Conflicting economic and social interests in the use of urban commons: Segways and electric scooters in public spaces. A case study from Budapest, Hungary

Conflicting economic and social interests in the use of urban commons: Segways and electric scooters in public spaces. A case study from Budapest, Hungary

Conflitos de interesses econômicos e sociais no uso de bens comuns urbanos:

Segways e scooters elétricos em espaços públicos. Estudo de caso em Budapeste, Hungria

Conflits d'intérêts économiques et sociaux dans l'utilisation des communs

urbains: Segways et scooters électriques dans les espaces publics. Étude de cas à Budapest, Hongrie

Conflictos de intereses económicos y sociales en el uso de bienes comunes

urbanos: Segways y patinetes eléctricos en espacios públicos. Estudio de caso en Budapest, Hungría

György Varga

Electronic version

URL: <https://journals.openedition.org/espacoeconomia/17212>

DOI: 10.4000/espacoeconomia.17212

ISSN: 2317-7837

Publisher

Núcleo de Pesquisa Espaço & Economia

Electronic reference

György Varga, "Conflicting economic and social interests in the use of urban commons: Segways and electric scooters in public spaces. A case study from Budapest, Hungary", *Espaço e Economia* [Online], 19 | 2020, Online since 02 September 2020, connection on 21 September 2021. URL: <http://journals.openedition.org/espacoeconomia/17212> ; DOI: <https://doi.org/10.4000/espacoeconomia.17212>

Espaço e Economia – Revista brasileira de geografia econômica est mise à disposition selon les termes de la licence Creative Commons Attribution - Pas d'Utilisation Commerciale - Partage dans les Mêmes Conditions 4.0 International.

Conflicting economic and social interests in the use of urban commons: Segways and electric scooters in public spaces. A case study from Budapest, Hungary

Conflicting economic and social interests in the use of urban commons: Segways and electric scooters in public spaces. A case study from Budapest, Hungary

Conflitos de interesses econômicos e sociais no uso de bens comuns urbanos:

Segways e scooters elétricos em espaços públicos. Estudo de caso em Budapeste, Hungria

Conflits d'intérêts économiques et sociaux dans l'utilisation des communs

urbains: Segways et scooters électriques dans les espaces publics. Étude de cas à Budapest, Hongrie

Conflictos de intereses económicos y sociales en el uso de bienes comunes

urbanos: Segways y patinetes eléctricos en espacios públicos. Estudio de caso en Budapest, Hungría

György Varga

Introduction

- 1 For decades decision makers have tried to shape public spaces worldwide according to needs of the motorists (Gössling, 2016). However, long-lasting benefits of car use have gradually decreased which gave rise to innovations addressing the problems of car-based societies. Over the last two decades several new means of transport (e.g. Segways and electric scooters) have appeared which can potentially revolutionise urban

transport. At the same time these vehicles have hardly been integrated into the conventional 'order' of public space use.

- 2 Power relations, which determine the design and rules concerning the use of public spaces, have already been investigated by many geographers (e.g. Harvey, 2008; MacLeod, 2011; Boros *et al.*, 2016; Jámboor and Vedrédi, 2016). However, only a few of them (e.g. Lee and Webster, 2006; Blomley, 2008) considered the approach of commons research in their works, despite the fact that it could also provide relevant aspects (e.g. rivalry, excludability) for the analysis of public space use. Therefore, in this paper I analyse the challenges in public space use posed by new vehicles from the commons research perspective. Based on the analysis, I will then attempt to answer the question which motivated my research: what should decision makers do with these new vehicles?
- 3 First, I wish to review some key concepts of commons research. I will then move on to discussing the global expansion and main features of Segways and electric scooters in sharing systems. Finally, I will look at the use and regulation of these new vehicles in Budapest, Hungary (about the main events and trajectories of urban development in Budapest, see Baji, Berki, Izsák 2018). This case is particularly interesting as the city has a complex system of governance (Tosics, 2005). The owner and regulator of a given public space can be either the Municipality of Budapest or one of the 23 district-level local authorities, and, in some special cases, even the state of Hungary. Therefore, investigating the role of different scales in the public space use regulation is a particularly important issue (Czifrusz *et al.*, 2015 highlighted similar aspects in urban regeneration projects). However, regulation of the new vehicles has also posed challenges in cities with less complicated governing systems worldwide, thus the analysis of Budapest and my recommendations can be relevant for a wider audience outside Hungary too (Gyuris, 2018 highlights further aspects about the relevance of Hungarian case studies especially for a Brazilian readership).
- 4 Since social science research concerning new vehicles is scarce, I had to combine different methodologies for a thorough analysis. Apart from outlining the theoretical framework, I supplemented the scientific literature review with a critical analysis of contents in online newspapers, news portals, blogs and websites of service providers. Sources also include legislation. For an in-depth evaluation of the state of new vehicles in Budapest, I contacted relevant actors in the field too. Since I regularly use public spaces in Budapest and as a tourist guide, I often use Segways, I also have extensive personal experience.

Public spaces as commons

- 5 Although management of, and access to, different resources have been investigated for centuries, the commons research as an integrated discipline, which specifically deals with these issues, is relatively new. Its first international association was established in 1989, and its first independent journal was launched in 2007 (Laerhoven and Ostrom, 2007). Neoclassical economics paradigm had a strong influence on the newly emerging discipline. The classification, which helps understand the fundamentals of commons research, is also based on the neoclassical economics paradigm. This classification divides the goods into four groups along two aspects according to their right of

common. One aspect is whether the consumption of a given good is rival, that is, the consumption of a given consumer restricts the consumption of another consumer or not. The other aspect is whether certain consumers can be excluded from the use of the given commodity (Choe and Yun 2017). The four possible combinations of both aspects can be seen in Table 1. Commons research deals with the three categories other than private goods, which are collectively referred to as common goods.

Table 1. Classification of goods by right of common

		Consumer	
		Excludable	Non-excludable
Consumption	rival	Private goods	Common pool resources
	non-rival	Club goods	Public goods

Source: Own compilation based on Choe and Yun 2017; Gyuris, 2014

- 6 Earlier works in commons research focused on environment-related issues (e.g. fishery or animal husbandry). Later, significantly different themes, such as urban commons (e.g. public spaces) emerged as areas of interest. Public spaces can be interpreted as common pool resources as anyone who abides by the rules (e.g. traffic regulations) can use them, therefore the consumer is non-excludable. At the same time, if there are too many consumers, the usability of the public space will deteriorate, e.g. in the case of public roads traffic congestions occur (Foster, 2011; Gyuris, 2014).
- 7 It is a common phenomenon that different consumers want to use the given public space differently which results in complex rivalry and excludability relations. In general, this process leads to the regulation of public space use. Overall, it appears that rules of public space use and design of public spaces are the reflection of the socio-economical system of a given period and they contribute substantially to the exclusion of certain consumers from certain public spaces (Jain and Moraglio, 2014; Gyuris, 2017).
- 8 It is also noteworthy that goods can be grouped not only by their right of use but by their right of ownership too. FEENY *et al.* (1990) distinguish between private, communal, state and open-access common property. The latter category includes goods where property rights are poorly defined. Nowadays, most public spaces around the world are state property, though the state can be an owner in many forms. For instance, in Budapest, as it was mentioned earlier, public spaces can be the property of the State, the Municipality of Budapest or one of the 23 district-level local authorities. However, before I analyse the public space use of the new vehicles' in Budapest, I outline the main events of their history and the most important dilemmas concerning them.

New forms of public space use: revolution in transport?

- 9 By the millennium, especially in urban environment, the advantages of car-use over other modes of transport became questionable worldwide. It became increasingly obvious that cars are not the fastest flexible vehicles (that can be used from the point of departure to the destination) as there were more and more traffic congestions. Rising parking fees increased the cost of car-use and lack of parking lots also caused more inconvenience for drivers (Glazebrook and Newman, 2018; Sheller and Urry, 2000).
- 10 Therefore, it is not surprising that many people sought solutions for the problems that they had encountered in transport. One of them is Dean Kamen who became famous for inventing the Segway, which is a self-balancing vehicle with a maximum speed of approximately 20 km/h (Figure 1). The first commercially available model was the Segway HT i167, and later the name of the manufacturing company became commonly used to designate products with similar characteristics even if they were made by other companies.
- 11 Kamen founded the company, which later became known as Segway, in 1999 and it is based in Bedford, US. The Segway was introduced to general public in December 2001. Between March 2002 and February 2003 around 6,000 items were sold only, based on a product recall (see CPSC, 2013.) whilst the factory was designed for producing up to 40,000 Segways per year (Smith, 2004).
- 12 Therefore, the Segway was regarded as a highly unsuccessful product compared to the expectations of its inventor, but it enjoyed unexpected popularity in tourism. Many tour operators started organising Segway tours: first in the US at the beginning of 2002 and later worldwide. The Tripadvisor travel platform introduced 'Segway Tours' as a separate category in 2008 (Segway, 2018).

Fig. 1. The first commercially available Segway model, the Segway HT i167

SOURCE: MSU.EDU

- 13 However, Segways were still expensive compared to other vehicles designed for short-distance transport. Public spaces have not been adapted for Segway usage, and, in general, it was unclear where these vehicles could be used at all. In addition to the lower than expected interest towards these new vehicles, the Segway company's situation deteriorated by the 2008 economic crisis. Another major problem for Segway was that Chinese companies entered the self-balancing vehicles' market and they became real competitors. Eventually, in 2015 Ninebot, a Chinese company purchased Segway (McFarland, 2018).
- 14 In the mid-2010s restrictions on the use of Segways were introduced in popular destinations, such as Prague (PragueonSegway, s.a.) and Barcelona (Cutlack, 2016). These measures signalled that demand for self-balancing vehicles may decrease among tour operators, the main market for Segways, if similar regulations are introduced in other popular destinations too. In addition to the conflicts between different modes of transport, conflicts between the local population and tourists over public space use were the main factors which induced the restrictions in the above-mentioned cities.
- 15 In the light of these facts, it is not surprising that following the merger, Segway-Ninebot sought to introduce new kinds of vehicles to the market. The most successful was the Ninebot KickScooter by Segway (Figure 2a), the electric scooter of the 'new Segway'. The arrival of this product was announced in August 2017. In fact, Ninebot participated earlier in the development of the Chinese Xiaomi's Mijia M365 electric scooter (Figure 2b) (electric.travel, 2020), which was launched in December 2016. The significance of the two above-mentioned models is that they were used first in the fleet of the market-leading dockless e-scooter sharing systems.

- 16 Operation of the e-scooter sharing systems is based on a GPS sensor and a communication module built into the vehicles that continuously signal the position of the scooters. Users can find and use the e-scooters with a mobile application. The first dockless e-scooter sharing system was Bird, which was launched by Travis VanderZanden in September 2017 in Santa Monica, California, US, without any prior consultation with the city administration. It is worth mentioning that in Santa Monica there were not any regulations that either prohibited or permitted the operation of e-scooter sharing systems (Yakowicz, 2019).

Fig. 2a: Kickscooter ES1 (source: nauticexpo.com); b: Xiaomi M365

SOURCE: PUREScooters.COM

- 17 In Santa Monica and in many other cities where Bird similarly launched scooter sharing systems, the company faced city administration soon. For a city administration it is a difficult and definitely lengthy process to regulate the new vehicles that suddenly appeared from transport perspective, as general transport regulation is usually the competence of a higher administrative scale. In addition to the narrowly defined transport conflicts, the public space use of sharing systems' electric scooters for transport and 'parking' raises further questions as scooter sharing companies carry out services in public spaces usually without any license (Yakowicz, 2018). City administrations actually have more effective means for regulation of scooter sharing if they approach the problem from the latter perspective, for example they could confiscate the parking electric scooters.
- 18 To avoid that the latter solution become more regular and to gain (and retain) position in a market where there are more and more actors due to the huge amount of venture capital, scooter sharing companies altered their earlier strategy and started consultations with city administrations. However, it is a fair question why the city leaders allow the operation of the scooter sharing companies in most cases if they are aware of the above-mentioned problems.
- 19 From the viewpoint of the city administrations it can result in a politically embarrassing situation if someone starts new commercial activities that might cause conflicts in public spaces (e.g. e-scooter sharing) without the authorities' prior permission. Therefore, if the appearance of a divisive activity is very likely anyhow, it is often better to let its operation under previously agreed conditions. Local authorities agree with scooter sharing companies not only to avoid inconveniences, but to take

advantage of the attractive opportunities these companies usually offer. These opportunities however must be treated with caution.

- 20 Scooter sharing companies emphasise most that their business provides an environmentally friendly alternative in urban transport, which is quite attractive for city leaders. However, there are many aspects that can undermine this seemingly true statement. For example, electricity used to recharge electric scooters may be generated in power plants using fossil fuels. In addition, electric scooters are collected for recharging in most cases by petrol or diesel vehicles.
- 21 According to a study published in *Environmental Research Letters*, the average global warming impact of an electric scooter operated in a sharing system is 125,5 g CO₂-eq/passenger-kilometre during their entire lifetime. 43% of this impact is coming from collection and distribution and another 4,7% from recharging. The remaining 65,5 g CO₂-eq/passenger-kilometre is from production of the e-scooter and its transportation to the place of use from the factory in China. Compared to other modes of transport, the sharing systems' scooters are less harmful for the environment than cars, but at the same time they are less environmentally friendly than buses used for public transport or bicycles (Figure 3). Therefore, in ideal case from environmental perspective only car journeys should be replaced by using electric scooters. However, several surveys have shown that electric scooters are used in most cases instead of walking, cycling or public transport. In the US, two surveys found that only approximately third of the users of electric scooters chose this vehicle instead of driving (Hollingsworth *et al.*, 2019). The same ratio in a French survey was less than 10% (6t-bureau de recherche, 2019).

Fig. 3. Different vehicles' impact on global warming

SOURCE: OWN COMPILATION BASED ON HOLLINGSWORTH ET AL., 2019)

New vehicles in Budapest – focus on conflicting interests concerning Segway tours

- 22 In the past two decades Segways and electric scooters appeared in Budapest too. However, there are not any official statistics in connection with these vehicles and their users. The reason behind this, apart from the novelty of these vehicles and the related unclear regulatory issues (Ambrus and Orosz, 2020), is that in contrast to personal cars, logbook is not required for using them according to the current rules.
- 23 Concerning Segways, it is assumed that most of them are used by tour operators and private use is not common in Hungary. According to an offer of the exclusive distributor of Segway in Hungary, the cheapest used Segway in 2017 cost 2200 euros (Segway Hungary, 2017), which was about 3.5 times the national average monthly net earnings (based on the data of the Hungarian Statistical Office).
- 24 In Budapest, there were 20 tour operators on the 27th of October 2019 in the category of ‘Segway Tours’ on Tripadvisor (Figure 4). It is likely that most of the companies that organise Segway tours (too) in Budapest can be found on Tripadvisor as on a market where there are several actors it could be a severe competitive disadvantage if someone does not appear on this portal. However, it should be highlighted that the addresses of tour operators with different names are the same or in the same street in some cases. Furthermore, based on the available photos and information on the website of different companies, certain tour operators sell the tours or use the Segways of another company. In addition, there are some enterprises, which do not organise Segway tours based on their websites whilst they are positioning themselves in the ‘Segway tours’ category on Tripadvisor. The reason behind this may be that the target audience of these enterprises are similar to those which organise Segway tours in fact.
- 25 Although it is possible that the earliest review on a company on Tripadvisor appeared much later than the foundation of that company, important conclusions can be drawn about the Segway tour market in Budapest from Tripadvisor data. Nevertheless, it must be emphasised that data about the situation in October 2019 are moderately suitable for assessing all the changes in recent years.

Fig. 4. Segway tour operators in Budapest according to Tripadvisor (27th October 2019).

SOURCE: OWN WORK. I COLLECTED INFORMATION ON START POINT OF THE TOURS/ HEAD OFFICE OF THE COMPANIES BASED ON AVAILABLE DATA ON TRIPADVISOR AND THE WEBSITE OF THE COMPANY THAT WAS INDICATED ON TRIPADVISOR.

- 26 As shown in Figure 4, the number of Segway tour operators in Budapest increased in the 2010s which is in line with global trends. However, this explains only partly why the Segway tour operators' market in Budapest grew to approximately twice in size in 2017 based on Tripadvisor reviews. The main reason behind this may be that many tour operators who had left Prague due to the increasing restrictions, continued their operation in Budapest (cf. Egyeki, 2018; PragueonSegway, s.a.) as regulations concerning Segways at the time in Budapest were entirely lacking. In addition, in East Central Europe the number of tourist arrivals is the highest in the Hungarian capital behind Prague (see data e.g. Hedrick-Wong and Choong, 2017) and tourists are the target of Segway tours.
- 27 In Budapest, the majority of Segway tour operators are based in the city centre, mostly in the 5th district. Segway tours usually cover the main attractions that are concentrated in the 5th and 1st districts of Budapest (this concentration is also illustrated by the analysis of Kádár and Gede, 2013 based on the spatial distribution of Flickr photos). Therefore, it is not surprising that needs for regulating Segways and other new vehicles were first formulated by residents and local decision makers in these districts.
- 28 Depending on which part of the public space they are using – pavement, carriageway (within that the bus or the cycle lane if these exist) –, users of new vehicles might encounter conflicts with other road users. Media coverage usually focuses on conflicts between users of the new vehicles and pedestrians, though conflicts between the former and the cyclists also exist. In the latter case, problems are usually caused by the speed difference between the vehicles and the 'shortage' of the cycling infrastructure. Most of the cycleways and cycle lanes in Budapest are too narrow for safe overtaking especially if a cyclist wants to overtake a Segway, which is wider than a bike (Hungarian Cyclists' Club also highlighted these problems earlier, see: Molnár, 2017).

- 29 In the inner districts of Budapest as in the inner district of Prague (see: Pixová and Sládek, 2016), in addition to the narrowly defined transport conflicts, new vehicles increased the tension between the rapidly expanding tourism and local people. Growing importance of tourism in the inner districts (1st, 5th, 6th, 7th) of Budapest is illustrated by Figure 5, which shows the annual number of tourist arrivals in commercial accommodation establishments per local resident. The increase in the value of the indicator was primarily determined by the rising tourism, though at the same time, population of the above-mentioned districts decreased too in the analysed period. However, the decrease in population was more significant in the 1990s than after the millennium, which is related to the rapid expansion of tourism – and more broadly, the commercial functions – in inner city areas that was fuelled by the privatisation process after the political regime change (Tosics, 2005).

Fig. 5. Number of tourist arrivals in commercial accommodation establishments per local resident in Budapest and in its 1st, 5th, 6th and 7th districts.

SOURCE OF DATA: Own work from HUNGARIAN CENTRAL STATISTICAL OFFICE

- 30 It has to be emphasised that the increasing presence of tourists compared to the local population in a short period of time has had an impact on public space use too. To avoid the overuse of the public spaces, it is a crucial dilemma for decision makers to consider which forms of public space use should be favoured. In general, meeting the needs of the local population can generate significant political capital, while meeting the needs of tourism can generate significant additional revenue for municipalities.

Regulation of new vehicles in Budapest: cutting the Gordian knot?

- 31 The rapid increase in the number of Segway tour operators was perceived by the local government of the 5th district through the rising number of complaints made by local

residents. The local government eventually regulated the use of Segways and other new vehicles to deal with the 'chaotic situation' that appeared in public spaces and to 'prevent potential accidents'. Accordingly, from 15th June 2018 'it is forbidden to use any electric or power-driven means of transport, sporting, leisure or tourist vehicles' in public spaces that are owned by the local government and 'that are either footpaths or pedestrian zones' (Figure 6a) (Szentgyörgyvölgyi, 2018). In the 1st district, a similar regulation (Municipal Decree 13/2018. (VI.28.)) came into force on 15th July 2018.

- 32 The wording of these regulations illustrates the earlier mentioned peculiarity of the multi-level governance system of Budapest, namely, that a district government is entitled to issue decrees concerning only its own public spaces. This was especially noticeable in the case of a central square, the Vörösmarty square (Figure 6b). This square is the property of the Municipality of Budapest, but the streets leading to it are the property of the local authority of the 5th district. Accordingly, only the latter were affected by the above-mentioned regulation (Figure 6c).

Fig. 6. Restrictions on new modes of public space use at Vörösmarty square (a: related traffic signs; b: satellite image of the square, source: Google Earth; c: areas affected by municipal decree in force from 15th June 2018 marked with orange colour; d: areas affected by municipal decree in force from 1st February 2019 marked with orange colour, own highlights from Szentgyörgyvölgyi, 2018)

SOURCE : GOOGLE EARTH AND SZENTGYÖRGYVÖLGYI, 2018

- 33 However, on 1st February 2019 the local authority issued a new decree that enabled the fining of new vehicles in the areas owned by the Municipality of Budapest too (Figure 6d). The new decree approached the problem from the criminalisation of a particular behaviour (in this case using Segways and other vehicles, which were mentioned earlier, in footpaths and pedestrian zones in the administrative area of the 5th district), and not directly from the public space use. However, it is noteworthy that the earlier

regulation had already achieved the decision makers' goal in terms of significantly reducing complaints concerning new vehicles and their users according to a municipal report (Molnár, 2019).

- 34 It has to be emphasised that the regulations in the 5th and 1st districts concerned not only Segways, but other new vehicles, such as electric scooters. Thus, it seems surprising that the government of Budapest concluded an agreement with Lime, a well-known actor in the world of scooter-sharing (see the text of the agreement [Infosab.budapest.hu](https://www.infosab.budapest.hu), 2019), on a pilot project that resulted in the launch of the company's service in Budapest in May 2019. Initially there were 200 Lime e-scooters in Budapest and based on the counting of these vehicles in the application, their number increased about two and a half times in approximately one year (Bucsky, 2020).
- 35 The pilot project focused on the area, which is marked by darker green colour in Figure 7. This means that the e-scooters had to be redistributed in this area after their regular recharge. However, e-scooters could be used and parked outside of the green zone either, in the broadly defined inner city of Budapest (marked by grey colour inside the red zone in Figure 7). In the red zone e-scooters could be used but could not be parked. Anyone who parks the e-scooter in this zone will be penalised by the company first and in case of violating the parking rules multiple times the account of the user will be suspended (Lime, 2019).

Fig. 7. Left side: area of the pilot project marked by dark green colour. Right side: grey and red zones in Budapest in Lime application in May 2019

SOURCES: LI.ME AND SZIFON.COM

- 36 The majority of the 1st and 5th districts, where the use of e-scooters had already been restricted before the arrival of Lime, were in the grey zone. However, the whole area of the 5th district soon became a red zone due to the Municipal Decree 13/2019. (VI.26.)

that forbid the let and lending of electric scooters and Segways in public spaces of the 5th district. Despite of this restriction in August 2019 another scooter sharing system, Breezy started its operation in Budapest with approximately 15-20 e-scooters initially (Torontáli, 2019). However, since November 2019 its operation has been suspended temporarily and the only available information on their website is that 'the company is in a major developmental moment' (Breezy, 2019).

- 37 Nevertheless, restarting the business of Breezy is becoming increasingly difficult and primarily not due to the coronavirus-related impacts, which also caused the temporary shutdown of Lime in Budapest, but to the successive restrictions concerning the use of the new vehicles. On 19th November 2019, a Government Decree was issued that prohibited the entry of the new vehicles into the protected waiting area of prominent national memorial sites. In practice, it concerned only the square around the Hungarian Parliament Building but it indicates that the new vehicles induced a kind of regulation on nation-state level. Nevertheless, on nation-state level the amendment of the Highway Code could result in a unified regulation concerning new vehicles. For the time being, it can be stated that the extensive regulation of electric scooters on nation-state level was already in preparation phase on 20th February 2020 (see: Schanda, 2020).
- 38 Although it is not a legal act, according to a statement by the Minister of Interior dated 21st November 2019, 'unless otherwise specified, electric scooters can only be treated as mopeds'. If e-scooters were in fact subject to the rules on mopeds, these vehicles could only be used with a proper driving license, with a safety helmet and they would not be allowed on cycleways or on cycle lanes within built-up areas (see details in Hungarian Highway Code).

Although transport with electric scooters is not directly concerned by the new municipal decrees of the 7th (2/2020. (I.30.)) and the 6th (1/2020. (I.30.)) districts, the let of these vehicles, thus the operation of the scooter sharing systems are. Accordingly, use of public spaces for storage or let devices as commercial activities is linked to the permission of the local governments in these two districts. It must be emphasised that this kind of regulation do not prohibit automatically the operation of e-scooter sharing systems, but it gives a considerable space for the local government in establishing the operating conditions of these businesses.

However, based on the above-mentioned statement of the Minister of Interior it is more likely that the national Highway Code will be amended not in favour of the new vehicles, which will result in the disappearance of the most popular of them, the e-scooters from Budapest. Nevertheless, afterwards, it might be too late to think about the question whether there is any regulation that help exploiting the real benefits of the e-scooters and other new vehicles.

Conclusion, recommendations

- 39 New vehicles presented in this paper sought solution for the problems of the car-based public space use, but they often resulted in conflicts between their users and pedestrians or cyclists. Moreover, new vehicles could intensify the conflicts between the rapidly increasing tourism and the local population as it was illustrated by the case of Segways in Budapest.
- 40 Therefore, restrictions on use of the Segways were introduced in many cities, for example in the 5th and 1st districts of Budapest. However, regulation of the new vehicles

at local level is a real challenge as general transport regulations require higher level competencies and lengthy preparation which can be counter-productive at local level when the overuse of certain public spaces is at stake. Thus, decision makers at local level often address transport-related problems with the regulation of public space use.

- 41 Electric scooter sharing systems spread rapidly in recent years, however their operation raise other questions, in addition to their public space use. For instance, using their e-scooters can only be considered as an environmentally friendly alternative in urban transport if it replaces car journeys. As it is not true in most actual cases, it seems that it would not be a great loss for urban transport if these new vehicles were banned, though the problems of the car-based society would still not be addressed.
- 42 Therefore, it is rather worth considering how it would be possible to replace the maximum number of car journeys with these new vehicles, the technology of which is constantly evolving. I agree with the opinion of the German Environment Agency (UBA, 2019) and the Secretary General of the POLIS Network of European cities and regions for transport innovation, Karen Vancluysen (2019) that it would be advisable to enlarge the cycling infrastructure to the detriment of the car infrastructure especially in those areas that are difficult to be accessed by conventional public transport. This enlarged infrastructure could be used with new vehicles as well, with the same rules as for cyclists.
- 43 There is a great potential in new vehicles in outer districts and in the suburbs in terms of bringing people to public transportation and combined transport mode might be an attractive alternative for more and more car-drivers. Accordingly, operators of scooter sharing systems have to be incentivised to change the territorial focus of their operations. Nevertheless, these new vehicles can only become a real alternative in urban transport if their overall perception is significantly improved. The realisation of such a vision requires the cooperation of several actors.

BIBLIOGRAPHY

6T-BUREAU DE RECHERCHE. (2019), *Usages et usagers des trottinettes électriques en free-floating en France*. – <https://6-t.co/trottinettes-freefloating/>

AMBRUS, I. and OROSZ, N. (2020), 'Száguldó elektromos rollerek és segway-ek nyomában: a 21. századi közlekedési eszközök egyes szabályozási problémái', *Magyar Jog*, 67 (1), pp. 1–12. https://www.researchgate.net/publication/339433042_Szaguldo_elektromos_rollerek_es_segway-ek_nyomaban_-_a_21_szazadi_kozlekedesi_eszkozok_egyes_szabalyozasi_problemai

BAJI, P., BERKI M., IZSÁK É. (2018), 'Transformation processes of the city center of Budapest: from historical development to the new economy', *Espaço e Economia*, 7 (13), <https://doi.org/10.4000/espacoeconomia.5049>

- BLOMLEY, N. (2008), 'Enclosure, common right and the property of the poor', *Social Legal Studies*, 17 (3), pp. 311–331. <https://doi.org/10.1177/0964663908093966>
- BOROS, L., FABULA, SZ., HORVÁTH, D. and KOVÁCS, Z. (2016), 'Urban diversity and the production of public space in Budapest', *Hungarian Geographical Bulletin*, 65 (3), pp. 209–224. <https://doi.org/10.15201/hungeobull.65.3.1>
- BREEZY. (2019), <https://breezy.hu/>
- BUCSKY P. (2020), *Eltűnt a Lime és a Breezy Budapestről és nem biztos, hogy valaha visszatér*, <https://g7.hu/vallalat/20200422/eltunt-a-lime-es-a-breezy-budapestrol-es-nem-biztos-hogy-valaha-visszater/>
- CHOE, H. and YUN, S.-J. (2017), 'Revisiting the concept of common pool resources – Beyond Ostrom', *Development and Society*, 46 (1), pp. 113–129. <https://www.jstor.org/stable/90011214>
- CPSC. (2003), *CPSC, Segway LLC Announce Voluntary Recall to Upgrade Software on Segway™ Human Transporters*, <https://www.cpsc.gov/Recalls/2003/cpsc-segway-llc-announce-voluntary-recall-to-upgrade-software-on-segway-human>
- CUTLACK, G. (2016), *Segways banned from Barcelona's packed tourist runs*, <https://www.gizmodo.co.uk/2016/07/segways-banned-from-barcelonas-packed-tourist-runs/>
- CZIRFUSZ, M., HORVÁTH, V., JELINEK, CS., PÓSFAL, ZS. and SZABÓ, ZS. (2015), 'Gentrification and rescaling urban governance in Budapest-Józsefváros', *Intersections: East European Journal of Society and Politics*, 1 (4), pp. 55–77. <https://doi.org/10.17356/ieejsp.v1i4.104>
- EGYEKI, SZ. (2018), *Ha nem tudjuk kezelni, tiltsuk?*, <https://www.yellowzebratours.com/blog/segway-szabalyozas/>
- ELECTRIC.TRAVEL. (2020) *Ninebot/Segway ES1 and 'ES3' Electric Scooter Review 2019*, <https://electric.travel/electric-scooters/ninebot-segway-es1-review/>
- FEENY, D., BERKES, F., MCCAY, B. J. and ACHESON, J. M. (1990), 'The tragedy of the commons: twenty-two years later', *Human Ecology*, 18 (1), pp. 1–19. <https://www.jstor.org/stable/4602950>
- FOSTER, S. R. (2011), 'Collective action and the urban commons', *Notre Dame Law Review*, 87 (1), pp. 57–133. <https://scholarship.law.nd.edu/ndlr/vol87/iss1/2>
- GÖSSLING, S. (2016), 'Urban transport justice', *Journal of Transport Geography*, 54 (1), pp. 1–9. <https://doi.org/10.1016/j.jtrangeo.2016.05.002>
- GOVERNMENT DECREE 270/2019. (XI.19.), *Magyar Közlöny*, 2019/184. pp. 7626–7627.
- GLAZEBROOK, G. and NEWMAN, P. (2018), 'The city of the future', *Urban Planning*, 3 (2), pp. 1–20. <http://dx.doi.org/10.17645/up.v3i2.1247>
- GYURIS, F. (2014), 'A közjavak térbelisége', *Tér és Társadalom*, 28 (4), pp. 15–39. <https://doi.org/10.17649/TET.28.4.2650>
- GYURIS, F. (2017), 'Urban elites', [in:] CASTREE, N., GOODCHILD, M. F., KOBAYASHI, A., LIU, W. and MARSTON, R. A., (eds.), *International Encyclopedia of Geography: People, the Earth, Environment and Technology*. Chichester–Hoboken: John Wiley and Sons, pp. 7331–7334. <https://doi.org/10.1002/9781118786352.wbieg0862>

- GYURIS, F. (2018), 'Spatial inequalities from an East Central European perspective: Case studies from Hungary', *Espaço e Economia*, 7 (13). <http://journals.openedition.org/espacoeconomia/5186>
- HARVEY, D. (2008), 'The right to the city', *New Left Review*, 49 (53), pp. 23–40. <https://newleftreview.org/issues/II53/articles/david-harvey-the-right-to-the-city>
- HEDRICK-WONG, Y. and CHOONG, D. (2017), *Global Destination Cities Index*, <https://newsroom.mastercard.com/wp-content/uploads/2016/09/FINAL-Global-Destination-Cities-Index-Report.pdf>
- HOLLINGSWORTH, J., COPELAND, B. and JOHNSON, J. X. (2019), 'Are e-scooters polluters? The environmental impacts of shared dockless electric scooters', *Environmental Research Letters*, 14 (8), pp. 1–10. <https://iopscience.iop.org/article/10.1088/1748-9326/ab2da8>
- HUNGARIAN HIGHWAY CODE. (2020), <https://net.jogtar.hu/jogszabaly?docid=97500001>. KPM
- INFOSZAB.BUDAPEST.HU. (2019), *Partnerségi együttműködési megállapodás*, <http://infoszab.budapest.hu:8080/GetTirFile.aspx?id=151998>
- JAIN, A. and MORAGLIO, M. (2014), 'Struggling for the use of urban streets: preliminary (historical) comparison between European and Indian cities', *International Journal of the Commons*, 8 (2), pp. 513–530. <http://doi.org/10.18352/ijc.461>
- JÁMBOR, V. E. and VEDRÉDI, K. (2016), 'On the edge of new public spaces – city-centre renewal and exclusion in Kaposvár, Hungary', *Hungarian Geographical Bulletin*, 65 (3), pp. 225–235. <https://doi.org/10.15201/hungeobull.65.3.2>
- KÁDÁR, B. and GEDE, M. (2013), 'Where do tourists go? Visualizing and analysing spatial distribution of geotagged photography', *Cartographica*, 48 (2), pp. 78–88. <https://doi.org/10.3138/carto.48.2.1839>
- LAERHOVEN, F. and OSTROM, E. (2007), 'Traditions and trends in the study of the commons', *International Journal of the Commons*, 1 (1), pp. 3–28. <http://doi.org/10.18352/ijc.76>
- LEE, S. and WEBSTER, C. (2006), 'Enclosure of the urban commons', *GeoJournal*, 66 (1–2), pp. 27–42. <https://www.jstor.org/stable/41148064>
- LIME. (2019), *Parkolás*, <https://help.li.me/hc/ru/articles/115004745967-Parkol%C3%A1s>
- MACLEOD, G. (2011), 'Urban politics reconsidered: growth machine to post-democratic city?', *Urban Studies*, 48 (12), pp. 2629–2660. <https://doi.org/10.1177/0042098011415715>
- MCFARLAND, M. (2018), *Segway was supposed to change the world. Two decades later, it just might*, <https://edition.cnn.com/2018/10/30/tech/segway-history/index.html>
- MINISTER OF INTERIOR. (2019), *Válasz*, <https://www.parlament.hu/irom41/07930/07930-0001.pdf>
- MOLNÁR, D. (2017), *Mihez kezdjünk a bringauton ténfergő segwayesekkel?*, <https://24.hu/belfold/2017/07/16/mihez-kezdjunk-a-bringauton-tenfergo-segwayesekkel/>
- MOLNÁR, G. (2019), *Beszámoló*, <https://blkf.hu/media/django-summernote/2019-12-02/2a9d2a4a-30e1-4051-8ac0-1b10a3c6cdd0.pdf>
- MUNICIPAL (6th district) DECREE 1/2020. (I.30.)
- MUNICIPAL (7th district) DECREE 2/2020. (I.30.)

MUNICIPAL (5th district) DECREE 3/2019. (II.01.)

MUNICIPAL (5th district) DECREE 13/2019. (VI.26.)

MUNICIPAL (1st district) DECREE 13/2018. (VI.28.)

PIXOVÁ, M. and SLÁDEK, J. (2016), 'Touristification and awakening civil society in post-socialist Prague', [in:] COLOMB, C. and NOVY, J., (eds.) *Protest and resistance in the tourist city*. London: Routledge, pp.73–89. <https://www.taylorfrancis.com/books/e/9781315719306/chapters/10.4324/9781315719306-11>

PRAGUEONSEGWAY. (s.a.), *Segway ban in Prague*, <https://pragueonsegway.com/segway-ban-prague/>

SCHANDA, T. (2020), <https://www.parlament.hu/irom41/09056/09056-0001.pdf>

SEGWAY. (2018), *Segway PT Tours: A comprehensive startup guide*, https://www.segway.com/media/2343/tourstartupguide_final_013118.pdf

SEGWAY HUNGARY. (2017), *Tavaszi használt Segway ajánlat*, https://www.segwayhungary.com/EMEA_HASZNALT_SEGWAY_ERTEKESITESRE_2017_TAVASZ_2017.pdf

SHELLER, M. and URRY, J. (2000), 'The City and the Car', *International Journal of Urban and Regional Research*, 24 (4), pp. 737–757. <https://doi.org/10.1111/1468-2427.00276>

SMITH, P. G. (2004), 'Book Reviews', *The Journal of Product Innovation Management*, 21 (3), pp. 221–224. https://doi.org/10.1111/j.0737-6782.2004.072_1.x

SZENTGYÖRGYVÖLGYI, P. (2018), *Segwayek használati szabályozása*, https://www.belvaros-lipotvaros.hu/index.php?pg=news_2_723

TORONTÁLI, Z. (2019), *Oszták háttérrel elindult a Lime rollerek budapesti kihívója*, <https://g7.hu/tech/20190819/osztrak-hatterrel-elindult-a-lime-rollerek-budapesti-kihivoja/>

TOSICS, I. (2005), 'Post-socialist Budapest', [in:] HAMILTON, F. E. I., ANDREWS, K. D. and PICHLER-MILANOVIĆ, N., (eds.) *Transformation of cities in Central and Eastern Europe towards globalization*. Tokyo: United Nations University, pp. 248–280.

TRIPADVISOR (2019), <https://www.tripadvisor.co.hu/>

UBA. (2019), *E-Scooter momentan kein Beitrag zur Verkehrswende*, <https://www.umweltbundesamt.de/e-scooter-momentan-kein-beitrag-zur-verkehrswende#textpart-1>

VANCLUYSEN, K. (2019), *Macro managing Micro mobility*, <https://www.polisnetwork.eu/wp-content/uploads/2019/11/Polis-Paper-Macromanaging-MicroMobility.pdf>

YAKOWICZ, W. (2018), *This \$118 million electric scooter company created a phenomenon in Los Angeles and now wants to take over the world*, <https://www.inc.com/will-yakowicz/the-bird-electric-scooter-phenomenon.html>

YAKOWICZ, W. (2019), *14 months, 120 cities, \$2 billion: There's never been a company like Bird. Is the world ready?*, <https://www.inc.com/magazine/201902/will-yakowicz/bird-electric-scooter-travis-vanderzanden-2018-company-of-the-year.html>

Database

HUNGARIAN CENTRAL STATISTICAL OFFICE: <http://statinfo.ksh.hu/Statinfo/themeSelector.jsp?&lang=en>

Sources of images

GOOGLE EARTH: <https://earth.google.com/web/@47.49649503,19.05090603,104.37407086a,285.96111847d,35y,1.29291838h,0.77634061t,0r>

LI.ME: <https://www.li.me/second-street/lime-eu-cities4people-first-electric-scooters-budapest>

MSU.EDU: <https://msu.edu/~luckie/segway/i167/i167.html>

NAUTICEXPO.COM: https://www.nauticexpo.com/prod/segway-49274.html#product-item_520119

PURESCOOTERS.COM: <https://www.purescooters.com/products/xiaomi-m365-electric-scooter>

SZIFON.COM: <https://szifon.com/2019/05/28/elektromos-rollerezes-budapesten-lime-es-xiaomi-m365-teszt-velemeney/>

SZENTGYÖRGYVÖLGYI, P. (2018), *Segwayek használati szabályozása*, https://www.belvaros-lipotvaros.hu/index.php?pg=news_2_723

ABSTRACTS

Over the last two decades several new means of transport have appeared in the public spaces of Budapest. This paper focuses on Segways and electric scooters, especially on the ones operated in sharing systems. The use of these vehicles raises a number of seemingly simple questions, that pose major challenges for decision makers around the world, such as where they can be used, whether they should be supported, or whether they should be banned. This paper primarily aims to provide a comprehensive overview for evaluating the situation in Budapest. Based on that, I will also make suggestions concerning the above-mentioned questions. Regulating the use of new vehicles in public spaces is a fundamental issue. Since public spaces can be interpreted as commons, I analysed the theme primarily from a commons research perspective. Budapest has a complex governing system, which affects the regulation of public space use. Thus, it is necessary to investigate the role of different scales in this system. In the analysis I have reviewed a wide range of sources from scientific literature to media news to legislation. It can be stated that the use of new means of transport is becoming increasingly difficult in Budapest due to successive regulations so in the long run these devices are likely to disappear. However, in a well-established regulatory environment, they could play an important and useful role in substituting car journeys in areas that are difficult to be accessed by conventional public transport.

Durante as últimas duas décadas, vários novos meios de transporte surgiram nos espaços públicos de Budapeste. Este artigo concentra-se em Segways e scooters elétricas, especialmente aquelas usadas em sistemas de compartilhamento. A regulamentação do uso de veículos novos em espaços públicos é uma questão fundamental. Uma vez que os espaços públicos podem ser interpretados como bens comuns, analisei a questão sob esta perspectiva. Pode-se dizer que o uso de novos meios de transporte está se tornando cada vez mais difícil em Budapeste devido a regulamentações sucessivas e, assim, provavelmente poderão desaparecer a longo prazo. No entanto, em um ambiente regulatório bem definido, poderiam desempenhar papel importante e útil na substituição de viagens de carro em áreas de difícil acesso pelo transporte público convencional.

Au cours des deux dernières décennies, plusieurs nouveaux moyens de transport sont apparus dans les espaces publics de Budapest. Cet article se concentre sur les Segways et les scooters électriques, en particulier sur ceux utilisés dans des systèmes de partage. La réglementation de l'utilisation des véhicules neufs dans les espaces publics est un enjeu fondamental. Puisque les espaces publics peuvent être interprétés comme des communs, j'ai analysé le thème à partir de

cette perspective. On peut affirmer que l'utilisation de nouveaux moyens de transport devient de plus en plus difficile à Budapest en raison des réglementations successives, de sorte qu'à long terme, ces dispositifs sont susceptibles de disparaître. Cependant, dans un environnement réglementaire bien établi, ils pourraient jouer un rôle important et utile en se substituant aux déplacements en voiture dans des zones difficiles d'accès par les transports publics conventionnels.

Durante las últimas dos décadas, han aparecido varios medios de transporte nuevos en los espacios públicos de Budapest. Este artículo se centra en los Segways y los scooters eléctricos, especialmente los que se utilizan en sistemas de intercambio. La regulación del uso de vehículos nuevos en espacios públicos es un tema fundamental. Dado que los espacios públicos se pueden interpretar como bienes comunes, analicé el tema desde esta perspectiva. Se puede decir que el uso de nuevos medios de transporte se está volviendo cada vez más difícil en Budapest debido a las sucesivas normativas, por lo que a largo plazo es probable que estos dispositivos desaparezcan. Sin embargo, en un entorno regulatorio bien establecido, podrían desempeñar un papel importante y útil en la sustitución de los viajes en automóvil en áreas de difícil acceso mediante el transporte público convencional.

INDEX

Mots-clés: l'espace public, Segways, scooters électriques, Budapest, bien commun urbain.

Palavras-chave: espaço público, Segways, scooters elétricas, Budapest, bens comuns urbanos.

Palabras claves: espacio público, Segways, patinetes eléctricos, Budapest, urban commons.

Keywords: public space, Segway, electric scooter, Budapest, urban commons

AUTHOR

GYÖRGY VARGA

Eötvös Loránd University. H-1117 Budapest, Pázmány Péter sétány 1/C. e-mail: gyorgy.varga.21@gmail.com