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THE IMPORTANCE OF THE CITIZEN'S BUDGET IN THE DEVELOPMENT OF SUSTAINABLE URBAN MOBILITY. CASE STUDY OF THE CITY OF SZCZECIN

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Purpose: This paper aims to fill a research gap in the area of identifying and determining the impact of civic participation through the citizen's budget on measures to foster sustainable urban mobility.
Design/methodology/approach: Firstly, based on a literature review, the essence of sustainable mobility is presented and its main areas are identified. Then, on the basis of a case study of the city of Szczecin, through the analysis of available data on the functioning of the civic budget (SBO) from 2014 to 2025, the impact of the civic budget on shaping sustainable mobility in this city is shown.
Findings: The research shows the importance of the participatory budget as a tool for the implementation of a sustainable urban mobility plan. The research shows that the number of adopted projects for investments supporting sustainable mobility represented an average of 32% of all adopted projects under the SBO in the different years 2014-2025 studied.
Social implications: The article points out that, by participating in the civic budget process, citizens have the opportunity to propose and decide on the implementation of sustainable mobility projects. Such activities can affect the quality of life and safety of pedestrians, cyclists and other road users. The participation of citizens in shaping sustainable mobility strategies is important and allows for a better adaptation to their needs.
Originality/value: These considerations point to the need to draw attention to the civic budget as a hitherto lesser-noticed tool for supporting the implementation of sustainable mobility, which is very important for local authorities as well as inhabitants themselves.
Keywords: sustainable mobility, citizen's budget, civic budget, participation, smart city.
Category of the paper: Research paper.

1. Introduction

Sustainable urban development is not just the sum of environmental, social and economic development goals, but focuses on the interplay of various factors stemming from these three areas (Berger, Luckmann, 2006). Local communities should play an important role in developing urban transport strategies, plans and policies.

Stakeholders in the participatory process in local governments include their residents, institutions, organisations, economic actors, as well as the local administration itself. In order to undertake participatory activities, it is necessary to have access to information resources, as well as other resources necessary for specific forms of participation, such as financial resources in participatory budgets (Council of Europe, 2019). It is also important that adequate regulations are in place for the possibility of community participation in local policy-making (Michelini et al., 2023; Correia et al., 2023). Participation can be referred to its different areas, both in terms of thematic scope and the nature (or level) of participatory activities (Schwartz, Schejter, 2024). One of the thematic areas of civic participation is urban development planning. An important role is played by participatory budgeting, which allows residents to actually co-determine how part of the local budget is spent (Rachwal, 2013) and to plan the development directions of the locality they live in. Residents have the opportunity to look at the mechanisms of constructing and spending local budgets and to consciously participate in this process. The civic budget should fulfil certain conditions, such as (Sintomer et al., 2008; Sintomer et al., 2012):

- the transfer of a certain amount of local government funds for the purposes of a participatory budget,
- the possibility for residents to participate universally,
- organising public consultations,
- implementation of projects selected by the vote,
- to report on the implementation of the budget, as well as access to information on each stage of the civic budget process,
- long-term and cyclical.

2. Research methodology

This article aims to show to what extent the citizens' budget supports the development of sustainable mobility in a selected city.

The author's aim was to answer the following research questions:

1. What are the key research areas and trends in the field of sustainable urban mobility?
2. What proportion of the projects selected for implementation under the SBO are projects in the area of sustainable mobility?
3. What percentage of the civic budget is accounted for by planned expenditure on tasks in the area of sustainable mobility?
4. What is the structure of planned spending in the SBO on sustainable mobility by type of task carried out?

Figure 1 shows the subsequent research stages.

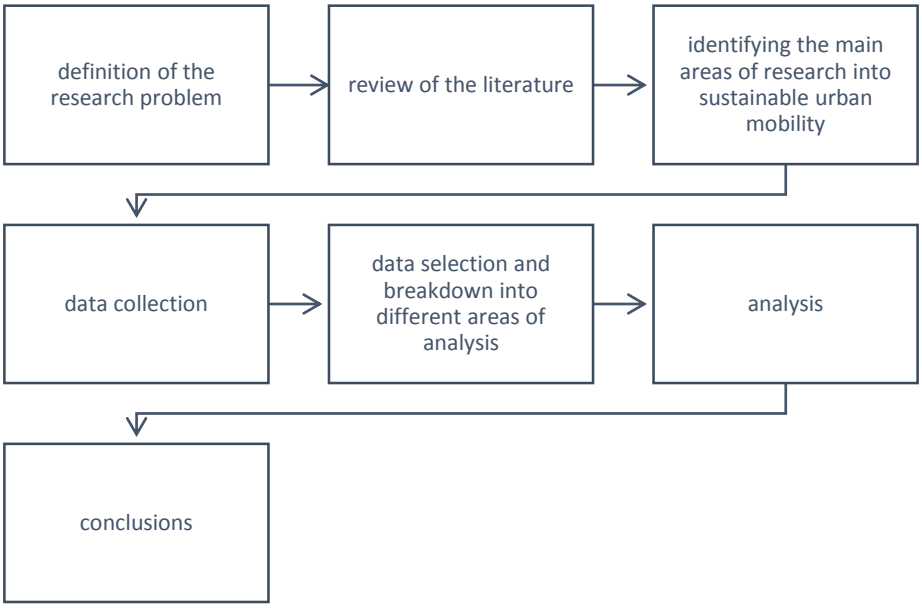

Figure 1. Stages of research conducted.

Source: own elaboration.

In the first part, a review of recent foreign literature was carried out in search of development trends and research areas of sustainable urban mobility in the context of their inhabitants. The library database sciencedirect.com was selected for the study. Based on the literature search, the most important areas of sustainable urban mobility relevant to residents were identified.

The City of Szczecin was chosen as the research area, as it is one of several cities in Poland that are pioneers in the introduction of civic budgeting. This form of public participation has been in place here since 2014.

The collection of empirical data then proceeded. For the purposes of the research, data from 2014-2025 were obtained from the Szczecin City Hall and public information on the SBO portal. A review of the scope of civic budget projects in each year studied and the planned expenditures associated with them was carried out. On this basis, a quantitative and qualitative analysis was carried out to answer the research questions posed.

3. Sustainable urban mobility - current problems and development trends

The literature on the subject points to the relevance of the issue of sustainable mobility in urban areas and reveals various important aspects of the problem. The most important and, at the same time, fundamental feature of sustainable urban mobility should be to foster improvements in the health of the population and to stimulate an increase in the standard of living by providing quality transport services and mobility opportunities (Kasraian et al., 2024, p. 2).

Sustainable transport favours public transport and also the reduction of car traffic and road congestion, which benefits the environment (Mozos-Blanco et al., 2018, p. 47). Best practices applied by cities promote modal shift while improving public transport service, encouraging active mobility and discouraging the use of private vehicles (Papadakis et al., 2024, p. 1; Zientara et al., 2024).

The implemented measures within the framework of sustainable urban mobility should take into account first of all the needs of pedestrians and cyclists. This concerns the accessibility of this form of mobility, safety in moving around, the environment in which they move and also the costs of this movement. These forms of mobility in smart cities are particularly important (Marquart, Schicketanz, 2022; Trpković et al., 2023).

Cycling is a widely promoted form of sustainable mobility worldwide. It is an active form of transport that benefits the health of its users, is non-polluting and can contribute to public health, environmental, climate, transport and other socio-economic policy goals (Garrard, Rissel, Bauman, 2012; Goodman et al., 2013; Sallis et al., 2016; Nieuwenhuijsen, 2020). Cycling transport is increasingly accessible and its flexible form makes it more and more popular, especially among young people. A solution to make cycling more accessible and develop it is shared mobility. It can also be observed that renting a bicycle is more popular than owning one (Mouratidis, 2022; Efthymiou et al., 2013). The low cost of use also makes it widely available and one of the most equitable forms of transport (Pucher, Buehler, 2008; Kristensen et al., 2023, p. 3). The development of this type of mobility has been significantly influenced by the development of urban bicycle systems (Médard de Chardon et al., 2017). Other factors influencing the adoption and use of shared mobility opportunities include shared mobility systems, ICT systems, transport infrastructure, type of city, sociodemographic profile of residents and weather conditions (Chibwe et al., 2021; Maas, Attard, Caruana, 2020; Christidis, 2023).

The way in which buildings and land use are developed also influences pedestrian activity. The organisation of space, the layout of streets (e.g. the number of intersections), access to shops or restaurants, and features related to safety (e.g. the presence of good lighting, pedestrian crossings or straight and wide pavements) and comfort (e.g. plantings of trees, shrubs or flowers, well-maintained parks) contribute to a good walking environment (Santos et al., 2022).

This form of mobility is also important from a sustainability point of view, as it contributes to the health attitudes of residents who are more willing, active walkers in an environment that benefits them (Shields et al., 2021, p. 20; Allam et al., 2024, p. 2).

Sustainable urban management also recognises various problems including, but not limited to, shortages of parking spaces including for the disabled or illegal, unsafe parking. Illegal parking is a problem for most cities, as it leads to increased traffic congestion and air pollutant emissions, and reduces the safety of pedestrians, cyclists and drivers, making cities less clean, safe and attractive for residents and tourists (Jardim, 2022). Another equally important problem is the occupation of cycle paths by cars (He et al., 2018). The planning of space for mobility, taking into account the needs of different stakeholder groups as well as the cost-effectiveness of the considered solutions and environmental sustainability, is at the core of considerations for both local communities and international organisations (Hartl et al., 2024). The European Commission also encourages cities to develop Sustainable Urban Mobility Plans (SUMPs) in order to improve the quality of life of their citizens (EU, 2023). In working towards sustainable mobility, it is becoming commonplace to involve local communities, who become the beneficiaries of the solutions implemented (Ortiz-Fernández et al., 2023, p. 2). They can indicate the desired directions for change in different circumstances as was the case, for example, during the pandemic (Kyriakidis et al., 2023). One tool that allows for this is public participation through the citizen budget.

4. Impact of the civic budget on the development of sustainable mobility in the City of Szczecin

Szczecin is located in the north-west of Poland, bordering Germany and is one of the largest cities in the country, the fifth largest in terms of area (over 300 km^2). The city is the central hub of the Szczecin agglomeration. The large, extensive area requires the provision of suitable mobility options for its inhabitants, who number more than 380,000. The primary modes of public transport are tram and bus. In Szczecin in 2023 there were about 1400 bus and tram stops altogether and their number increased by more than 200 within three years (BDL GUS, 2025). Thanks to the systematic expansion of cycling infrastructure and the implementation of the urban bicycle system, residents are more willing to use this form of transport. The total length of bicycle paths in Szczecin in 2023 amounted to 162 km (BDL CSO, 2025).

Action for sustainable mobility requires a strategy that sets out the directions for the development of urban transport, the tasks to be carried out in this area and the resources required for this.

As recommended by the European Commission in 2023. The Szczecin City Council adopted a resolution on the adoption of the Sustainable Urban Mobility Plan for the Szczecin Metropolitan Area (SOM) until 2030 (with an outlook until 2040) (RM Szczecin, 2023). The following objectives were formulated for sustainable transport of SOM:

- implementing systemic solutions and making investments to improve traffic safety,
- education and awareness-raising for residents and drivers to improve traffic safety,
- improving safety in terms of mobile activity (construction of appropriate infrastructure, improvement of pavements, introduction of signage and safety barriers),
- provision of environmentally friendly bus stop infrastructure,
- supporting active mobility through the planning and construction of infrastructure: cycle paths and footpaths to serve tourist and recreational traffic.

The city's residents are also involved in setting the directions for urban mobility development. One of the ways in which the conditions of the local community can be actively shaped is the participatory budget, which has been operating in Szczecin since 2014. Figure 2 shows the number of projects that have been selected for implementation in each year of the SBO. Initially, only two projects were selected, one of which was about sustainable mobility (the creation of the Szczecin City Bike), but over time the number of projects increased. In the latest budget, of the 32 projects selected for implementation, 6 concerned sustainable mobility.

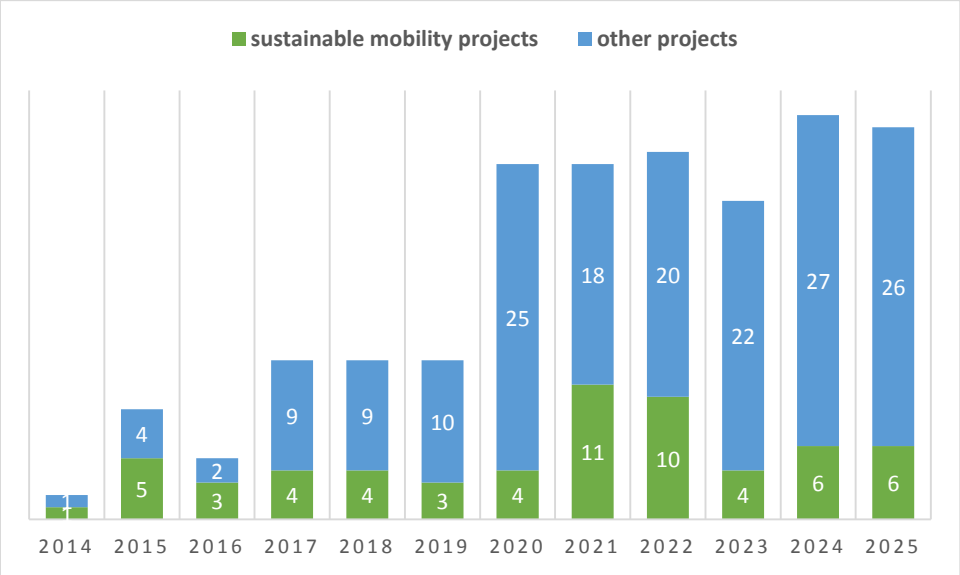

Figure 2. Number of SBO projects selected for implementation between 2014 and 2025.
Source: own compilation based on data and documents from Szczecin City Hall and the SBO portal.

In the first three years of the civic budget, the share of projects related to sustainable mobility was at least 50% in the following years this share decreased and in the last two years it was only about 18% (Table 1).

Table 1.
Share of SBO projects on sustainable mobility selected for implementation 2014-2025

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Participation of projects in the area of sustainable mobility	50%	56%	60%	31%	31%	23%	14%	38%	33%	15%	18%	19%

Source: own compilation based on data and documents from Szczecin City Hall and the SBO portal.

The funds that have been allocated to the selected SBO projects are shown in Table 2 and Figure 3.

Table 2.
SBO funding 2014-2025

Year	SBO funding pool	Funding pool for sustainable mobility projects	Funding pool for other SBO projects	Share of SBO envelope
2014	5000000	575000	4425000	12%
2015	5000000	3430102	1569898	69%
2016	6000000	3700000	2300000	62%
2017	7000000	1342500	5657500	19%
2018	8000000	1540000	6460000	19%
2019	9000000	3444000	5556000	38%
2020	12720000	1544025	11175975	12%
2021	14606083	4013826	10592257	27%
2022	16700000	6656849	10043151	40%
2023	17520000	2247000	15273000	13%
2024	17200000	2108300	15091700	12%
2025	17200000	2280325	14919675	13%

Source: own compilation based on data and documents from Szczecin City Hall and the SBO portal.

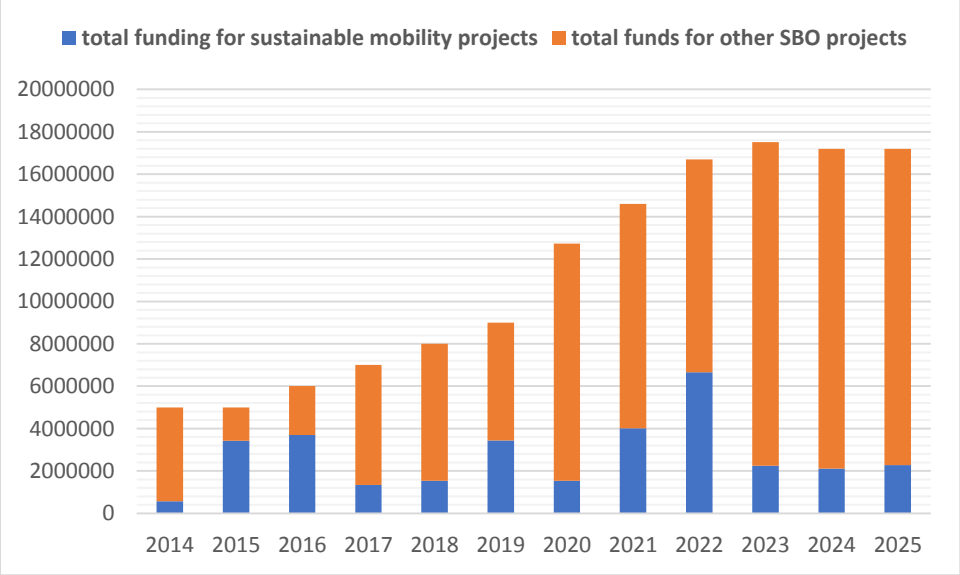

Figure 3. SBO funding 2014-2025.

Source: own compilation based on data and documents from Szczecin City Hall and the SBO portal.

On the basis of the data presented, it can be seen that in the years studied, the planned spending on sustainable mobility investments ranged from 12 to 69% of the total civic budget funds in those years. On the other hand, the total amount of the civic budget that was decided

to be spent on sustainable mobility from 2014 until 2025 is 32881927, which represents 24% of the total SBO in these years.

In line with the characteristics of sustainable urban mobility identified on the basis of literature research, an analysis was made of the types of investments that were selected for implementation as part of the civic budget. Four main groups of these were identified:

- projects concerning the development of an urban cycling system and the associated development of cycle paths,
- road infrastructure projects aimed at increasing the safety of road users, such as the reconstruction of intersections, street lighting or the construction of parking areas at schools,
- projects that improve pedestrian comfort and safety, such as repairing and building pavements, improving safety at pedestrian crossings or creating "green" public transport stops,
- projects aimed at creating infrastructure for leisure mobility.

Figure 4 shows the structure of the total expenditure planned for SBO projects since the inception of the initiative.

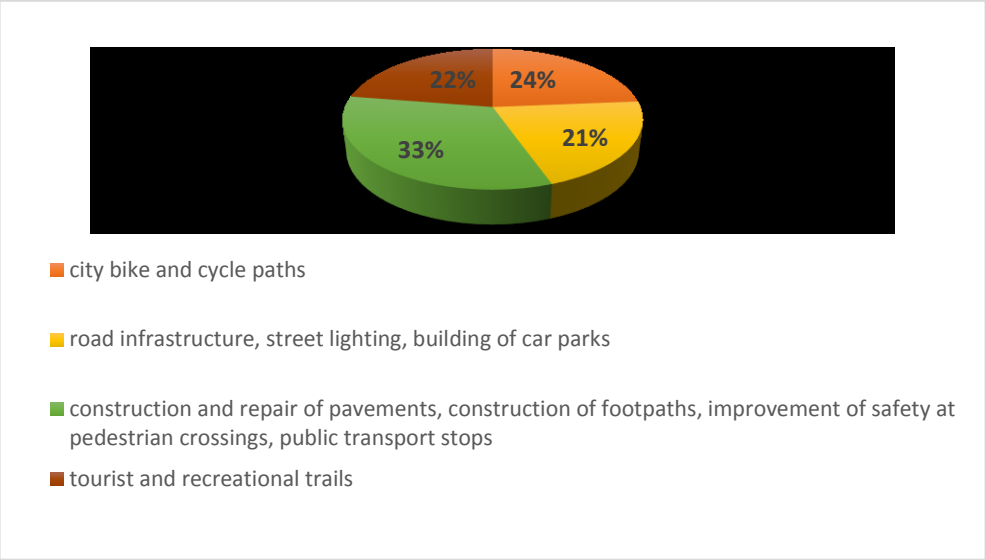

Figure 4. Structure of the total civic budget from 2014 to 2025 for sustainable mobility objectives. Source: own compilation based on data and documents from Szczecin City Hall and the SBO portal.

5. Summary

Sustainable urban mobility is being researched in various aspects. The most important of these are the impact on the environment and on the health of inhabitants as well as the shaping of new mobility habits. Best practices point to the need to favour public transport as well as the important role of cycling and the development of appropriate conditions for pedestrians.

In all of these areas most attention is paid to safety, accessibility of these forms of transport and possibilities for their further development. The importance of sustainable mobility is also recognised by the local community itself. The research carried out indicates that public participation through the civic budget has a significant impact on shaping sustainable mobility in Szczecin by participating in the process of developing and selecting suitable SBO projects. Key areas identified for supporting sustainable mobility include road infrastructure, the urban bicycle system, increasing safety for cyclists and pedestrians, and infrastructure for active recreation. The number of SBO projects selected for implementation and addressing sustainable mobility in 2025 represented 19% of all projects selected for implementation. This is a similar share to the previous year and at the same time shows an increasing trend. The pool of SBO funding for sustainable mobility projects has been at a similar level for the past three years, at around 13% of total expenditure. Throughout the life of the SBO, i.e. since 2014, most funding has been allocated to projects improving pedestrian comfort and safety and more friendly public transport stops. However, a perceived problem may be the implementation of the selected projects themselves, which is often delayed which may discourage residents from further involvement in sustainable development. The effectiveness of the implementation of SBO projects and the factors that influence the implementation of adopted projects may therefore be the subject of further research.

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