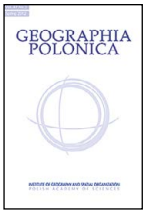

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PLATFORM-ATTRACTING URBAN PLACES – DISTRIBUTION AND CHARACTERISTICS OF RIDESHARING MEETING POINTS THROUGH A HUNGARIAN CASE STUDY

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Abstract

Accelerated technological change, particularly the rise of digital platforms, has fundamentally changed everyday activities such as mobility and consumption, with notable spatial implications, especially in urban areas. These platforms have become a prominent force in the transformation of space, giving rise to new academic fields of study, such as the sharing economy and, more recently, platform urbanism. In this paper, we offer an empirical snapshot of platform embeddedness in the urban space through a case study of a shared-use mobility platform in the Hungarian context. Using data from a ridesharing platform, we analyze the main characteristics and spatial distribution of locations that serve as meeting points within settlement borders. Our findings reveal a trend of spatial asymmetry, with meeting points predominantly located near main roads and highways – reflecting the utilitarian preferences of ridesharing participants. Furthermore, concentrations near city centers suggest a balance between functional proximity to major routes and symbolic or practical value tied to landmarks and accessibility. Notably, many of the most popular meeting points are located at hypermarkets, indicating that not only traditional transportation hubs, but also informal, non-transport-specific spaces, are being repurposed through platform use. Based on our results regarding where meeting points tend to emerge, we introduce the concept of 'platform-attracting urban places' to contribute to the conceptualization of the spatial impact of digital platforms on urban environments.

Keywords

digital platforms • ridesharing • meeting points • platform data • platform-attracting urban places • Hungarian settlements

Introduction

Digital platforms have fundamentally transformed how people live, work, and consume, particularly in urban areas during the last decade. As such, their operations have become a forefront issue in geographic research, given their diverse impacts on spatiality across

different geographical contexts (Sutherland & Jarrahi, 2018; Törnberg & Söderström, 2025). This study concentrates on the space-producing effect of digital platform activity through an empirical case study of shared-use mobility from the late 2010s.

- The platform examined in this study still operates by sharing empty car seats for a ride between settlements. While the matching of users happens via the digital platform, passengers and drivers meet each other in pre-arranged meeting points in the geographical space.
- Our research questions address both the spatial distribution and the nature of these places: Are there observable spatial patterns in their locations? In what ways does Oszkár.com creates concentrations within cities? and What types of places are produced by the chosen digital platform? Although previous research has identified these meeting points (Mericskay, 2019; Stiglic et al., 2015), our study offers an additional contribution in two areas: (1) spatial scope, by focusing on the under-explored context of Central and Eastern Europe as platform research are predominantly focusing on Anglo-Saxon countries, and (2) data source, by utilizing platform-provided data rather than the more common web-scraping approach.
- Despite the growing interest in the spatiality of various digital platforms, most studies have focused on global players – such as Airbnb – within Western European and North American contexts (e.g., Boros et al. 2017; Artioli, 2018; Quattrone et al., 2018; Celata & Certoma, 2022). In contrast, this study addresses a research gap by examining how a digital platform becomes embedded the geographical space across five Hungarian cities, thus contributing to identifying platform-attracting places in an under-explored geographical context.
- Despite its specific focus on time (one month), space (five Hungarian cities), and platform (Oszkár.com), this study contributes to a broader set of research areas, including platform urbanism and mobility studies, as we empirically develop a concept about the early embeddedness of a matching ridesharing platform in urban areas. The specific focus enables us to answer our questions by mapping these points in different cities and pointing out the challenges and possibilities of the space-producing effects of a spaceless technology.
- Additionally, it offers both empirical insights – such as the introduction of a new conceptual term – and practical relevance for policymakers and urban planners, encouraging them to consider the digitally mediated nature of geographical space in an contemporary urban context.
- The article is structured to move from general to specific: it begins with a conceptual discussion of digital platforms and spatiality, then narrows to the case of shared-use mobility as it relates to our research focus. After presenting the methods, the results section discusses the characteristics and spatial distribution of the meeting points, followed by the discussion and conclusion that close the study.

Theoretical background

Conceptualizing digital platform interactions

The rapid emergence of digital platforms is a global phenomenon that has inspired numerous empirical studies and theoretical concepts. Two of the most prominent terms used to conceptualize the transformations driven by these platforms are the "sharing economy" (Grassmuck, 2012), which emerged in the late 2000s, and "platform urbanism" (Graham, 2020; Leszczynski, 2020; Bissell, 2020).

In addition to these, several other related terms have been introduced, each highlighting different dimensions of the phenomenon. For example, the "platform economy" (Kenney & Zysman, 2016) emphasizes the intermediary role of platforms; the "gig economy" (Friedman, 2014) focuses on the new forms of labour they facilitate; "collaborative consumption" (Botsman & Rogers, 2010) and the "peer-to-peer economy" (Aloni, 2016) underscore

the role of individuals as both consumers and providers; while the "access-based economy" (Bardhi & Eckhardt, 2012) draws attention to shifting notions of ownership.

The multiplicity of these conceptual lenses necessitates a clear delineation of our research focus. This is further complicated by the fact that these umbrella terms often capture divergent aspects of the same phenomenon (Codagnone & Martens, 2016; Acquier et al., 2017; Henry et al., 2021), and no consensus has yet been reached regarding a unified definition (Muñoz & Cohen, 2017). Moreover, digital platforms vary significantly in size – from globally dominant actors to small, geographically constrained services – as well as by sector (e.g., transportation, food delivery, hospitality) and business model (e.g., peer-to-peer, business-to-peer, business-to-business). Hereby, we identify the elements included or excluded from our study of the platform ecosystem.

This study focuses on digital platforms that directly connect individuals through applications, without traditional service providers. These platforms facilitate the sharing of assets to optimize their use and have penetrated virtually every sector of the economy – most notably mobility and hospitality (PwC, 2016; Hossain, 2020; Szpak et al., 2022).

To conceptualize interactions, the study distinguishes them according to the business model into three core elements underpinned by articles that conduct an extensive analysis of digital platforms (Kumar et al., 2018; Akbari et al., 2022).

This structure is called the 'triadic framework' according to Benoit (Benoit et al., 2017: 220). It identifies the three aspects of interaction: participants/users (consumer, service provider, or both roles as a prosumer), shared asset, and the platform itself founded for a specific purpose (Fig. 1).

Participants in digital platforms can include not only individuals but also businesses, operating under business-to-peer (B2P) or business-to-business (B2B) models. This study,

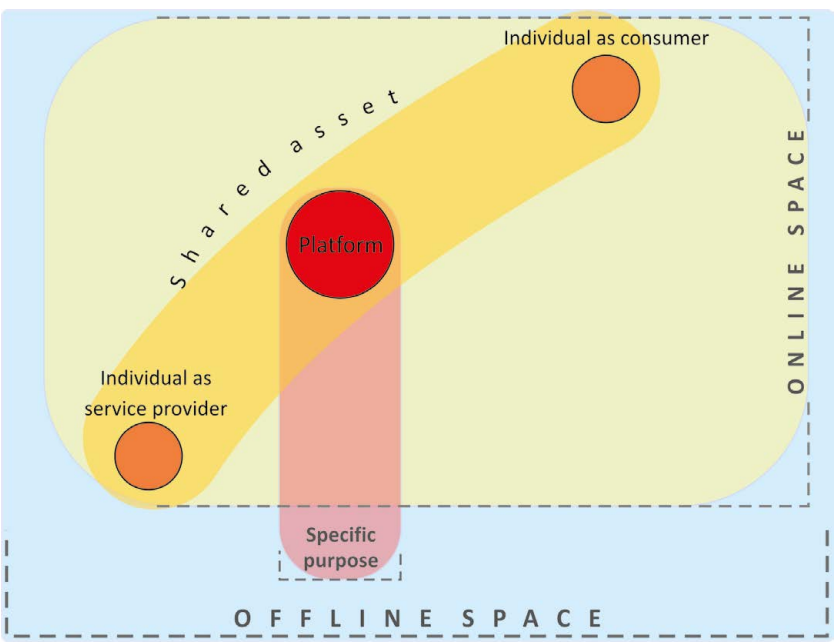

Figure 1. The three parts of a transaction in a digital matching platform

Source: Authors' own construction based on the literature (Kumar et al., 2018; Akbari et al., 2022).

however, focuses specifically on platforms that facilitate interactions between individuals – commonly referred to as peer-to-peer platforms.

Typically, a platform or service enabler is created with the specific purpose of facilitating the sharing of underutilized assets. These assets may be physical, such as cars or apartments, or service-based, such as food delivery (Gerwe & Silva, 2020). In such cases, the shared asset possesses idle capacity, which the platform seeks to optimize. Sharing mainly involves 'traditional' economic activities such as renting, lending, or borrowing.

The particular focus of a platform often determines the disciplinary lens through which its operations are studied.

Intermediary platforms – represented by a central (e.g., dark red) node in Figure 1 – function as third-party entities that match supply and demand without taking ownership of the underlying assets. By doing so, they significantly reduce transaction costs.

These platforms are accessed primarily through screen-based interfaces, typically via portable devices such as smartphones and, more recently, wearable technologies like smartwatches. Unlike earlier systems tied to fixed personal computers, these mobile interfaces are no longer bound to specific physical locations. As profits are acquired through the charges of transactions, a key cornerstone of platform success is the critical mass of users who are active participants. Moreover, their expansion supposes an equilibrium between demand and supply (Prieto et al., 2022).

Before proceeding to the discussion of the specific sector of shared-use mobility, it is however necessary to consider the connections between digital platforms and geographical space.

Spatial dimensions of platform interactions

To highlight the role of geographical dimension, it is important to shed light on how the recent changes facilitated by the emerging trend of digitisation and platforms are perceived by geographers or scholars from other spatial disciplines.

Based on the literature, in some cases, the role of proximity has become less prominent, in others, however, it remains significant, leading to new concentrations and the emergence of new spaces. In the latter case, empirical studies have demonstrated that geography is not "dead" but has rather experienced a "rebirth" as geographical concepts such as distance decay, critical mass, inequality, and core-periphery can influence the pattern of digital interactions (Goldenberg & Levy, 2009; Takhteyev et al., 2012; Graham & Zook, 2013; Edelman & Luca 2014; Quattrone et al., 2016; Lim, 2020).

Despite contradictory tendencies, digital technologies are transforming virtually all aspects of life – a process often referred to as the digital turn (Ash et al., 2018). In the literature, a dualistic approach frequently emerges, distinguishing between cyberspace and physical space (Han et al., 2018) or between digital and offline spaces (Bork-Hüffer & Yeoh, 2017). However, as Graham (2013) emphasizes, this binary is not entirely accurate, as the two dimensions are increasingly intertwined, giving rise to hybrid spaces (de Souza e Silva, 2006).

This study adopts a binary framework as a heuristic tool to explore how platform-mediated interactions produce spaces in an urban context.

To enhance conceptual clarity, we distinguish between two key terms. The first is "geographical space," referring to the physical, material environment – what Lefebvre calls firstspace or perceived space – which serves as an ideal basis for measuring and mapping new socio-spatial formations shaped by digital platforms. The second is the digital sphere, where peer-to-peer matching activities take place. While this realm is accessible only to users through platform interfaces, its effects extend beyond the virtual, manifesting in geographical space.

Digital platforms can be further differentiated based on the spatial nature of their interactions. Morales-Muñoz and Roca (2022)

identify two types: untethered platforms and geographically tethered or place-based platforms. In the former, cloud-based work activities decouple labor from physical location, minimizing the role of spatiality.

In the latter, while the matching process occurs digitally, the actual activity is rooted in physical space (Johnston, 2020). This study focuses on the latter group – place-based platforms – due to their significant spatial implications in urban contexts.

Digital platforms and the city

Digital platforms have become an integral component of urban life (Törnberg & Söderström, 2025). One key reason for this trend is that platforms depend on a critical mass to function – something cities can provide through their dense populations, which offer enough producers and consumers to enable effective user matching (Dillahunt & Malone, 2015; Tarek & Amit, 2019).

In addition, socio-economic factors commonly associated with urban environments – such as higher income and education levels – facilitate the adoption of innovative solutions, including the use of digital platforms (Artioli, 2018).

Although most platforms are not confined exclusively to urban settings, they often rely on the urban context to operate effectively (Chiappini, 2020; Celata & Certoma 2022). Many geographically tethered or place-based platforms exhibit a strong urban focus and are deeply embedded within local contexts. Thus, the implications of digital platform activities are not affecting geographical space evenly. Some places tend to attract specific platforms to a greater extent. For instance, the city centers in global cities tend to attract Airbnb users contributing to housing issues among locals (Celata & Romano, 2022) or some places lessen their importance as offices are not the place of work anymore due to the dispersal of workplaces (Richardson, 2021). Platforms produce and re-produce urban space especially in some sectors connected to hospitality and mobility namely delivery, ride- and car-sharing, and domestic services (Chan, 2022).

In the following chapter, we highlight the specific features of a particular form of mobility where the platform presented in our case study operates within the city.

Shared-use mobility: Platform-mediated ridesharing

One of the two area where digital platforms are widespread is hospitality and mobility, thus their spatial embeddedness is possibly the most evident in these sectors.

In general, shared mobility activities enable access to travel without having vehicle ownership (Schaefers et al., 2016). They can be classified in different ways according to the shared asset, the provided service (Shaheen, 2016), the distance (McKenzie, 2020), the implementation of models, transaction type, or market orientation (Castellanos et al., 2022).

As the study focuses on a specific type of shared-use mobility, this section presents the context of platform-mediated peer-to-peer ridesharing where trips are carried out simultaneously using a single vehicle shared by strangers (Morency, 2007; Tafreshian et al., 2020).

The phenomenon is not entirely new. It is in fact as old as the personal ownership of a vehicle with acquaintance-based type of ridesharing (Nielsen et al., 2015) between family members, friends, and coworkers dominating shared mobility. Platform-mediated ridesharing by contrast can be identified as a recent phenomenon that adapts a new paradigm to an old activity, not only matching drivers and passengers but also fostering easier and faster transactions through connecting strangers by facilitating trust, enabling payments, and regulating the activity through the platform itself. Overall, six different types of matching variations can be identified within ridesharing according to a classification by Furuhata et al. (2023).

We can identify meeting points where the digital platform produces space, thus the empirical study focuses on those places.

The focus of the empirical study is the spatial distribution and characteristics of the platform's meeting points. These points are mutually negotiated, predetermined meeting places within a settlement border between driver and passenger.

In most cases, the meeting points are neutral pick-up and drop-off points located near the origin/destination of participants (drivers and passengers), generally along the shared routes (Fig. 2). These two points which produce space due to the platform are at the forefront of this study using data from a peer-to-peer ridesharing platform, Oszkár.com.

In the examined platform, the meeting points are not determined by algorithms but by individuals, mostly drivers who can provide the names of places and their addresses in the trip advertisement in both the origin and destination settlement. For the sake of flexibility, participants can also modify or arrange the meeting points later.

It is important to note that the driver specify the names of meeting points (often more than one location), allowing them to enforce their preferences, in contrast to passengers. Thus, these points are perceived to be favourable on the drivers' side.

Methodology

Selected ridesharing platform: Oszkár.com

To examine meeting points, the study uses the data of a leading ridesharing company in Hungary, Oszkár.com. It can be categorised as an interurban peer-to-peer ridesharing platform that matches drivers and passengers with no previous knowledge of each other with the help of a website or mobile

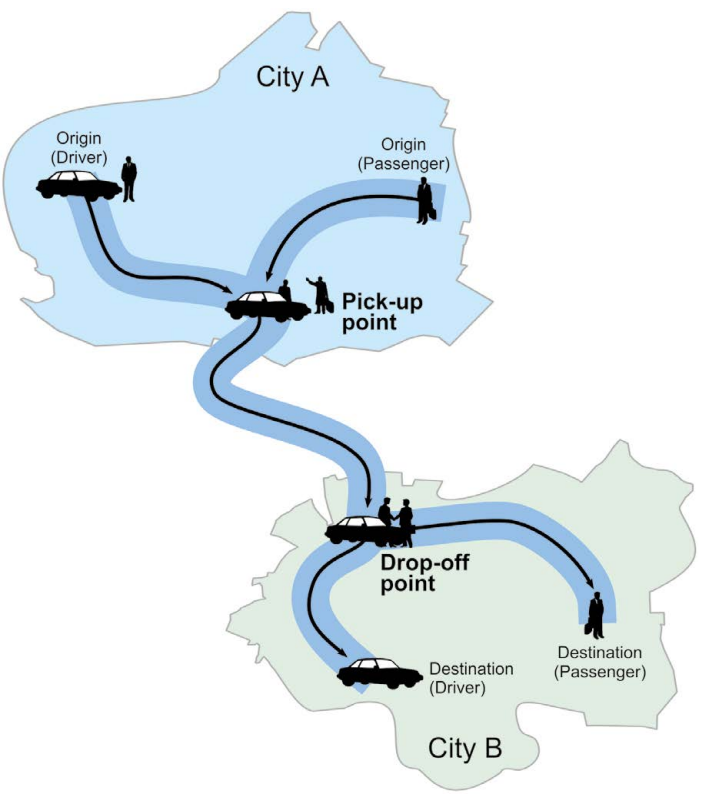

Figure 2. The examined meeting points of peer-to-peer ridesharing (pick-up and drop-off points)

application. Oszkár.com focuses on a particular type of underused asset: empty private car seats. Thus, this type of peer-to-peer ridesharing requires that drivers and passengers travel on an identical route at the same time between settlements (i. e. long-distance ridesharing). These are mostly city-to-city trips with longer distances (more than 100 km) according to a study exploring the characteristics of completed trips on Oszkár.com (Bálint & Trócsányi, 2016).

Studies confirm it as one of the key players in the entire Hungarian sharing economy sector (Enet, 2018; Kolonics & Pónusz, 2020). Furthermore, the verb "oszkározik" used for ridesharing services among Hungarians indicates that most people identify this activity with the examined platform. Oszkár.com was founded in 2007 by two former university students, Attila Prácser and Máté Gyürüs, commuting between Budapest and a rural town. Since that period, the number of registered users has shown a steady increase as demonstrated by the number of its users, reaching 900,000 in 2020 (Oszkár.hu). Among the latter, 400,000 users are defined as "active", using the platform at least once a year according to the company (Szabó & Gupta, 2020). These numbers indicate that the platform is the leading player in Hungary outperforming its rivals such as the internationally more well-known Blablacar.

The destinations arranged via Oszkár are not only located within Hungary, but in smaller numbers, also outside the country's borders – mostly in neighbouring countries (Slovenia, Romania, Serbia) but also in Germany and Great Britain (Bálint & Trócsányi 2016; Soltész & Zilahy, 2020). Thus, the platform is available in four languages (Hungarian, German, English, and Slovenian) and can be identified as a regional player in the field of shared-used mobility.

Data source and research area

Before the discussion of methods, it is important to highlight the main challenge of studying sharing economy platforms, namely, data access.

The underlying reason is that the owner(s) of the platform generally do not intend to share information about platform activities with the public. Many profit-oriented platforms collect and store a large volume of data about their users' activity. As their effective matching (data governance) through algorithmic management is considered a core part of their business activity, in most cases, data is viewed as 'confidential commercial information' (Scassa, 2017). Paradoxically, with the help of big data, research in social sciences can be conducted at a higher level which was not doable in the pre-digitalization era when primary data mainly originated from censuses, surveys or interviews. On the other hand, privatisation of data and lack of transparency have led to 'data deficit', particularly in the case of sharing economy platforms.

For the analysis of meeting points, one query was selected from the entire database undertaken by Attila Prácser, containing each advertised meeting in the case of completed trips through a month-long period (September 2017). The anonymised data was sent to the authors directly via email. This dataset originally contains 332 156 Excel rows for all settlements in the examined period. It includes all meeting points listed by the drivers for each given trip and for each settlement where the ridesharing platform has specified meeting points (more than 200). These meeting points are not distinguished between origin and destination settlements. In this initial period, the dataset was not suitable for visualisation and analysis, as drivers were free to provide any type of geographical location (e. g. addresses, place names, etc.). Thus, several duplicates, misspellings, and errors can be found in the original Excel file.

Before data cleansing and visualisation, we set the goal of identifying a minimum of five Hungarian settlements where meeting points were analysed. The criteria of selection were threefold: first, as sharing economy activities are typically connected to high population density areas, the selected settlements had to be ranked as cities in the Hungarian settlement hierarchy with high

popularity on the platform based on reserved seats (Bálint & Trócsányi, 2016). Secondly, we wanted to choose heterogenous cities based on location, economic profile (we did not want to select similar-status settlements located more than 100 km from Budapest, such as Szeged and Pécs), and settlement morphology. Thirdly, we had a capacity limit as the data cleansing process took more than two months per settlement, therefore we can only focus on three to five settlements (Fig. 3).

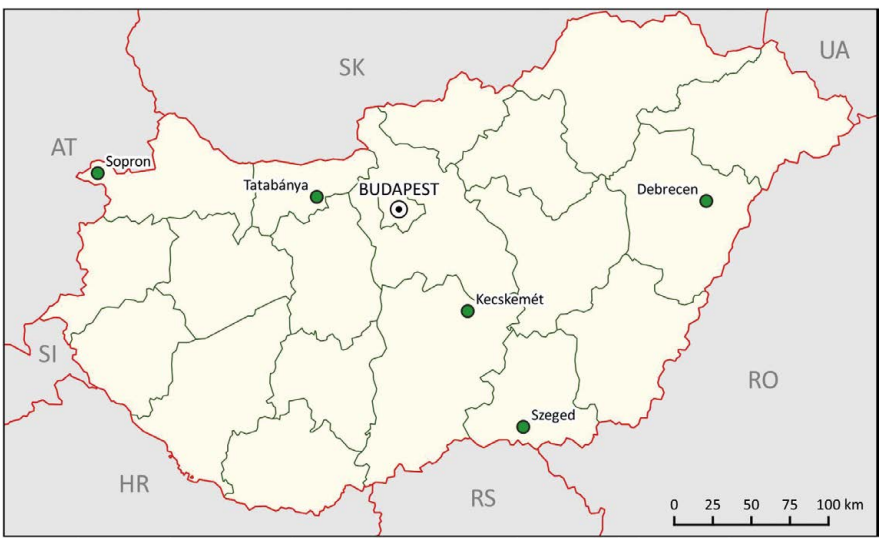

Figure 3. The settlements selected for analysis

Data cleansing and visualisation

In the course of data cleansing, the first step was to dismantle rows as one driver usually provided more than one meeting points. As a result, the Excel rows contain several names, which had to be split. In the subsequent phase, the same meeting points with different versions (such as small and large letters) had to be unified. This phase contained many challenges, the five most common ones are identified as follows. The first (1) is called the Lukoil problem named after a petrol station where the analysis first encountered this obstacle. In some cases, drivers list only service names such as Lukoil or Tesco but in larger settlements, more than one service can be found operating under this name. Due to a shortage of information about the specific location, we added the name of the most popular meeting point in these cases which number was low in contrast within the database. In the second (2) case, the driver provided instructions such as 'meeting point by order/preference', 'door to door', and 'we will discuss in the car' which we included in the group category 'individual'. This indicates places that are agreed upon later consensually, or are the respective homes of drivers or passengers.

The third (3) challenge is where no exact address was specified for a meeting point. Thus, the meeting point had to be located with the help of Open Street Map manually. In some cases, the Open Street Map did not contain the address. Here, the search engine behind the geocoding process (Web Service) found the address necessary for visualization. Synonyms were frequently encountered (4) during data cleansing, as drivers would designate a meeting point under different names, which had to be unified as well. The last challenge is linked to misspellings (5) as many individuals typed the name of meeting points

which had to be unified with the VLOOKUP function and later manually.

After data cleansing, we summarised the matching addresses (SUM) and plotted them on a map. For the sake of comparability of each settlement and visualisation purposes, not all mentions were plotted, only the meeting points with a frequency of more than 0.5% for all five cases.

Accordingly, low-traffic and infrequent (1-2 times) points were excluded, so the maps do not include many less popular meeting points.

With the help of the OpenStreetMap map interface, the data was mapped using open-source, general license (GNU-GPL) software (QGIS). The data tables were uploaded as CSV files into the MMQGIS plug-in of the software and geocoded.

Results and Discussion

Characteristics of places that act as meeting points

Visualised meeting points can be classified into eight categories (Fig. 4). Pick-up and drop-off points appear to differ from places associated with public transportation where passengers switch to the examined ridesharing platform. Ridesharing meeting points represent more diverse places, not only stations and other travel-related infrastructure. The disruption of spatial structures is consistent with other geographically tethered sharing platforms like Airbnb, where tourist accommodations are extended to residential areas and apartments that were previously excluded from such activities (Boros et al., 2018).

Table 1. The number of meeting points (mentions, addresses, popular ones)

	Debrecen	Kecskemét	Sopron	Szeged	Tatabánya
1. Visualized, popular meeting points (Map elements)	26	30	30	23	32
2. Meeting points (addresses) SUM	1,395	684	492	664	240
3. All mentions of meeting points (addresses)	15,349	5,368	2,102	12,299	1,047

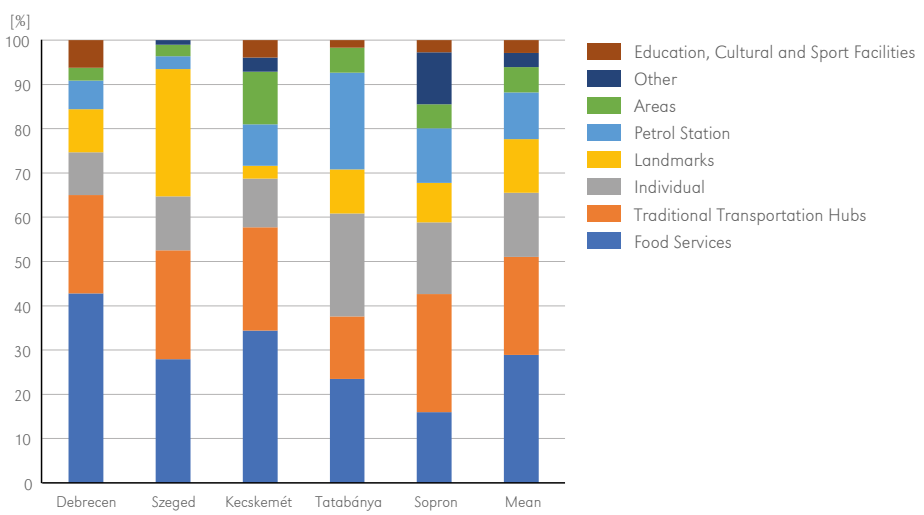

Figure 4. Distribution of popular meeting point categories (Y-axis: Ratio within each city; X-axis: Selected settlements and mean of five settlements)

Table 2. The places listed under the eight categories

Category	Places
Food Services	Hiper- and Supermarkets (Tesco, Auchan, Spar, CBA), Fast Food Restaurants (McDonald's, Burger King), Shopping Mall
Traditional Transportation Hubs	Main Train and Bus Station, Train or Bus Stop, Highway Exit, Tram Final Destination, Airport
Individual	Driver/Passenger home
Landmarks	Public Squares (e. g. Main Square), City Hall, Statues
Petrol Station	MOL, OMV, Schell, Lukoil stations
Areas	Residential Areas, City Centres
Other Infrastructure	Cemetery, Factory, Camping, Hotel
Education, Culture, and Sport Facilities	University, Football Stadium, Hall, Theatre

Several types of urban places with different functions can be found among the popular meeting points (Tab. 2).

When compared to traditional interurban modes of transportation (e. g. train, bus), which have geographically well-defined locations (stops and stations), ridesharing departure and arrival points show a more random pattern: they can be found not only near locations that are traditionally connected to public transportation but other places as well. For example, spaces with residential, commercial, transportation, and symbolic functions also appear in the table. A common feature of these places is that they are inclusive, public or semi-public places. Here, strangers (both drivers and passengers) can wait for each other. These places are easily accessible and have suitable physical features (e. g. infrastructure) which are connected to transportation.

Among them, one category stands out in the table, namely infrastructure called "Food Services", including super- and hypermarkets and fast-food restaurants. This phenomenon can be observed in three cities (Debrecen, Kecskemét, and Tatabánya) where the category contains arrival and departure points in the highest proportion in the eight rows. Moreover, these points also appeared as privileged locations in the two other cities (Szeged and Sopron). They were ranked in the second and third place in all categories in the case of the latter cities. In addition, in Debrecen, food services achieved the highest rate (42.8%) in all rubrics. This finding suggests that these activities can be linked to identifiable urban places.

The reason behind the dominance of the category "Food services" is rooted in several factors. Hyper- and supermarkets and fast-food restaurants have several features that make them suitable for platform-based ridesharing. Most importantly, these places have significant free parking capacities (1) in the given cities. Secondly, they are situated on the edge of cities due to their relatively large size (2). Thus, they have advantages for interurban ridesharing as they are located along roads leading out of the city. In addition, the main squares are mostly pedestrian zones in Hungarian cities, discouraging passengers from organising the meeting place in the inner-city centre. Thirdly, meeting points have the relevant infrastructure (3) as they provide shelter, toilets, and snacks for people waiting for the ride, especially on the passenger side. Finally, they are not merely accessible through transport systems but also easily identifiable within a city (4) by both drivers and riders.

These factors show that popular meeting points appear to have more than one favourable feature to make them a popular meeting point. In addition, less popular meeting points can have push factors that discourage drivers or passengers from an urban location (e. g. bad accessibility) meaning that digitally mediated activities do not affect the geographical space evenly.

However, despite this shift, traditional transportation hubs still appear in the Table among the most popular types of meeting points behind the first category, food services. Traditional transportation hubs are likely to contribute to the functional aspect of mobility (parking lots, connectivity to local transport networks). The present category achieved the highest rate (26%) in Sopron, where the

main train and bus station is a popular meeting point. Excluding Tatabánya, this category was ranked second in the Table in the five examined cities.

In addition to the first two types of places, other types of infrastructure closely linked to mobility can be found in the Table. In general, petrol stations do not appear as intermodal points in most public transportation modes as they mainly serve individual travellers. These stations are particularly popular in the two smaller cities of Tatabánya and Sopron, where they take up more than 10% of the above-listed places in Table 2. The possible reasons might be connected to several factors including location (proximity to roads leading out of the city), and the driver's preference (petrol). Their perception is also important as individuals who take part in digitally mediated interactions need to be able to identify a given location without significant effort. In larger cities, the number of gas stations owned by the same company is higher, making the gas stations of smaller-sized settlements more suitable potential meeting points.

The emergence of these types of places appears to reinforce the tendency of the uneven spatial distribution of digital interactions, significantly shaped by the conceived, material space (existing infrastructure). However, their accessibility is lower than in the case of "Food Services" and "Traditional transportation hubs" categories as petrol stations are mostly suitable for cars and are less embedded in the urban public transportation system, which could explain their lower popularity compared to the first two categories.

One category ("individual") also appears to achieve a higher rate, especially in smaller-size cities. This option is used by drivers in case they decide to arrange the meeting point in person with the passenger or if they collect the passenger directly from their home. Thus, the study cannot analyse the places included in this category in greater detail. However, the emergence of the term "individual" in the table can indicate that these types of ridesharing have a higher flexibility compared to traditional ways of transportation. Unlike traditional modes of transportation, here the location of the meeting point can be modified upon request.

This dynamic nature indicates that not only public places but sometimes the surroundings of homes and workplaces are also involved in the interactions. This is also corroborated by the fact that the Table contains names of residential districts and areas as well.

The diverse group "Other" only appears in three cities and achieved more than 10% only in the case of Sopron. Two places are listed in this row here: the camping site where the VOLT Festival was organised during the collection of data and a cemetery near the main road (Road 84). In other cases, this category includes the Novotel Hotel (Szeged) and Mercedes Benz Car Production Plant (Kecskemét). These further corroborate that diverse urban locations can act as meeting points in cities based on a specific geographical characteristic of a given city.

The results indicate that various, relatively well-defined factors have contributed to the rising popularity of meeting points in the examined settlements. Namely, the already mentioned four factors with the keywords "capacity, accessibility, services, and image".

It is possible to conclude based on the characteristics of these meeting points that these places can be described as 3D places, i.e., distinct, diverse, and dynamic. In addition, they are connected to platform activities in the geographical, three-dimensional space producing new, digitally mediated space within the city.

Firstly, they are mostly identifiable public or semi-public places accessible to both supply and demand in the case of ridesharing meeting points. These places have perceived (travel-related infrastructure) and conceived (easily identifiable images) elements as their common characteristics.

Secondly, they are diverse and can include, for instance, supermarket parking lots, petrol stations, hotels or even factories. Thus, they are not just connected to traditional transportation hubs.

Thirdly, these places are dynamic as they are not identical in every settlement and contain a category, i.e., "Individual" where participants can determine the meeting point later on in contrast to fixed points commonly observed in traditional transportation. As a result, space production through digital platforms is more rapid and flexible than in the pre-internet era.

Spatial distribution

As illustrated by the maps, spatial patterns of meeting points tend to exhibit both similarities and differences between the five settlements (Fig. 5). Upon a first glance, the urban morphology influenced by physical (relief, water body) and societal (city structure, building types) factors determines the location of the meeting points. In Tatabánya, for instance, the North-South elongation of the city structure connected to its topography has a direct influence on the location of meeting places. In the case of Szeged, the Tisza River intersecting the city is also a factor determining the possible ridesharing points.

However, an additional pattern can be identified on top of the above-mentioned differences. Namely, a spatial asymmetry indicating that points are located in the part of the city which is located closer to main roads and highways leading to other settlements. This tendency can be observed in four cities out of the five: Szeged, where the points are located on the right bank of the river; in Debrecen and Sopron, where the points are mostly located on one side of the railway; and in Kecskemét, where Route 445 links the main concentrations. The results of the study suggest that proximity to large roads is also quintessential due to the nature of the given platform: inter-urban ridesharing. This reflects the utilitarian viewpoints of the drivers of the platform who not only consider the nature of a meeting point but also its favourable location.

A further pattern commonly revealed by the maps is the concentration of points in the proximity of city centres where the roads are heading out from the settlements. This is the case in the largest cities, for instance, Szeged, Debrecen, and Kecskemét. The level of concentration is particularly high in Szeged, which has a compact, planned city centre. These are well-embedded in local public transportation, making them easy to access for residents and transit groups.

Discussion

Our findings provide empirical support for Richardson's assertion regarding the geographical dimension of digital platforms. According to Richardson (2020), platforms "imply a reorganisation of urban operations not through new physical infrastructures, but instead through novel technologies of coordination that can reterritorialise those already existing." This statement seemed to be true in our case study as well where the platform reshaped urban spatial practices through digitally mediated interactions and produces new forms of public infrastructure. In our case, the meeting points where drivers and passengers connect do not affect the geographical space evenly. Platform-attracting places exhibit several features that influence spatial concentrations, often resembling traditional transportation hubs in terms of services, waiting areas, or favourable location in the case of our empirical context.

In a broader context, we define this term as follows: these places are the spatial manifestations of digitally mediated interactions between users, which have specific patterns in urban space, both in terms of location and physical attributes. Digital place-making is more fluid, demand-driven, and distinctive, as it is mediated through screens and applications. This process of place-making highlights urban locations that may experience negative externalities, such as increased traffic in case of our context or gentrification, and thus affects not only users but the whole local society as well.

Our analysis reveals patterns of informal location use that align with findings from similar peer-to-peer ridesharing studies from other geographical contexts. For instance,

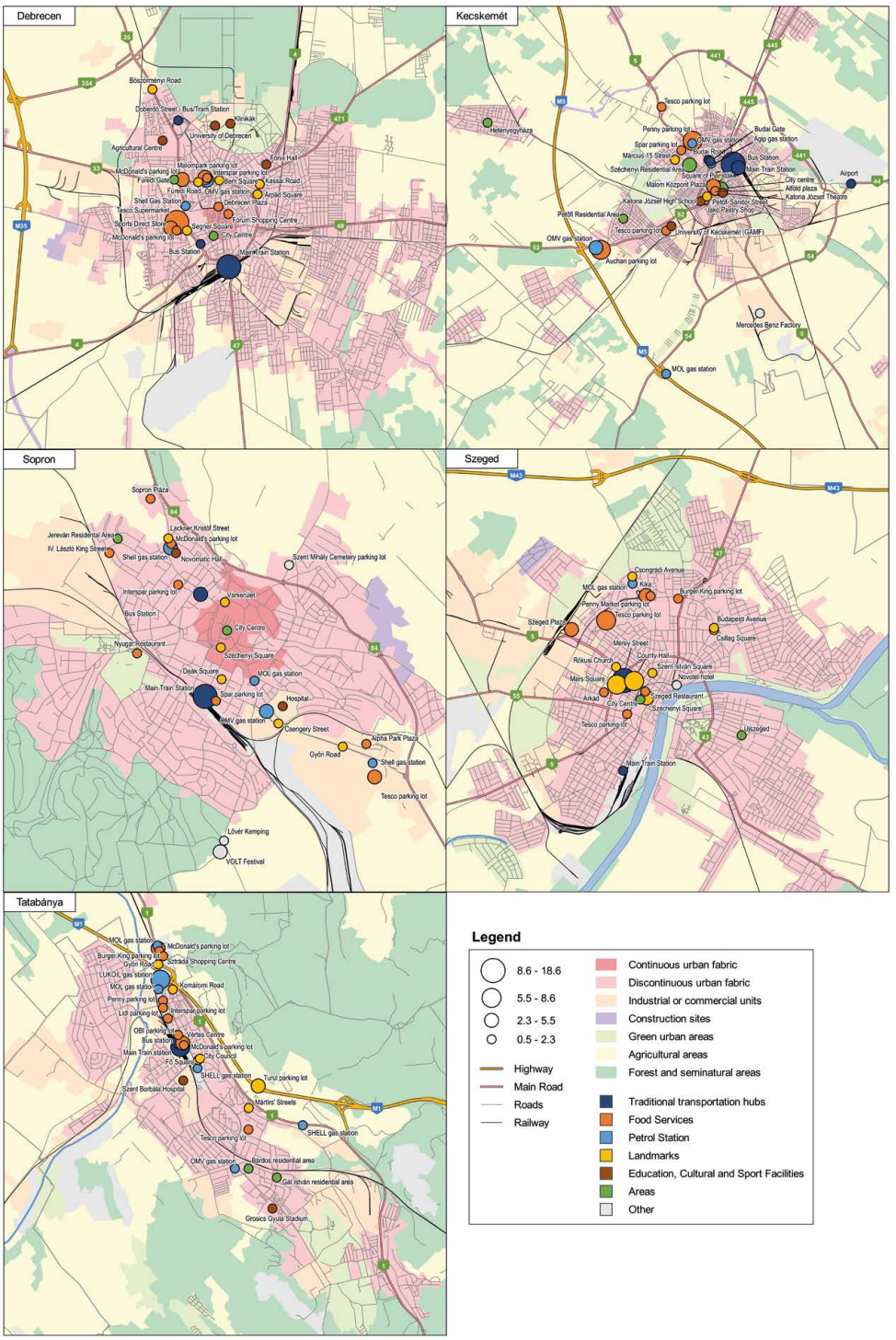

Figure 5. The spatial distribution and places of meeting points in the selected settlements

a previous empirical study in the French city of Rennes (Mericskay, 2019) observed a similar dual nature of meeting point places: (1) while concentrations near traditional traditional transport hubs (e.g., train stations) can be identified; (2) newer functional appearence that is usually not associated with mobility such as university campuses also appear in the maps. Additionally, French results also emphasized the greater diversity of meeting point locations compared to conventional public transportation systems in line with our findings.

Other international cases reflect comparable patterns, with minor regional variations. In Slovenia, for example, gas stations are frequently used as meeting points – locations that were also identified in our Hungarian sample, but with less prominence. While in the United States, fast-food restaurants and coffee shops often serve this purpose, highlighting how meeting point preferences reflect local geographies (Stiglic et al., 2015).

Finally, the spatial patterns of meeting points in our study – often located near ring roads mirrors patterns found in other countries (Mericskay, 2019; Talandier et al., 2024), suggesting the existence of a broader, possibly universal, spatial logic in interurban ridesharing practices mediated by the studied type of digital plaforms.

Thus, we create a term "platform-attracting urban places" to conceptualize the novel impact of digital platforms on localities. The term itself is not a completely new idea as many scholars conceptualize the spatiality of digital platforms, however, our results empirically support it with platform data.

Conclusion

The study both contributes to platform urbanism and share-used mobility literature. Our results have allowed us to identify the way a digital matching platform can add new functions to urban places by studying meeting points in the geographical space. We have highlighted the importance of existing physical and locational factors of the existing hard infrastructure as major factors forming spatial concentrations.

These findings are in line with the international literature as similar places act as meeting points in other cases where pre-arranged meeting points are determined by humans (Stiglic et al., 2015).

Public availability and accessible parking places without fees are also considered important in systems where the location of ridesharing meeting points are designed with GIS (Czioska, et al. 2017).

In addition to the ridesharing systems, our study contains some findings that could provide important insight into the geographical embeddedness of digital matching platforms.

A first interesting result demonstrates the diverse nature of these places both in terms of their respective characteristics and location compared to traditional public transportation stations and stops. On the other hand, train and bus stations are also found among the popular meeting points.

Based on our findings, we have introduced the concept of "platform-attracting urban places" where platform activities can be mapped and measured in the material, first-space. In addition, we have identified three key features of these places (3D: diverse, distinct, and dynamic). This term captures that some characteristics of a place can make them popular among digital platforms as they have favourable features contributing to the commercialisation of public or semi-public places.

All these results have relevant implications from both scientific and policy points of view. From the scientific perspective, the study considers the role of digital technologies in the place-making process. In addition, our study has integrated various uses of the concept "third place" and sharing economy platforms.

Our paper has limitations which mainly stem from its focus on a single platform; thus, further investigations are necessary to study other geographically tethered platforms with different sectoral contexts. The study can be extended to other geographical areas, however, the main characteristics of the

Hungarian platform (e.g., drivers determining meeting points instead of algorithms) and city size must also be considered. Future studies may consider other settlement categories (global cities, small towns) and the role of artificial intelligence in the placemaking process related to digital platforms.

One limitation of this study is the research material which is currently eight years old. As a result, more recent research on the specific context is essential to better understand the current spatial implications. Furthermore, since this paper is based on a single case study, the theoretical contribution would benefit from further development and grounding.

Editors' note:
Unless otherwise stated, the sources of tables and figures are the authors', on the basis of their own research.

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