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Af

Fig. 1 Parking availability and price can influence parking demand and residential travel habits, Nova Gorica, Slovenia
Sl. 1. Dostupnost parkirnih površina, kao i cijena, mogu imati utjecaj na potražnju parkirnih mjesta i navike stanovnika u prometu, Nova Gorica, Slovenija

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Parking Standards, an Overlooked Tool in Transport Policy

An Overview of Approaches in Slovenian Municipalities

Standardi parkiranja, zanemareni instrument prometne politike

Pregled pristupa u slovenskim općinama

PARKING
PARKING POLICY
PARKING STANDARDS
SPATIAL PLANNING
SUSTAINABLE MOBILITY

PARKIRANJE
POLITIKA PARKIRANJA
STANDARDI PARKIRANJA
PROSTORNO PLANIRANJE
ODRŽIVA MOBILNOST

The paper presents the results of a study on parking standards conducted among the experts involved in developing municipal spatial plans, along with an overview of parking standards in more than 50 municipalities in Slovenia. The study shows that, although parking problems pose a considerable challenge in towns and cities, the experts' awareness of how to use parking standards to meet these challenges, is still not sufficiently developed.

Rad predstavlja rezultate studije o standardima parkiranja provedene između stručnjaka uključenih u razvoj prostornih planova općina te daje pregled standarda parkiranja u više od 50 općina u Sloveniji. Unatoč činjenici da je problem parkirnih površina u gradovima velik izazov na koji treba odgovoriti, ova studija pokazuje da stručnjaci još uvijek nemaju dovoljno razvijenu svijest o načinima rješavanja tih problema.

Introduction

Uvod

Any car trip starts and ends with a need for parking. Therefore, parking areas are a vital element of the motor vehicle traffic network and thus have a strong impact on the entire transportation system. Given the high level of motor vehicle use in cities and the large parking areas required, parking is also a vital element of spatial planning. Convenient parking affects the ease of reaching destinations and therefore overall accessibility.[1] This important impact in both areas makes urban parking planning a key site for integrating spatial and transport planning.

The residents of cities often point to the big problem arising from the rise in traffic of the acute shortage of parking in urban centres.[2] This shortfall is despite parking facilities consuming a substantial share of the available urban environment. Parking facilities are a major cost for society, and conflicts over parking are some of the most common problems facing designers, operators, planners and other officials.[3]

Cities are tackling this challenge in different ways, but the approach taken to parking's called "parking policy". It may be formally codified as an independent document, it may form part of a broader transport policy or might not even be written and only expressed through the approach to parking management. Parking policy defines where, how much and in conditions parking will be made available to residents and other users. Kodransky and Hermann[4] warn that most cities around the world either lack an official parking policy, have a poorly coordinated parking policy or such policy is inadvertently formulated in a way that encourages motor car use. They also note the importance of breaking up individual elements of parking policy among different stakeholders. On-street parking is typically managed and regulated by the municipal administration. The supply of new parking spaces is defined within the spatial planning framework. Supervision is conducted by the city warden service, a service generally found within the municipal administration. In some cases, it is a company to which the municipality grants a concession. Moreover, cities also have a wide range of private parking facilities. Some are for private use and others are available to the public. Their pricing policy is independent of the municipal one. Cities often fail to provide a general overview of the parking situation.

In terms of parking policy, cities are at different stages of development; therefore, Mingardo[5] proposed a three-phase scale of city development. In phase one there are cities that have only started to introduce parking regulations. Typically, parking is still not managed in most areas or only basic management tools are applied like time restrictions in those parts of the city under the greatest parking pressure.

As parking demand grows, cities are forced to develop more effective parking management tools, and move on to the second phase. Mingardo defines this phase as the period in which paid parking has been introduced, initially in the city's problematic parts. However, due to the spilling over of parking similar parking regulation slowly spreads across the entire urban area.

According to Mingardo, the third phase starts when the parking policy becomes an integral part of the Transport Demand Management [TDM] strategy. It is characterised by a proactive approach to parking management, with clear goals usually associated with improving the quality of life in cities, raising awareness about the value of public space, and promoting business. Cities' approaches to parking regulation are the most diverse in this phase

1 Litman, 2016: 2
2 Cats et al., 2016: 55
3 Litman, 2011: 39
4 Kodransky, Hermann, 2011: 10
5 Mingardo, 2015: 271
6 Litman, 2008: 70
7 Ferguson, 2004: 178
8 Shoup, 1999a: 1
9 Shoup, 2005: 6
10 Litman, 2018: 12

and include restricting the supply of new parking by means of maximum parking standards, differentiated parking fees by parking demand, a wide supply of parking areas for various users like short-stay parking, whole-day parking and combined use of available parking areas, etc.

A key element of parking policy is the supply of new parking spaces as stipulated by parking standards. Several terms are also used for 'parking standards', with 'parking norms' and 'parking requirements' also being used in the literature. Yet all these terms have the same meaning; namely, the number of parking spaces that must be provided at a certain location based on the envisaged activities taking place in the area.[6]

The main purpose of parking standards is to ensure the appropriate number of parking spaces to be provided at a specific location. They aim to prevent a new property development programme, i.e. a new office building, from creating parking problems in the surrounding, e.g. in nearby residential, areas. If there are not enough parking spaces, spill over parking occurs in the nearby areas, leading to parking conflicts and greater demand for parking in the wider area of new programmes. Therefore, the first parking standards[7] that were set up and remain in place are the "minimum parking standards".

Yet, for a considerable time the exclusive use of minimum parking standards has attracted serious criticism in the literature. Regarding minimum standards, Shoup[8] contends they are based on two inappropriate assumptions; namely, that parking demand does not depend on parking prices, and that parking supply must not depend on construction costs. When the supply of parking is generous, both assumptions motivate users and investors alike to use cars as much as possible.

In a later article, Shoup[9] also claims that minimum parking standards are underpinned by a key assumption that the supply of parking is free. When applying standards, transport engineers and spatial planners fail to consider parking pricing as a variable in determining the parking supply required. They overlook the fact that the standards were established based on examples of free parking. The starting points from which minimum parking standards were developed are hence problematic.

The outcome of these starting points is an excessive parking supply. Litman[10] warns that this leads to the dispersion of both the population and programmes, reduces walking options, and unrealistically lowers the price of car use. Shoup[11] also associates this with the impacts on car dependency, congestion and suburbanisation as well as distorted land prices combined with ineffective spatial use.

All of this happens subconsciously and in the belief that the planning process is correct and effective. The construction of parking areas is an integral element of a broader property development project and often occurs unnoticed.[12] Despite causing damage like that during the construction of roads, parking is simply ignored. Jane Jacobs[13] called such parking areas "border vacuums" – dead places dividing vital urban areas and destroying the sense of urbaneness. Li and Guo[14] warn that a car-friendly urban environment is often not planned by pro-car planners but driven by technical, seemingly neutral guidelines and planning standards.

Many authors highlight the impact of widely available free parking spaces on motor vehicle use and residents' travel habits. Most of the cars are parked during most of the day and both, car use and car ownership become easier if a car can be parked safely and without cost each time it is not used.[15] Rowe[16] also notes that research that shows that a rise of supply consistently triggers a rise in demand for parking. Using a model to establish effects of access to home and workplace parking to work trips, Christiansen[17] claims that parking accessibility strongly impacts the frequency of car use. The model they developed showed that limiting access to workplace parking was the most effective way of reducing car use for work trips. On the other hand, free and generous parking supply increases it considerably.

A general trend in recent years is the transition from minimum to maximum parking standards or a combination of the two. In a desire to reduce or more effectively manage motor vehicle traffic in cities, municipal authorities often decide to apply maximum parking standards for urban centres[18], newly constructed buildings or renovation projects. This was the case not long ago in São Paulo.[19] In Europe, this approach is used by cities in Belgium, France, Germany, Italy, Switzerland, the Netherlands and Great Britain.[20]

The aim of the paper is to present the results of research of parking standards conducted among the consultants/employees of municipalities involved in developing municipal

11 Shoup, 2005: 23
12 Manville, 2005: 233-234
13 Jacobs, 1961: 257-270
14 Li, Guo, 2014: 3
15 Manville, 2005: 233
16 Rowe, 2013: 26
17 Christiansen et al., 2017: 204-205
18 Milosavljević et al., 2010: 381
19 Guo, Ren, 2012: 1184
20 Kodransky, Hermann, 2011: 22-73

spatial plans, as well as to give an overview of parking standards in 52 municipalities in Slovenia.

In recent years, Slovenian municipalities have been working intensively on the issue of the excessive use/presence of cars in urban centres, often an outcome of the oversupply of free parking. With the development of several Sustainable Urban Mobility Plans [SUMPs], many municipal administrations find that a Municipal Spatial Plan [MSP] plays an important role in developing the transport system. Namely, it defines the key spatial conditions and spatial development requirements for the future growth. An important part of these are parking requirements for new developments, which are, once the MSP is confirmed, obligatory for the whole municipal area, even if further detailed plans are developed for individual sites.

In the research framework, we attempted to identify the level of development in Slovenian towns according Mingardo's three-phase scale[21] as well as to establish the planned and recommended steps for further developing parking policy and management approaches. Based on the findings, our aim was to identify the challenges the municipalities face and the problems with the current approach while making some proposals to avoid such problems in the future.

METHODS

METODE

The research was conducted as part of the project *"Analysis and approaches for redesign of urban parking in relation to transport policy"* financed by the Ministry of the Environment and Spatial Planning of the Republic of Slovenia. The project formed part of activities to support the development of the new Spatial Order of Slovenia.

A combination of two methods was used to analyse the current parking standards in Slovenian municipalities. The authors made structured interviews with representatives of companies who prepared spatial plans and the employees of municipalities who tackle this subject as part of their daily work. In addition, we prepared an overview of parking standards in the current MSPs.

The interviews included a structured conversation about the approach taken to parking standards, relevant challenges and possible changes to the approach. The questions for the planners tried to identify the source of the standards proposed to municipalities, the approaches to adjusting these standards to the specific features of each municipality, any potential changes in the approach over time, and expectations of government support.

The first group of interviewees included consultants that had prepared MSPs in the past few years. The consulting companies were selected from a list of those involved in preparing spatial plans in the 52 municipalities included in further analysis. Many of these municipalities had their spatial plans made by the same few companies. We conducted four interviews with representatives of those companies.

The second group of interviewees included municipal employees in charge of spatial planning from three types of municipalities: urban (also called city) municipalities, small municipalities and municipalities with a pronounced tourist character. We selected two to three municipalities for each of these three types. In urban municipalities with a well-developed municipal administration, interviews were conducted with several employees.

Urban municipalities are large and more complex. The problems they experience are more pronounced since they generally function as gravitational centres of wider functional regions that attract daily commuters from nearby municipalities. Commuters try to find parking in urban municipalities as part of their daily migration. Such municipalities are beset by many parking problems. Apart from those related to residents and their daily activities, there is also demand for work-related parking.

Small municipalities are usually located in the hinterlands of larger ones. They have a smaller population and a smaller municipal administration. The lack of distinctive urban centres and the dispersed population make car use in these areas even more extensive. People rely on their cars even for short trips due to the inadequate walking and cycling infrastructure.

Tourist municipalities are subject to different pressures. Besides everyday problems, they face disproportionate pressure in summer or winter tourist season. The number of cars seeking parking can more than double in peak tourist season.

The second part of the research, i.e. an overview of parking standards, involved 52 municipalities, of which 46 had adopted their existing spatial plans after 2009, and 8 older versions called Spatial Development Conditions, but were in the final stage of renewal. Different types of municipalities were included, namely with respect to size, number of residents, central role, regional position, etc.

The overview included a comparison of the set parking standards, major deviations and any potentially deficient or problematic definitions. We also analysed which elements of the facilities or locations (if any) were considered in the definition of the parking standards.

Results

Rezultati

• **Interviews with consultants involved in developing municipal spatial plans** – Several companies in Slovenia are engaged to prepare MSPs. The consultants working in these companies provide expert support to municipalities and ensure the professional correctness and compliance of documents with applicable legislation. This is particularly important in small municipalities with an understaffed administration where a single employee is responsible for wide range of expert fields and is thus finds it difficult to follow the trends in a specific field.

Parking standards are a relatively small part of the transport planning chapter in MSPs. The planners thus report that their clients (municipalities) do not invest much attention in them while drafting the plan. Most often, the standards already in place are used as a starting point.

The planners identified the document Technical Standards for Designing and Equipping Urban Transport Areas as their basic source.[22] The document was already made in 1991 and in the introduction the authors highlight the fact that Slovenia has not yet conducted comprehensive studies of parking in general and specific needs for parking areas for different programmes and building typologies. Therefore, the authors only state the guiding values sourced from foreign literature, which are applied with an acknowledgement of their origin and lack verification.

As Shoup[23] warns, such standards were most often created after the planners counted the maximum number of cars for specific programmes during peak hours (without considering the parking management elements or prices) and transformed these into parking standards for new similar areas. The areas the experts observed were often suburban and had poorly public transport connections, as corroborated by Litman.[24] Although those values had not yet been tested in local circumstances in Slovenia, the mentioned standards became the basis for parking standards for the next 30 years due to their comprehensiveness and the lack of comparable more recent literature on the subject.

Another important source identified by many planners is the Expert Bases for Stationary Transport in the City of Ljubljana.[25] Based on literature, examples of good practice from abroad and evaluations of some pilot areas, the document proposes amendments and supplements to the parking standards adopted by the City of Ljubljana. Apart from the basic parking standards, it explains additional measures such as the city-wide transport policy, parking zones, mobility plans and cycling parking standards. Most other municipalities are not active with regard to most of these elements, but Ljubljana has already introduced some of them.

Based on these two sources, the concept most frequently used in municipalities is to use simple minimum parking standards related to the surface area of a planned activity or the number of users (residents, employees, visitors, etc.). Particularly in small municipalities, a long list of envisaged activities is considered unnecessary and planners have often tailored the set of standards to the activities that were planned in the relevant municipality. This also applies to individual building typologies. For example, in small municipalities the typology of single family and terraced buildings is typically applied for residential buildings, which is why standards for multi-dwelling buildings are not defined at all.

Based on the planners' statements, the basic standards were not fundamentally adjusted to suit the municipality's characteristics. A similar standard was established for small and large municipalities, for urban and suburban areas and regardless of the new development area size.

In rare cases, the planners reported that some minor corrections of the standard were made based on actual experience with a specific programme. If corrections were made, they failed to conduct tests in different urban situations to determine whether the new standard was more appropriate than the previous one, simply due to a lack of funds and time. Some planners thus confirmed they were unsure whether the definition of specific standards in spatial plans was appropriate and so were waiting for an evaluation to be made during the planning of specific investments.

Nevertheless, the planners reported certain changes in this area. Thanks to activities related to the development of SUMPs in municipalities, awareness about the overlapping of spatial planning and transport planning has grown, along with recognition of the impact a large supply of parking has on residents' travel habits. Therefore, some planners reported a downward trend in the number of required parking spaces, especially in urban centres. The possibility of more flexible standards has been seen, for example, in Nova Gorica where a partial reduction of

21 Mingardo, 2015: 271
22 Kastelic et al., 1991
23 Shoup, 1997: 4
24 Litman, 2016: 11
25 LUZ, 2012

TABLE I MUNICIPALITIES' APPROACH TO DEFINING PARKING STANDARDS
TABL. I. PRISTUP OPĆINA U DEFINIRANJU STANDARDA PARKIRANJA

	Municipality of Žiri	Municipality of Kranjska Gora	Municipality of Zreče	Municipality of Ljutomer	Municipality of Kočevje	Municipality of Piran	City Municipality of Nova Gorica	Ljubljana City Municipality
Number of inhabitants	4,871	5,212	6,402	11,329	15,771	17,643	31,638	289,518
Document that defines the parking standard	MSP, 2011	SDC, 1998	MSP, 2015	/	MSP, 2016	SDC, 1986	MSP, 2012	MSP, 2011
Source	planner	planner	planner	/	planner	planner	planner	Expert Bases for Parking in the City of Ljubljana
Concept	minimum	minimum	minimum	/	minimum	minimum	minimum	3 types of areas: minimum, reduced minimum and without requirements
Cycling parking standard	no	no	no	Cycling guidelines of the Municipality of Ljutomer	no	no	yes	yes

Abbreviations:
MSP – Municipal Spatial Plan
SDC – Spatial Development Conditions

parking requirements has been introduced as an option if an investor provides more bicycle parking areas.

The flexibility of standards was often mentioned as a starting point that should be developed reasonably for the purpose of defining parking demands. The planners often warned that it was difficult to envisage all urban situations and the specifics of locations that might influence parking requirements. Accordingly, in the future, they would like the government to stipulate basic guidelines regarding the definition of parking requirements and the principles to abide by. In their opinion, the wording of the standard should remain as flexible as possible to maximise its applicability.

To conclude, the main messages arising from these interviews are:

– Parking standards are mostly seen as an insignificant part of the chapter on spatial plans.
– Established (but outdated) standards are generally used as a source, without any further considerations.
– No adaptation of the standards to local specifics is made.
– Some changes in this area related to sustainable urban mobility plans have been reported in recent times.

• **Interviews with representatives of municipalities** – In contrast to the consultants who report that parking standards are a small topic in spatial plans, the representatives of the municipalities commented that parking is a pressing issue/challenge in the area of transport. All municipalities report a scarcity of available parking. Approaches to managing this challenge vary from one municipality to another, and only a few are linking these difficulties to parking standards.

The applicable documents that stipulate parking standards also vary considerably. Some municipalities use quite old spatial plans, others update them regularly. Most municipalities have already adopted new plans in the last 10 years, but not all of them contain defined parking standards.

Especially tourist municipalities, where the pressure on available parking spaces is substantially greater during the tourist seasons, see a solution to these problems in the construction of large parking areas (Zreče), parking garages (Kranjska Gora) or even a network of parking garages (Piran). The municipal representatives are aware that it is extremely expensive to construct such parking facilities and that, outside the tourist season, the latter would be underutilised.

In relation to the existing standards in applicable spatial plans, the municipal representatives are mostly satisfied but still report certain challenges. For example, the Municipality of Piranis made up of very different settlements, such as the historic town of Piran, the hotel-oriented Portorož and mostly residential town of Lucija. Since it is problematic to use the same standard in settlements that are so unalike, separate studies for all of the parking areas were commissioned.

If the actual cases in municipalities show that any of the standards is inappropriate, they amend it within the framework of amendments to the MSP. This procedure is complex and time-consuming, explaining why such changes are neither fast nor large.

Most representatives of municipalities assume that in the future parking standards within spatial plans will again be formulated based on the goals set in SUMP. The process of preparing a SUMP motivated most of them to consider a more in-depth treatment of the parking policy that also includes re-examining parking standards (Table I).

Another challenge in the definition of parking standards are the areas with special traffic

Table II A comparison of parking standards in spatial plans, including the source
Tabl. II. Usporedba standarda parkiranja u prostornim planovima uključujući izvor

Type of building (selection for presentation)	Technical Standards for Designing and Equipping Urban Transport Areas (Kastelic et al., 1991)	Number of parking spaces in the existing spatial plans (situation in 2018)
Single family houses	1-1.5 PS per unit	1-2 PS per unit, exceptionally 3 PS
Multi-dwelling houses and other residential buildings	1-1.5 PS per unit	1-2 PS per unit, exceptionally 3 PS
Office and administrative buildings	1 PS per 30-40 m² of net area	1 PS per 20-40 m² of net area or 1 PS per 2-4 employees
Stores and shopping centres	1 PS per 30-40 m² of net shopping area	1 PS per 30-50 m² of net area
Primary schools	1 PS per 30 pupils	1 PS per 30 pupils
Hotels and other short-term accommodation buildings	1 PS per 2-6 beds	1 PS per 2-6 beds

Abbreviation:
PS – Parking space

arrangements that should be established based on the SUMP. Pedestrian zones and other areas with restricted motor vehicle traffic access are often established in town centres where residents, businesses and other activities are closely intertwined. Depending on the regulation, access to these areas may be limited in terms of time or completely limited, which also affects access to parking areas in those areas. The legislation allows parking to be provided in other appropriate areas that at most are 200 m away from the building, although there are considerable problems related to the ownership of areas near existing buildings and residents' unwillingness to give up parking next to their own buildings.

Another challenge noted by the municipal representatives is the comprehensive renovation of characteristic areas in settlements, such as housing estates or complete blocks of streets. Traffic currently operates in many of them, even if the number of parking spaces available for residents and users is substantially below the standard. However, in order to obtain permits for renovation, the managers of such areas must ensure compliance with the standard, which is often impossible in terms of the space available.

The main messages emerging from the interviews with the municipal representatives are:

– Parking is viewed as an important challenge in towns, but parking standards are not generally considered as an important tool for addressing this.
– Parking standards are not part of the spatial plans in all municipalities and most municipalities rely on outdated parking standards.
– Where they exist, parking standards are established for the whole municipality without distinguishing between urban and surrounding parts.
– The approach to tourist areas, pedestrian zones and other more complex urban settings is more challenging.

• **An overview of parking standards in Slovenian municipalities** – A comparison of parking standards in the spatial planning documents of 52 municipalities confirmed the statements made in the interviews. In most municipalities, parking standards are defined very similarly and do not vary from the Technical Standards for Designing and Equipping Urban Transport Areas in terms of figures (Table II).[26]

Some standards see minor adjustments and simplifications between the municipalities, as the experts mentioned. Small municipalities prescribe parking standards in their spatial planning documents for a smaller number of programmes. Yet, due to reduced accessibility by alternative means of transport and greater dependence on car use, they often stipulate higher parking requirements.

Bigger steps in the development of modern parking requirements have been taken by some urban municipalities, particularly the City of Ljubljana. However, the domain of parking policy remains fragmented among different topics and their strategies. Thus, parking standards continue to be a small part of the spatial plan and parking policy, which in the case of Ljubljana is also not officially formulated.

All municipalities included in the study apply the minimum parking standards. In a few cases, it can optionally be reduced (in Ljubljana and Nova Gorica; in preparation in Maribor). In all municipalities except Ljubljana, the same standards apply to the entire municipality, regardless of the urban situation.

Individual differences can be found in the more commonly applied standards, such as parking for residents and other types of accommodation. The national Rules on Mini-

26 Kastelic et al., 1991: VII 8-11

mum Technical Requirements for the Construction of Residential Buildings and Apartments stipulate that at least one parking space must be provided for each apartment on the building site, unless stated otherwise in the applicable spatial planning document. Certain municipalities have substantially increased this requirement, e.g. in Komenda 3 parking spaces per housing unit and in Trzin 1 parking space per 50 m^2 of residential floor area is required. The only two municipalities in our study where it is possible to have fewer parking spaces are the City of Ljubljana (in the framework of parking zones with reduced requirements) and the Municipality of Žalec where a 0.5 parking space is envisaged per housing unit in the old town.

The conclusions of the overview of existing parking standards in municipalities are the following:

– Most existing parking standards in spatial plans are the same or similar as in the outdated technical standards.
– Only minor differences in standards are seen among the municipalities.
– Minimal parking standards are in place in almost all cases.
– Reduced parking demands are only exceptionally possible.

CONCLUSION

ZAKLJUČAK

The results of the study show that, although all stakeholders perceive parking problems to be a major transport challenge, the role and importance of parking standards has not yet been acknowledged when seeking to manage it. In Slovenian municipalities, parking standards are dealt with superficially and without any clear objectives, with only a few exceptions. Apart from Ljubljana, none of the standards in the spatial planning documents accounts for the type of area (urban, suburban, rural) or the accessibility of a location with other means of transport. The objectives stipulated in the SUMP have yet to be incorporated in spatial plans.

According to Mingardo's parking policy development scale, nearly all Slovenian towns and municipalities are in the first development phase. Individual elements indicating a shift to the second phase are being developed in the municipalities of Maribor and Nova Gorica. The City of Ljubljana is firmly in phase two and has already been developing elements of the third one. We can assume that in the years to come many municipalities will have to put more focus on this issue, giving a window of opportunity to evaluate the existing parking standards and establish a new, more flexible and effective system.

It is difficult to predict what the common approach will look like. The municipalities want the government to provide guidelines in this area. Such an approach is also recommended by experts working on the COST project[27] which deals with parking issues. Namely, they encourage the introduction of maximum parking standards but warn that the exact values of standards must not be stipulated by national legislation but provided only as a guideline to enable adjustments to the specific features of a space.

Rowe[28] also pointed out the flexibility of standards, claiming that simple standards where only one figure is defined for a specific use, regardless of the location, are an inappropriate tool to properly define the number of parking spaces required. The research conducted by Christiansen[29] on the urban environment and parking shows that the effects of restricted parking diminish with distance from the urban centre. In other words, restrictions on parking have the strongest effect in densely populated areas, whereas in less densely populated ones they are not as efficient or even necessary.

Still, the issue of parking policy (including parking standards) must be tackled innovatively and comprehensively. Pogačar and Šenk[30] found that, in order to achieve the objectives related to the transformation of space, such as decrease of car domination in public space, towns are increasingly also applying – besides traditional approaches like strategic and implementing spatial plans – modern approaches such as demonstration and pilot projects. These approaches include the more active participation of stakeholders, especially residents, which increases their acceptability and legitimacy.

Developed towns are testing additional elements of parking standard flexibility. In his article, Rye[31] presents the experience of British towns upon introducing mobility plans that enable parking standards to be substantially reduced if the investor ensures the location's good accessibility by other transport means. Shoup[32] provides some examples of cities that allow the investor to pay a one-off fee for each parking space it does not build. With these funds, the city builds and maintains public parking areas and improves other types of access to the locations. It is therefore a matter of urgency for cities to also in-

27 COST, 2005: 11
28 ROWE, 2013: 26
29 CHRISTIANSEN et al., 2017: 204
30 POGAČAR, ŠENK, 2018: 175
31 RYE, 2011: 242
32 SHOUP, 1999b: 2
33 AŽMAN MOMIRSKI, 2018: 165
34 MUKHIJA, SHOUP, 2006: 296

clude as part of the implementation of their urban transport policies, besides a supply of public parking, active participation and negotiation with private stakeholders to act in the public interest on privately owned land.[33]

Mukhija and Shoup[34] recommend five strategies for cities to improve the parking situation and positively affect the quality of the urban environment: limiting the number of new parking spaces and enhancing the arrangement of parking areas as well as improving the quality of the design of on-street parking, parking garages and, finally, private parking areas. The authors warn that emphasis in the planning of parking areas must shift from the quantity to the quality of supply. Funds for improving parking supply quality can in their opinion derive from the reduced number of parking spaces required by parking standards.

To sum up, in future parking policy must become an integral part of spatial and transport planning. Judging from experience, partial consideration of the issue only aggravates parking problems or moves them from one urban area to another. Parking standards are a key tool of parking policy that should be applied in both, spatial and transport planning. To achieve concrete changes in accessibility in towns and to develop sustainable mobility, these two areas must be better integrated.

[Written in English by the authors; proof-read by Murray James Bales]

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FIG. 1 Photo: E-fronta

Summary

Sažetak

Standardi parkiranja, zanemareni instrument prometne politike

Pregled pristupa u slovenskim općinama

Parkiranje je iznimno važan element prometne mreže i ima snažan utjecaj na čitav prometni sustav. Parkirališta predstavljaju za društvo velik trošak i konflikti oko parkiranja među najčešćim su problemima s kojima se suočavaju projektanti, planeri i drugi. Nedostatak parkirnih mjesta najveći je problem prometa, čak i kada parkirališta zauzimaju značajne površine dostupnih gradskih prostora. Taj utjecaj na promet i prostorno planiranje predstavlja glavnu motivaciju za integraciju prostornog i prometnog planiranja.

Gradovi odgovaraju na taj izazov na različite načine kroz politiku parkiranja. Jedan od ključnih elemenata politike parkiranja jest osiguravanje novoizgrađenih parkirnih prostora kako je to predviđeno standardima parkiranja. Glavna svrha standarda parkiranja jest osigurati da se na određenoj lokaciji izgradi odgovarajući broj parkirnih mjesta. Cilj je spriječiti da neka nova nekretnina, npr. nova poslovna zgrada, uzrokuje probleme s parkiranjem u okolici, odnosno u stambenim zonama u blizini. Ako se ne osigura dovoljno parkirnih mjesta, događa se prelijevanje parkirnih mjesta na obližnje površine. Stoga su najčešći i najvažniji minimalni standardi parkiranja.

Ipak, već neko vrijeme korištenje isključivo minimalnih standarda parkiranja podvrgnuto je ozbiljnoj kritici u literaturi. Kritike su utemeljene na dvjema neprikladnim pretpostavkama koje se formiraju pri utvrđivanju minimalnih standarda parkiranja: da cijene parkiranja ne utječu na potražnju parkiranja i da osiguranje parkirališnih mjesta ne smije ovisiti od troškovima njihove izgradnje. Kada ima dovoljno parkirnih mjesta, obje pretpostavke potiču korisnike da koriste automobile u što većoj mjeri. Neki gradovi stoga uvode maksimalne standarde parkiranja u područjima gdje postoje alternativni oblici prijevoza. U posljednje vrijeme slovenski gradovi i općine intenzivno rade na problemu pretjeranog korištenja/prisutnosti automobila u gradskim središtima, što je često posljedica prevelike dostupnosti besplatnog parkiranja. S razvojem nekoliko planova održive urbane mobilnosti [*Sustainable Urban Mobility Plans* – SUMPs] u mnogim se općinama smatra da ti planovi imaju važnu ulogu u razvoju prometnog sustava. Naime, prostorni plan općine utvrđuje ključne prostorne uvjete, ali i uvjete prostornog razvoja, kao što su standardi parkiranja.

Ovaj rad donosi rezultate studije o standardima parkiranja provedene među konzultantima uključenim u razvijanje prostornih planova općina, kao i među predstavnicima općinskih tijela. Rad također donosi pregled standarda parkiranja u više od pedeset općina u Sloveniji. Rezultati pokazuju da standardi parkiranja čine relativno malen i ne odviše značajan dio planiranja prometa u prostornim planovima općina. Konzultanti tako izjavljuju da im njihovi klijenti, tj. oni koji rade u općinama, ne pridaju puno važnosti tijekom izrade planova. Već utvrđene tablice standarda parkiranja tipično se koriste kao početna točka sa samo manjim prilagodbama tijekom razrade plana.

Nasuprot tome, predstavnici općina nalaze da je parkiranje urgentan problem i izazov u području prometa. Sve općine izvještavaju o manjku parkirnih površina. Pristupi tome problemu razlikuju se od općine do općine i samo njih nekoliko povezuje ove teškoće sa standardima parkiranja ili čak upravljanjem parkiranjem.

Usporedba standarda parkiranja u prostornim planovima u pedeset dvije općine potvrdila je tvrdnje stručnjaka uključenih u razvoj tih planova, kao i predstavnika općina. Standardi parkiranja definirani su vrlo slično u većini općina i ne razlikuju se u brojkama od zastarjelog vodiča iz ranih devedesetih godina 20. stoljeća. Zajednički standardi parkiranja utvrđeni su za cijelu općinu bez obzira radi li se o urbanom ili prigradskom području. U općinama nekih gradova poduzeti su koraci prema utvrđivanju modernih uvjeta parkiranja. Planovi upravljanja mobilnošću i fleksibilni standardi parkiranja testiraju se, ali s različitim stupnjem uspješnosti. Dodatni izazovi javljaju se u područjima s većom potražnjom ili smanjenom dostupnošću parkirnih površina, kao što su turistička područja, pješačke zone ili neki drugi složeniji urbani prostori.

Premda svi dionici uočavaju problem parkiranja kao glavni izazov prometa, rezultati istraživanja pokazuju da uloga i važnost standarda parkiranja još uvijek nije prepoznata. U slovenskim se općinama standardi parkiranja uzimaju površno i bez jasnih ciljeva, osim u tek nekoliko iznimaka. Možemo pretpostaviti da će se u budućnosti mnoge općine morati ozbiljnije suočiti s tim problemom i omogućiti valoriziranje postojećih standarda parkiranja te utvrditi nov, fleksibilniji i učinkovitiji sustav. Početni su koraci u tom smjeru već prepoznati kao rezultat aktivnosti povezanih s razvojem planova održive urbane mobilnosti u općinama. Svijest o preklapanju prostornog planiranja prometa povećala se uz prepoznavanje utjecaja koji ima dobra opskrbljenost parkirnim prostorima na navike stanovnika u pogledu prometa.

Da bi se došlo do značajnijih pomaka, politika parkiranja mora postati integralni dio i prostornog i prometnog planiranja u budućnosti. Sudeći prema dosadašnjem iskustvu, djelomično bavljenje tim problemom samo pogoršava problem parkiranja ili ga prebacuje iz jednoga urbanog područja u drugo. Standardi parkiranja mogu biti važan instrument u prostornom i prometnom planiranju. Kako bi se postigle istinske promjene u pogledu dostupnosti parkirnih površina u gradovima i razvila održiva mobilnost, ova će se područja morati blisko povezati.

Biographies

Biografije

Luka Mladenović, PhD, is a researcher in the fields of sustainable mobility and urban planning. He is engaged in ensuring the conditions for urban walking and cycling using different approaches, from strategic planning within sustainable urban mobility plans to promotion.

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Dr.sc. **Luka Mladenović** bavi se istraživanjima u područjima održive mobilnosti i urbanističkog planiranja. Uključen je u projekte osiguravanja uvjeta za pješake i bicikliste u gradovima putem različitih pristupa od strateškog planiranja unutar održive urbane mobilnosti do promocije.

Dr.sc. **Aljaž Plevnik** bavi se istraživanjima u područjima planiranja prometa i prostornog planiranja. Posljednjih godina bavi se primarno integracijom prometa i prostornog planiranja, planiranjem održive urbane mobilnosti i upravljanjem mobilnošću.

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