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Spatial accessibility and temporal availability of local activity centres in Wrocław as a prerequisite of neighbourhood cohesion

Abstract

The paper refers to the concept of neighbourhood cohesion taking a spatial and functional perspective. It examines the accessibility and availability of Local Activity Centres (LAC) – facilities that have been developed in Wrocław (Poland) in the recent years. Based on the literature review results, tailored definitions of spatial accessibility and temporal availability have been developed, followed by particular methodological solutions. Then a city-wide analysis of 21 LACs has been presented, including their distribution, structure and connections with housing, greenery areas, and public transport facilities. The findings lead to specific conclusions about the characteristics of Local Activity Centres and their role in shaping the neighbourhood cohesion. In particular, they show that most of the LACs are focal points in the structure of the neighbourhoods they serve, and that proximity is the key condition for shaping cohesion at the local level.

Key words: neighbourhood cohesion, local activity centre, community centre, spatial accessibility, temporal availability

Introduction

One of the strategic goals of today's city authorities is enhancing the quality of life in residential areas (Urban Agenda 2016). This includes both urban infrastructure elements (public spaces, greenery, pedestrian and cycle routes, public transport) and social functions (healthcare, culture, social integration). The growing needs of internally differentiated, heterogeneous local communities lead to new forms and functions in cities. A particular example of this is the Wrocław concept of Local Activity Centres (LAC) – a network of facilities activating local communities that has been established and developed in the city for several years.

The aim of this article is to examine the spatial and temporal availability of LACs in the urban structure of

Wrocław. The primary subject of the analysis is their relationship with the immediate surroundings and their potential to serve the residents, which is necessary for carrying out their mission. In order to maximize the so-called catchment area of a given facility, it should be located on the main directions of everyday pedestrian traffic, such as those leading to public transport stops, to places of work, to recreation areas, and sports facilities, etc. (Korzeniewski 1989). Therefore, the key research questions are: (1) what is the position of Local Activity Centres in relation to other elements of Wrocław neighbourhoods? (2) what characteristics of the Local Activity Centres are essential in shaping neighbourhood cohesion?

In order to answer those questions, the paper follows a classical structure of scientific research. It starts with the literature review and building the conceptual framework of the study, including the definitions of neighbourhood cohesion, spatial accessibility and temporal availability. Then, tailored research methods and techniques are described, including statistical analysis and geocoding. In the following section, selected research results are visualized on the maps and interpreted. Eventually, some general conclusions are developed regarding the contribution of the research to the discourse on neighbourhood cohesion.

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State of research

What is neighbourhood cohesion?

Wherever there is life, there is a deep-rooted purpose, represented by functionality, a high level of organization, coherence, and harmony in all animate beings (Çengel 2023). Hence, some kind of cohesion is a fundamental characteristic of all living systems. This statement can be also applied to urban neighbourhoods, which are characterised by a hierarchical structure of places performing different functions, with a certain degree of self-sufficiency and evolving over time. Originally developed in psychology, sociology, anthropology and biology (Buckner 1988), the concept of neighbourhood cohesion has recently been applied to territorial governance (Damurski 2022), thus acquiring a tangible spatial dimension.

The original concept of neighbourhood cohesion was an amalgamation of several approaches within the social and psychological sciences. It was introduced as a synthesis of a psychological sense of community, attraction to the neighbourhood and social interaction within the neighbourhood. It was assumed that residents living in a neighbourhood had a certain degree of cohesion, which implied a certain embeddedness of residents in a particular space and positive (functional) social ties in the community.

In its extended version, neighbourhood cohesion is a unique set of interrelated geographical and social characteristics, and it depends on the perceived functional self-sufficiency of a neighbourhood, the accessibility of essential services (both public and private), and the relationship between supply and demand observed in a given area (Damurski 2022). Therefore, an important strand of neighbourhood cohesion is citizens' access to public infrastructure and services.

In this paper, a particular type of services has been selected and examined in order to explore the neighbourhood cohesion in Wrocław: the Local Activity Centres. On the one hand, they can be perceived as an element of the formally established public services system, filling important gaps in the municipally-driven network of facilities dedicated to social integration, local culture, education, and recreation. On the other hand though, they are a grassroots initiatives, initiated and driven by the local leaders, involved in the everyday life of local communities in particular neighbourhoods. This dual character of LACs – both top-down and bottom-up – makes them a very interesting example of urban services and as such it may have a significant role to play in shaping the neighbourhood cohesion in Wrocław.

Community centre: the prototype of the local activity centre

The first community centres were established in the United Kingdom in late 19th century, but now they can be found all over Europe, the United States of America and even in Asia. Community centres are public spaces that serve as places for meeting, support, and activity for local communities. They offer a variety of services and programmes, such as educational, recreational, cultural, as well as

social and health support. They are managed by local authorities, non-governmental organizations (NGO) or volunteer groups and aim to strengthen social ties, promote inclusion and improve the quality of life in the community (Mayo, Mendiwelse-Bendek and Packham 2013).

According to the concept of the “modern agora” promoted by Frank van Klingeren in the 1960s and 1970s, a neighbourhood centre is meant to be a place of social integration, enabling the exchange of knowledge and the cultivation of diverse activities and interests. The functional and spatial programme of such a space is not dedicated to a specific group of people – rather it should be open, flexible, and adaptable to the current needs of different users over the course of a day, week, month and year (Kowicki 2004).

In the United Kingdom, many villages and towns have their own community centres, although nearby schools may also provide their lecture halls or canteens for after-school activities. In other parts of the world, community centres may play many different roles, including civic engagement (e.g., discussion on local governance issues or disaster prevention), culture and leisure (e.g., organizing local cultural events, hobby classes, physical exercise activities, exhibitions), citizen education (e.g., lectures on history and culture, youth classes, library), assistance to residents (e.g., provision of everyday life information, sport and fitness training sessions, flea markets, supporting the vulnerable groups, welfare and health improvement) and community development (e.g., public areas cleaning, mutual assistance, youth guidance) (developed after Eun 2010). All those activities can be conducted in a dedicated place, equipped with particular facilities, or can be organized on a temporary basis in schools, parishes, or sports centres.

In Poland, the traditional counterpart of a community centre is the “house of culture” (*dom kultury*). The origins of the concept date back to the 18th century, when the first initiatives aimed at promoting education and culture among the rural population emerged. In the 19th century, the dominant cultural institutions were public reading rooms and various socio-cultural associations, which developed under the influence of the idea of grassroots work and positivism. In the interwar period, the number of houses of culture increased significantly, and their aim was to reduce the barriers in access to culture and to blur the differences between elite and popular culture. In the times of the People's Republic of Poland, cultural centres became a key tool in the hands of the authorities, serving as places of propaganda accessible to the broad masses. After the political transformation at the turn of the 1980s and 1990s, the function and form of cultural centres changed again, adapting to the new social and political realities (Zoom Na Domy Kultury 2024).

Today, houses of culture are local government institutions which, unlike artistic institutions, libraries and museums, are not only supposed to organise cultural events, but also to work for the integration of local communities and to carry out animation and educational activities. Therefore, they have a special status among cultural institutions, resulting from the type of activities they undertake (Wiśniewski, Rydzewski 2022).

However, as an element of the public administrative structure, houses of culture seem to be insufficiently flexible to respond to the rapid social and demographic changes in the local communities. They are also perceived mainly as top-down municipal institutions that do not necessarily represent the needs and preferences of the citizens. These are the main reasons for launching the Local Activity Centres concept in Poland.

Origins of the LAC model in Poland

In Poland the concept of community centres has been introduced and developed since the early 21st century by the association Stowarzyszenie Centrum Wspierania Aktywności Lokalnej CAL. The LAC model is promoted and applied in various locations, following the mission of involvement of the inhabitants, carrying out long-term activities, enabling the residents to achieve a considerably higher quality of life and increasing the chances of their personal, group and social development. This includes implementing educational strategies, discovering the potential of the local community, building networks between institutions, organisations, businesses and residents as well as mobilising the relevant values of tradition and contemporary culture (Stowarzyszenie 2025).

The actual shape of the Local Activity Centre varies depending on local needs and resources. It can be a community centre, a community association, a local federation of groups, a school, a shop owned by the community or a village hall. LAC should be some kind of a hub, easily accessible within the neighbourhood or community, acting as a meeting place and open to all. Such place can apply for funding, employ staff, play an educational role and be a physical base for various activities. Some communities may have only one such venue and others may have more (Skinner 2014).

The implementation of the Local Activity Centre model promoted by the Stowarzyszenie Centrum Wspierania Aktywności Lokalnej CAL requires meeting the following standards:

- having a real, physical place which serves to revive and integrate the local community (for example, it can be the headquarters of an organisation carrying out social animation activities),
- carrying out activities which respond to the real, identified needs of the local social and economic environment, based on local resources,
- functioning in different areas, without narrowing the activity to one target group (e.g., seniors or people with disabilities) or one function (e.g., social assistance or culture),
- promoting voluntary work among residents, making the most of their strengths and possibilities (the so-called “working through people”),
- supporting local initiatives by preparing and submitting projects, by inspiring self-organisation of neighbourhood groups, by building local partnerships for solving local problems, by informal education, and by initiating community events (Stowarzyszenie 2025).
- It is important to emphasise the professional relationships with the neighbourhood’s social institutions that

have already been in place, responding to local problems and providing services, working with a large number of clients (Rozwój społeczności 2014). Their knowledge and support should not be overlooked.

Spatial accessibility and temporal availability

In order to contribute to the neighbourhood cohesion discourse in a reliable and quantifiable way, the terms of spatial accessibility and temporal availability need to be defined and operationalized. Starting with the Dictionary of Polish Language definition of accessibility, it may be noted that accessible is [...] *one that can be reached without obstacles, which can be accessed relatively easily; not difficult to get; easy to learn; one with which contact can be easily established, to which there is easy access* (PWN 2024).

“Accessibility” in the context of this work is understood primarily as spatial proximity. In order to describe it in a measurable and objective way, several categories were used: distance from main roads, public transport stops, residential buildings, public green areas, ease of access to a given place and its visibility.

It is also worth adding that the concept of accessibility also appears in the Act of 19 July 2019 on providing accessibility to persons with special needs (Ustawa 2019, Article 2), where architectural, digital and information and communication accessibility are distinguished. This means that accessibility should be understood more broadly than just in terms of spatial proximity.

Following the detailed analysis of spatial accessibility of particular services, we need to note that urban objects are of twofold nature: they are not only spatial but also temporal. While general land use data is typically required at the citywide planning level, data on specific facilities composing the built environment, including their opening hours are required for detailed neighbourhood governance (Sliuzas, Kuffer and Masser 2010).

Temporal availability refers to the time frames within which a service is accessible to customers. It is a key factor in service delivery, impacting both customer satisfaction and operational efficiency. Service hours are specific times during which services are offered. In this research, it has been studied for each Local Activity Centre how many hours and days per week it is open, whether it is promoted in the area and online, and whether it offers services for every age group and gender.

Materials and methods

For the purposes of this work, methods that are commonly applied in spatial management were used. To prepare a detailed analysis of the LAC system in Wrocław, sources available on the website of the Wrocław municipality (<https://www.wroclaw.pl>), which were obtained in the period from 30.03.2024 to 30.08.2024, were used. In the initial city-wide study, the official websites of LACs and their social media (Facebook) were mainly used. The research was conducted between April and August 2024. To prepare the accessibility analyses and graphic designs,

the QGIS program was used under the GNU General Public License, including the drawing and statistical tools available in it. Also the resources and data of OSM (OpenStreetMap, <https://www.openstreetmap.org>), OpenTopoMap (<https://opentopomap.org>), and the BDOT10k (<https://www.geoport.gov.pl/pl/dane/baza-danych-objektow-topograficznych-bdot10k/>) spatial databases were incorporated (data were downloaded between October 2024 and February 2025).

On the basis of publicly available spatial data, maps were prepared showing the relations of LAC objects with nearby residential buildings, green areas, and public transport stops (OpenStreetMap, National Geoport Poland). This set of facilities reflects on the one hand the essential needs of the residents that should be satisfied within the neighbourhood (dwelling, leisure, commuting) and on the other hand it enables measuring the LAC location in relation to places where key activities of the local community are realized (compare with Ohmer et al. 2019).

The radius of 500 m has been adopted in the study as a standard measure of accessibility to particular facilities, representing the walkability of a given area (Alexander 1977; Gehl 2009, Zhang, Mu 2019). Such approach, in addition to health benefits to the residents, brings reductions in energy consumption, air pollution and associated public expenditure. Good pedestrian accessibility also contributes to more interactions between people, promotes social cohesion and increases the attractiveness of the local service market (cf. Litman 2018).

The analyses were carried out using data BDOT10k downloaded in November 2024 from the National Geoport Poland website for the Municipality of Wrocław. The maps were developed in QGIS 3.30.

The analysis of the Local Activity Centres system in Wrocław

The Local Activity Centres system in Wrocław

The definition of the Local Activity Centre from the website of the city of Wrocław reads as follows: *Local Activity Centres are not only buildings, but above all people who are distinguished by a specific approach to working with residents of Wrocław housing estates. LACs are places and activities co-created together with Wrocław residents, open to diversity and in solidarity with those who need help or support. At the local level, the Centres are a strong glue supporting the process of positive social change* (Wrocław.pl. 2024).

The definition taken from the Resolution of the Municipal Assembly on the Local Activity Programme indicates that [...] *the LAC method (Local Activity Centre) is a method of stimulating social activity in order to self-organise to solve specific problems of a given community, activate the local community and shape the sense of belonging to a given place and group. It consists in undertaking activities that activate the recipients of a given space, the local community* (Załącznik... 2021, p. 6).

Speaking of the Local Activity Centre, the authors of the Resolution have in mind a space that creates conditions

for the development of local communities, neighbourhood communities, as well as informal groups and initiatives. This space is most often in the form of a building with an accompanying recreational space, such as a garden, playground, etc.

In the first decade of the 21st century, facilities related to the Local Activity Programme began to appear in Wrocław, in accordance with the working method of the Local Activity Centre. The implementation of the LAC system was preceded by a number of training courses for municipality employees, as well as study trips and workshops.

Since then, the idea of LAC has started to spread, so that today there is a dedicated support system for initiators of this type of activity. Each year, the mayor of the city announces a competition of offers for the implementation of a public task entitled Local Activity Centres in Wrocław. The aim of this competition is to provide financial support for the needs of the Local Activity Centre in a selected housing estate, to activate and integrate the inhabitants of Wrocław, to counteract addictions and to prevent alcohol abuse. The competition contains guidelines for the activities carried out by LAC, including, but not limited to:

1. Substantive and organizational support for grassroots initiatives activating residents.
2. Supporting the local community in meeting needs and solving problems.
3. Organization and implementation of various types of cultural, educational, animation, counseling, activating, integration, intercultural, and artistic activities.
4. Conducting activities aimed at local diagnosis, increasing social participation, strengthening the participation and involvement of residents in neighbourhood matters.
5. Supporting city-wide and local public consultation processes, dialogue about the city and the housing estate, and other urban projects implemented by the Municipality of Wrocław (SCAL Wrocław 2021).

Desired partners of the programme include: neighbourhood councils, NGOs, Field Social Work Teams, schools, libraries, cultural institutions, local businesses (operating in or interested in the partnership area), church organisations and religious associations, community leaders and informal groups of residents. The financial contribution from the LAC organiser cannot be less than 1.5% of the requested grant (SCAL Wrocław 2021).

Spatial distribution

There are currently 21 Local Activity Centres in Wrocław (as of February 2024) located throughout the city. The map shows the location of individual LACs divided into the names of the housing estates where they are located (Fig. 1).

The first stage of research on the system of Wrocław Local Activity Centres was to prepare a list of all existing facilities with the date of their creation. For this preliminary analysis, publicly available information was used, and the official LAC websites were used to determine the leading organizations and the year of their establishment.

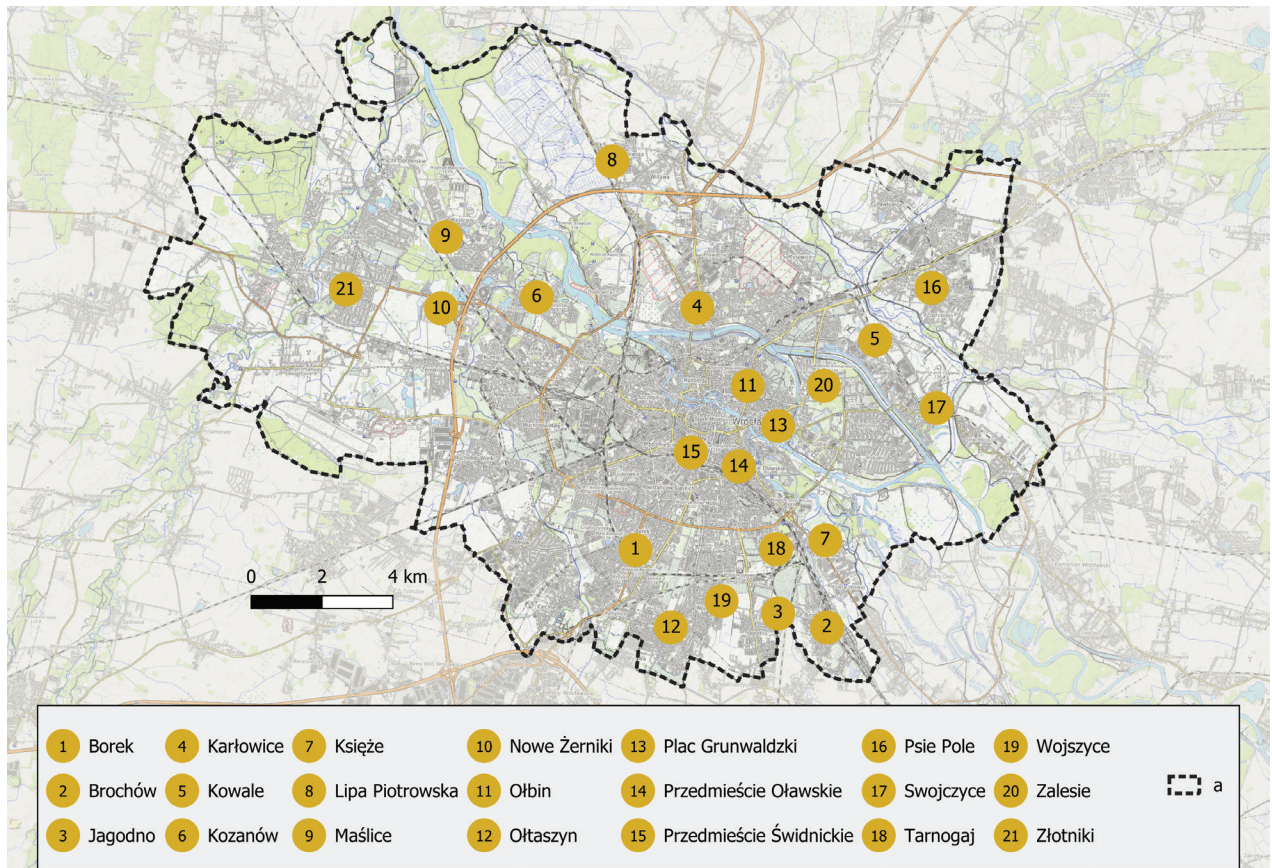


Fig. 1. The location of Local Activity Centres (LAC) in Wrocław. Map key: a – administrative border of the city of Wrocław (elaborated by J. Zipsper, based on OpenTopoMap, BDOT10k)

II. 1. Lokalizacja Centrów Aktywności Lokalnej (CAL) we Wrocławiu. Objaśnienia mapy: a – granica administracyjna miasta Wrocławia (oprac. J. Zipsper na podstawie OpenTopoMap, BDOT10k)

LAC network development timeline

Based on a review of the web-pages and social media profiles of all the 21 Local Activity Centres in Wrocław, a simple analysis of the dynamics of the network can be presented. Of the LACs existing in 2024, the oldest is the one located in Ołbin, it has been operating in this form since 2016. In 2018, more facilities were built – in the Zaczysze, Tarnogaj, Ołtaszyn, Przedmieście Świdnickie housing estates. In 2019 – in Swojczyce, Brochów, Złotniki. In 2020, in the Księżę, Karłowice and Przedmieście Oławskie housing estates (Fig. 2).

In 2021, 7 facilities were built – at Grunwaldzki Square, Maślice, Nowe Żerniki, Psie Pole, Borek, Jagodno and Kowale. The last of the currently operating LACs were built in 2024 – in the Kozanów, Swojczyce and Lipa Piotrowska housing estates.

For several years, Wrocław has been observing a steady development of Local Activity Centres. However, not only new LACs are opening, some of them are changing their form of operation – this was the case with the Nowe Łąki Residents' Integration Center in Traugutta Street. In 2024, it lost the name of "LAC", remained active in the same place, but operates in a different formula. It also happens that the centre remains in the same form, but changes its address – this was the case with "Anteroom

H13", which moved from Przedmieście Oławskie to Przedmieście Świdnickie. In addition, after the annual competition is resolved, the operator of the existing LAC may change.

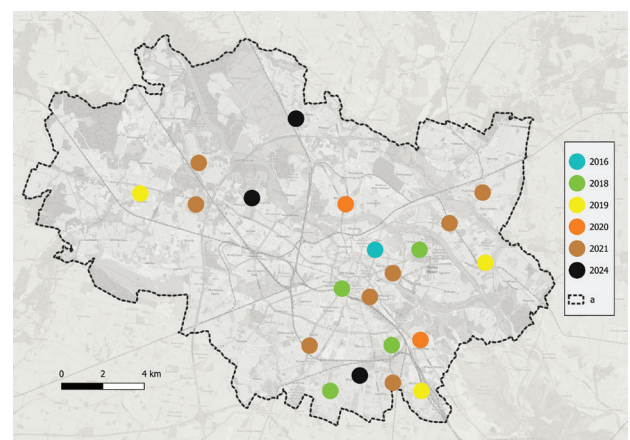


Fig. 2. The year of establishment of particular LACs in Wrocław. Map key: a – administrative border of the city of Wrocław (elaborated by J. Zipsper, based on OSM, BDOT10k)

II. 2. Rok powstania CAL we Wrocławiu. Objaśnienia mapy: a – granica administracyjna miasta Wrocławia (oprac. J. Zipsper na podstawie OSM, BDOT10k)

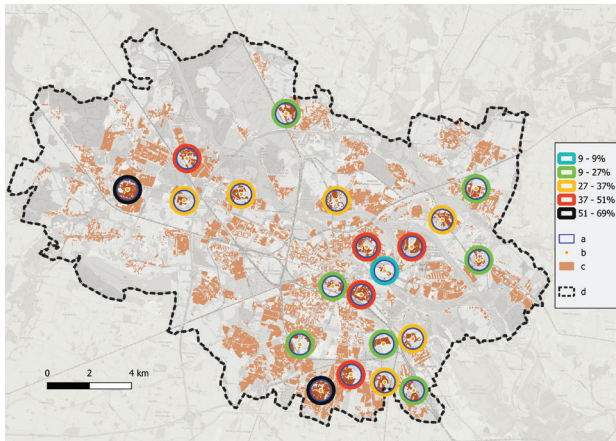


Fig. 3. The percentage share of residential areas in the immediate vicinity of LAC (within the equidistant radius of 500 m) and their spatial relations. Map key:

- a – an area within the equidistant radius of 500 m from the LAC,
 b – location of the LAC, c – residential areas,
 d – administrative border of the city of Wrocław
 (elaborated by J. Zipser, based on OSM, BDOT10k)

- II. 3. Udział procentowy terenów mieszkaniowych w bezpośrednim sąsiedztwie CAL (obszar ekwidystanty o promieniu 500 m) i ich relacje przestrzenne. Objasnienia mapy:
 a – obszar ekwidystanty o promieniu 500 m od CAL,
 b – lokalizacja CAL, c – tereny mieszkaniowe,
 d – granica administracyjna miasta Wrocławia
 (oprac. J. Zipser na podstawie OSM, BDOT10k)

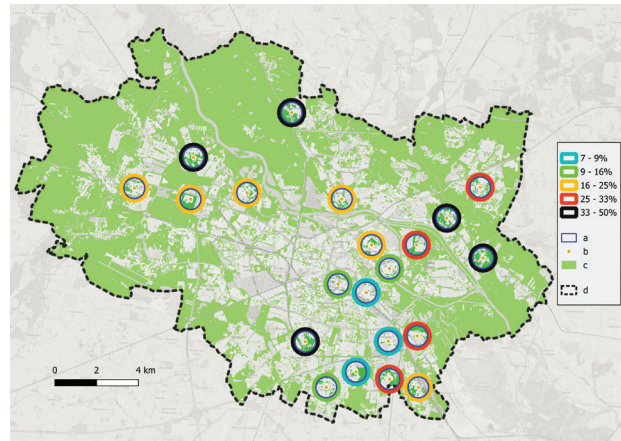


Fig. 5. The percentage share of green areas (low and high) in the immediate vicinity of the LAC (within the equidistant radius of 500 m) and their spatial relations. Map key:

- a – an area within the equidistant radius of 500 m from the LAC,
 b – location of the LAC, c – low and high green areas,
 d – administrative border of the city of Wrocław
 (elaborated by J. Zipser, based on OSM, BDOT10k)

- II. 5. Udział procentowy terenów zielonych (zieleni trawiasta i wysoka) w bezpośrednim sąsiedztwie CAL (obszar ekwidystanty o promieniu 500 m) i ich relacje przestrzenne. Objasnienia mapy:
 a – obszar ekwidystanty o promieniu 500 m od CAL,
 b – lokalizacja CAL, c – tereny zieleni trawiastej i wysokiej,
 d – granica administracyjna miasta Wrocławia
 (oprac. J. Zipser na podstawie OSM, BDOT10k)

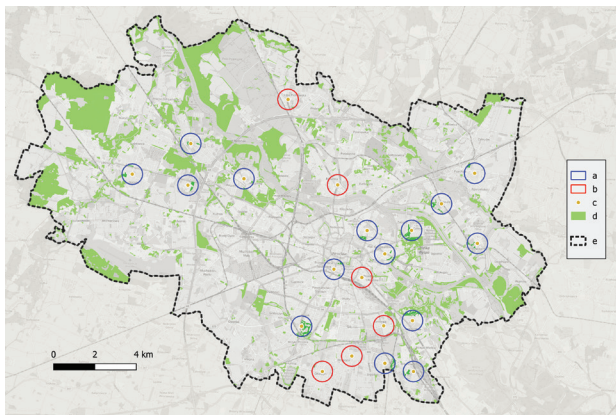


Fig. 4. Spatial relations between LACs and high green areas of 1 ha or more.

- Map key: a – an area within a radius of 500 m from the LAC containing high greenery area of 1 ha or more,
 b – an area within a radius of 500 m from the LAC devoid of high greenery area of 1 ha or more,
 c – location of the LAC,
 d – high green areas of 1 ha or more,
 e – administrative border of the city of Wrocław
 (elaborated by J. Zipser, based on OSM, BDOT10k)

- II. 4. Relacje przestrzenne pomiędzy CAL a terenami zieleni wysokiej o powierzchni równej 1 ha lub większej. Objasnienia mapy:
 a – obszar w promieniu równym 500 m od CAL zawierający zieleni wysoką o powierzchni równej 1 ha lub większej,
 b – teren w promieniu 500 m od CAL pozbawiony zieleni wysokiej o powierzchni równej 1 ha lub większej,
 c – lokalizacja CAL,
 d – tereny zieleni wysokiej o powierzchni równej 1 ha lub większej,
 e – granica administracyjna miasta Wrocławia
 (oprac. J. Zipser na podstawie OSM, BDOT10k)

Access to residential areas

The map showing the share of residential areas within the radius of 500 m from particular LACs (Fig. 3) examines the accessibility of housing within a walking distance. It was prepared using a layer with multi-family and single-family residential housing.

The results demonstrate that in the peripheral areas of the city, the percentage of buildings is sometimes higher than in the city centre (e.g., LAC in Złotniki and Ołtaszyn), this may be due to the number of services in the city centre, which occur together with and dominate residential areas. The lowest percentage share of the analyzed buildings is in the downtown area – this is due to the fact that around the LAC at Grunwaldzki Square there are numerous service facilities, primarily educational services (including the Campus of the Wrocław University of Science and Technology, the University of Environmental and Life Sciences).

Access to greenery areas

The map showing the greenery areas over 1 ha (Fig. 4) was made analogously to the maps with access to residential areas. To make it, a layer containing data on the location of tall greenery in Wrocław was used, then areas with an area equal to or greater than 1 ha were specified. The threshold size of the area was adopted for the analysis as optimal for the organization of events for the residents of the estate. The share of greenery surrounding a given LAC within an area equivalent to a 500-metre radius is shown.

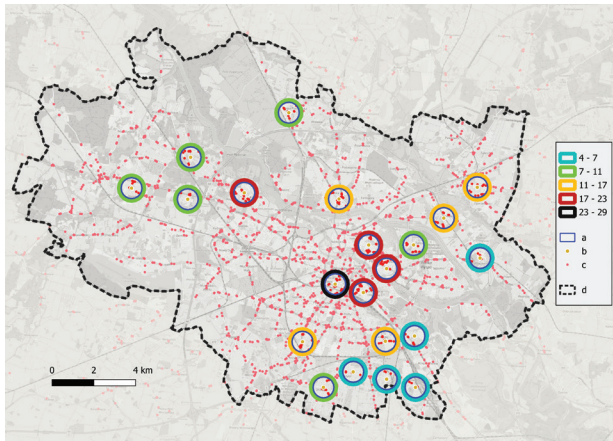


Fig. 6. The number of public transport stops in the immediate vicinity of the LAC (within the equidistant radius of 500) and their spatial relations. Map key:

- a – an area within the equidistant radius of 500 m from the LAC,
 b – location of the LAC,
 c – public transport stops,
 d – administrative border of the city of Wrocław
 (elaborated by J. Zipser, based on OSM, BDOT10k)

- II. 6. Liczba przystanków komunikacji miejskiej w najbliższym otoczeniu CAL (obszar ekwidystanty o promieniu 500 m) i ich relacje przestrzenne. Objaśnienia mapy:
 a – obszar ekwidystanty o promieniu 500 m od CAL,
 b – lokalizacja CAL, c – przystanki komunikacji miejskiej,
 d – granica administracyjna miasta Wrocławia
 (oprac. J. Zipser na podstawie OSM, BDOT10k)

The red colour indicates that LACs that do not have access to greenery over 1 ha.

A map was also developed with the percentage of greenery – both low and high – around each LAC object. A 5-minute radius of pedestrian access was adopted – an equivalent with a radius of 500 m (Fig. 5). The QGIS application has been used to calculate the area occupied by green areas in the area of the equivalent area with a radius of 500 m. Then, the percentage share of green areas in the immediate vicinity of LAC facilities was calculated.

Based on our research, it can be observed that green areas are irregularly distributed on the city map. There is a tendency for a high percentage of greenery on the outskirts of the city, but there are also cases where there is a very low share of greenery further from the city centre – e.g. around the LACs in the Tarnogaj and Wojszyce housing estates.

Access to public transport

In order to examine the accessibility to public transport, the number of stops – tram and bus – located within a 5-minute walking distance (500 m) was calculated (Fig. 6).

The map above shows that the number of stops in the INCH area decreases with the distance from the centre. The largest number of public transport stops is within the LAC in Przedmieście Świdnickie. It can also be observed that the southern part of Wrocław is insufficiently communicated and there are few stops.

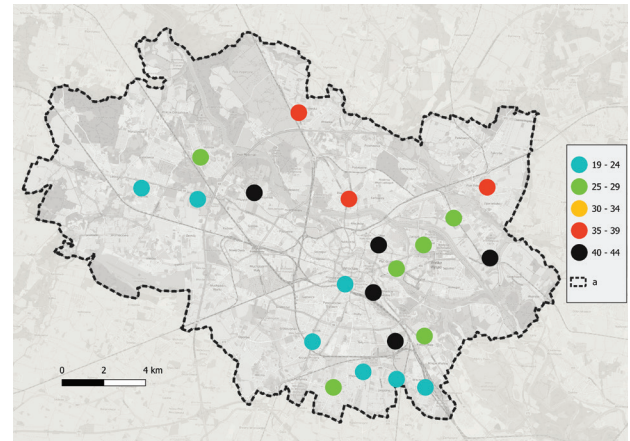


Fig. 7. The number of hours available per week in the LAC.

Map key: a – administrative border of the city of Wrocław (elaborated by J. Zipser, based on OSM, BDOT10k)

- II. 7. Liczba dostępnych godzin w tygodniu w CAL.
 Objaśnienia mapy: a – granica administracyjna miasta Wrocławia
 (oprac. J. Zipser na podstawie OSM, BDOT10k)

Temporal availability

The time availability described in this section takes into account the division into days of the week and taking into account the sum of the number of hours in which the LACs are open. The data came from information posted on the LAC website, some update the schedule weekly, others monthly, and some have fixed working hours throughout the year. In the absence of a declaration of fixed opening hours, the schedule for the first week of June (03–09.06.2024) was taken into account.

On the basis of this data, a map was prepared showing which facilities are available for the highest number of hours per week and which for the least (Fig. 7).

Summary and conclusions

In this paper we have approached the concept of neighbourhood cohesion as recently reinterpreted and revised by Damurski (2022). Neighbourhood cohesion is a unique set of interrelated geographical and social characteristics of a given residential area, including perceived functional self-sufficiency, accessibility of essential services, and the relationship between supply and demand. The case study for this article is Wrocław, a city in south-west Poland with a relatively clear neighbourhood structure, where a network of Local Activity Centres has been introduced and developed in recent years.

The main research questions posed at the beginning of the paper were: (1) What is the position of Local Activity Centres in relation to other elements of Wrocław neighbourhoods? (2) What characteristics of the Local Activity Centres are essential in shaping neighbourhood cohesion? In order to answer these questions, we conducted a comprehensive research using both statistical and geographical methods. The results show the spatial relationships between LACs and residential areas, green spaces, and

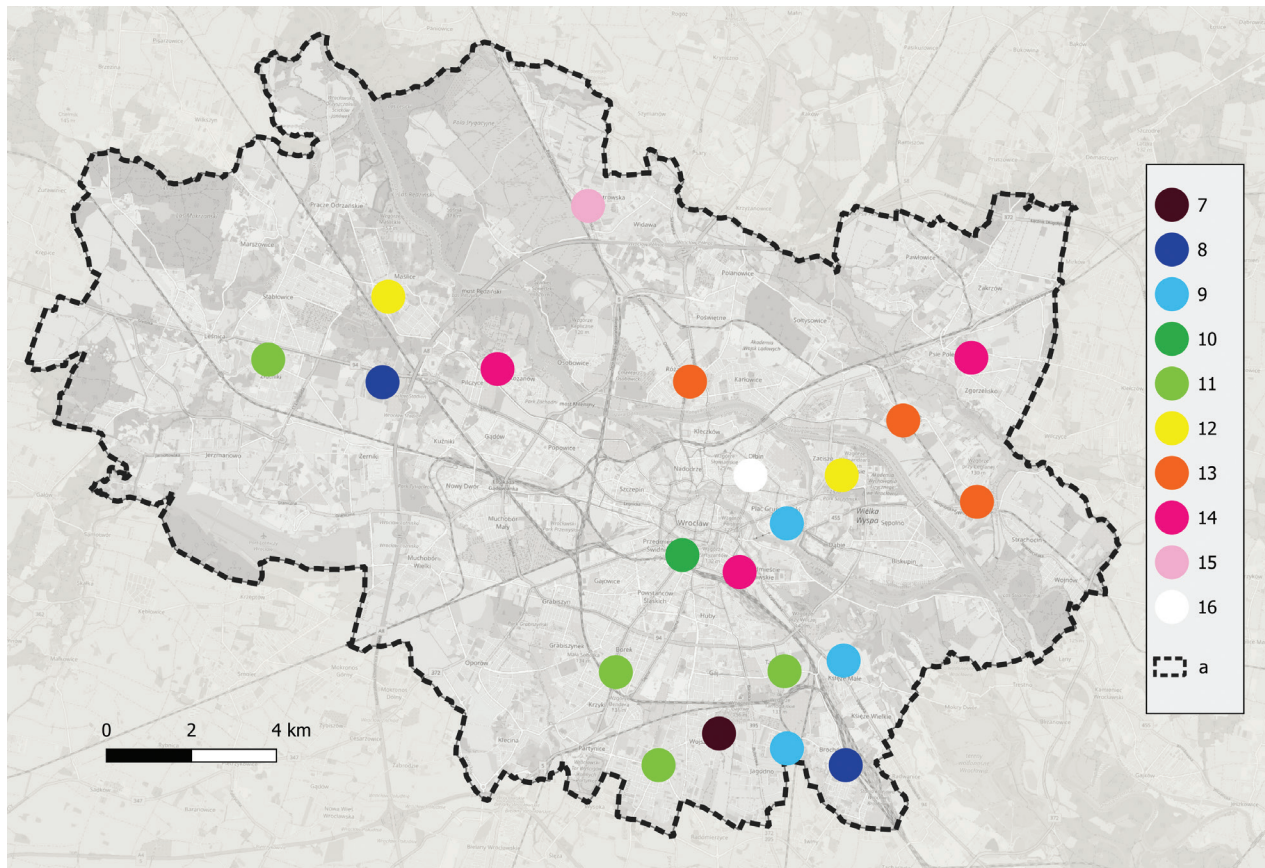


Fig. 8. The overall availability and accessibility of LACs in Wrocław (rating on a point scale).

Map key: a – administrative border of the city of Wrocław (elaborated by J. Zipser, based on OSM, BDOT10k)

Il. 8. Podsumowanie ogólnej dostępności CALi we Wrocławiu (ocena w skali punktowej).

Objaśnienia mapy: a – granica administracyjna miasta Wrocławia (oprac. J. Zipser na podstawie OSM, BDOT10k)

public transport stops, as well as the temporal availability of certain facilities.

The scores of individual analyses have been summarised and visualised using a 5-point scale. Each LAC was rated based on the maps presented in Figures 3, 5, 6 and 7, obtaining 1 point for the lowest level of accessibility/availability and 5 points for the highest accessibility/availability. Then the number of points awarded for each category was added up and the total obtained by each LAC was shown in Figure 8. The most accessible and available location is the LAC in the Ołbin district, which is also the oldest one in Wrocław. The least accessible and available is the LAC in the Wojszyce district, which is one of the newest ones, established in 2024.

The answer to research question (1) seems clear: most of the local activity centres are focal points in the structure of Wrocław neighbourhoods. There are some differences in terms of their connectivity with various types of surrounding land uses as well as their temporal availability (the most accessible and available are located in the central and northern parts of the city). However, the general picture demonstrates that LACs have their strong, strategic position on the local scale.

Nevertheless, despite the differences in connectivity and opening hours, the actual functional capacity of LACs at the local level appears to be relatively similar across the

city. As Olszyna (2024) noted, they involve the inhabitants of a given neighbourhood in various social and cultural activities, they provide effective support for everyday problems, they become places to meet friends and neighbours, they teach basic skills (such as the use of electronic equipment, cooking, sewing, foreign languages). They offer many opportunities to develop citizens' passions, providing not only spaces but also instructors and companions with whom to share their hobbies. They foster creativity, communication skills and empathy. Most importantly, they are places for everyone, regardless of gender, age, or wealth, and they help to combat social exclusion and build local identity (Olszyna 2024).

The LAC network in Wrocław is developing rapidly. However, there are still residential areas where there is a lack of this type of facility or the existing facilities are characterised by low accessibility or availability. The districts where LACs should be established in the coming years include Klecina, Grabiszyn, Oporów, Muchobór Wielki, Muchobór Mały, Popowice, Szczepin, Nadodrże, Biskupin, Polanowice, Sołtysowice, Pawłowice, Wojnów, Osobowice. Thanks to this, the network will be completed and the residents of the entire city will be able to use local social activity centres.

The answer to research question (2) is that proximity is the key condition for shaping neighbourhood cohesion.

Spatial accessibility strongly depends on the distance from the local activity centre to the surrounding areas and facilities (in this research represented by residential areas, green areas and public transport). The differences in certain criteria are due to the different land use profiles of Wrocław's neighbourhoods: some are densely built-up residential areas with a low proportion of green areas, while others are spacious single-family suburbs with limited access to public transport.

Temporal availability can also be misleading. On the one hand, certain opening hours determine the potential of certain LAC countries to contribute to social interaction, organise cultural events and promote the integration of citizens. On the other hand, they reflect the needs and preferences of local communities and their organisational capacity. Therefore, both spatial accessibility and temporal availability seem to be equally important in shaping neighbourhood cohesion, but should be perceived in two ways, i.e., individually at the local level and generally as part of a wider network.

The presented study aims to contribute to the research on social facilities in urban areas. Through a city-wide

analysis conducted in Wrocław, it has been shown how the network of Local Activity Centres is distributed across the city and how their temporal availability and special accessibility can support neighbourhood cohesion.

However, the proposed approach also has certain limitations. The first is related to the scope of the research. Focusing on Wrocław as a case study does not allow us to draw universal conclusions, and the research remains small-scale and dedicated to a specific urban area. The second weakness relates to the methodological approach: the city-wide, quantitative perspective fails to provide the necessary insight into the diversity of the LAC network. Local Activity Centres in Wrocław do not operate according to strict rules or guidelines, but adapt to the local context and available resources. As a result, each of them has its own unique character. In order to learn more about their functional characteristics, interviews should be conducted with stakeholders, employees and participants. Therefore, possible directions for further research include extending the research sample to other cities and introducing more qualitative, interactive research methods.

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Streszczenie

Dostępność przestrzenna i czasowa centrów aktywności lokalnej we Wrocławiu jako warunek kształtowania spójności osiedlowej

Tematem artykułu jest koncepcja spójności osiedli mieszkaniowych (neighbourhood cohesion). Jego autorzy odnieśli się do niej, przyjmując perspektywę przestrzenną i funkcjonalną. Głównym przedmiotem ich badań była dostępność centrów aktywności lokalnej powstających w ostatnich latach we Wrocławiu. Na podstawie przeglądu literatury przedmiotu opracowali definicje dostępności przestrzennej i dostępności czasowej, a następnie przyjęli adekwatne rozwiązania metodologiczne. W dalszej części pracy przedstawili ogólniejszą analizę 21 CAL, w tym ich rozmieszczenia, struktury i powiązań z zabudową mieszkaniową, terenami zielonymi i obiektami transportu publicznego. Uzyskane wyniki pozwalają na wyciągnięcie konkretnych wniosków na temat charakterystyki centrów aktywności lokalnej i ich roli w kształtowaniu spójności osiedli mieszkaniowych. W szczególności wykazano, że większość centrów aktywności lokalnej pełni węzłowe funkcje w strukturze obsługiwanych osiedli, a bliskość przestrzenna jest kluczowym warunkiem kształtowania spójności na poziomie lokalnym.

Słowa kluczowe: spójność osiedli mieszkaniowych, centrum aktywności lokalnej, centrum społeczności lokalnej, dostępność przestrzenna, dostępność czasowa