (2002) focusing on the concept of transport exclusion, pay attention to personal relations that determine the level of exclusion due to their own situation (economic, medical, sociological, etc.), economic and economic institutions, and organizations that limit some individuals and social groups to the level of mobility and discriminate their rights to protect their own interests. The consequences of the fact that mobility limits the level of exclusion is discussed in the subject literature by many authors. Putnam (2000) argues that increased mobility contributes to the development of social capital. In turn, Urry (2007) considers mobility as a binder that strengthens the level of public safety. Finally, Lucas (2004) claims that the inconvenience related to the level of mobility limits the flow of goods and services, making decisions, limiting life chances.

Despite the differences in views, most scientists agree that the notion of transport exclusion comes from French terminology (Berghman, 1995; Atkinson, 1998, 2007; Burchardt et al. 2002; Kamruzzaman et al. 2016], while Cebollada (2009) believes that it already appeared in 1965.

The concept of transport exclusion is therefore a complex issue and can be defined on many levels. For the purposes of the presented article, it can be understood that transport exclusion is understood as limiting the mobility of residents in overcoming the space in the Silesia-Zagłębie Metropolis.

Fig. 1 Area of the Metropolis of Silesia-Zagłębie

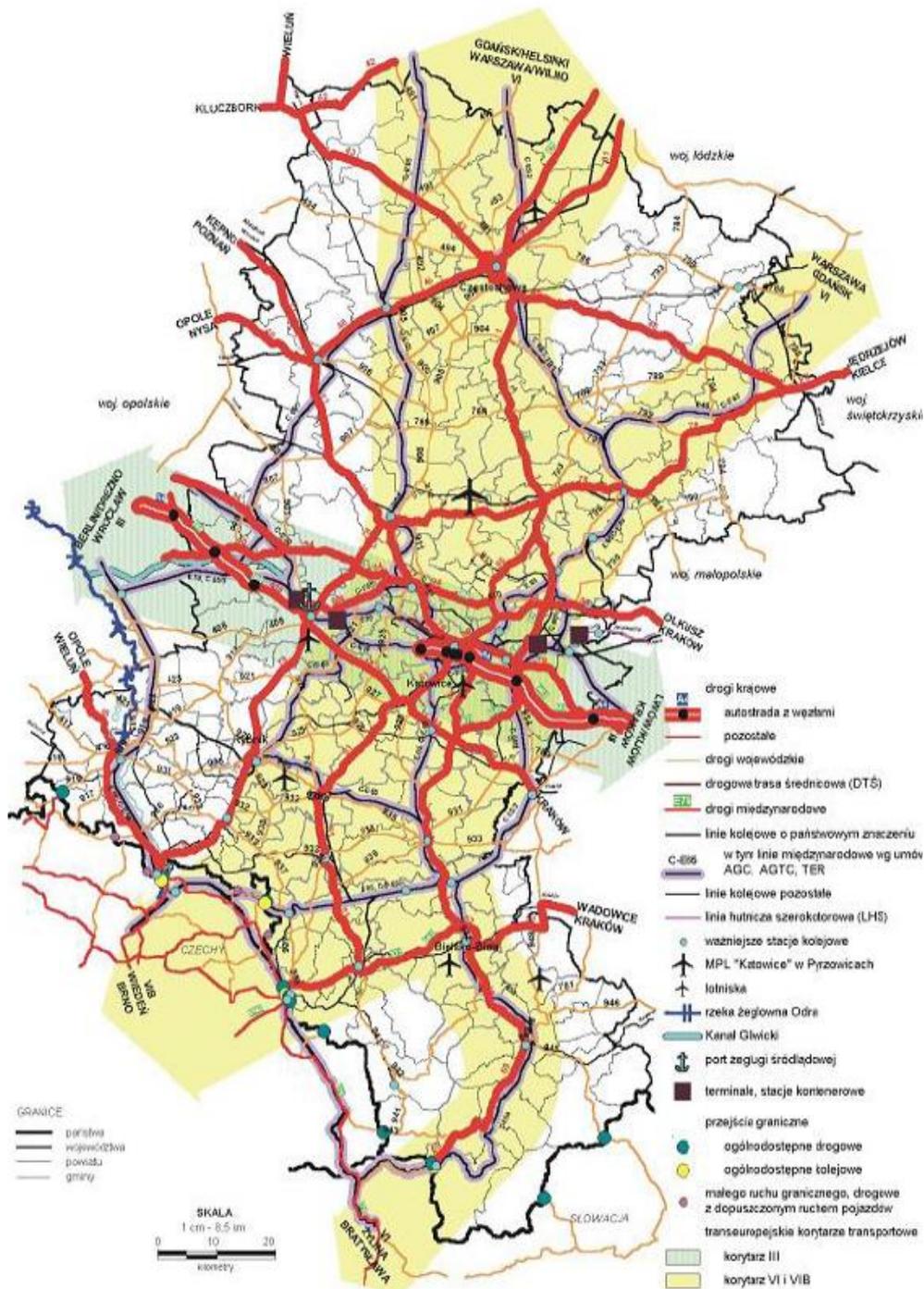


Source: gzm.org.pl/aktualnosci,970,obszar-zwiazku-metropolitalnego.htm

The Silesia-Zagłębie Metropolis as a mobility platform is a special object of research related to exclusion in transport. Research related to exclusion in transport is an important call for the Metropolis transport policy. The challenge is in particular to adapt to changing conditions not only within the region - in the main, identification of its internal factors and those generated by the metropolitan environment - identification of external factors. The Silesia-Zagłębie Metropolis is a metropolitan union in southern Poland, in the Silesian Voivodeship, established in the Upper Silesian conurbation area on 1 July 2017 by ordinance of the Council of Ministers, based on the Act of 9 March 2017. The Silesia-Zagłębie Metropolis lives over 2 million people, in the area of 1 200 km², administered by 41 municipalities – Będzin, Bieruń, Bobrowniki, Bojszowy, Bytom, Chelmski,

Chorzów, Czeladź, Dąbrowa Górnicza, Gierałtowiec, Gliwice, Imielin, Katowice, Knurów, Kobiór, Łędziny, Łaziska Górne, Mierzęcice, Mikołów, Mysłowice, Ożarówce, Piekary Śląskie, Pilchowice, Psary, Pyskowice, Radzionków, Ruda Śląska, Rudziniec, Siemianowice Śląskie, Siewierz, Sławków, Sosnowiec, Sońnicowice, Świerklaniec, Świętochłowice, Tarnowskie Góry, Tychy, Wojkowice, Wyrzy, Zabrze, Zbroslawice (see figure 1).

Fig. 2 The transport system of the Silesia Voivodeship, in the area of which the Silesia-Zagłębie Metropolis is located



Source: Spatial development plan for the Silesia Voivodeship

The structure of the Silesian-Zagłębie Metropolis is characterized by a significant level of transport infrastructure development, a high density of population density of approximately 1,600 people / km² and the highest industrialization and urbanization in Poland. In addition, the area of the Silesian-Zagłębie Metropolis is

very well connected with the pan-European transport network. In the metropolitan area of Silesia and Zagłębie, the main trans-European transport routes cross – corridor III: Berlin-Wrocław-Katowice-Kraków-Lwów and corridor VI: Gdańsk-Katowice-Żylna. The transport system of the Silesia voivodship in the area of the Silesia-Zagłębie Metropolis is presented in figure 2.

The basic axis of the road connections of the Silesia-Zagłębie Metropolis is the road network, whose core is the A4 motorway being an element of the third European transport corridor and the A1 motorway, corridor IV. The road network is additionally supplemented with DTS (Road Diametrical) and express roads mainly S1, S11, S52 as well as major accelerated, access roads and other routes.

The rail transport network is an important element of the Silesia-Zagłębie Metropolis Area, whose main axis are the E65, E65/2, E30 connections and the LHS broad-gauge line (Metallurgic-Sulfur Line). The Katowice-Pyrzowice International Airport is located in the Silesian-Zagłębie Metropolitan Area, serving over 3.5 million passengers annually, realizing 57 directions to 22 countries. In the area of the Silesian-Zagłębie Metropolis, there are also inland waterway ports in Gliwice and Kędzierzyn-Koźle.

The mobility platform of the Silesia-Zagłębie Metropolis is characterized by a significant potential and diversity of particular cities forming the Metropolis.

3. Results and Discussion

The research methodology and its structure and scope were determined by the determinants of transport challenges in the Silesia-Zagłębie Metropolis. The issue of challenges of transport in the functioning of the Silesian-Zagłębie Metropolis is a new research problem so far. Due to the purpose and exploratory nature of the research adopted in the study, it was decided to conduct a survey with a deliberate selection of the sample, which was separated from residents using the available public transport in the area of the Silesian-Zagłębie Metropolis, 41 areas (cities, community) constituting the Silesian-Zagłębie Metropolis were identified (N=2910 observation). The period of the conducted research covered the period of nine months, ie. August 2017 – April 2018. During the diagnoses, two research techniques were used - a survey and an in-depth interview. To determine the impact of the studied phenomenon, the Likert scale was used (1 min - 5 max.) (see tab.1).

Tab. 1 The level of exclusion in transport among the surveyed City and Commune Metropolisi Silesia-Zagłębie

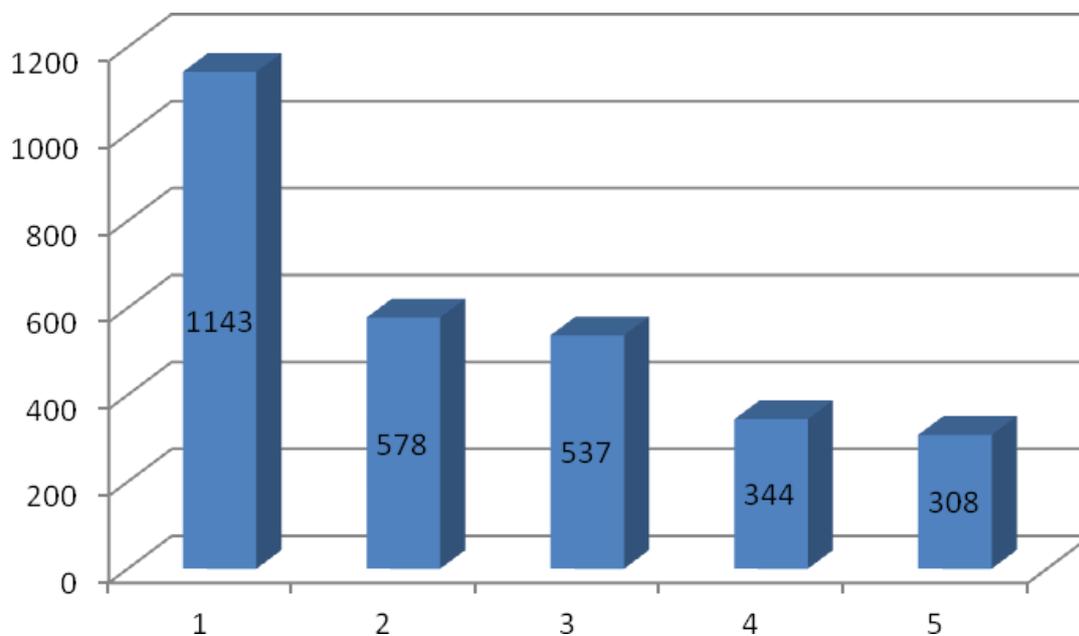
City / Commune of S-Z Metropolis	N	1 min.	2	3	4	5 max.
Będzin	53	21	23	2	3	4
Bieruń	187	108	39	16	13	11
Bobrowniki	49	23	12	7	4	3
Bojszowy	72	43	11	4	9	5
Bytom	77	15	18	24	12	8
Chelm Śl.	78	38	11	12	7	10
Chorzów	68	17	11	13	14	13
Czeladź	87	38	14	13	10	12
Dąbrowa G.	93	17	11	31	21	13
Gierałtowiec	89	35	14	12	17	11
Gliwice	114	68	11	9	14	12
Imielin	138	70	32	21	11	4
Katowice	198	35	31	59	39	34
Knurów	56	29	11	10	4	2
Kobiór	69	27	16	14	9	3
Lędziny	176	86	39	23	16	12
Łaziska G.	32	14	7	4	5	2
Mierzęcice	38	15	11	5	4	3
Mikolów	56	29	12	10	3	2
Myslowice	114	19	26	38	17	14
Ożarówce	39	20	8	5	4	2
Piekary Śl.	46	9	12	16	3	6
Pilchowice	43	20	11	6	2	4

Psary	37	16	5	7	5	4
Pyskowice	39	22	7	5	2	3
Radzionków	58	26	11	15	4	2
Rudziniec	39	15	6	7	4	7
Ruda Śl.	54	13	24	11	2	4
Siemianowice Śl.	76	15	17	31	2	11
Siewierz	57	29	11	7	6	4
Sławków	53	26	11	9	3	4
Sosnowiec	69	20	7	11	9	22
Sośnicowice	46	25	6	5	7	3
Świerklaniec	42	25	5	6	3	3
Świętochłowice	47	11	9	12	10	5
Tarnowskie G.	48	18	7	9	6	8
Tychy	76	11	14	12	19	20
Wojkowice	44	21	15	3	3	2
Wry	57	31	11	7	5	3
Zabrze	59	12	11	21	9	6
Zbroslawice	37	11	10	5	4	7
TOTAL	2910	1143	578	537	344	308

Source: Own study.

The research results indicate a very high level of transport exclusion in the Silesian-Zagłębie Metropolitan Area 39.3% (n = 1143), and 19.9% (n = 578) assess the level of transport exclusion at a high level. Therefore, more than half of the respondents negatively assess the level of transport exclusion. The moderate level of transport exclusions was 18.4% (n = 537). A positive one was indicated by 11.8% (n = 344) of respondents, while a very positive 10.5% (n = 308) (see fig. 3).

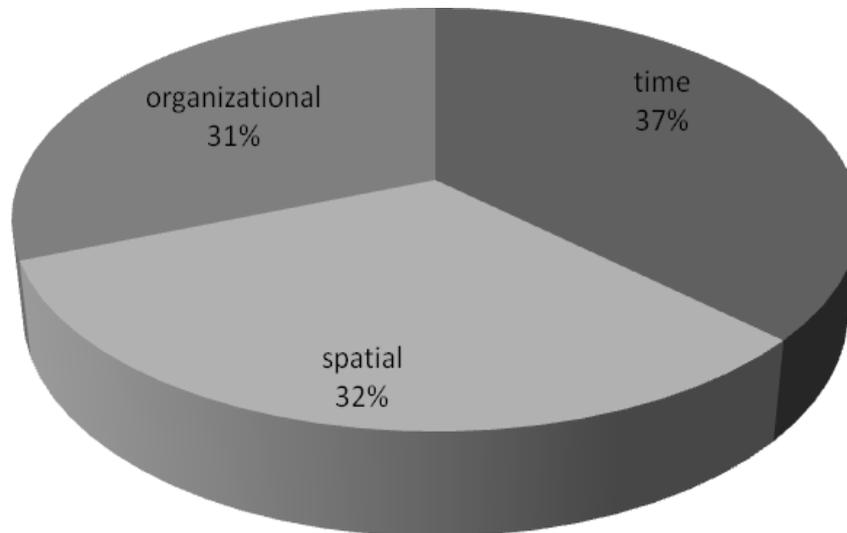
Fig. 3 Assessment of the level of transport exclusions of the Silesia-Zagłębie Metropolis



Source: Own study.

Another element of the research was the assessment of the type of transport exclusions. The results of the conducted diagnoses indicate a similar level of exclusions, time-related 37% (n = 1077), spatial 32% (n = 931) and organizational 31% (n = 902) (see fig. 4).

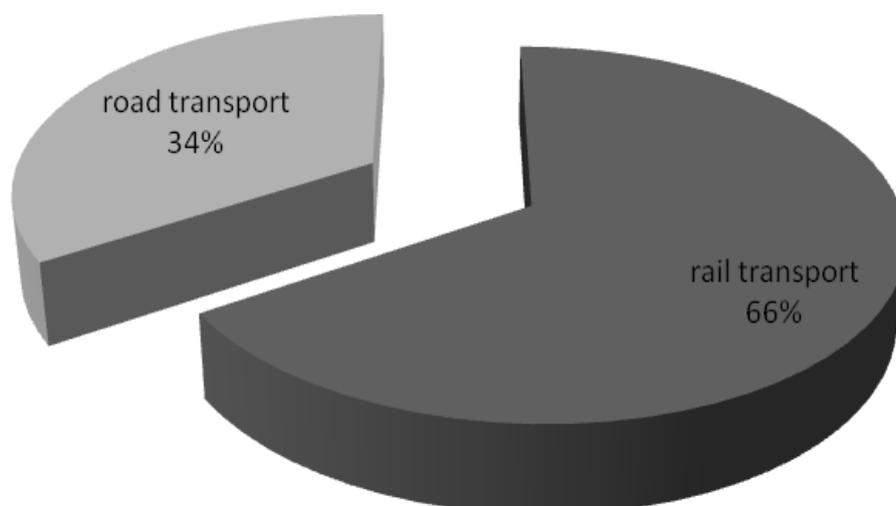
Fig. 4 Types of transport exclusions identified in the Silesian-Zagłębie Metropolis



Source: Own study.

The participants of the survey were also asked what kind of transport they prefer in their everyday movements, which in their opinion limits the level of transport exclusion. The vast majority pointed to 66% rail transport (n = 1921) and the remaining part was in favor of 34% road transport (n = 989) (fig. 5).

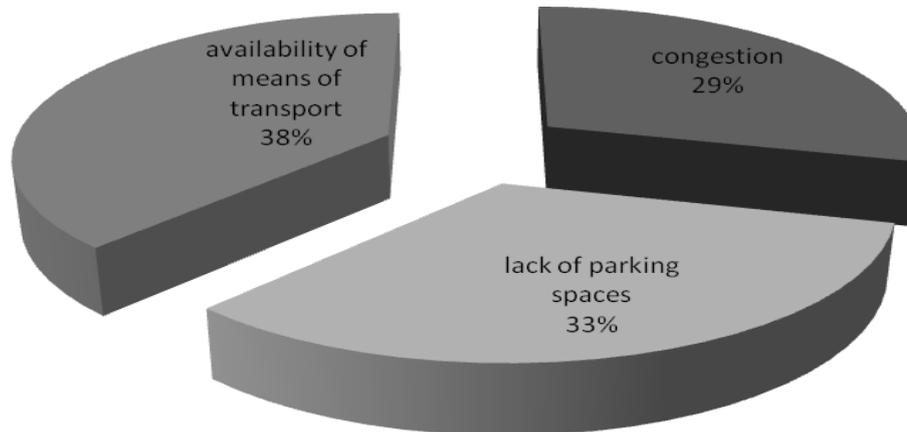
Fig. 5 The type of transport limiting transport exclusion in the Silesia-Zagłębie Metropolis



Source: Own study.

They were also asked about the types of transport exclusions in the Silesia-Zagłębie Metropolis. The results of the conducted research indicate an even distribution of the three elements that play a fundamental role: availability of transport 38% (n = 1106), lack of parking spaces 33% (n = 960), and congestion 29% (n = 844) (fig. 6).

Fig. 6 The types of transport exclusions in the Silesia-Zagłębie Metropolis.



Source: Own study.

4. Conclusions

The diversity and complexity of exclusion conditions in transport in Silesia-Zagłębie Metropolis is reflected in the rich scientific output, which has only been outlined and which changes as the economic activity of societies changes. It can be assumed that other concepts will bring new elements based on other teams and more diverse factors. This results in the discovery of subsequent stages of development of new features and relationships that are considered as exclusion factors in transport.

Conclusions resulting from the conducted research can be summarized as follows:

- The Silesia-Zagłębie Metropolis Area faces a serious call to limit 50% of the level of transport exclusions;
- Imbalance between investments in transport infrastructure has led to the depreciation of rail transport, which adversely affected the whole transport system of the Silesian-Zagłębie Metropolis;
- Proper transport policy based on efficient and effective tools can significantly reduce exclusion in transport;
- The Metropoly authorities must increase efforts to revitalize rail transport as well – limit time, spatial and organization of exclusion in transport.

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