Parking Standards, an Overlooked Tool in Transport Policy
An Overview of Approaches in Slovenian Municipalities

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Standardi parkiranja, zanemareni instrument prometne politike
Pregled pristupa u slovenskim općinama

Scientific Subject Review

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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
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.
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. Conveni-

ten parking affects the ease of reaching des-

tinations and therefore overall accessibility. This important impact in both areas makes

urban parking planning a key site for inte-

grating 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. This shortfall is despite parking facilities con-

suming 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 prob-

lems facing designers, operators, planners and other officials.

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 manage-

ment. Parking policy defines where, how much and in conditions parking will be made available to residents and other users. Ko-

dransky and Hermann 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 munici-
pal administration. The supply of new parking spaces is defined within the spatial planning framework. Supervision is conduct-
ed 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 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 man-

agement tools are applied like time restric-
tions 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 promot-
ing 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 standards7 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, Shoup8 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, Shoup9 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. Litman10 warns that this leads to the dispersion of both the population and programmes, reduces walking options, and unrealistically lowers the price of car use. Shoup11 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 Jacobs13 called such parking areas “border vacuums” – dead places dividing vital urban areas and destroying the sense of urbaneness. Li and Guo14 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 Rowe16 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, Christiansen17 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 centres18, 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
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 to Mangardo’s three-phase scale 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. 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 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. 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. 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 LUŽ, 2012
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 Piran is 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 unlike, 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...
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-

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

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

Abbreviation:

PS – Parking space
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 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 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 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. Pogacar and Šenk 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 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 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-

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27 COST, 2005: 11
28 ROWE, 2013: 26
29 CHRISTIANSEN et al., 2017: 204
30 POGACAR, ŠENK, 2018: 175
31 RYE, 2011: 242
32 SHOUP, 1999b: 2
33 AZMAN MOMIRSKI, 2018: 165
34 MUKHIA, 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 Shoup34 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]
21. ROWE, D. (2013), Do land use, transit, and walk access affect residential parking demand, "Ite Journal", 83 (2)
26. SHOUP, D.C. (2005), The high cost of free parking, American Planning Association, Chicago
STANDARDI PARKIRANJA, ZANEMARENII INSTRUMENT PROMETNE POLITIKE

PREGLED PRISTUPA U SLOVENSKIM OPĆINAMA


Promjeri saponih i otvorenih prostora uvijek su osnovni a izazovi jer su snažni i očekuju se da će se u budućnosti o�e u mnogočini. Ovo se odnosi na ugrađeni konflikti poslije prometa, čak i kada parkirališta zauzimaju značajne površine. Prikazano je da se problem parkiranja snažno ugrožava u područjima gdje postoje nova nekretnine, npr. nova poslovna zgrada, kod kojih se pretpostavlja da će se problemi s parkiranjem učvrstiti.

U posljednje vrijeme složeniće prometa postaje veća snažna i snažna za parkirališta u područjima gdje postoje nova nekretnine. Prikazano je da se problem parkiranja snažno ugrožava u područjima gdje postoje nova nekretnine, npr. nova poslovna zgrada, kod kojih se pretpostavlja da će se problemi s parkiranjem učvrstiti.

Dr.sc. Luka Mladenović, PhD, 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 urbanne mobilnosti do promocije. Dr.sc. Aljaž Plevnik, PhD, bavi se istraživanjima u područjima planiranja prometa i prostornog planiranja. Prednosti programa bavi se primarno integracijom prometa i prostornog planiranja, planiranjem održive urbanne mobilnosti i upravljanjem mobilnosti.

Biographies

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. Aljaž Plevnik, PhD, is a researcher in the fields of transport planning and spatial planning. In recent years, he has mainly been involved in the integration of transport and spatial planning, sustainable urban mobility planning and mobility management.