

## **Turning Urban Streets from Infrastructures into Living Places Early Research Outcomes of a Case Study in Prato, Tuscany**

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### **Abstract**

In the second half of the twentieth century urban landscapes were affected by heavy infrastructural development. With regard to streets, managing the growing fluidity and speed of motor vehicle flows has been a priority for most designers. Nowadays there are multiple driving forces behind a transition that could accommodate different uses within the streets, primarily the cultural, social and economic exchanges that streets facilitated in the past but that have been lost over time. In the spreading practice called “shared street” most signage and traffic lights can be removed to permit the self-regulated and spontaneous circulation of all users and vehicles. This paradigm is discussed with regard to its potential to strengthen urban landscape identity, ensuring accessibility, redefining uses and practices within the street, reducing injuries and misbehaviour, and offering real and perceived safety to all users. “Back to the street” is an ongoing design research project dealing with integration strategies for different kinds of urban streetscapes. Which design features are necessary to encourage a change in attitude, speed and hierarchy for street users? How can these features positively affect urban landscapes in general and the liveability of streets first and foremost? The research attempts to answer these questions by considering street design as a means of triggering the effective enhancement of urban public spaces. The paper is based on the case study of Via San Paolo in Prato (Tuscany) and presents a set of quality requirements for street design such as plant integration, water drainage, and comfortable paths for both cyclists and pedestrians. As the design for separate flows cannot fulfill all the quality features in Via San Paolo, mostly due to its varying width, it is assumed that the “shared street” can replace it in order to enhance community life within the streets while promoting local sustainable mobility. The research examines two options: sharing the street in narrow stretches or along its whole length. A preliminary comparison is proposed to discuss the earlier research outcomes.

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### **Keywords**

*Landscape design; Urban streets; Shared streets; Accessibility; Liveability*

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### **1. Introduction**

The widespread distribution of cars as a predominant means of private transportation since the 1950s has resulted in significant transformations of landscapes, and mostly of cities. These changes primarily concerned the streets, as places of vehicle transit, but they have consequently affected several aspects of urban life. The available modes of transport have changed our habits, with commercial, work and leisure activities being relocated to outside the settlements (Bohigas, 2007; Capuano, 2020).

As Sylvia Crowe (1960) foresaw, the need for faster transit has radically changed how people use streets, resulting in the loss of many opportunities for social, cultural and economic exchange, and in the contradiction of the primary function of cities as places in which to live. While cities' dynamics have been analyzed in-depth by architects, urbanists, economists and sociologists, some authors have started to focus their interest on streets as crucial elements of collective urban identity. Despite many differences in terms of perspectives and key issues, a debate started in the 1960s on the relational, multiscalar and multifunctional role of public spaces, and particularly of streets. While Lynch (1960) underlined the importance of the legibility and identity of space, relating to memory and orientation through streetscapes, Cullen (1961) and Alexander (1977) read the streets as coherent sequences of frames. At the same time, Appleyard and Lintell (1972) analyzed the consequences of increased traffic on outdoor activities and Gehl (1971) started his still ongoing studies on the social dimension of urban streets, focusing on uses in relation to their morphological, material and functional qualities. A new way of interpreting urban streets gradually emerged, looking at people's emotional and sensory experiences. Urban landscapes are designed in search of a new spontaneous and awakening social process, where streets take on a metaphoric and cognitive meaning (Rykwert, 1982).

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Nowadays, after around seventy years of cars moving through cities, problems concerning conflicts, injuries, pollution and the identity of places have considerably increased, depleting the liveability of urban open spaces, peoples' health and social equity (Gehl, 2010; Shannon and Smets, 2010; Nijhuis and Jauslin, 2015; Furtlehner and Licka, 2019). Growing traffic flows and the suggestion of speed as a major means of freedom have reshaped our proximity (Smets, 2007) and detached our bodies from the ground (Pavia, 2020). With the increase in the width and number of lanes and the spread of parking areas becoming new parameters for city transformation, the liveable space within the streets has been significantly reduced. The expansion and densification of cities' infrastructures and the combustion of fossil fuels are also causing a severe decline in the quality of air, water and soil, affecting the ecological functioning of natural systems and, indirectly, humans' quality of life (Rosenzweig et al., 2018; EEA, 2019).

Awareness of the need for a change in attitude is widely shared among the scientific community and public authorities. Most cities around the world are moving towards a new understanding of urban mobility systems. Contemporary visions are emerging where pedestrians and cyclists have priority over motor vehicles and public open spaces are designed to host a wide range of activities and convey a sense of place and wellbeing (Alberti, 2015; Furtlehner and Licka, 2019; Sala I Marti et al., 2020; Bellmunt, 2021). Sustainable mobility is being included in city planning theory and practice as a multilayered strategy for citizens' health: it reduces air pollution, enhances people's lifestyles, promotes physical activity, and helps social interactions and small economies. Walking is an inherent activity through which humans have engaged in learning and discovery since their early appearance in the world. It is also a medium

for connecting with things and people. Furthermore, cycling enables freedom of movement and an impromptu use of space that no other means of transport can offer, except one's feet.

In Italy, the average speed of vehicles in urban streets equals that of bicycles, exceeding pedestrians by only 2 km/h during traffic congestion hours (Fiorillo et al., 2018), making cycling the most efficient means of transport in the urban realm. However, the pedestrian and cycle mobility plan deals more with research on the identity of places than with the infrastructural arrangement for slow transit flows (Furtlehner and Licka, 2019). Sustainable mobility can become a playful practice. In this active experience the physical space can symbolize and strengthen our awareness and joy of belonging to the urban community (Panzini, 2020).

Since Buchanan's main work "Traffic in Towns" (MoT, 1963) highlighted the need to tackle the problem of cars in cities, many contributions have addressed this issue both in scientific discourse and in professional practice. The design of sustainable mobility has become relevant, attempting to figure out which quality features are needed to encourage walking and cycling and enhance the identity of places within cities. Reducing the danger represented by vehicles has also become a key issue. Different approaches have emerged to accommodate, by means of design, all the functions streets are required to have in this perspective. The term "woonerfs", first coined by Niek de Boer in 1965, refers to residential areas where vehicles conform to pedestrian and cyclist rules; "complete streets" emphasize the need for a comprehensive design for users of all abilities and with all kinds of transport. In Mark Francis' theory (2016), "democratic streets" deal much more with the concept of collective use and social equity, and "shared streets", as promoted by Hans Monderman, concern the removal of signage for the self-regulated sharing of space among all users and vehicles.

The ongoing research process "Back to the Street" concerns the contemporary need to turn urban streets from infrastructures into living places. In this paper we aim to investigate the opportunities provided by "shared street" design to enhance community life within the streets while promoting local sustainable mobility. The paper is based on the case study of Via San Paolo in Prato (Tuscany) and presents a set of quality requirements for street design such as plant integration, rainwater drainage, and comfortable paths for both cyclists and pedestrians. The research examines two options: sharing the street in narrow stretches or along its whole length.

The paper is organized as follows:

- the introduction above (paragraph 1) frames the cultural and historical context of the work, explaining the reason for the research;
- a discussion on methods and materials (paragraph 2) details the landscape architecture research as carried out in this project;
- an insight into the "shared street" approach is provided to enable us to better understand its implications in landscape design (paragraph 3);
- a depiction of the context where this work is being carried out follows (paragraph 4) to develop specific opportunities and critical issues that lead to the research hypothesis;
- a preliminary comparison is proposed to discuss the earlier research outcomes (paragraph 5);
- a conclusion is provided to initiate a discussion that could lead to deeper knowledge of the key issue (paragraph 6).

## 2. Methods and materials

This research provides a preliminary discussion on "shared street" design through a "projective design" research method (Deming and Swaffield, 2011). The work uses a "research by design" approach (Deming and Swaffield, 2011; Nijhuis and Bobbink, 2012, Jong and Van Der Voordt, 2002).

The research was conducted in partnership with the Mobility and Infrastructure Office of the Municipality of Prato, which asked for quality to be integrated into the streets in the San Paolo district. In order to address the provisions of the main urban plans we referred to the Structural Plan, the Operative Plan and the Sustainable Mobility Plan. Since

it was not possible to carry out an instrumental survey, we had to represent our topographic database at a 1:2000 scale, as resulting from a vectorial plan provided by the Municipality based on regional photogrammetric data. Aerial photo interpretation has been used for the number of trees and their position and dimension.

The study of plans and databases was followed by a series of surveys in the area to observe and note its distinctive features. This led to the choice of Via San Paolo as the place in which to test the design process. Indeed, this street suits our work on the “shared street” layout more than others as it has some specific characteristics:

- average vehicular flows, with moderate speed and number of cars passing by on a daily basis;
- mixed zone with a combination of commercial, residential and public functions;
- lack of community use and prevalent transit function;
- cyclist and pedestrian discomfort;
- provision of the enhancement of sustainable mobility and emissions reduction.

Two samples were investigated by design according to two functional layouts: sharing the street in narrow stretches or along its whole length. The samples were selected as representative of the street’s diversity and its general features. The process resulted in four outputs to be compared as a support to develop critical thinking.

Among the several approaches that can be taken to conduct the study, three main filters through which the street design has been interpreted are worth mentioning:

- the European Landscape Convention (Council of Europe, 2000), which underlines the need to take care of everyday-ordinary landscapes: streets belong to this category;
- the climate crisis, which highlights the damage caused by cities’ dissipative systems: it calls for a review of urban mobility among other sustainable approaches (Rosenzweig et al., 2018; EEA, 2019);
- the social depletion, which can be faced through more inclusive and integrated design: it allows to enhance a sense of belonging to the urban community (Gehl, 2010; Nogué, 2010; Panzini, 2020).

### **3. Sharing spaces to discover places**

The current interest in sustainable mobility leads to the enhancement of urban lifestyles by bringing the bicycle back into play as an alternative means of daily transportation. The resulting urban transformation process aims to generate new relationships between all street users for both physical and cultural change in the urban realm.

Specifically, the “shared streets” layout is meant to highlight the ‘place’ function rather than the ‘transit’ function of streets, with the aim of hosting the wide variety of activities and feelings that the public realm can offer to citizens, creating a social environment where they can linger and not only pass through (Hamilton-Baillie, 2008). This design configuration requires an innovative approach in which almost all signage is removed, including traffic lights. The reduction in information and rules should generate, for those who appreciate such a design solution, a spontaneous and safer sharing of places, thus resulting in better enjoyment of public space for all users, but most of all for pedestrians and cyclists.

Therefore, shared streets are completely different in design from those that provide a fast and direct connection for vehicles (such as highways): they have a continuous surface with no separate sidewalks, no change in ground level, fewer demarcations, and less specific features within the space. These qualities distinguish streets built for cars from streets built for people where everyone should feel part of a community in everyday life. Such non-regulated places require constant negotiation between different needs, based on cultural signals and informal social protocols (Hamilton-Baillie, 2008).

The uncertainty deriving from this design approach offers a higher degree of freedom to move through the space and enables multiple uses of the whole width of the streets, including both permanent functions and unexpected activities. This also reinforces eye contact and concern for the surrounding context which is capable of reducing conflicts between users (Ruiz Apilánez et al., 2017). Although in some solutions there is scientific evidence of a decrease in

injuries, some authors (Methorst et al., 2007; Moody and Melia, 2011; Imrie, 2012) argue that this is due to the lower presence of pedestrians and cyclists. In fact, they assume, they would feel unsafe and uncomfortable in such a configuration and choose some alternative way.

But it is also worth mentioning the lack of efficient ordinary street signage. The European Road Safety Observatory recorded 25,000 road deaths and almost one million injuries in 2016 in Europe, 20% of which were at road intersections (ERSO, 2018) where traffic lights are meant to prevent them and signals are present and visible. In fact, it seems that the higher sense of safety perceived in a place with a large number of rules can result in lower attention to the context as well as in misbehavior.

However other critical issues concerning shared streets emerge, for example some authors have emphasised the difficulty blind and visually impaired people have in moving through such spaces, and also those with other mental or physical disabilities (Imrie, 2012; Steyvers et al., 2015). While drivers can easily reduce their speed, it might be hard for disabled people to feel safe negotiating the space as they are aware of their lower levels of stimulation.

Nevertheless, perception is a major issue for such a hypothesis to evaluate safety, aesthetics satisfaction and use dynamics. As reported by Ruiz Apilánez et al. (2017) in a recent study on “Exhibition Road” in London, many factors influence people's behavior and appreciation of shared streets. For example, 70% of users who received the questionnaire viewed the new aesthetics of the road as positive in comparison to its previous appearance, and all of them understood the priority given to pedestrians and cyclists. The test showed a consensus on the comfort provided through a place's legibility and order, but this did not apply to its safety perception. In fact most people primarily used the “safe zones” on the street side to feel protected although they could occupy its full width. So, as other authors report (Hammond and Musselwhite, 2013), the street sides are often crowded but the center of the road is occupied in unexpected ways, mostly by people crossing. Furthermore, what emerged from this study is an adaptation issue, since frequent users had a more positive attitude than other passers-by.

So, it seems clear that speed reduction is not sufficient to guarantee a safe and comfortable shared use of the streets, since continuous surfaces result in erratic movements that can confuse and disorientate users. This is why street design requires a multidisciplinary approach and to overcome the idea that it is only a matter of transport engineering (Karndacharuk et al., 2014). Landscape architecture plays an important role in defining the identity and legibility of spaces to tackle the ongoing discourse on these critical issues, reaffirm the multifunctional role of the streets and awaken a new sense of place and community.

Landscape architecture helps to create new use opportunities to drive the transition towards this new mobility paradigm through the design of pavings, the implementation of vegetal systems, and the inclusion of new signs and symbols which can convey proper management of streetscapes without imposing restrictions and rules. A landscape approach also provides tools for interpreting site conditions and qualities to offer a proper conversion of places and match both the social and environmental needs.

A depiction of the context where this work is being carried out follows to examine specific opportunities and critical issues that led to the research hypothesis.

#### **4. The case study of Via San Paolo in Prato and the “Back to the street” hypothesis**

The “San Paolo” district in Prato is located to the west of the old town, within the “Macrolotto Zero” area. The district has some distinctive characteristics, such as a mixed zone where residential, productive, commercial and service functions coexist in a peculiar urban form. Here a series of wide square blocks is placed along streets that connect the old town with the rural areas beyond the western boundaries of the city. The growth of such a compact urban structure in decades has resulted in soil consumption, significant changes to the historical rural structure, and altered the ecological functioning. Nevertheless, some natural residuum that has not been touched by urbanization still remains in this area, sometimes as parks or gardens, sometimes as rural or semi-abandoned fields.

In its urban planning provisions, the Municipality of Prato states the need for a cross-scale approach to the urban and agricultural landscape as a whole, primarily based on new relationships between buildings, services and open spaces, stronger ecological connections and the enhancement of sustainable mobility. Like other districts located around the

city center and mostly constructed in the 1960s and 1970s, San Paolo plays a strategic role in these visions due to its relevance in terms of location, population density, economic exchange and public services.

Therefore, the San Paolo district reflects many significant transition objectives for this strategy for a future city. In the Structural Plan (Municipality of Prato, 2019) the area plays a role of connection between different urban parts of the city center and the countryside to the west, from the highly served and densely populated northern districts to the southern industrial settlements. The coexistence of different functions, buildings and open spaces here enables a more structural and pervasive transformation of the public realm. Furthermore, the Urban Plan (Municipality of Prato, 2018a) identifies a network of both existing and planned public services and an asset of disused or degraded industrial buildings to be renewed as collective hubs. Moreover, the Urban Forestry Plan envisages San Paolo as the widest rural park which should cross the west side of the city with an east-west orientation. The Sustainable Mobility Plan (Municipality of Prato, 2018b) identifies the whole San Paolo district as a low emissions zone and defines some “zone 30” areas and many cycling lanes to redefine the whole mobility system within the district and in connection with the rest of the city. Since sustainable mobility is conceived as a pervasive and integrated urban system, it may become a trigger for the regeneration of open spaces.

These prospects as a whole combined with the analysis of the landscape qualities and surveys provided insight into Via San Paolo, which has several significant features that can be built upon to develop new visions for the San Paolo district:

- it runs east-west connecting the city center to the ring-road and beyond, over the hospital area, crossing the whole district;
- it intersects some important streets for urban mobility, so it could integrate a system of existing or planned cycling paths;
- it hosts some community services, such as schools, churches, gardens, and cultural and commercial activities of urban relevance;
- it has a number of buildings that are about to be completely or partially demolished to create new urban gathering places;
- it has a direct connection with the future San Paolo Park to the south and marks the edge of the dense settlement to the north.

The surveys carried out to understand dynamics and practices within Via San Paolo show it to be an ordinary landscape that can be easily found in suburban areas. Here a variety of building types and functions merge with the morphological diversity of open spaces generated by the layering of interventions.

Both the street and most of the San Paolo district often flood due to the lack of vegetation and permeable soil. Moreover, the street cannot provide shape nor shelter for a more comfortable collective space in terms of temperature and sense of place due to the lack of vegetation. The few existing vegetal formations are in poor condition or spontaneous, often invading the street corridor because of a lack of maintenance (fig. 1). In addition, vehicles have priority over people who are often forced to move in unsafe ways, and bicycles must travel in the vehicle lanes as there are no cycle paths (fig. 2a; 2b). Furthermore, sidewalks are often non-existent or narrow even for one person (fig. 3a; 3b). However, vehicle mobility is also not fluid or uniform, with frequent changes in the direction of travel and number of lanes. Even parking lots are not well managed, with cars parking on the sidewalks and in many other unregulated places, which results not only in a disturbing and chaotic landscape but also a lack of functionality for pedestrians first and foremost (fig. 4a; 4b). So, it seems necessary to turn Via San Paolo from an infrastructure into a living place, affirming people's priority over vehicles and guiding the design process towards a paradigm of economic, social and environmental sustainability.

A set of quality features, as listed below, is assumed to encourage a change in attitude, speed, and hierarchy for street users, positively affecting urban landscapes in general and the liveability of the street primarily:



- first, sustainable mobility has to be a priority, creating space for pedestrians and cyclists so they can move around not only with a right of way but also in a comfortable and inviting place;
- second, vegetation should be integrated into the design as much as possible to deliver shade, mitigate the temperature, enhance pleasure, improve soil quality and quantity, and increase biodiversity;
- third, a water-sensitive design that channels the infiltration and management of rainwater should be an integral part of the street's conception as the expression of a wider and interconnected system;
- fourth, the street should enable a variety of different uses besides urban mobility, such as resting or sitting, assembling or watching others passing by.

A “shared street” hypothesis was developed since the design of separate flows cannot fulfill all quality features in Via San Paolo, mostly due to its varying width often resulting in narrow stretches. The hypothesis assumed that the “shared street” could enhance community life within the street while promoting local sustainable mobility. The research examines two options: sharing the street in the narrow stretches or along its whole length. A preliminary comparison is proposed to discuss the earlier outcomes of research by design.



Figure 1. Spontaneous vegetation overruns the street corridor.



Figure 2 (a) - Figure 2 (b). Lack of safety for cyclists riding along the vehicle lane in a de facto shared street.



Figure 3 (a) - Figure 3 (b). Lack of safety for pedestrians walking along the vehicle lane in a de facto shared street.



Figure 4 (a) - Figure 4 (b). Unregulated parking along Via San Paolo.

## 5. Ongoing activities and early outcomes of research by design

By comparing the options, we aim to evaluate the findings and initiate a discussion on the opportunities and challenges of a shared Via San Paolo. As shown in fig. 5, the resulting schemes of the whole street have one main difference. While the first option results in considerable fragmentation where the ordinary and shared street layouts alternate in stretches from fifteen to seventy meters in length, the second option uses a more homogeneous spatial language. Option 1 produces frequent changes in height between paved surfaces and the landscape scenery where users are left to alter their behavior and thus probably require more visible signs to warn of the changing rules.



Figure 5. A diagram of the two options of the street partial or total sharing.

A closer look at these layout options is proposed in two consecutive stretches (fig. 6a, 6b, fig. 7a, 7b), including the most common features along Via San Paolo in terms of width, spatial configurations and functions. Their varying widths of 10 to 16 meters fall within the average of the whole street and are the prevailing condition. They both have a rugged surface generated by a combination of private and production buildings with their related open spaces and gardens. These different spatial configurations result in a lack of structural legibility of the streetscape which has to be challenged by landscape design. This is why a paving pattern consisting of a uniform sequence of double-colored bands is preliminarily proposed for both solutions to enhance the perception of a wide and continuous open space. This solution has two additional purposes. Firstly, it aims to enhance the transversal visibility and use of the road,



balancing the dominant axial perception. Secondly, this spatial feature functions as signage to reduce the speed of vehicles. All buildings are 2 or 3 floors high and host production or residential functions, and most have small front gardens, recurring features in Via San Paolo.

As both solutions for these stretches can be considered valid transformation layouts for Via San Paolo, some preliminary discussions can be pursued to foster the ongoing research activities.

Stretch 1 in option 1 (fig. 6a) features a corridor where flows can be separated with a 4.5 meter one direction vehicle lane flanked by comfortable 4-5 meter cycle and walking paths where trees and benches can also be integrated to match all quality features. Nevertheless, this solution cannot be adopted in all stretches so it would produce a discontinuous layout where a just 30 meter car lane is cut on both the east and west sides by a shared street layout. Furthermore, the existing parking lots are removed to obtain more space for all separate uses. While active mobility benefits from a continuous and wide surface area, cars must travel down a lane with often changing surface levels. This means that vehicles could not reach higher speeds in option 1 than in option 2.

Stretch 1 in option 2 (fig. 6b) shows a layout where the ordinary street has been replaced by a shared street for its full length. Here a surface varying from 5 to 10 meters in width can be used by all users and a “safe zone” is maintained on one side where people walking or cycling can feel more comfortable without negotiating their space with vehicles. Less space is needed for shared flows, allowing for the design of 12 parking lots which are in demand among residents. Bigger trees than in option 1 can be integrated, providing shade, micro-climatic comfort, water infiltration, and beauty.

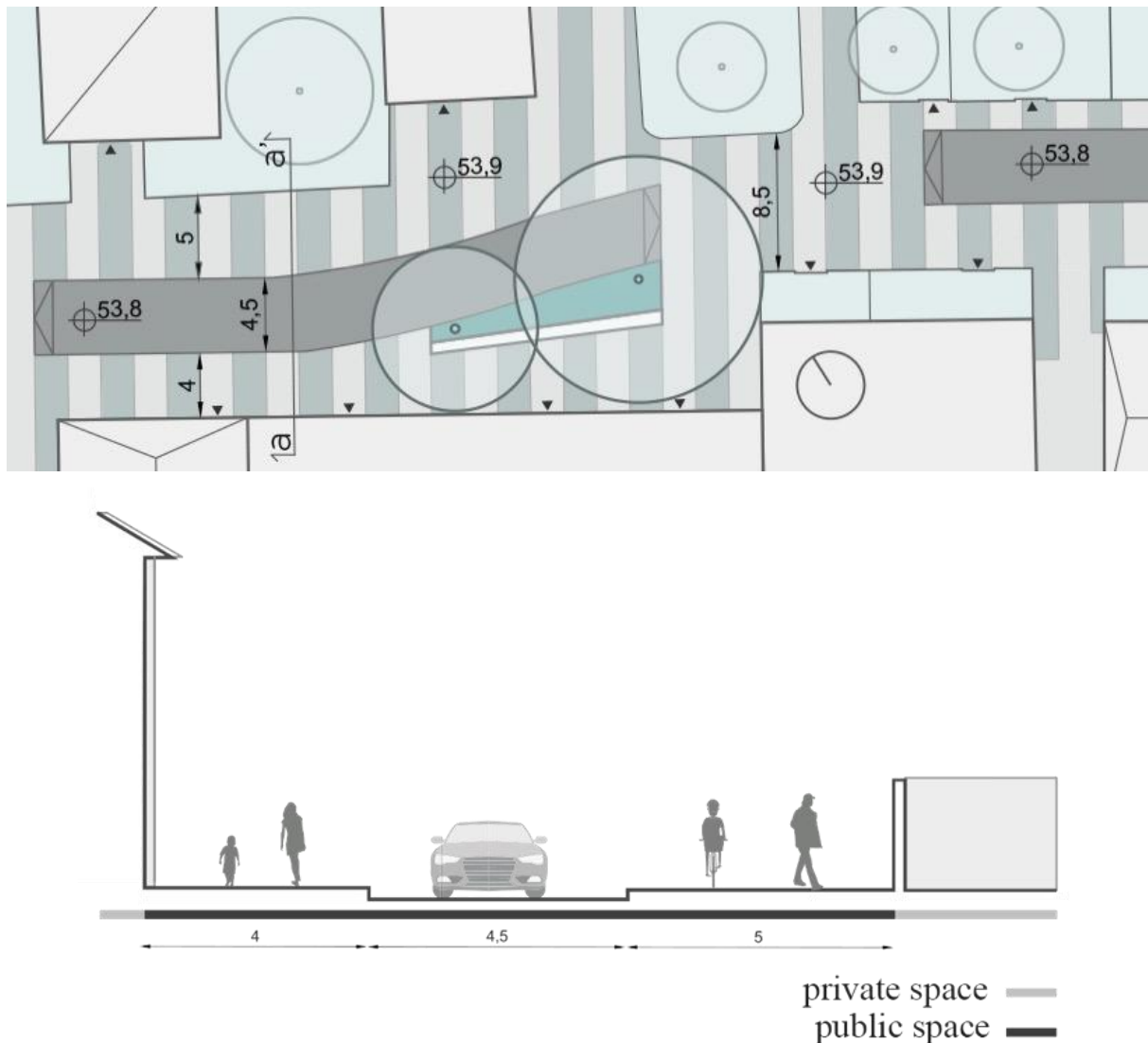


Figure 6 (a). Stretch 1, option 1: partial sharing; plan and section (a-a') show a lack in vegetation and use possibilities.

Stretch 2 in option 1 (fig. 7a) shows a 10 meter wide corridor arranged for separate flows where a 4.5 meter vehicle lane runs in the center with a 1.8 meter sidewalk to the north and a more comfortable 4 meter cycle and walking path to the south. Therefore, sustainable mobility finds its own space within the street, giving cyclists and pedestrians a right of way. However, as the corridor is not wide enough to plant vegetation, there is no permeable soil to drain rainwater, and no shelter or shade are provided for users, thus compromising the flexible and varied use of the space. This transformation is suitable for the proper transit of all users but does not fulfill all the main qualitative criteria taken into account. The corridor is not wide enough for parking lots, so some are reclaimed in the adjacent street.

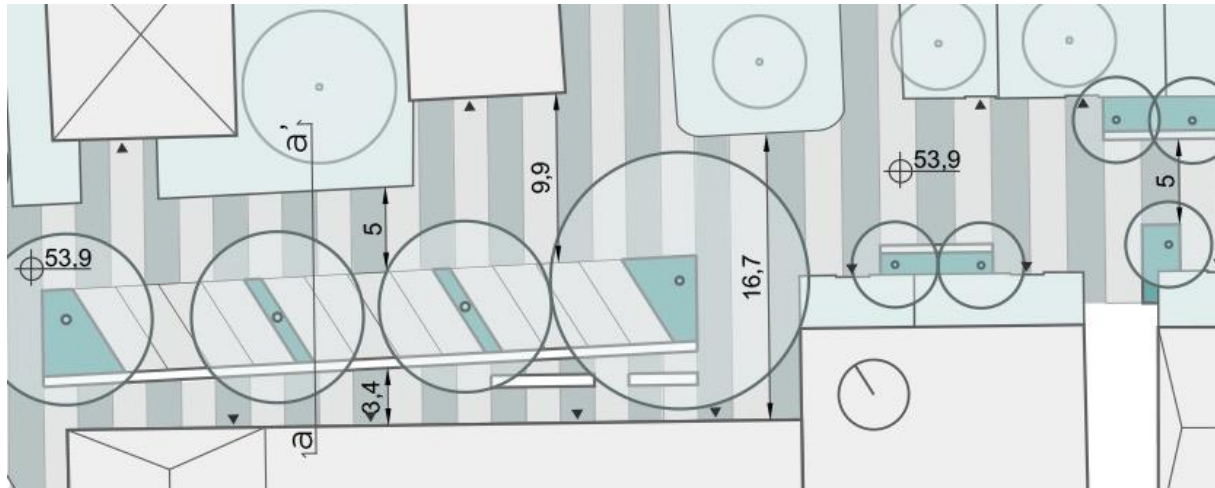


Figure 6 (b). Stretch 1, option 2: total sharing; plan and section (a-a') show a more hospitable and varied street landscape.

Stretch 2 in option 2 (fig.7b) shows a 5 to 10 meter wide shared surface where the central area is dedicated to transit while the remaining space can be interpreted as “safe zones” and rest spaces equipped with benches and vegetation. Small and/or fastigate trees are planted as the canopies will not expand too much to the private gardens and buildings. However, a vegetal structure is provided while it is completely missing in option 1, restoring the permeable and fertile soil. Even in option 2 the corridor is not wide enough for parking lots, so some are reclaimed in the adjacent street.

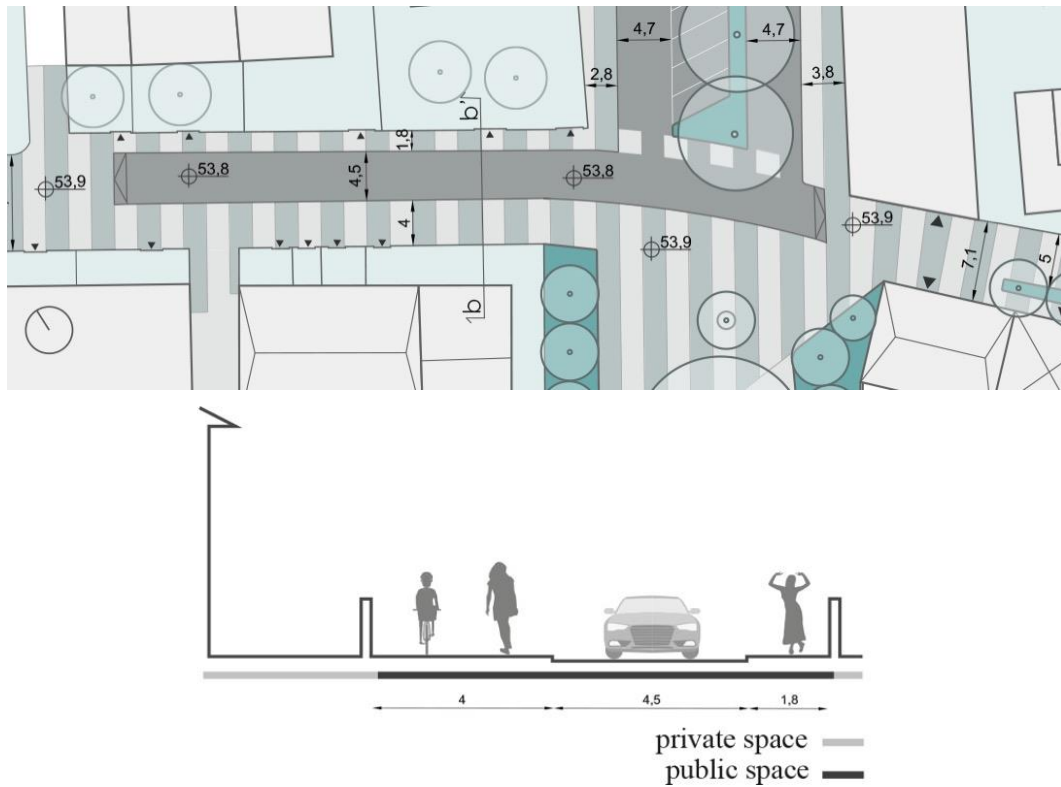


Figure 7 (a). Stretch 2, option 1: partial sharing; plan and section (b-b') show the absence of vegetation and a lack of use possibilities.

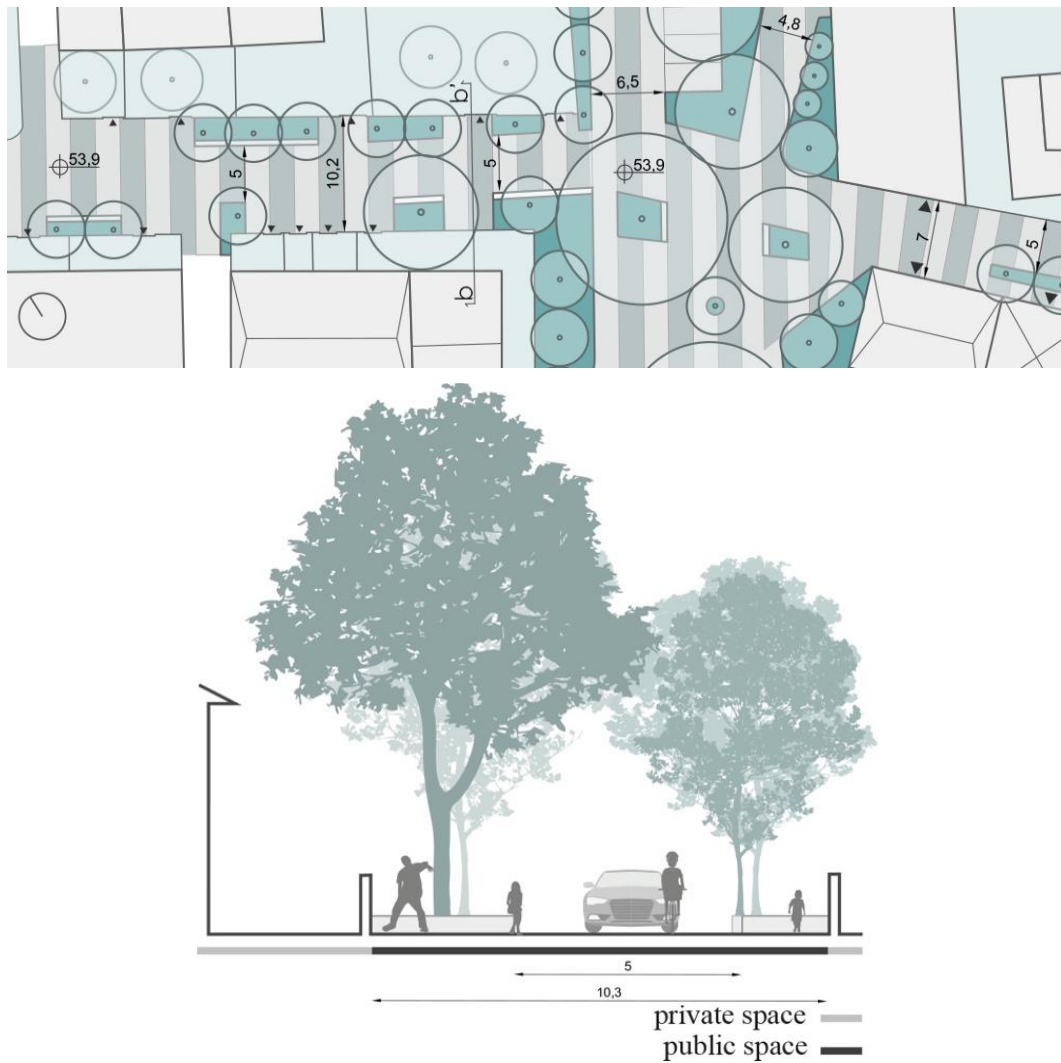


Figure 7 (b). Stretch 2, option 2: total sharing; plan and section (b-b') show a more hospitable and varied street landscape.

## 6. Discussion and open conclusions

The two options show different solutions that could help to improve the urban landscape in terms of accessibility, micro-climate, hydrology, and spatial identity, ultimately enhancing resilience, well-being and sustainability. As for the early outcomes mentioned above, we propose some general arguments.

In option 1, the presence of an actual vehicle lane should not allow cars to exceed 30 km/h, due to the often changing spatial configuration that alternates between the layout of shared and separated flows. However, the streetscape itself could suggest such behavior without imposing restrictions. In fact, the succession of different levels acts as a speed bump. So we can assume that the two options present no differences in terms of vehicle speed.

Option 1 produces frequent changes in the landscape scenery and use that could disorientate users. The separation of flows in option 1 requires more space for transit, depriving the street of many other uses and components, including parking lots, permeable soil and vegetation. This can sometimes prevent the landscape from achieving a widespread adequate quality level. Furthermore, the citizens' frequent demand for parking lots might generate opposition to such transformation, even though it might represent an opportunity to provide them elsewhere away from the streets, for example inside buildings to be restored.

Option 2 provides general and better integration among all street components resulting in widespread landscape quality. Since we assume that it is better to avoid a sectoral and partial approach to design in order to make the project more effective, we would recommend option 2 for Via San Paolo and streets that in general have similar spatial and functional features. Nevertheless, as the “shared street” layout cannot be implemented throughout the whole city road network, it is useful to evaluate a hybrid solution such as option 1 to trigger a transformative process where different solutions can fit the diversity and hierarchy of the streets in the urban landscapes.

In conclusion, it is worth analyzing the shared street layout in more depth to better understand its potential to enhance urban landscapes, promoting the integration of different uses and components of road networks, encouraging people to come “back to the street”. In fact, as this design investigation shows, the shared street could provide much more space for non-transit activities and generate places for developing proximity relationships among citizens, and this is mostly the case in narrow streets. To move towards a more sustainable urban environment it is necessary to overturn the current paradigm where motorized transit influences and often undermines people's freedom of movement. To enhance sustainable mobility streets should be more attractive and pleasant, and vegetation plays an important role in this strategy. As the aforementioned results show, the shared street layout often permits a wider vegetal system within the streets, even where there is a lack of space in the ordinary layout. Plants along the road network is notably important for the connectivity and ecological efficacy of the urban vegetal system, which can positively affect not only the city's beauty, health and micro-climate conditions, but also environmental quality at larger scales. However, while for these reasons the shared street seems to be a proper transformation for some urban streets, a few critical issues must still be widely discussed, such as the real and perceived safety for visually impaired people and the need to warn of a change to the mobility rules from one place to another, to reduce users' disorientation and confusion. As the precondition for the shared street is the absence of rules and the informal self-management of people's activities, it is the landscape, as conceived by designers, that should address this critical issue, conveying a sense of place where people are encouraged to behave respectfully and safely and share their public space without conflicts.

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