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Ensuring the mobility of senior citizens in urban areas – analysis of Polish cities SUMP

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Summary. The ageing of the society both in the European Union and in Poland requires undertaking actions aimed at providing a number of postulates related to ensuring social inclusion and various requirements related to, inter alia, mobility in urban areas. The concept of sustainable urban mobility assumes modelling of the urban transport system in accordance with the assumptions of sustainable development. The aim of the article is to examine to which extent the Plans of Sustainable Urban Mobility of selected Polish cities take into account the needs of seniors in terms of ensuring mobility.

Introduction

The ageing of society is a common phenomenon, the percentage of people aged over 60 is growing steadily, in most countries faster than any other age group (Moniruzzaman, Páez, Nurul Habib, Morency, 2013). And more and more often, the needs of ageing population are no longer just a problem of developed countries (Pettersson, Schmöcker, 2010; Olawole, Aloba, 2014).

Along with mobility limitations resulting from age, characteristics and travel destinations change as compared to younger age groups – a typical example is the cessation of everyday obligatory work-related journeys. At the same

time, this change results in the surplus of free time, which older people may devote to other activities – e.g. visiting families, friends or shopping, which affect the diversity of their transport and mobility needs (Su, Bell, 2009).

The concept of sustainable urban mobility is a new approach to urban transport system planning, which is to meet the needs of residents while respecting the principles of sustainable development. SUMP (Sustainable Urban Mobility Plan) is a comprehensive strategic document describing the concept of city development related to urban transport (collective and individual, including motorized and pedestrian), influencing the achievement of European goals related to climate protection and energy efficiency. This document is developed and implemented by the city authorities and entities involved in the implementation of the transport policy (Hebel, Wyszomirski, 2014).

The aim of the article is to examine to which extent the Sustainable Urban Mobility Plans of selected Polish cities take into account the needs of seniors in terms of ensuring mobility. Pursuing such a goal, in-depth literature studies and source analyses of selected documents dedicated to providing mobility in urban areas were used.

The conducted research allowed to indicate areas in which the requirements of seniors in relation to mobility are included in strategic documents in the field of urban mobility planning as well as certain gaps in this respect. Planning activities related to sustainable mobility most often include the issues of infrastructure availability and adaptation of public mass transport (especially rolling stock) to the requirements of older people. Unfortunately, specific solutions are not often recommended (e.g. priority seats in public urban transport for the elderly), which may result from a certain level of generality adopted in the development of SUMP.

Transport needs of seniors

Maintaining social contacts, possible through access to appropriate transport means supporting the mobility of seniors, influences their perceived quality of life and reduces the risk of loneliness and social exclusion (Berg, Kemperman, Kleijn, Borgers, 2016).

The development of modern information and communication technologies and their increasing dissemination affects the improvement of the quality of life and is perceived as one of the factors that can enable to meet the needs of seniors fully (not only concerning their mobility). At the same time, as in most cases of ICT use, its indirect and direct impact on transport needs is noticeable (Kos-Łabędowicz, Urbanek, 2016). Also, the greater accessibility of modern solutions beyond the transport sector itself may have an impact on the transport needs of seniors (Hubers, Lyons, 2013) or on the possibilities of better examination and understanding of these needs (Shoval et al., 2010).

Seniors rarely decide to travel alone by car and more often use public transport and walk (Szeto, Yang, Wong, Li, Wong, 2017). However, in some less typical cases resulting from spatial conditions and the characteristics of the urban transport system, an opposite phenomenon and a greater dependence on road transport (especially by private cars) may be observed (Berg, Arentze, Timmermans, 2011; Figueroa, Sick Nielsen, Siren, 2014). Research on factors influencing the selection of particular means of transport by seniors, apart from socio-demographic factors characteristic for a given group, indicate that such factors as the type of transport, amount of fees, time to reach a stop and availability of seats have a significant impact on choice of public transport (Wong, Szeto, Yang, Li, Wong, 2018). Research on providing the most optimal (in terms of declared preferences) transport option dedicated to seniors (volunteer drivers, shuttle buses, senior-centre-based shuttle buses, prepaid taxi services, and specially coordinated bus/rail services to distant medical centres were considered) indicated distinct advantage of the first of the indicated options (volunteer drivers), while confirming that the choice of the means of transport is influenced by factors related to skills (driving status/none-driving status) and knowledge (about available opportunities) of the seniors as well as distance from the most visited destinations (Rahman, Strawderman, Adams-Price, Turner, 2016). In the case of pedestrian transport, quality of pedestrian routes, available infrastructure, density, atmosphere and spatial distribution of potential destinations mattered (Chaudhury, Mahmood, Michael, Campo, Hay, 2012; Ottoni, Sims-Gould, Winters, Heijnen, McKay, 2016).

It should be remembered that the group of seniors, usually defined as people aged 60+ or 65+, is not as homogeneous as it is usually assumed. Different needs related to communication needs and mobility can, for example, be observed in the same age group in relation to the gender (Su, Bell, 2012; Hahn, Kimb, Kimc, Ulfarsson, 2016). Likewise, differences in accessibility, preferred means of transport or travel purposes are evident at a time when the study population of seniors is subject to a more detailed breakdown by age (e.g., 64–75, 75–84, 85+) (Hjorthol, Levin, Sirén, 2010; Horner, Duncan, Wooda, Valdez-Torres, Stansbury, 2015).

Methodology

The growing interest in providing mobility for older people is reflected in policies and documents at various administrative levels, from national plans to solutions adopted at the city or municipality level. Comprehensive research on programs at the national level of member countries of the European Union, Norway and Switzerland identified 11 key factors for promoting the mobility of older people. A transport system friendly to seniors should be: affordable, available,

barrier-free, comfortable, comprehensible, efficient, friendly, reliable, safe, secure and transparent (Johnson, Shaw, Berding, Gather, Rebstock, 2017).

Nevertheless, due to the fact that the mobility of seniors is also influenced by factors not directly related to the urban transport system itself, but also the elements of public space, for the analysis of Sustainable Urban Mobility Plans of selected Polish cities, a different reference point was selected. The thematic areas related to the concept of a friendly ageing city concern the following issues: public spaces and buildings, transport, housing, social participation, respect and social inclusion, civic participation and employment, communication and information, community support and health services. From the point of view of ensuring sustainable mobility for older people in urban areas, the issues related to two of the mentioned thematic areas are particularly important: transport and public spaces and buildings. Selected demands related to the requirements of older people in the indicated areas are presented in table 1.

Table 1

Selected requirements of older people associated with mobility in urban areas

| Area | Requirements |
|-----------------------------------|---|
| public spaces | |
| Green areas and pedestrians | <ul style="list-style-type: none"> – green areas are well maintained and safe – walking routes in green areas are free of obstacles, have adequate surface area and are available |
| Pavements | <ul style="list-style-type: none"> – are kept in good condition and adapted to the needs of older people (e.g. appropriate width or low curbs) – are free of obstacles to mobility (e.g. parked cars, snow), – pedestrians have priority in their use |
| Roads – pedestrian infrastructure | <ul style="list-style-type: none"> – pedestrian crossings with adequate (non-slippery) surface are provided at regular intervals – adequate infrastructure (e.g. islands or land crossings) is provided to allow pedestrians to cross busy streets – lights at the crossings should be equipped with visual and sound signalling and also provide enough time for the crossing of older people |
| Traffic | <ul style="list-style-type: none"> – rules and regulations regarding the priority of passage for pedestrians are defined, communicated and strictly observed by other road users (especially drivers) |
| Cycle paths | <ul style="list-style-type: none"> – wherever possible, a separate path is provided for cyclists |
| public transport | |
| Availability/Affordability | <ul style="list-style-type: none"> – affordable for older people – the charging system is consistent and communicated in an accessible way |
| Reliability and frequency | <ul style="list-style-type: none"> – reliable and frequent regardless of the time of day or week (this applies to night courses as well as weekends or public holidays) |
| Destinations | <ul style="list-style-type: none"> – allows access to the most important places from the point of view of seniors (e.g. health centres, parks, shopping centres) – the network of transport lines connects all areas of the city (including the periphery) and neighbouring urban areas – integration of various transport modes |

| | |
|---------------------------------------|---|
| Ageing-friendly vehicles | <ul style="list-style-type: none"> – easily accessible (e.g. lowered floors, wide seats) – clean and technically operational – marked in a clear and legible manner |
| Seating with priority for the elderly | <ul style="list-style-type: none"> – places with priority for older people in vehicles are designated and marked – priority seats for older people are respected by other passengers |
| Specialized services | <ul style="list-style-type: none"> – a sufficient number of means of transport is adapted and accessible to people with disabilities |
| Drivers | <ul style="list-style-type: none"> – are kind, helpful – before departure, they wait until the passengers are properly seated – stop the vehicle at the bus stop in a way that allows and facilitates the entry of elderly people |
| Security and convenience | <ul style="list-style-type: none"> – safe, free from crime – uncrowded |
| Stops and stations | <ul style="list-style-type: none"> – located close to places of residence and relevant to older people destinations – easily accessible, well-marked and adequately equipped (e.g. lighted, weather protection shelters) |
| Information | <ul style="list-style-type: none"> – on available public transport services and possibilities of using them – accessible and clear timetables – in the case when not all vehicles on a given line are adapted to the needs of disabled people, a clear indication of this fact is provided |
| transport general issues | |
| Social transport | <ul style="list-style-type: none"> – independent social transport services (e.g. thanks to volunteering) dedicated for specific events available for older people |
| Taxis | <ul style="list-style-type: none"> – affordable for older people (e.g. discounts or subsidized trips on designated routes) – available and adapted to the needs of elderly and / or disabled persons – kind and helpful drivers |
| Road infrastructure | <ul style="list-style-type: none"> – road sections properly designed, maintained and marked – free from obstacles blocking visibility – good regulation and strict compliance with traffic rules |
| Competences of drivers | <ul style="list-style-type: none"> – providing and promoting driving courses that allow older drivers to renew their skills |
| Parking | <ul style="list-style-type: none"> – accessible and affordable parking lots – marked bays/parking spaces with priority for the elderly/disabled located close to the place of residence/destination – priority regulations respected and enforced |

Source: based on Żakowska, 2014, p. 31–32, 42–43.

Subsequently, selected Sustainable Urban Mobility Plans prepared for the needs of Polish cities will be analysed in terms of taking into account the needs related to the mobility of seniors according to indicated areas.

Results and discussion

The selection of Polish cities whose SUMP have been analysed was based on the size of the city, described by the number of inhabitants. With such a criteri-

on, 16 cities with a population exceeding 200,000 residents were selected for analysis (GUS, 2015).¹ The preliminary examination involving the acquisition of source documents showed that the analysis in the planned scope would not be possible due to the lack of developed SUMP in the case of several cities. Lodz, Bydgoszcz, Białystok, Radom and Torun did not develop SUMP only Sustainable Mass Public Transport Plans, for preparation of which they were obliged by the Act on public transport. This Act indicates the need to develop and adopt a plan for the sustainable development of public transport for municipalities with a population of over 50,000 inhabitants and counties with the number exceeding 80,000 inhabitants (Dz.U. 2011, nr 5, poz. 13). As in the case of traditional transport planning, the plan for sustainable development of public transport differs in scope from the plan of sustainable urban mobility (Wołek, 2015). Wrocław's SUMP is currently subject to public consultations. In the case of Krakow, there was also no SUMP developed, but the Transport Policy for 2016-2025 adopted in 2016 (Rada Miasta Kraków, 2016) was prepared taking into account the concept of planning sustainable urban mobility, and therefore it was decided to include it in the analysis. In some cases, SUMP have been prepared for metropolitan or functional areas (e.g. Szczecin, Warsaw, Poznan and Lublin) or for the region (Katowice and Sosnowiec do not have individual SUMP developed but are included collectively in the plan for the Central Sub-region of the Silesian Voivodeship – and so they will be taken into account in the analysis).

Finally, documents strategically related to sustainable urban mobility were analysed for 10 Polish cities (or metropolitan or functional areas): Warsaw, Kraków, Poznan, Gdansk, Szczecin, Lublin, Katowice, Gdynia, Czestochowa and Sosnowiec. Table 2 presents the results of the conducted analysis according to selected requirements of the elderly in terms of providing mobility in urban areas.

The analysis indicates a differentiated approach to the needs of older people and their consideration in SUMP of selected Polish cities. In some SUMP, there is no reference to the needs of older people or people with limited mobility – only recommendations that planning should take into account the needs arising from environmental, social and economic conditions (e.g. SUMP for the functional area of Warsaw). In others, the needs of older people are taken into account, but not in the case of detailed activities only at the general level of increasing the accessibility of the urban transport system by building infrastructure facilities, but without indicating specific areas or solutions (e.g. SUMP for the City Functional Area of Poznan or Gdansk).

¹ According to (GUS, 2015), these are the following cities: Warsaw, Krakow, Lodz, Wrocław, Poznan, Gdansk, Szczecin, Bydgoszcz, Lublin, Katowice, Białystok, Gdynia, Czestochowa, Radom, Sosnowiec, and Torun.

Table 2
Accounting for the requirements of seniors' mobility in urban areas in SUMP
of selected Polish cities*

| Requirements | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------------------------------------|---|---|---|---|---|---|---|---|---|
| public spaces | | | | | | | | | |
| Green areas and pedestrians | | ✓ | | | ✓ | + | ✓ | + | |
| Pavements | + | ✓ | + | + | ✓ | ✓ | ✓ | ✓ | + |
| Roads – pedestrian infrastructure | + | ✓ | + | + | ✓ | ✓ | ✓ | ✓ | + |
| Traffic | + | + | + | + | ✓ | ✓ | + | ✓ | + |
| Cycle paths | + | + | + | + | + | + | + | + | + |
| public transport | | | | | | | | | |
| Availability/Affordability | + | + | + | + | + | + | + | + | + |
| Reliability and frequency | + | + | + | + | + | + | + | + | + |
| Destinations | + | + | + | + | + | + | + | + | + |
| Ageing-friendly vehicles | + | ✓ | ✓ | + | ✓ | ✓ | ✓ | ✓ | ✓ |
| Seating with priority for the elderly | | | | | | | | | |
| Specialized services | | | | | | | ✓ | | |
| Drivers | | | | | | | | | |
| Security and convenience | + | ✓ | + | + | + | + | + | ✓ | ✓ |
| Stops and stations | + | ✓ | + | + | ✓ | ✓ | ✓ | + | + |
| Information | + | ✓ | ✓ | + | + | + | + | + | ✓ |
| transport general issues | | | | | | | | | |
| Social transport | | | | | | | | | |
| Taxis | | | | | | | | | |
| Road infrastructure | + | + | + | + | + | + | + | + | + |
| Competences of drivers | | | | | | | | | |
| Parking | + | + | + | + | + | + | ✓ | + | + |

* 1 – Warsaw, 2 – Kraków, 3 – Poznan, 4 – Gdansk, 5 – Szczecin, 6 – Lublin, 7 – Gdynia, 8 – Czestochowa, 9 – Katowice and Sosnowiec, 10 – Torun; ✓ – a reference directly to the needs of older people, + the possibility of meeting the requirements of older people through the implementation of general assumptions.

Source: based on: Rada Miasta Kraków, 2016; Orcholska, 2018; TRAKO, 2016; Kusek et al., 2016; Tomanek, Jancecki, Karoń, Krawczyk, Kosobucki, 2016; Wolański, Jakubowski, Kozłowska, Mrozowski, Pieróg, 2016; TransEko, 2017; Wołek, 2016; Star ITS, 2016.

Some of the mobility requirements of older people can be implemented while providing for the needs of other age and social groups. Nevertheless, a part of the requirements, in particular concerning the adaptation of infrastructure and pavements or rolling stock used in public transport, must take into account the requirements of older people as persons with limited mobility. Very often, as in the case of a document concerning Krakow, (reference to the needs of older people is indicated in the Specific objective II.3 – Improvement of travel standards and improvement of travel conditions in public transport, including people with limited mobility), it also includes collectively the needs of other social groups with limited mobility, such as disabled people, parents with children or people carrying luggage (Rada Miasta Kraków, 2016). In some cas-

es, the needs of people with reduced mobility are treated as guidelines for the design of pedestrian infrastructure (e.g. SUMP for the city of Czestochowa) assuming that if it is comfortable for this group it will also be adapted to the needs of other social groups with limited capacity and for pedestrian traffic in general.

A large part of the requirements of old people is taken into consideration to a certain extent; to a lesser extent general demands to meet the mobility needs and to a greater extent specific demands of older people or people with reduced mobility. This concerns in particular the requirements related to infrastructure (e.g. pavements, pedestrian crossings, stops and transfer nodes) and public transport (e.g. reliability and frequency, age-friendly vehicles, safety and convenience). The implementation of some of the requirements is very rare (e.g. specialized services or dedicated parking spaces) and some of them have not been included in any of the analysed plans (e.g. requirements for taxis or social transport).

Conclusions

Ensuring mobility of older people is a key factor affecting their ability to meet other needs related to adequate standard of living. At the same time, we should pay attention to the fact that due to progressing ageing process, ensuring the implementation of mobility needs of older people is hampered by factors related to deteriorating health and external factors resulting from the environment and insufficient adaptation of the urban transport system to their needs.

The process of urbanization combined with the ageing of the population will increasingly affect the transport needs and the form of the transport system, including the urban transport system. Both phenomena require action at various levels of administration, which, unfortunately, are largely constrained by restrictions in financing of social programs, challenges related to urban development (related to the characteristics and problems of individual cities, e.g. declining population of urban areas in developed countries and growing in developing countries) and the more and more frequent issue of the privatization of public areas (Buffel, Phillipson, 2016).

In the conducted analysis of SUMP for selected Polish cities, the necessity to consider and enable accessibility to the city's transport system for older people, including adapting it to the needs of older people in terms of mobility, was observed. If the declared activities are carried out in the periods envisaged in individual plans, the urban transport systems for the analyzed cities will be more friendly to people with limited mobility and allow for their better inclusion. Nevertheless, it should also be remembered that the ageing of the society is a progressive process, and so the actions aimed at ensuring the satisfaction of

the needs related to the mobility of older people should be constantly monitored and modified in accordance with changing needs.

Bibliography

- Berg, P., Arentze, T., Timmermans, H. (2011). Estimating social travel demand of senior citizens in the Netherlands. *Journal of Transport Geography*, 19, 323–331. DOI:10.1016/j.jtrangeo.2010.03.018.
- Berg, P., Kemperman, A., Kleijn, B., Borgers, A. (2016). Ageing and loneliness: The role of mobility and the built environment. *Travel Behaviour and Society*, 5, 48–55. <http://dx.doi.org/10.1016/j.tbs.2015.03.001>.
- Buffel, T., Phillipson, Ch. (2016). Can global cities be ‘age-friendly cities’? Urban development and ageing populations. *Cities*, 55, 94–100. <http://dx.doi.org/10.1016/j.cities.2016.03.016>.
- Chaudhury, H., Mahmood, A., Michael, Y., Campo, M., Hay, K. (2012). The influence of neighborhood residential density, physical and social environments on older adults' physical activity: An exploratory study in two metropolitan areas. *Journal of Aging Studies*, 26, 35–43. DOI: 10.1016/j.jaging.2011.07.001.
- Figuroa, M., Sick Nielsen, T., Siren, A. (2014). Comparing urban form correlations of the travel patterns of older and younger adults. *Transport Policy*, 35, 10–20. <http://dx.doi.org/10.1016/j.tranpol.2014.05.007>.
- GUS (2015). Miasta największe pod względem liczby ludności – stan na dzień 31.12.2015 r. Retrieved from: <https://stat.gov.pl/statystyka-regionalna/rankingi-statystyczne/miastanajwiesze-pod-wzglem-liczby-ludnosci/> (6.07.2018).
- Hahn, J.-S., Kimb, H.-Ch., Kimc, J.-K., Ulfarsson, G. (2016). Trip making of older adults in Seoul: Differences in effects of personal and household characteristics by age group and trip purpose. *Journal of Transport Geography*, 57, 55–62. <http://dx.doi.org/10.1016/j.jtrangeo.2016.09.010>.
- Hebel, K., Wyszomirski, O. (2014). Plan zrównoważonej mobilności miejskiej jako kompleksowe podejście do planowania mobilności w miastach. *TTS Technika Transportu Szybowego*, 21 (11–12), 47–52.
- Hjorthol, R., Levin, L., Sirén, A. (2010). Mobility in different generations of older persons. The development of daily travel in different cohorts in Denmark, Norway and Sweden. *Journal of Transport Geography*, 18, 624–633. DOI:10.1016/j.jtrangeo.2010.03.011.
- Horner, M., Duncan, M., Wooda, B., Valdez-Torres, Y., Stansbury, Ch. (2015). Do aging populations have differential accessibility to activities? Analyzing the spatial structure of social, professional, and business opportunities. *Travel Behaviour and Society*, 2, 182–191. <http://dx.doi.org/10.1016/j.tbs.2015.03.002>.
- Hubers, Ch., Lyons, G. (2013). New technologies for the old: Potential implications of living in later life for travel demand. *Transport Policy*, 30, 220–228. <http://dx.doi.org/10.1016/j.tranpol.2013.08.005>.
- Johnson, R., Shaw, J., Berding, J., Gather, M., Rebstock, M. (2017). European national government approaches to older people's transport system needs. *Transport Policy*, 59, 17–27. <http://dx.doi.org/10.1016/j.tranpol.2017.06.005>.
- Kusek, W. et al. (2016). *Plan Zrównoważonej Mobilności dla Miejskiego Obszaru Funkcjonalnego Poznania na lata 2016–2023*. Retrieved from: www.zit.metropoliapoznan.pl/media/PZMM/Plan_Zrownowazonej_Mobilnosci_Miejskiej.pdf (8.07.2018).

- Moniruzzaman, M., Páez, A., Nurul Habib, K., Morency, C. (2013). Mode use and trip length of seniors in Montreal. *Journal of Transport Geography*, 30, 89–99. <http://dx.doi.org/10.1016/j.jtrangeo.2013.03.007>.
- Olawole, M.O., Aloba, O. (2014). Mobility characteristics of the elderly and their associated level of satisfaction with transport services in Osogbo, Southwestern Nigeria. *Transport Policy*, 35, 105–116. <http://dx.doi.org/10.1016/j.tranpol.2014.05.018>.
- Orcholska, K. (ed.). (2018). Plan Zrównoważonej Mobilności Miejskiej dla Gdańska. Retrieved from: www.gzdiz.gda.pl/zdizgdansk/chapter_76053.asp?soid=7E14B3C302C84568A60E22D2606ABA53 (8.07.2018).
- Otoni, C., Sims-Gould, J., Winters, M., Heijnen, M., McKay, H. (2016). “Benches become like porches”: Built and social environment influences on older adults’ experiences of mobility and well-being. *Social Science & Medicine*, 169, 33–41. <http://dx.doi.org/10.1016/j.socsci.med.2016.08.044>.
- Pettersson, P., Schmöcker, J.-D. (2010). Active ageing in developing countries? – trip generation and tour complexity of older people in Metro Manila. *Journal of Transport Geography*, 18, 613–623. DOI: 10.1016/j.jtrangeo.2010.03.015.
- Rada Miasta Kraków (2016). Polityka Transportowa dla Miasta Kraków na lata 2016–2025. Retrieved from: https://www.bip.krakow.pl/?sub_dok_id=19585 (7.07.2018).
- Rahman, M., Strawderman, L., Adams-Price, C., Turner, J. (2016). Transportation alternative preferences of the aging population. *Travel Behaviour and Society*, 4, 22–28. <http://dx.doi.org/10.1016/j.tbs.2015.12.003>.
- Shoval, N., Auslander, G., Cohen-Shalom, K., Isaacson, M., Landau, R., Heinik, J. (2010). What can we learn about the mobility of the elderly in the GPS era? *Journal of Transport Geography*, 18, 603–612. DOI:10.1016/j.jtrangeo.2010.03.012.
- Star ITS (2016). Plan Zrównoważonej Mobilności Miejskiej dla Miasta Częstochowy. Retrieved from: <https://bip.czestochowa.pl/uchwala/1153842/uchwala-nr-510-xxxvi-2017> (13.07.2018).
- Su, F., Bell, G.H. (2009). Transport for older people: Characteristics and solutions. *Research in Transportation Economics*, 25, 46–55. DOI:10.1016/j.retrec.2009.08.006.
- Su, F., Bell, M. (2012). Travel differences by gender for older people in London. *Research in Transportation Economics*, 34, 35–38. DOI:10.1016/j.retrec.2011.12.011.
- Szeto, W.Y., Yang, L., Wong, R.C.P., Li, Y.C., Wong, S.C. (2017). Spatio-temporal travel characteristics of the elderly in an ageing society. *Travel Behaviour and Society*, 9, 10–20. <http://dx.doi.org/10.1016/j.tbs.2017.07.005>.
- Tomanek, R., Jancecki, R., Karoń, G., Krawczyk, G., Kosobucki, Ł. (2016). Plan Zrównoważonej Mobilności Miejskiej Subregionu Centralnego Województwa Śląskiego. Katowice: Centrum Badań i Transferu Wiedzy Uniwersytetu Ekonomicznego w Katowicach.
- TRAKO (2016). Zintegrowany Plan Zrównoważonej Mobilności dla Szczecińskiego Obszaru Metropolitalnego na lata 2016–2023. Retrieved from: www.som.szczecin.pl/chapter_104023.asp?soid=744B5398D44E4F3D902F9127506D03BA (11.07.2018).
- TransEko (2017). Plan Mobilności dla Lubelskiego Obszaru Funkcjonalnego. Retrieved from: https://lublin.eu/gfx/lublin/userfiles/_users/k-jarmolowicz/plan_mobilnosci_lof.pdf (11.07.2018).
- Ustawa o publicznym transporcie zbiorowym z 16.12.2010 roku, Dz.U. z 2011, nr 5, poz. 13.
- Wolański, M., Jakubowski, B., Kozłowska, P., Mrozowski, W., Pieróg, M. (2016). Plan Zrównoważonej Mobilności dla Warszawskiego Obszaru Funkcjonalnego. Retrieved from: <http://omw.um.warszawa.pl/plan-zrownowazonej-mobilnosci-dla-warszawskiego-obszaru-funkcjonalnego/> (10.07.2018).

- Wołek, M. (2015). Planowanie zrównoważonej mobilności miejskiej w Polsce i w Europie. *Tech- nika Transportu Szynowego*, 10 (259), 20–24.
- Wołek, M. (ed.). (2016). *Plan Zrównoważonej Mobilności Miejskiej dla Gdyni*. Retrieved from: <https://mobilnagdynia.pl/sump/393-plan-zrownowazonej-mobilnosci-miejskiej-dla-gdyni-2> (12.07.2018).
- Wong, R.C.P., Szeto, W.Y., Yang, L., Li, Y.C., Wong, S.C. (2018). Public transport policy measures for improving elderly mobility. *Transport Policy*, 63, 73–79. <https://doi.org/10.1016/j.tranpol.2017.12.015>.
- Żakowska, M. (ed.)(2014). *Miasta Przyjazne Starzeniu: Przewodnik*. Retrieved from: <http://publica.pl/produkt/miasta-przyjazne-starzeniu-przewodnik-2> (6.07.2018).

Zapewnienie mobilności miejskiej dla seniorów – analiza PZMM polskich miast

Słowa kluczowe: zrównoważona mobilność miejska, mobilność seniorów, starzenie się społeczeństwa, ZPMM

Streszczenie. Starzenie się społeczeństwa zarówno w Unii Europejskiej, jak i w Polsce wymaga podejmowania działań mających na celu zapewnienie wielu postulatów związanych z zapewnieniem seniorom włączenia społecznego i różnych wymagań związanych m.in. z mobilnością na obszarach miejskich. Koncepcja zrównoważonej mobilności miejskiej zakłada modelowanie miejskiego systemu transportowego zgodnie z założeniami zrównoważonego rozwoju. Celem artykułu jest zbadanie, w jak dużym stopniu Plan Zrównoważonej Mobilności Miejskiej wybranych polskich miast uwzględniają potrzeby seniorów pod względem zapewnienia mobilności.

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Cytowanie

- Kos-Łabędowicz, J. (2018). Ensuring the mobility of senior citizens in urban areas – analysis of Polish cities SUMP. *Marketing i Zarządzanie*, 2 (52), 71–81. DOI: 10.18276/miz.2018.52-07.