
Implementation of Sustainable Urban Mobility Plans in Polish Agglomerations

Submitted 15/08/25, 1st revision 29/08/25, 2nd revision 11/09/25, accepted 30/09/25

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Abstract:

Purpose: The purpose of this paper is to examine the degree of implementation of sustainable mobility policies in selected Polish metropolitan areas within the framework of the European Union's Sustainable Urban Mobility Plan (SUMP). The study aims to identify key determinants affecting the effectiveness of mobility strategies at the local level and assess their compliance with European standards for integrated and sustainable urban transport planning.

Design/Methodology/Approach: The research was conducted using a survey among representatives of ten Polish metropolitan areas, based on the SUMP Self-Assessment tool developed by the European Commission's Eltis platform. The questionnaire included 100 closed-ended questions divided into nine thematic sections, allowing the classification of cities according to the level of policy implementation. The analysis combined quantitative results with qualitative interpretations of national and local transport strategies, such as The National Urban Policy 2023, Transport Development Strategy until 2020 (with an Outlook to 2030), and State Transport Policy for 2006–2025.

Findings: The study reveals a high degree of variation in the implementation of sustainable mobility policies across Polish metropolitan areas. Warsaw achieved the highest score (76 points), followed by Poznań, Kraków, Lublin, and Gdańsk, while Łódź and Bydgoszcz obtained the weakest results. The findings indicate that institutional capacity, stakeholder participation, and financial resources play decisive roles in successful implementation. Moreover, many strategic documents were created mainly to satisfy EU funding requirements rather than local developmental needs, reducing their practical applicability.

Practical Implications: The results highlight the need for enhanced coordination between national and regional transport policies and the adoption of more inclusive, participatory approaches in urban mobility planning. The methodology and findings provide local governments with diagnostic insights useful for developing integrated, evidence-based, and sustainable mobility strategies aligned with EU guidelines.

Originality/Value: This paper offers one of the first comprehensive assessments of SUMP implementation in Polish metropolitan contexts. It presents an original framework for evaluating the maturity of local mobility strategies and identifying areas requiring improvement to achieve sustainable urban transport.

Keywords: Sustainable Urban Mobility Plan, urban transport, urban logistics, metropolitan policy, sustainable development, transport planning.

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JEL codes: R41, R42, O18.

Paper type: Research article.

Acknowledgement: This research was co-financed by the Minister of Science under the "Regional Excellence Initiative."



1. Introduction

Defining a uniform urban policy in the field of transport and mobility for all urban centers is extremely challenging and not always appropriate. Each city faces its own distinct, region-specific challenges and problems. Another significant factor is the limited and inconsistent availability of information about local transport systems. Each metropolitan area conducts research and monitors its transport policy according to its own principles and methodologies, often in different and temporally distant frameworks. These data are complemented by information from the Central Statistical Office and various expert reports. Collectively, these factors contribute to an incomplete picture of the current state of transport policy in Polish agglomerations.

Taking the above into account, since the 1990s, the largest Polish urban centers have started adopting policy documents defining their transport strategies. The transport strategies of major Polish agglomerations align with the concept of sustainable development, with the main objectives being the promotion of public transport, prioritization of cycling and pedestrian traffic, and limitation of private car use (Lewiński, 2025). The documents adopted by local authorities also include guidelines for constructing bypasses and restricting vehicle access to city centers. An important element of these strategies is the need to apply tools that influence the choices and preferences of urban transport users.

The transport strategies of Polish metropolitan areas assume a multidimensional character of transport policy, integrating various forms of action undertaken by local governments and extending beyond investment in technical infrastructure (Krysiński, 2014). At the same time, it should be noted that the analyzed documents are characterized by a high degree of generality, containing guidelines that should be considered when implementing specific actions.

2. Literature Review

The objectives and assumptions set for urban transport in Poland form an integral

part of the broader framework of national transport development and should primarily be considered within this context. Issues related to sustainable urban transport are regulated in numerous strategic documents, the diversity of which in scope and subject matter reflects a comprehensive approach that, over recent years, has become increasingly specific and gained a direct, investment-oriented character (Kos, Krawczyk, and Tomanek, 2015). Among the main national legal acts concerning urban transport are: *Long-Term National Development Strategy (Ministerstwo Administracji i Cyfryzacji, 2013)*, *Transport Development Strategy until 2020 with an Outlook to 2030 (Ministerstwo Transportu, Budownictwa i Gospodarki Morskiej, 2013)*, *National Urban Policy (Ministerstwo Infrastruktury i Rozwoju, 2015)*, and *State Transport Policy for 2006–2025 (Ministerstwo Infrastruktury, 2005)*.

The above-mentioned documents define the general guidelines and principles for conducting national transport policy. However, the actual challenges related to the movement of people and goods occur at the local government level, particularly in highly urbanized areas (primarily in metropolitan centers), where conflicts and overlapping interests among different transport users are especially evident—particularly concerning access to transport services and networks. Counteracting the negative effects of such phenomena requires specific solutions within local transport policies, which, on the one hand, should be based on overarching guidelines and, on the other, take into account individual methods of problem-solving that reflect the unique characteristics of each area.

Local governments possess a wide range of instruments, the use of which can contribute to improving the urban logistics system within a given area and serve as a foundation for implementing initiatives planned in local strategic programmes (Drożdż & Lewiński, 2019). Issues related to urban transport development are incorporated into all regional strategies, with the main objectives in this area typically including transport accessibility, competitiveness, and sustainable development (Krawczyk & Tomanek, 2013). Strategic transport issues at the regional level are considered mainly in the context of opportunities, the necessity of promotion, and the need for increased integration.

The Sustainable Urban Mobility Plan (SUMP) is a comprehensive strategic document developed by the European Commission to serve as a model for planning and implementing mobility policies by city authorities and other stakeholders, while taking into account the broader urban context and a long-term perspective (*European Commission, 2013*). The European Commission recommends the implementation of Sustainable Urban Mobility Plans, considering their substantive scope, which comprehensively integrates all modes of movement as well as the optimization and coordination of the entire urban transport system (Wołek, 2015).

One of the key elements of the adopted model is a participatory approach that enables the involvement of all stakeholders in the process of sustainable mobility

planning. According to the European Commission, this allows the realization of the following objectives (*Eltis, 2014b*):

- ensuring transport accessibility to key destinations,
- improving safety,
- reducing external transport costs,
- increasing transport efficiency, and
- enhancing the attractiveness of cities in social, environmental, and economic dimensions.

In developing an effective model for implementing urban logistics, analyses of processes, solutions, and best practices from other countries were used, as well as relevant literature in the field. The recommended SUMP model is continuously improved through research and development projects financed by the European Union. At the same time, many European cities have already implemented innovative solutions for sustainable mobility planning, sharing their experiences within various EU networks and platforms.

The evaluation and adaptation of urban transport policies within the context of SUMP are supported through benchmarking and audits, for instance, within the ADVANCE project implemented in 2014, which assumed that by 2020, approximately 500 cities should have adopted SUMP frameworks (*European Commission, 2014*).

In Poland, the process of implementing sustainable urban mobility models is also developing. However, the strategic documents developed and implemented in the largest agglomerations have so far represented only partial attempts to plan modern transport systems based on the SUMP concept. One of the main shortcomings identified is the insufficient involvement of stakeholders in the planning process, while unidirectional communication, perceiving public consultations as a mere administrative obligation, and a lack of trust in local authorities remain widespread tendencies (*Kos, Krawczyk & Tomanek, 2015*).

Theoretical assumptions and empirical findings, described in detail in previous chapters, have allowed for the formulation of a reference model for the effective implementation of urban logistics solutions in Polish metropolitan areas.

3. Research Methodology

The objective of the research was to develop a ranking of agglomerations in terms of the degree of implementation of mobility policy. To achieve this, the *SUMP Self-Assessment* tool, developed and made available on the *Eltis* portal, was utilized (*Eltis, 2025a*). *Eltis* is a platform that facilitates the exchange of information, knowledge, and experience in the field of sustainable urban mobility across Europe. The service is intended for representatives of the transport sector as well as related

disciplines such as urban planning, regional development, health, energy, and environmental protection.

The Eltis platform, which was established over 20 years ago, is now the most important European platform dedicated to urban mobility (Eltis, 2025b). It is financed by the European Union under the *Intelligent Energy – Europe (IEE)* programme.

The *SUMP Self-Assessment* questionnaire contains 100 closed-ended questions, where the answer “YES” equals 1 point and the answer “NO” equals 0 points. Based on the collected responses, a ranking of the examined agglomerations was created according to the degree of mobility policy implementation, which also enabled classification in accordance with the scale presented in Table 1.

Table 1. Classification of the degree of mobility policy implementation

Evaluation	Point Scale	Level of Mobility Policy
1	0–24 points	Lack of mobility policy
2	25–49 points	Basic level of mobility policy
3	50–74 points	High level of mobility policy
4	75–100 points	Very high level of mobility policy

Source: own study based on (CIVITAS PROSPERITY, 2018).

The survey was conducted among representatives of ten Polish cities: Warsaw, Katowice, Kraków, Łódź, Gdańsk, Poznań, the Bydgoszcz–Toruń metropolitan area, Szczecin, and Lublin. These agglomerations serve as the leading urban centers in Poland and constitute the driving force behind the socio-economic development of their respective regions. It is precisely in these cities that the main transport-related problems—such as traffic congestion and environmental degradation—have been generated over recent years.

At the same time, these metropolitan areas have been the sites of key transformations and priority investments in the field of sustainable mobility. Considering the above, the results obtained from the surveyed agglomerations should provide the most reliable assessment of the effectiveness of implementing urban logistics solutions within the functioning conditions of Polish urban centers.

4. Research Results

As part of the research, the results of a questionnaire survey on the self-assessment of the examined agglomerations in the context of their mobility policies were summarized. The questionnaire consisted of 100 closed-ended questions, where the answer “YES” equaled 1 point and “NO” equaled 0 points. Thus, the maximum score was 100 points. Based on the obtained results, a ranking of cities was

created—the higher the total score, the more advanced the city was in terms of the degree of mobility policy implementation, and the higher its position in the ranking.

The *SUMP Self-Assessment* questionnaire consisted of nine subsets, with a total of 100 questions. The first subset referred to the use of internal potential for the implementation of a Sustainable Urban Mobility Plan. The questions addressed issues such as formal involvement in the strategy development process, the analysis of strengths and weaknesses, the identification of qualification and skill gaps, the identification of stakeholders, and the assessment of budgetary and time frameworks. Most of the surveyed agglomerations declared that they were undertaking such actions.

The next subset of questions asked representatives of the surveyed agglomerations to perform a self-assessment regarding the process of defining the development and scope of the plan. This included, among others: the involvement of neighboring municipalities forming part of the functional area of the agglomeration, the territorial scope of the developed mobility policy, cooperation with institutions directly related to urban transport, the determination of participation mechanisms, and the establishment of a team responsible for developing and implementing the strategy. In this regard, cities declared only partial progress, with the authorities of Lublin reporting the highest level of activity.

The third subset of questions referred to the analysis of mobility conditions and the preparation of development scenarios. It assessed whether cities had diagnosed key mobility-related problems, selected appropriate indicators for evaluating the current situation, analyzed weaknesses in the urban transport system, and developed and evaluated alternative development scenarios and models. The highest number of positive responses—and therefore the highest scores—were obtained by Warsaw and Lublin (13 and 11 out of 16 possible points, respectively). Other agglomerations demonstrated much lower levels of engagement in these processes.

An analysis of the responses indicated that the largest Polish metropolitan areas primarily implemented actions related to the fourth step of the SUMP process, which concerned the development of a long-term vision of urban mobility, involving cooperation, stakeholder engagement, and public information. In this aspect, Warsaw and Poznań confirmed the completion of all steps outlined in the process. Most of the agglomerations also established priorities for planned development directions and defined measurable objectives that enable progress monitoring, as indicated in the fifth subset of questions (on average, four out of six positive responses).

The sixth subset, which included the broadest set of questions (28 in total), asked the surveyed agglomerations to assess their efforts in developing effective packages of

measures. Most respondents declared that they had undertaken numerous actions aimed at developing such packages in cooperation with stakeholders, with the goal of implementing the vision, objectives, and assumptions of the Sustainable Urban Mobility Plan.

The results of the following subset revealed that one of the most significant challenges in Polish metropolitan areas is establishing a clear division of responsibilities and preparing budgets and financial allocations among all entities and local government units involved in shaping sustainable urban mobility within a given functional area. The average number of positive responses in this category was 2 out of 6 possible, with Szczecin performing best (4).

Another barrier, as shown by the subsequent set of questions, is the lack of defined processes for monitoring the implementation of actions. This includes, among others, the selection of indicators, identification of data sources, and dissemination of monitoring results.

The final subset referred to activities aimed at the formal adoption of the Sustainable Urban Mobility Plan. Since, in most of the surveyed agglomerations, such documents are still in the development stage, the average number of positive responses in this area was also low (2 out of 7). The most advanced cities in the final stage of formal approval of their mobility strategies were Poznań, Kraków, and Katowice.

Summarizing all the components described above and the results obtained, the average number of points earned by all surveyed agglomerations amounted to exactly half of the possible total—50 points (see Table 2). According to the conducted research, the agglomeration most advanced in implementing its mobility policy is Warsaw, which answered “YES” to 76 out of 100 questions. On the other hand, the weakest performance was recorded in the Bydgoszcz metropolitan area, which received only 22 positive responses.

Table 2. Results of the SUMP Self-Assessment survey – ranking of Polish metropolitan areas

Category	Warsaw	Poznań	Kraków	Lublin	Gdańsk	Katowice	Szczecin	Łódź	Bydgoszcz
Use of own potential (max. 12 pts)	10	8	10	9	7	7	2	2	1
Definition of the development process and plan scope (max. 9 pts)	5	6	5	7	6	4	3	2	2
Analysis of mobility conditions and development of scenarios (max. 16 pts)	13	8	5	11	8	3	6	3	4
Developing a shared vision and engaging citizens (max. 5 pts)	5	5	4	4	3	4	1	1	1

Category	Warsaw	Poznań	Kraków	Lublin	Gdańsk	Katowice	Szczecin	Łódź	Bydgoszcz
Setting priorities and measurable objectives (max. 6 pts)	4	6	4	5	4	5	2	2	2
Developing effective packages of measures (max. 28 pts)	26	21	20	17	17	15	19	11	9
Establishing a clear division of responsibilities and allocation of financial resources (max. 6 pts)	3	3	1	0	2	2	4	0	1
Defining a monitoring and evaluation plan (max. 11 pts)	7	4	6	5	4	5	2	3	2
Adoption of the Sustainable Urban Mobility Plan (max. 7 pts)	3	5	5	0	2	4	1	0	0
Total score (max. 100 pts)	76	66	60	58	53	49	40	24	22

Source: own study based on survey results using the SUMP Self-Assessment tool (Eltis, 2025a).

The implementation of the questionnaire survey and the *SUMP Self-Assessment* tools also made it possible to classify the examined agglomerations in terms of the degree of mobility policy implementation, in accordance with the previously adopted criteria (see Table 3). The final results show that only Warsaw assessed the implementation process as being at a *very high* level. This indicates that the activities undertaken by the capital city in this field are fully consistent with the concept and guidelines of the European Union regarding the development of mobility strategies, and that the plans developed in Warsaw are characterized by high quality.

According to the obtained responses, in most of the examined agglomerations, the implementation of mobility policy was assessed at a *high* level, which, similarly to Warsaw, means the realization of adopted assumptions and a high value of the developed strategic documents. However, it is worth noting the differences in the results obtained by individual cities classified within the same development group. Among these, Poznań achieved the highest score (66 points), while Gdańsk (53 points) only slightly exceeded the threshold for inclusion in the same category.

The next group consists of cities with a basic level of mobility policy implementation—those that have only recently initiated the planning process based on the adopted concepts and assumptions. This group includes Katowice, which was close to qualifying for the higher category (49 points), and Szczecin (40 points).

The last and lowest level of classification refers to cities in which the implemented mobility policy insufficiently reflects the adopted standards and principles, and where the developed strategies cannot be considered comprehensive or valuable in the context of shaping sustainable urban transport. At this stage of development, the cities of Łódź (24 points) and Bydgoszcz (22 points) assessed their activities as belonging to this category.

Table 3. Classification of Polish metropolitan areas according to the level of mobility policy implementation

Level of Mobility Policy Implementation	Agglomeration	Score (out of 100)	Interpretation
Very high	Warsaw	76	Full compliance with EU SUMP principles; high-quality strategic documents
High	Poznań, Gdańsk, Kraków, Lublin	53–66	Implementation consistent with SUMP guidelines; advanced integration of policy goals
Basic	Katowice, Szczecin	40–49	Initial planning phase; partial implementation of adopted concepts
Low	Łódź, Bydgoszcz	22–24	Fragmented and incomplete strategies; insufficient adaptation to sustainable transport standards

Source: Own study based on survey results using the SUMP Self-Assessment tool (Eltis, 2025a).

5. Conclusions

In summary, issues related to sustainable urban mobility constitute an integral part of numerous regulations at both the national and regional levels. Over the years, this topic has gained increasing importance and has evolved in successive legal acts. Polish legislation places particular emphasis on urban public transport and electromobility. However, there is still a lack of legal instruments that would address the concept of sustainable urban mobility in a comprehensive and coherent manner.

A particularly noticeable shortcoming is the insufficient number of regulations concerning freight transport. Many regional documents addressing the issue of sustainable mobility are developed solely to meet European Union requirements and to enable access to investment funding, which significantly affects their quality. At the same time, the content of such strategies is rarely discussed in a comprehensive way with stakeholders and is instead subject to limited public consultations, conducted merely to fulfill the formal legal requirement.

References:

- Drożdż, W., Lewiński, M. 2019. Projekty logistyki miejskiej w zakresie współczesnych systemów dostaw na obszarach zurbanizowanych (Urban logistics projects in the field of modern delivery systems in urbanized areas). In: W. Drożdż, M. Dźwigoł-Barosz (Eds.), *Wyzwania cywilizacyjne we współczesnej gospodarce: wybrane aspekty* (Civilizational challenges in the contemporary economy: Selected aspects) (pp. 173-193). Toruń: Wydawnictwo Adam Marszałek.
- Kos, B., Krawczyk, G., Tomanek, R. 2015. Modelowanie systemów transportowych w

- aglomeracjach miejskich (Modeling of Transport Systems in Urban Agglomerations). Katowice: Uniwersytet Ekonomiczny w Katowicach.
- Krawczyk, G., Tomanek, R. 2013. Rozwój systemów transportowych jako priorytet strategii regionalnych w Polsce (Development of Transport Systems as a Priority of Regional Strategies in Poland). *Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach*, 143, 187-199.
- Krysiński, D. 2014. Idea zrównoważonego transportu a kształt polityki transportowej w polskich miastach (The Idea of Sustainable Transport and the Shape of Transport Policy in Polish Cities). *Studia Miejskie*, 14, 82-95.
- Lewiński, M. 2025. Polskie aglomeracje w dobie aktualnych trendów logistyki miejskiej (Polish Agglomerations in the Era of Current Urban Logistics Trends). Wydawnictwo Naukowe Uniwersytetu Szczecińskiego.
- Ministerstwo Administracji i Cyfryzacji. 2013. Długookresowa Strategia Rozwoju Kraju. Polska 2030. Trzecia fala nowoczesności (Long-Term National Development Strategy. Poland 2030. The Third Wave of Modernity). Warszawa: Ministerstwo Administracji i Cyfryzacji.
- Ministerstwo Infrastruktury. 2005. Polityka Transportowa Państwa na lata 2006-2025 (State Transport Policy for 2006-2025). Warszawa: Ministerstwo Infrastruktury.
- Ministerstwo Infrastruktury i Rozwoju. 2015. Krajowa Polityka Miejska 2023 (National Urban Policy 2023). Warszawa: Ministerstwo Infrastruktury i Rozwoju.
- Ministerstwo Transportu, Budownictwa i Gospodarki Morskiej. 2013. Strategia Rozwoju Transportu do 2020 roku (z perspektywą do 2030 roku) (Transport Development Strategy until 2020 with an Outlook to 2030). Warszawa: Ministerstwo Transportu, Budownictwa i Gospodarki Morskiej.
- European Commission. 2013. Together towards competitive and resource-efficient urban mobility (COM(2013) 913 final). Brussels: European Commission.
- European Commission. 2014. ADVANCE audit scheme and guidelines. Transport Research and Innovation Monitoring and Information System (TRIMIS). https://trimis.ec.europa.eu/sites/default/files/project/documents/20140306_142844_56404_ADVANCE_Audit_Scheme_and_Guidelines.pdf.
- Wołek, M. 2015. Planning Sustainable Urban Mobility in Poland and Europe. *Autobusy – Technika, Eksploatacja, Systemy Transportowe*, 12, 26-30.
- CIVITAS PROSPERITY. 2018. Guidelines for developing a Sustainable Urban Mobility Plan (SUMP). European Commission. <https://www.ec.europa.eu/research/participants/documents/downloadPublic?appId=PGMS&documentIds=080166e5b3c4e7df>.
- Eltis. 2014a. ADVANCE Audit Scheme and Guidelines. European Commission, Transport Research and Innovation Monitoring and Information System (TRIMIS). https://trimis.ec.europa.eu/sites/default/files/project/documents/20140306_142844_56404_ADVANCE_Audit_Scheme_and_Guidelines.pdf.
- Eltis. 2014b. Guidelines for Developing and Implementing a Sustainable Urban Mobility Plan. European Commission. https://www.eltis.org/sites/default/files/guidelines-developing-and-implementing-a-sump_final_web_jan2014b.pdf.
- Eltis. 2025a. SUMP Self-Assessment Tool. <https://www.eltis.org/mobility-plans/sump-process>.
- Eltis. 2025b. About Eltis – The Urban Mobility Observatory. <https://www.eltis.org/pl/content/o-eltis>.