Planning Guidelines for Parklets Installation: A Possibile Integration into Urban Planning Strategies

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Abstract. In the context of street experiments (SE)—urban interventions that have gained prominence in the new millennium, particularly in the last decade, aiming to create more livable cities by prioritizing vulnerable road users such as pedestrians and cyclists, this study focuses specifically on parklets. Parklets are included within the SE category of "re-purposing parking spaces" and are designed to enhance social interaction, walkability, and the overall quality of life, as widely documented in the literature. This research aims to develop planning guidelines for parklet implementation based on a physical analysis that considers key location criteria derived from existing literature and best practices worldwide. Additionally, the study integrates insights from semi-structured interviews conducted in Parma, Italy, with stakeholders involved in recent parklet initiatives. The purpose of these guidelines is to provide public administrations a comprehensive framework for facilitating the approval process of such interventions, ultimately supporting the integration of tactical urbanism into long-term urban planning strategies. While public authorities currently play a crucial role in approving parklet projects, the approval process remains complex. Although these guidelines are initially designed for medium-sized cities, their neighborhood-based approach allows for potential adaptation to larger urban contexts in the future.

Keywords: Street experiments · Parklets · Sustainable mobility · Planning strategies · Public space

1 Introduction

Recently, the focus on transforming urban mobility has grown exponentially, aiming to reduce the dominance of cars and promote safer and more liveable public spaces. The traditional paradigm, which prioritizes parking near facilities and access to cities, even near historic centres, is being challenged by global initiatives (see, among others, [1]) that emphasize social interaction, the environment, road safety, and the demand for public spaces.

Within this evolving context, Tactical Urbanism (TU) has emerged as a strategic approach to reimagining urban environments. As highlighted in the literature [2–5], one

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of the most prominent expressions of TU is the concept of street experiments: temporary, low-cost interventions aimed at testing new configurations of public space. Among these, parklets have gained particular attention. They can be described as a type of intervention that falls within the category of street experiments, whose primary purpose is to transform streets, which mainly serve vehicular traffic, into spaces that prioritize active movement and social interaction [6–9]. Parklets convert parking spaces into public areas dedicated to social interaction and active mobility. The concept originated in 2005 in San Francisco during the "Park(ing) Day" event, which temporarily converted a parking space into a public area for two hours. Since then, the idea has spread rapidly, especially from 2020 to present time, in response to the Covid-19 pandemic, which highlighted the need for outdoor spaces for safe social gatherings.

Street experiments, including parklets, offer the possibility to test creative in-field solutions, involving citizens in assessing the effectiveness of such interventions. Regarding mobility, this approach opens a window of opportunity to reduce the number of cars through urban policy changes and the creation of safe and attractive spaces to promote active mobility [10].

This shift has been accelerated by three key global challenges: climate change, rapid population growth, and the Covid-19 pandemic. Mobility infrastructures, such as roads and sidewalks, have undergone a crisis. This context of instability represents an opportunity for cities to rethink their infrastructure systems and urban spaces through a sustainability lens, avoiding further impermeabilization.

However, to transform these temporary interventions into permanent solutions, it is essential to integrate them within the urban mobility plans.

This research focuses on parklets and aims to answer the following research question: how can parklets become a systemic and permanent tool for sustainable urban transformation?

This paper is based on the study presented in the paper by Pellicelli et al. [11], which defined a cognitive framework to specify criteria for identifying priority intervention areas through a protocol applied to the Oltretorrente neighborhood in Parma (Italy). The current research revisits the case study of the same neighborhood and aims to define planning guidelines for installing parklets within neighborhoods. This approach will make it easier for associations, citizens, and potentially the administration to choose the location of the intervention.

Furthermore, the methodology incorporate a qualitative approach, specifically semi-structured interviews conducted with key stakeholders involved in two significant interventions carried out in the neighborhood.

The paper is structured as follows: Sect. 2 identifies, through an initial literature review, the main drivers and barriers influencing the implementation of these interventions. Section 3 outlines the methodology of this study. Section 4 describes planning guidelines for parklets. These guidelines serve as a tool to facilitate collaboration between public authorities and stakeholders, providing the relevant actors with useful resources for the effective location and management of interventions. Section 5 presents the application of the previously discussed findings to a specific neighborhood in the city of Parma. Finally, Sect. 6 summarizes key conclusions and opens up new research questions for future investigations.

2 Drivers and Barriers in Literature

Numerous authors have addressed the drivers and barriers related to parklets. What facilitates the installation of these interventions, and what limits their implementation? An additional question concerns social interaction, specifically the positive and negative perceptions generated by certain interventions.

In their research Steven & Dovey [9], identify five key values: resilience (in terms of space adaptation, such as creating green spaces, bike-friendly, pedestrian-friendly, and safe environments, as well as sustainability), support for local businesses, innovation (the flexibility of parklets to attract new activities), community engagement (the participation of stakeholders), and place identity, strengthened by an attractive intervention that fits within the context. The authors emphasize how these characteristics align with the framework identified by Lynch in 1981 [12].

VanHoose [13] highlights internal enablers within the experiments themselves, such as the involvement of stakeholders in the design and implementation process, which can help reduce resistance from opponents. Additionally, promoting the experiment tends to reduce resistance and prevent conflicts [13, 14].

Finally, embedding experiments in long-term policies is an enabler for street experiments, along with institutional support. Indeed, in the cases analyzed by Glaser and Krizek [15], the cities that aligned street experiments with existing policy goals were able to increase their feasibility. In the case of the Living Streets of Ghent, where the municipality was the initiator and implementer of the experiment, the financial, material and human resources that accompanied their top-down role were crucial to legitimize the experiment [16].

Malamut [17] focuses primarily on streateries and their distinction from outdoor dining, emphasizing the importance of open spaces and their expansion. The primary barrier to outdoor dining arises from the privatization of sidewalk or street spaces, which are public and designated for public use. This barrier, along with gentrification, is also highlighted in other academic analyses [18–21].

VanHoose [13], through a literature review, identifies four barriers that are internal to the experiments themselves: a lack of required resources (the most cited) [14, 15, 23–27], unsuitable design [28–30], a lack of a clear vision [13, 25, 26, 31], and low frequency, because one-time events fail to generate transformative processes that influence other contexts and practices [32].

As a barrier, Van Hoose [13] identifies opposition from stakeholders (related to a preference for private mobility from car owners). Additionally, business owners are often afraid of losing business if car traffic is removed from their street.

Institutional regulations and processes are also seen as barriers. This issue reflects the incompatibility between 'innovative, human-centered approaches' and existing road regulations, because internal municipal procedures obstruct implementation even when the municipality acts as a project partner.

A separate discussion concerns the positive and negative perceptions from the community and users of these interventions. Negative aspects of parklets are often attributed to their physical properties and use. The most frequently cited negative impact is the presence of "antisocial behavior." Business owners report that parklets are used as toilets and

sleeping areas, are subject to graffiti, and become unusable in winter, thus representing an inefficient use of street space [33].

Among the risks highlighted by Davidson [34] are that projects reflect one social group's idea rather than being built by the whole community, that "testing first and asking questions later" is harmful, and that there is a deviant quality to these activities.

To explore this, a SWOT analysis has been developed based on existing literature and divided by authors. It is summarized below (Table 1).

Strengths include internal initiatives through which the installation could be a success (e.g., inclusion of stakeholders). Weaknesses, on the other hand, include internal elements that hinder the success of the intervention (e.g., institutional regulations and processes). Opportunities consist of the external elements that contribute to the installation of the intervention (e.g. to discourage crime and undesiderable behaviors). Threats refer to areas that could potentially create problems and are external agents (e.g., antisocial behaviours).

Table 1. SWOT analysis regarding drivers and barriers of parklet realisation process according to the literature.

Analysis	Elements	References
S	They are functional	[17]
	They are crucial sites of democratic assembly	[17]
	They include stakeholders in the decision-making process	From [13]: [14, 25, 29, 35]
	They promote and advertise the experiment	From [13]: [14, 23, 25, 36]
	Calls attention a critical need in the city	[34]
	Highlights problems and test solutions to gain the attention of city and civic leadership	[34]
	Low-cost intervention	
	Temporariness	
	Opportunity to test pilot project	[34]
	Innovative	[34]
W	Privatization of sidewalk space (streateries) and streets	[17]; From [33]: [18–21]
	Business conditions	[37]
	Lack of required resources	From [13]: [14, 15, 22–27]
	Unsuitable design	From [13]: [28–30]
	Lack of clear vision	From [13]: [25, 26, 31]
	Institutional regulations and processes times of approval	From [13]: [14, 16, 22, 24]
	Deviant quality	[34]
	Dangerous in testing first and asking questions later	[34]
O	They allow socialization and facilitate contact with diverse people	[17, 30]
	Reduction of parking	[30]

(*continued*)

Table 1. (*continued*)

Analysis	Elements	References
	Resilience of street space • green spaces • Safety • physical activity • support for commercial activities etc • innovation • knowing people and creating community • strengthen place identity	[33]
	Disincentive crime and undesirable behaviours	[30]
T	Opposition from stakeholders	From [13]: [14, 16, 22, 24, 25]
	Innovative (The idea is not common to all citizens)	[34]
	Unequal voice in public policy	[34]
	Antisocial behaviour (e.g., used as a dormitory)	[33]
	Unuse during the winter months	[33]
	Low frequency	From [13]: [22]
	Opposition from business owners as they are often afraid of losing business if car traffic is removed from their street	From [13]: [14, 16, 22, 24, 25]

3 Methodology

The methodology adopted for this study consists of three main points, which concur to determine planning guidelines for the installation of parklets in an urban neighbourhood context.

The flow is composed as follows:

– Identification of the planning guidelines, to be applied to a case study to verify their effectiveness and their easiness of replicability. Their structure reflects the selected case study, the *Oltretorrente* district in the city of Parma, Italy.
– Interviews with stakeholders who have actually carried out some interventions. The people to be interviewed have made interventions in the same city as the case study, to uniform the whole methodology.

The definition of the planning guidelines has been developed according to six sub-categories. Each answers a specific question, and together they form a practical tool for the implementation of parklets in urban neighbourhoods. Specifically:

- What: What is the object of the research?
- Who: Who are the commissioners and what needs do they have?
- When: When is the installation of a parklet appropriate?
- Where: Where is it most suitable location?
- Why: Why is it necessary? What needs can it meet?
- How: What is the approval process?

Starting with the guidelines, the methodology also includes a qualitative component based on semi-structured interviews. After an initial quantitative analysis, in which the characteristics of the streets in a neighborhood were categorized to assess the suitability

of certain areas for hosting interventions [11], the research also includes a qualitative evaluation through dialogue with stakeholders.

The semi-structured interviews proved to be a valuable tool for gathering information about the interventions by speaking with the creators of the parklets. This type of interview allowed for asking specific questions while giving the interviewee the freedom to answer openly.

This phase, directly related to the case study, aimed to verify and evaluate the implementation of parklets completed in 2024. The questions aimed to understand how the interventions were implemented, what constraints and difficulties were encountered, and how the neighborhood residents experienced the project.

Specifically, the questions addressed:

- how the process of creating the parklets took place, including fundraising, design, and location selection;
- the role of various stakeholders, including the position of the administration;
- what obstacles and drivers were encountered;
- what compensations were adopted to address traffic modification or what could be adopted;
- what feedback was received;
- what alternative processes or improvements could be made in the future.

4 Parklets Planning Guidelines

4.1 What

Parklets are defined as temporary interventions that consist of replacing car parking spaces in public spaces.

They are part of the group of street experiments called "repurposing parking space," along with pop-up plazas and pop-up parks.

They consist of a platform, usually made of wood, that hosts benches or tables. Their purpose is to generate public space for sociality and reduce space for vehicular mobility.

Parklets can be also divided into public and private, depending on location. Public ones include bicycle parklets, social parklets, and pocket parks. Private (or semi-private) are the streateries (Table 2).

Table 2. Identified typologies of parklets.

Location	Typologies
Public	Bicycle parklets Social parklets Pocket parks
Private or semi-private	Streateries

4.2 Who

Interventions such as parklets can help improve sociality. But how to meet everyone's needs?

The question "who?" is answered on the one hand by those who start these initiatives, i.e., the promoters, and on the other hand by those who experience and use public spaces.

Among the commissioners can be identify numerous promoters. Being bottom-up interventions, can be identify merchants, local associations, educational institutions, or the administration. They may have different needs that lead them to request the creation of parklets in the neighbourhood.

Users include students, citizens, pedestrians, cyclists etc.

In Table 3 a division of possible promoters and their needs can be seen.

Table 3. List of possible promoters and their needs.

Promoters	Needs
Commercial traders	-Attracting people to enter the store -Promote consumer comfort (such as nearby parking)
Associations	-Promote students' safety when arriving and leaving school -Promote sociability -Increase school spaces as a place for meeting and outdoor activities
Educational institutions	-Improve the quality of life for one or more categories of people in the neighborhood -Finding community spaces
Administration	-Sharing the visions of various stakeholders -Integrating citizens' requests with existing urban plans

4.3 Where

The urban-scale location protocol has been refined by adding potentially interesting elements involving pedestrian routes and surrounding activities.

The neighborhood-scale protocol can be summarised as follows in Fig. 1. For further explanations concerning the localization protocol, see [11].

4.4 When

The intervention of a parklet is appropriate when certain urban needs emerge, for which the reappropriation of the street by the community is seen as a way to succeed in reviving the city.

Three characterizing aspects are highlighted that consider the context from the urban scale to the local scale, and reflect the location protocol.

- Qualitative aspect: it concerns road characteristics, in particular factors such as the absence of seating, poor road safety, high accident rate and traffic congestion.

Main characteristic

Functional variables

Soft mobility variables

Typologies	Elements	Domain
	Presence of roadside parkings	
Qualitative	Classification of streets	E; E/F; F
	Speed limit	30 zones
	Restricted traffic zones	ZTL
Attractive poles	Cultural buildings/elements	
Land mix use	Temporary activities	Market; Temporary initiatives
	Education	Secondary schools; University poles
	Entertainment	Cultural and social centre; Library; Place of worship; Sport facility; Square; Park
	Commerce	Catering activities
Public spaces	Green areas	
	Mobility services	LPT stops; Sharing stations
Geometric	Foothpaths width	"<90" ; "90<x<150" + bottlenecks # null AND "90<x<150" + bottlenecks # absent
Qualitative	Cycle lanes	
	Shading	
	Lighting	
	Urban seating	
	Bike racks	

Fig. 1. Synthesis of the localization protocol at the neighborhood scale.

- Urban aspect: concerns urban features such as the presence of schools, catering activities and commerce facilities.
- Local aspect: it's about the context management, meaning what occurs around the street for the project to work. This is the most difficult as it refers to balancing actions to prevent all the traffic and negative externalities from spilling into adjacent streets.

4.5 Why

Why is it worthwhile to implement parklets within our cities? To meet certain urban needs. Urban needs, as defined by Gehl [38], are to create vibrant, safe, sustainable and healthy cities.

Specifically:

- Vibrant cities: Spaces for people, Short distances, Attractive facilities
- Safe cities: Road safety for pedestrians and cyclists, Increased slow mobility, More space for pedestrians, Road safety for vulnerable users
- Sustainable cities: Less emissions, More greenery
- Healthy cities: Improvement and expansion of pedestrian pathways, Less traffic

Figure 2 presents the diagram showing which types of parklets can meet one or more urban needs, through a Sankey diagram.

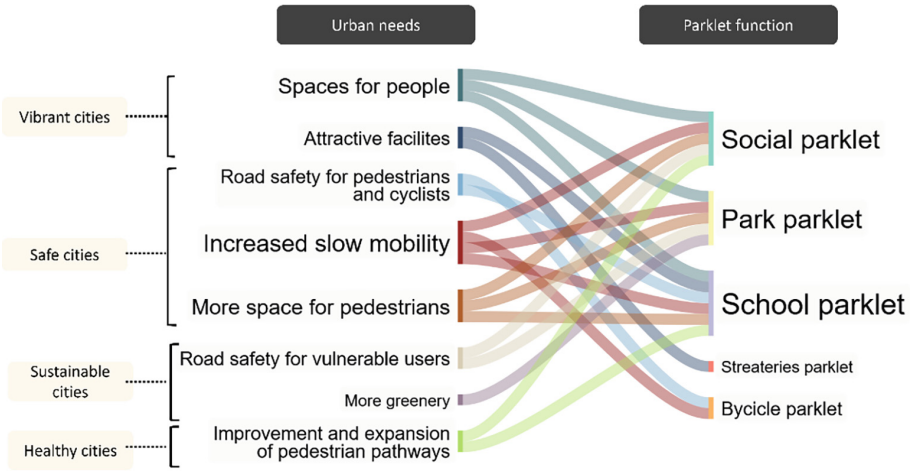

Fig. 2. Urban needs that parklet can address, divided into categories.

4.6 How

The 'How' question aims at identifying the existing approval process for the implementation of parklets.

This paragraph is closely related to the chosen case study, as it was possible to identify the process through interviews with stakeholders.

Thus, eight steps could be identified (Table 4):

1. The idea, which comes from local groups;
2. The request to the administration, which is the turning point, without which the project cannot be allowed to continue;

3-4. If the administration's decision is positive, the design, often commissioned to a professional, begins. In the meantime;

5. Stakeholder recruitment undertakes, along with promoting the project for sources of funds;
6. Often, in fact, funds come not only from stakeholders who are interested but must be sought externally as well;
7. Finally, the actual construction takes place;
8. The project is temporary in nature. However stakeholders and the citizens can apply to the administration to extend the period granted or make the project permanent.

5 Results

In this section, the methodology previously described has been applied to the case study in the city of Parma (Italy). The results achieved regarding the application of the guidelines and the interviews with the promoters of the interventions are reported below. This makes it possible to have an overall picture of the situation regarding parklets that will allow these interventions to be implemented and improved in the future with a perspective of integration with urban plans.

Table 4. Approval process for the installation of a parklet.

Steps	Authors	Description
Initiative	Developer	The initiative comes from the community (associations, citizens, school groups)
Request to the administration	Developer	The administration is approached for permission to carry out the intervention. In particular: mobility/environment, public works, urban green councillorships, and urban police
Approval	Administration	The administration sets the time for occupation of the area. Being included as a partner, the citizens' association does not have to pay for the occupation of public area
Design	Professional	An appointed professional designs the perakelt form an architectural point of view
Stakelholder recuitment	Developer	Awareness-raising campaign on the topic is carried out to find potential partners
Funding search	Developer + stakeholder	Some of the material is given by associations, and the funds to buy the other are raised through donations. One technique used is the online crowdfuning
Building	Community	Once all the material has been collected, the construction and occupation of the site is carried out privately
Durability extension	Developer	The developer group collects petition signatures to ask the administration to turn the intervention permanent

5.1 Case Study in Parma

The case study considered, and on which the analyses described earlier are carried out, is the *Oltretorrente* neighbourhood in Parma (Fig. 3). The neighbourhood delineates the western part of the city's historic centre and is considered as the object of analysis due to its history of street experiments, especially those related to the school environment. Furthermore, in 2023, the neighbourhood has been chosen for the installation of a parklet along Viale Maria Luigia, the street which accommodates most of the area's

high schools. The parklet initiative is temporary and stems from a bottom-up approach started by a group of teachers and students from one of the schools situated along the street. Thus, given the complexity and diversity of the neighbourhood, it is interesting to study which types of parklets could be located there and where.

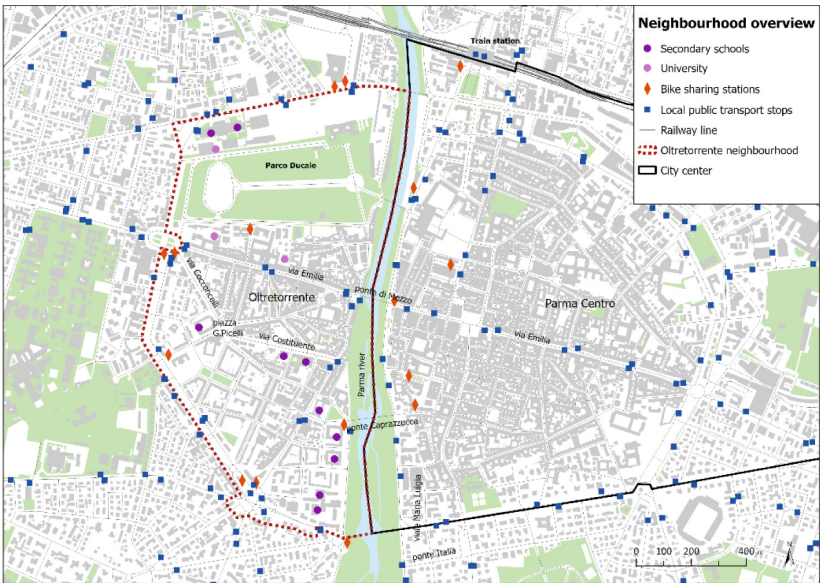

Fig. 3. Overview of Oltretorrente neighbourhood with the main mobility services. Source: authors' elaboration.

Following the adjustment of the localization protocol, the possible localization related to social parklets, the most general category, is shown below in Fig. 4.

The suitability of streets in which it is more or less appropriate to install social parklets (in the figure, from green to red) has been given by the combination of a series of factors such as the presence of pavements, the presence of valuable buildings, urban greenery etc. For all specifications, please refer to [11].

5.2 Interviews Results

This sub-section presents the findings from the semi-structured interviews conducted in January 2025. As interviewees, people who directly contributed to the building of the parklets within the neighbourhood has been chosen, in order to get a precise overview of the process. They are the professor of the high school group who planned the project, and the professional collaborator (Table 5).

The implementation process was particularly long, but the most difficult aspect was the fundraising. In fact, the project was advertised only when the administration's final approval arrived, and raising the funds and materials was particularly challenging. In addition, the private contribution that the creators put in, both in terms of materials and funds, was crucial.

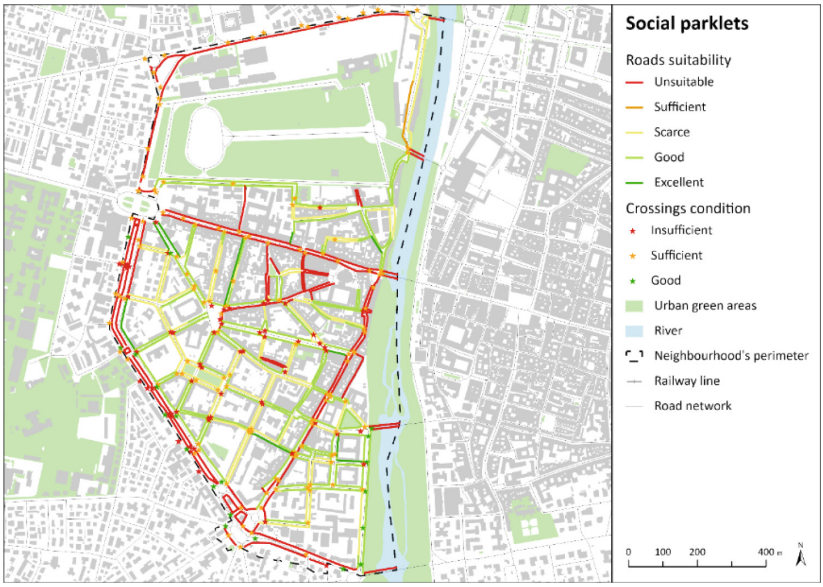

Fig. 4. Level of suitability of roads for the installation of social parklets. Source: readaptation from [11].

Table 5. People interviewed.

Interviewee	Occupation
Eng. Francesco Fulvi, PhD	Freelance professional *Manifattura Urbana* association member
Prof. Niccolò Vernazza	Professor at G. Ulivi scientific high school

1. Parklets experience and process steps:

   The parklets experience in Viale Maria Luigia began in 2022, thanks to the collaboration between Professor Vernazza of the *Change group* of the Ulivi High School (an extracurricular group dealing with topics such as the environment and sustainable mobility) and the students of the Romagnosi High School in Parma. The goal was to create temporary public spaces to reduce the presence of cars and change the mentality of citizens.

   The process saw several steps.

   Concept and authorization: The Change group proposed the idea, and approached the municipality, facing the opinion of several offices (urban regeneration department, mobility department, environment department and the technical department), finally getting the approval for a three-month project. The municipality acting as a partner granted two parking spaces, without the need to pay for the occupation of public land. The project originated as a two-month temporary intervention. After a petition, the municipality agreed to make it permanent.

Social involvement and funds: stakeholders were approached by the professor of the high school group, with a request for their support. Some companies in Parma provided some materials (the rest was raised privately by the developers), but not financial support. The necessary money was raised through a fundraiser on Change.org, which started the promotion of the project on a larger scale.

The project from the architectural point of view was assigned to the professional, supported by students from another high school in the city.

The second parklet built, for which funds won by the proposing high school were available instead, involved the collaboration of more schools, and a more complex and studied architectural configuration. The biggest obstacle was having to apply to the administration for permission by going through the departments of mobility and environment, public works and green analysis. Parking lots have been granted but the parklet is still temporary.

Management and Maintenance: remains a major challenge since vandalism occurred in the first parklet, and in the second, graffiti appeared all along the side of the parklet. Maintenance and cleaning are completely under the responsibility of the proponent. The main barrier to implementation is the municipal authorization, which remains the first obstacle to overcome.

2. Objectives:

   Improving air quality: greener areas, and dedicated to active mobility, would benefit air health, as demonstrated recently in Paris.

   Social integration: Involvement of students from different schools.

3. Possible compensations:

   In the case of Parma, no alternative measures have been considered to reduce the traffic that is inevitably created in the surrounding area. Among the measures proposed by the parties involved is to improve the public transportation system, and to encourage people to leave their cars outside the ring road boundary. This solution turns out to be particularly difficult as it requires considerable effort and funds.

4. Feedback:

   No monitoring of use or satisfaction questionnaires have been conducted, but it is noted that people use it, not only students but also citizens.

   Therefore, interviewees would like to see such interventions spread to other parts of the city as well, both because they are a virtuous example of participation and because they increase public space. Furthermore, public investment would be very limited for this type of intervention.

   They stress the importance of adapting the parklet to the context in which it operates, from a functional, aesthetic and material point of view.

5. Future perspectives:

   Permanent School Street: Create a “children’s street” with green spaces and benches along the entire length.

   Interventions: continue with temporary structures with the prospect of municipal interventions for permanent upgrades.

Ultimately, the parklet project represents an innovative model for transforming urban spaces and promoting sustainable mobility through active participation. The main focus is on persuasive strategies for their dissemination. How to convince people and the administration? For example, by appealing to the healthiness of the air and the related health problems it affects. Finally, interventions must be thought of as a system that shifts public mindset regarding mobility and school travel, otherwise they alone fail to be sufficient to address the problems.

6 Discussion and Conclusions

In order to achieve the goal of improving urban public space, a systemic change in mobility is needed. In this sense, street experiments can be an enabler. Their goal is to give the street back to citizens by promoting active mobility.

Davidson [34] highlights in his research the rewards of tactical urbanism as a tool for change:

- Highlights problems and test solutions to gain the attention of city and civic leadership.
- Opportunity to test pilot project
- As a source of innovation
- Calls attention to a critical need in the city

The present research enriches the source work of Pellicelli [11], attempting to answer the questions left behind.

Firstly, the protocol is enriched through interviews with authors and stakeholders, by including the need to engage the local population in constructive dialogue, and considers punctual elements in the district.

Secondly, the protocol does not take into account only cultural buildings, but also other public buildings that could serve as significant focal points for promoting sociability, such as schools or neighbourhood primary services, which contributes to the protocol's refinement.

Thirdly, some of the data reported in the literature, including the identification of the neighborhood's most frequently visited areas and the monitoring of traffic flows, useful for conducting pre and post-installation analyses of the parklet to assess its impact, have been addressed, only in the area of Viale Maria Luigia, through cycle-pedestrian and vehicular traffic surveys.

Furthermore, the calculation of the parking spaces lost due to the installation of parklets has been carried out. This would be necessary at the time of implementation to determine how many spaces need to be replaced and where. Considering social parklets (the broader category) and the areas where they are classified as 'good' and 'excellent,' the total number of parking spaces in those streets is more than 300. Relocating them is unrealistic—but is it necessary if the ultimate goal is to promote slow mobility instead of vehicular traffic?

The real solution lies in enhancing and expanding the city's infrastructure and public transport connections (such as sharing services, buses, etc.), ensuring that cars are left

outside the ring roads. This aligns with the efforts made by local administrations in recent years through initiatives like “ecological days”.

One of the main limitations of the current methodology is that, while it identifies suitable areas for intervention, it does not account for specific constraints that may affect certain streets. A clear example is Via Kennedy, south of Parco Ducale, which is deemed suitable for social parklets. However, both sidewalks are enclosed by fences (one belonging to the park and the other to the university) limiting accessibility despite the presence of relevant buildings and services. A study focused on isochrones and spatial permeability could address this issue, revealing how barriers impact accessibility.

Additionally, many key features require on-site data collection, as they are not available through institutional portals or public geodatabases. Continuous data gathering and updating are crucial to maintaining the validity and reliability of this methodology, an essential practice for all research involving on-site analysis.

Regarding future developments, it would have been highly valuable to include citizens in the interviews to understand street experiments from their perspective. A possible recommendation in the guidelines could be to introduce a future survey for users and neighborhood residents, fostering interaction between the administration and stakeholders/citizens.

Future developments will also focus on simplifying the approval process, addressing the commonly cited issue of administrative delays. This aspect, particularly the request for permanence, should ideally be easy in the future through a potential modification of the process, combined with the localization protocol, to support administrations in managing these interventions more efficiently.

Ultimately, the research should aim to answer the following questions:

- How to integrate these guidelines within existing urban plans, to turn these interventions into planned and permanent practices in our cities?
- Can these interventions contribute to climate change adaptation, such as through de-sealing operations?

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