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[DEL03 - Tested scenarios of liveable urban spaces]

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List of abbreviations

Open Air Urban Market	OAUM
Saint-Germain-en-Laye	SGL

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1. Executive Summary

This report illustrates the different spatial and organisational arrangements realized and continually adapted during the design process for responding to the current Covid-19 requirements and for promoting liveable urban spaces according to the needs of the stakeholders. This process, the complexity of which has been underlined several times in the previous documents (cf. DEL 01 and DEL 02), has involved many subjects and **different phases**. We can synthetically identify the following main stages of the work:

1. preparation of the first project proposals of urban mobility schemes allowing the pedestrianization of the city centre in condition of intensive economic activities, the urban furniture for the public space (DEL 01) and related pre- and post-occupancy evaluation survey for assessing the quality of the proposed solutions (DEL 03 – Ch. 4);
2. consultation of the stakeholders and, at the same time, upgrading of the design proposals and preparation of in-depth studies to facilitate the decision-making process (DEL 03);
3. final project of the new walkable urban city centre of SGL; recommendations for accessibility management in the walkable area (DEL03 – Ch. 2.2 and 3.4) and testing of the project by SGL (DEL 03 – Ch. 7);
4. development of a design toolkit for flexible urban furniture: engineering of the furniture and preparation of detailed drawings (DEL 03 – Ch. 5.2 – 5.3);
5. Development of the final design for selected areas in SGL, set up with the new urban furniture (DEL 03 – Ch. 6.3);
6. virtual validation of the urban furniture through a pre-post evaluation public survey (DEL 03 – Ch. 8);
7. Implementation and optimization of the final version of the design solutions and scaling up (transposition into guidelines exploitable in other contexts) (DEL 03 Ch. 2.1 - 3.2 – 6.2 - 5.2 - 5.3).

This deliverable is relevant to the success of KAVA because it describes and contains all **the outputs** of the research and their translation into guidelines for design tools applicable in other contexts. This enhanced and enriched knowledge represents an important added value of the research, as well as the main outputs regarding mainly the design guidelines for healthy and safely city (OUT 01 – EITN 03), the toolkit for flexible urban furniture (OUT 01 – EITN 03), the engagement method (OUT 02) and the future professional training for professional workers (EITN 03).

The commercialization models of these outputs are described in the EIT commercial agreement.

The Politecnico di Milano participated in the **research activities** with a multidisciplinary working group composed of experts in Applied hygiene, Architectural design, Industrial design, Transport engineering and Technological and environmental design. In total more than twenty academics and their assistants worked, as well as technicians and designers from various private engineering and architecture companies.

The research activities began in July with the preliminary analyses and continued in August with the formulation of the first solutions for the new walkable project for the city center of SGL, the design of new urban installations and the preparation of the anti-contagion solutions catalogue. Linking these two steps a visit to SGL by a delegation of the Politecnico di Milano team took place with the goal of carrying out surveys and interviews to improve the understanding of the physical and social context of the project and collect advices and requirement needs from the different stakeholders.

In the following months the work of the Politecnico di Milano team focused on the optimization of the project proposals presented in August (both the city walkable public space design and the urban furniture design). Next the Politecnico di Milano team developed the detailed drawings required for the construction of the urban furniture by a specialized unit of the municipality of Saint-Germain-en-Laye. The activity took place in parallel with the project finalization meetings organized and managed by the municipality of Saint-Germain-en-Laye: starting from the illustration drawings and rendering documents prepared by the Politecnico di Milano team (concept sketches and diagrams, virtual 3D models, axonometric sections), politicians, shopkeepers and other stakeholders were able to express, under the guide of the SGL experts, their point of view on the project and propose their improvements.

During the meetings, the willingness of the participants to accept the prototypes of the experimental artifacts was also checked. Participatory involvement, made especially complicated by the Covid-19 limitations, has however allowed to improve the characteristics and functionality of the artifacts but has also considerably increased the work of design and redesign.

In October, following the participatory phase, the following materials were prepared and sent to SGL:

1. the final drawings and documents of the new pedestrianized SGL urban center layout;
2. a document (requested by SGL) containing the planned strategies for the logistics management of accesses and deliveries in the pedestrian area;
3. the public engagement program for the evaluation of the public spaces before and after the installation of the new urban furniture.

In October the City of Saint-Germain-en-Laye decided to make the pedestrianisation of the hypercenter permanent. In early October, the first phase of the pedestrianisation project (by Politecnico di Milano) was put in place and is still active today. A survey on the perception of potential and existing pedestrian areas in the Saint-Germain-en-Laye city centre was conducted from November 20th to November 24th 2020.

In broad terms, the survey highlights the approval of most of the respondents to the increased pedestrian areas, and a need for a more accessible, calm and shared public space, despite the concerns with traffic and parking management in the city centre (Ch. 7).

In November the detailed design drawings of both the urban furniture and their location in the experimental urban areas implemented and completed by the Politecnico di Milano team (as decided at the end of the participation process) were ready.

The delivery of the detailed drawings of the urban installations took place in two distinct phases in order not to delay the beginning of their production and installation activities. It started on the 10th November with the detailed drawings of the artifacts that had required minor changes (canopies, platforms, seats and flower boxes), and ended the following week with those that had required major changes (external and internal paneling of the canopies).

More recently the activity has been severely limited by the lockdown established by the French authorities, which still affects the city of SGL: The furniture prototypes were not built by SGL and consequently it was not possible to actually test the effectiveness of the furniture project in the experimental installation areas. For this reason, Politecnico di Milano team, referring to its own knowledge and similar past experiences, has adopted an alternative strategy in order to proceed with the validation of the urban furniture design. In particular, a specific virtual validation of the urban furniture was implemented and applied: a public survey with direct comparison through images of the experimental areas of SGL before and after the new urban furniture installation (rendered and illustrated through digital techniques).

This mitigation strategy was communicated and endorsed by the Innovation lifecycle officer and by the Director of the Innovation of the EIT UM.

Accordingly, a virtual test of the new installations was possible, which proved the design proposal to be very effective and responding to the stakeholder's requirements (safety, perceived comfort, livability of spaces, night lighting, physical distancing, shelter from atmospheric agents, increase in rest areas, cultural heritage, accessibility, etc.). This action is described in Chapter 8.

However, the serious evolution of the pandemic conditions did not prevent the research group and the whole consortium from adopting alternative solutions for the testing of the design proposal in order to compile the final document that describes the entire experience, translating its main results into operational guidelines and a toolkit for the functional, hospitable and safe adaptation of spaces and pedestrianized urban areas.

2. Healthy and Safely city for Covid-19

All the research and design activities described in this chapter were carried out by the Politecnico di Milano Dept. ABC Team. This key paragraph was developed and uploaded to EIT platform according to the deadline on 14th August 2020 of the MS02 titled “Catalogue of the COVID-19 related requirements and recommendations.”

The results fulfil the following KEY OUTPUTS and KPI:

OUT01 Operational toolkit: the guidelines for health and safely city for Covid-19, (paragraph 2.1) are a part of the operational toolkit. The same guidelines are part of the EITN03 Core KPI Target: The Product “Operational toolkit: urban furniture and guidelines for healthy urban design”

OUT06 City center of SGL transformed in a lively and health safe open-air market: the project of the new walkable city centre of SGL (paragraph 2.2) is the first step of the transformation of the city.

Moreover, the results fulfil the following TASKS:

A2002 Design and testing of livable urban spaces.

A2005 Public space regulation package.

2.1. Guidelines for Healthy and Safely city for Covid-19

The relations between the morphological and functional features of the built environment, the indoor living spaces, the outdoor public places and *Public Health* outcomes, open to a challenging scenario about the research topics like *Urban Health* and the outdoor well-being. Moreover, the ongoing pandemic of COVID-19 is a strong reminder that urbanization has changed the way that people and communities live, work, and interact, and it's necessary to make the urban systems and the local capacities resilient to prevent the spread of infectious diseases. How we can re-design the concept of *Public Health* in relation to the built environment and the contemporary cities?

According to the previous statements and referring to the activities expected by the **EIT-UM Research Project: Safely Connected. Sustainable Common Accessibility of Lively Downtowns for Healthy People.** one of the first milestones was aimed to focus both the public spaces' quality and the *Urban Health* strategies considering the COVID-19 challenge and the pandemic needs, focusing the possible responses, both immediate and medium-long term, to the current Environmental, Social, and Economical aspects of the “period” of physical distancing.

Aim of the **Decalogue of Healthy Design Strategies and COVID-19 proof Recommendations** developed by the Department of Architecture, Built environment and Construction engineering (ABC) of Politecnico di Milano (POLIMI) is to outline a series of operational architectural and urban planning intervention strategies for the contemporary city and the outdoor public space, capable to promote and protect *Public Health* issues, well-being, safety & security, accessibility and sustainability of urban spaces and its

inhabitants, fostering the adoption of correct lifestyles, even in emergency conditions, like the social distancing needed for the COVID-19 pandemic period. The city should be able to promote *Public Health* and well-being in complete balance between anthropic and natural environment, and at the same time be flexible and resilient to future emergencies - which may be related to health, environmental, calamitous or climatic - in order to be able to guarantee a quality lifestyle in total safety, or to continue promoting and protecting *Public Health* and well-being.

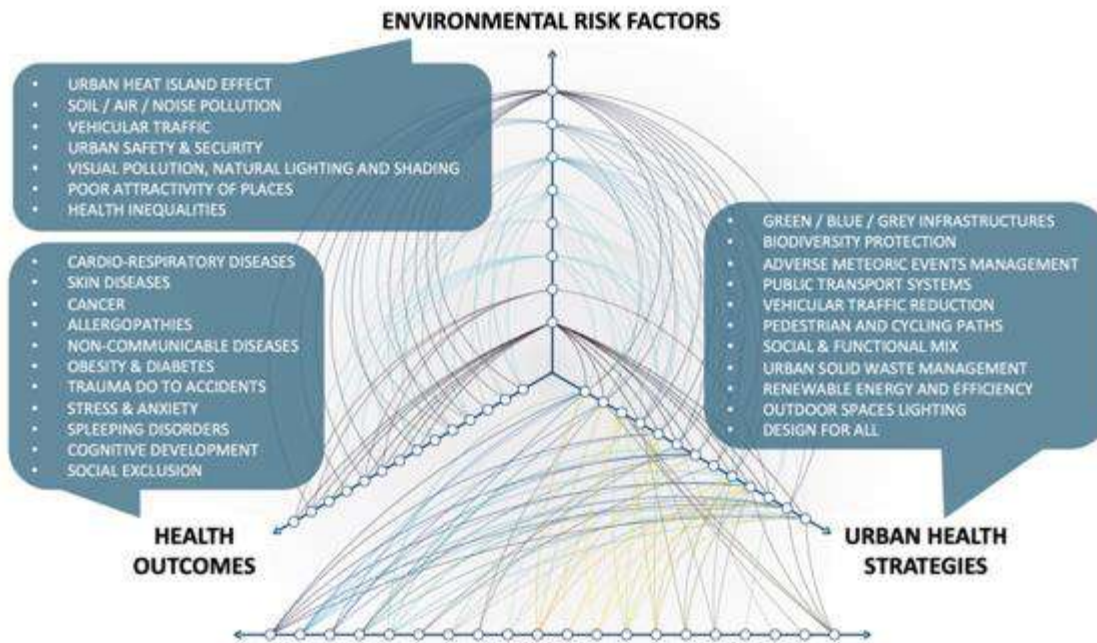


Figure 2.1. - evidence-based relationship between Environmental Risk Factors, Health Outcomes [main non-Communicable Diseases (NCDs)] and Urban Health Strategies [link to the HQ file]

In this scenario, the global health crisis caused by the COVID-19 pandemic has highlighted on an urban scale how densely inhabited contexts, the current metropolises and the public spaces that are found in them have proved ineffective in protecting the public health (physical, mental and social) of its inhabitants and to facilitate the adoption of behaviours that would allow the reduction of the risk of contagion. The lifestyles' changes in the period of physical and social distancing is making even more urgent the evolution of the cities themselves into resilient ecosystems capable of promoting health and preventing the spread of infectious diseases and other possible future health emergencies; at the same time, guaranteeing a high quality of life, despite the fact that the level of urban quality of the SGL city is already very high. It is therefore necessary to underline the definition of *Healthy Cities* which refers to "those urban contexts that continually create and improve their physical and social environments, encouraging the expansion of resources and placing people in conditions of mutual support in carrying out and developing of all daily activities" and to promote strategies and actions aimed at transforming current cities into *Healthy Cities*. The design strategies listed below can help to improve environmental and social sustainability, liveability, resilience and adaptive capacity of cities in case of emergency. Some strategies are already consolidated and widespread even before the COVID-19 sanitary and social emergency, and which now more than ever become a priority as they are able to satisfy the emerging and increasingly important *Public Health* needs in the multiple scenarios of use of the territory and urban contexts. In particular, the design strategies focus

the need of rethink the organizational features of the metropolis' spaces in favour of greater slow mobility, green areas' quality and outdoor public spaces in general.

The **Decalogue of Healthy Design Strategies and COVID-19 proof Recommendations** is divided into the following 10 points:

1. Increasing quantity and quality of outdoor public spaces.
2. Increasing surface, capillarity and continuity of relevant green areas.
3. Defining a network of urban areas for sport activities.
4. Promote public space safety and security.
5. Increasing the infrastructures network for low mobility and creating a walkable environment.
6. Rethinking the proximity, usability and crossing spaces of infrastructure nodes and public transport.
7. Programming the functional mixite and planning the neighborhood times of use.
8. Involving the population in designing and planning urban strategies.
9. Redesigning buildings and collective spaces flexibility.
10. Promoting the urban contexts monitoring to define an evidence-based approach.



Key strategies and actions for the point

01. Increasing quantity and quality of outdoor public spaces. are:

- redevelop public spaces currently under-used or abandoned that make them inappropriate in relation to current needs, and at the same time a huge potential for the community;
- recover the spaces dedicated to vehicular traffic (viability and parking) to the benefit of the surfaces dedicated to active transport (pedestrian and cycling), through a strategic reconfiguration of the mobility system (ref. multi-modal street design strategy developed by National Association of City Transportation Officials, NACTO);
- transform semi-public spaces that are not fully used, such as the roofs of buildings and outdoor spaces of semi-public relevance (i.e. those relating to public buildings of collective interest like schools or other public offices);
- promote public-private co-participation mechanisms in the regeneration, reactivation and maintenance of public space.



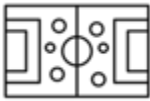
Key strategies and actions for the point

02. Increasing surface, capillarity and continuity of relevant green areas. are:

- reduce the soil consumption and increase the soil permeability, favoring sufficiently concentrated settlement models that make it possible to obtain, with equal constructible volumes, a greater quantity of uncovered green and draining surfaces;
- make the roofs green as much as possible, both of the cemented flat roofs and of the residual / abandoned areas, both with an eco-systemic function, and with fruitive values of spaces near the

inhabited area of a semi-public or semi-private character (residential, school, commercial and tertiary buildings);

- reconverting as much as possible the gray infrastructures (paved areas), or asphalted, or cemented surfaces, into Green & Blue Areas;
- favor an articulated presence of the green system in its various declinations (widespread urban green, semi-private gardens, pocket parks, parks equipped with furniture, peri-urban parks, etc.), promoting collective and individual fruitive possibilities (and when necessary, with the possibility of access control, timed modes of access and monitoring tools);
- promote the use of Nature-Based Solutions (NBS) and other technical solutions capable of generating environmental benefits and comfort for users, to be designed through site-specific analysis and evaluation models, such as the tool Green SOAP (Green Solutions for Outdoor Air Pollution) developed by DABC-POLIMI for quantifying atmospheric pollutants' reduced by greening;
- provide rules for make the preventive planting (*pre-Verdissement*) mandatory in regeneration interventions, extending the implementation phases for medium-long periods of time (5 years).



Key strategies and actions for the point

03. Defining a network of urban areas for sport activities. are:

- re-develop part of the public space in order to install paths and equipment for physical and outdoor sports activities in the neighborhood, evaluating the different sports and Physical Activity needs linked to the specificities of the population (age groups, health, culture, etc.);
- design 2.0 sports infrastructures and playgrounds, also through the recovery of under-used public and semi-public interstitial spaces, in line with a challenging huge transformation of sports practice (i.e. equipped skateparks, parkour parks, multi-purpose fields);
- use digital media for open spaces used for Physical Activities, with reference to urgent needs for safety, health or any physical distancing (i.e. conceiving methods of "booking" and / or "signaling" of presence);
- encourage "IT based" actions in the design of public spaces connected to leisure time combined with the provision of services to promote sports activities.



Key strategies and actions for the point

04. Promote public space safety and security. are:

- guarantee the continuity of the urban fabric and of the pedestrian and cycle paths. A continuous urban grid and a clear design of public spaces improve the orientation of users and their perception of safety;
- ensure visibility and spontaneous surveillance. Good visibility of public spaces and paths from surrounding streets and buildings promotes crime prevention and increases the perception of safety;

- guarantee a sense of territoriality through attractiveness. The degree of safety of a public place depends considerably on how much users consider it their own. A pleasant place leads to the respect, increases the sense of belonging and civic responsibility of users, discouraging negative behaviors.



Key strategies and actions for the point

05. Increasing the infrastructures network for low mobility and creating a walkable environment. are:

- construction of restricted traffic areas, zones 30 with protected intersections in all internal areas of the neighborhood on the example of the Superblock Model of Barcelona (ref. Agencia de Ecología Urbana de Barcelona);
- make all the connections necessary for the creation of an effective capillary network of active mobility, increasing the surfaces of the lanes dedicated to cycle-pedestrian daily moves (ref. multi-modal street design strategy developed by National Association of City Transportation Officials, NACTO);
- introducing the bi-directional configuration of all the cycle paths;
- provide as much is possible the protected islands and the crossing corridors, both for cycle and for the pedestrian paths;
- emphasize the presence of vegetation and trees along the paths in order to ensure the appropriate shading;
- adopt technological systems - typical of the Smart City - by normalizing cycle-pedestrian flows;
- use materials and wayfinding for easy and clear recognition of cycle and pedestrian paths in line with the needs of safety, comfort and reduction of the *Urban Heat Island Effect* (HIE);
- provide secondary "*Social Street*" roads to be closed to the traffic during the weekend, or during the less busy hours of the day.



Key strategies and actions for the point

06. Rethinking the proximity, usability and crossing spaces of infrastructure nodes and public transport. are:

are:

- reconfiguration of waiting areas for the public transport's stops;
- use of IT for communication to the user for the strategic timing of urban travel;
- re-distribution of the user paths of the interchange nodes;
- evaluation of the level of user well-being in moving with public transportation alternatives.



Key strategies and actions for the point

07. Programming the functional mixite and planning the neighborhood times of use. are:

- create new urban polarities through regeneration interventions. The introduction of a new urban polarity must necessarily be studied in synergy with the walkable environmental;
- plan a real street level master plan for the functional mix of the ground floors of the city, to favoring and fostering in addition to basic services, also all activities aimed at satisfying the main needs of the population (social, health, commercial, recreational, cultural, playful, etc.), in a logic of complementarity and clustering;
- re-organize the times of the city. The neighborhoods must be alive, experienced and attractive throughout the day (24 hours a day it's impossible, but at least 16/18 hours a day), in order to increase real and perceived safety while limiting overcrowding;
- dynamic mapping (constantly updatable) of proximity services, with particular reference to weaker categories, elderly people and young population.



Key strategies and actions for the point

08. Involving the population in designing and planning urban strategies. are:

- *Placemaking*: shared design practice widespread in more than 50 countries around the world, it pushes people to collectively re-imagine and re-invent the city starting from the public space: identifying the subjects to be involved, recognizing the problems to be faced, exploring the field possible, carrying out experiments to test the validity of possible solutions, analyzing the results.
- *Living Labs*: design research focused on the user and on co-creation methodologies and integrated innovation and research processes. In the design of public space, *Living Labs* offer space to experiment live and in real time forms of innovation, as well as to support community building.
- *Charrette*: participatory planning technique, which involves citizens, experts, technicians, who activate, through working tables, experiences of sharing knowledge and experiences. It is a particularly suitable tool for projects that involve the regeneration of abandoned spaces and buildings.
- *Electronic Town Meeting*: technique, where the comparison between the participants, gathered in small live groups and helped by a facilitator, is combined with electronics allowing for easy and quick management of information.
- *Techniques for constructing scenarios*: European Awareness Scenario Workshop (EASW) and Action Planning and the Future Search Conference are survey methods to propose preferred and shared future scenarios.
- *Simulation techniques*: the *Charrette* and the *Electronic Town Meeting* are participatory planning techniques particularly suited to urban regeneration and reactivation processes.



Key strategies and actions for the point

09. Redesigning buildings and collective spaces flexibility. are:

- alignment of all emergency plans (health, environmental, etc.) both for what is of national competence, and for the organizational-managerial aspects in the case of different Regions and Municipalities;
- identification of public buildings and strategic, flexible and suitable places, which can be temporarily re-functionalized and used in extraordinary cases, or for both health and environmental emergencies, such as natural disasters and natural calamities;
- communicate to the population through official channels of the emergency plan to be adopted and of the safe proximity areas where to go in cases of emergencies and disasters.



Key strategies and actions for the point

10. Promoting the urban contexts monitoring to define an evidence-based approach. are:

- research on the possible relationships between morpho-typological features, the dynamics of urban expansion of metropolitan areas. In order to continuously improve the space and livability of urban spaces, even in the event of an emergency, it becomes essential to undertake research capable of defining possible relationships between morpho-typological features, the dynamics of urban expansion of metropolitan areas and the presence of outbreaks of infections.
- Evidence / Experience-Based researches, capable of evaluating and monitoring the improvement of environmental quality, *Public Health*, safety and accessibility of public spaces. Whenever large strategic operations are conducted on a territorial scale, research should be undertaken to evaluate the real improvement of public health and well-being (physical, social, economic and psychological) in the resident population and for the different users of the area.
- digitization of the urban context and the unification of the user interface for accessibility to services. For some time there has been talk of digitalization of services, but during periods of emergency it has been seen how much these technologies are a precious aid to be able to manage work or distance learning, health services, rapid and systemic dissemination of information, as well as very useful information on the availability of access to some basic services and activities (service shifts, management of commercial activity queues, etc.). In order for this process to be effective, management coordination at least on an urban scale is necessary so that the information system on smart urban services is unified. Finally, the data collected could be used in an aggregate way, allowing to test the effectiveness of temporary and experimental urban projects (*Tactical Urbanism*) and, if necessary, to reconfigure it appropriately.

2.2. Design of the new walkable urban city centre for SGL

COVID-19 demonstrate that it becomes more urgent to identify solutions to adapt the city - in particular, infrastructures and public spaces - to the new distancing measures necessary to live with the virus. The need to reflect and act immediately on the reduction of the demand for mobility and on the offer of alternatives emerges, seeking a new balance that allows citizens to adopt healthy behaviours and lifestyles, functional to effective, safe and sustainable mobility, in response to both new emergency and to the criticalities of the cities, which had already been defined by the Urban Health discipline. While on the one hand it will be inevitable to guarantee the possibility of moving by private vehicle for some types (for example extra-urban transfers, especially those related to goods) or for those who absolutely need it (such as those with walking difficulties), on the other it will be crucial to create the conditions to compensate for the reduction in the offer of public transport, in particular for those who have no alternatives: saving movement, favouring agile work, intervening on city timetables, reducing distances, rediscovering the neighbourhoods' dimension and by encouraging shorter daily travels. If the idea of promoting pedestrian and cycling in the city was already true in "normal times", today, in the "new ordinary phase" that we are about to live it becomes even more important and strategic. At this stage, it is necessary to act promptly to provide an alternative to the car in response to the mobility needs of citizens, in safety and in the face of the quota measures envisaged for public transport, encouraging active mobility as an alternative or integration for the displacements on an urban and territorial scale.

For this reasons, the micro-mobility solutions are based on the previous consideration debated in the previous *paragraph 2.1. "Guidelines for Healthy and Safely city for Covid-19"* referred to MS02 document titled **Decalogue of Healthy Design Strategies and COVID-19 proof Recommendations**. and mainly focused on the strategies like:

- **Increasing quantity and quality of outdoor public spaces:** re-design of the urban public space with micro, temporary and experimental design actions of *Tactical Urbanism* to create and introduce the places hosting the new urban furniture. Starting from the experience of *National Association of City Transportation Official (NACTO) and Global Designing Cities Initiatives*, it's necessary to experiment with the method of *Tactical Urban Planning* to generate new public spaces instead of redundant roads or intersections, through implementation of light, fast and cheap interventions on an experimental basis. The temporary nature of this design actions allows you to act quickly and test solutions in a reversible way, before investing time and resources in a definitive structural arrangement, anticipating the effects with immediate benefits and supporting the decision-making process towards a permanent solution, in a forecasting way.
- **Promote public space safety and security:** social inclusion and social cohesion will be hopefully reached considering the requirements of accessibility and *Design for All* as a priority. It means encourage pedestrian urban moves in order to lighten local public transport and allow outdoor activities to be carried out in compliance with the spacing measures provided, extending the space available on the sidewalks and establishing new pedestrian and shared areas, ensuring the safety of those who walk and identify protected paths for the most fragile population, encouraging new ways of conceiving public space and sociality. It also means experiencing the street as a public space, rethinking the use of streets, particularly in neighborhood contexts with less green areas, to expand the provision of public space to integrate green areas, providing for temporary pedestrianization to allow play and children's Physical Activity (*Play Streets*).
- **Increasing the infrastructures network for low mobility and creating a walkable environment:** key features to encourage the adoption of correct lifestyles [Walkability and Cyclability > rising of daily

population Physical Activity (healthy behaviors) and vehicular traffic reduction]. The promotion of active mobility cannot be based only on the creation of itineraries but also on the implementation of services and other infrastructures, like:

- interchange and inter-modality: synergy between public transport systems and bike-sharing services, through integrated subscription solutions with “mobility as a service” mode; increase in the provision of safe parking spaces for bicycles, with more racks spread throughout the city and cycle-stations in the major interchange points.
 - communication: strong and useful attention to the communication of the behaviors to adopt for emergency mobility; periodic dialogue and discussion with stakeholders; recourse to the use of addressing signs along cycle routes and possible creation of an APP of the cycle network.
 - logistics: promotion of the use of cargo bikes for deliveries, including with sharing services; policies for the regulation of supplies for commercial establishments implemented with motor vehicles only at night.
 - data monitoring: possible creation of an observatory for constant monitoring of the effectiveness of the interventions, their ability to respond to the security measures on social distancing, necessary in this phase, and the opportunity to make any changes based on the checks and data collected (accidents, use of bicycles, commerce, home-school mobility, etc.).
- **Involving the population in designing and planning urban strategies**: *Community-based Survey* that will be debated online and offline with local community before the production of the first prototypes.

According to the huge **urban analysis** developed, the **micro-mobility solutions** are divided in three phases better described in the following pages:

- **Short Term Micro-mobility Solutions Design (1st phase project)** starting at the end of the 2020 year and take into consideration firstly, preliminary and temporary pedestrianization actions aimed to test the effectiveness with small and cheap interventions of *Tactical Urbanism*. Main goal is to define **three areas (numbers 2, 3a and 9** of the 9 areas that are eligible for the further urban furniture insertion) to experiment the *Open Air Urban Market* expected from the EIT-UM project. The *Short Term Micro-mobility Solutions Design (phase 1) plan* is added to the previous proposals delivered in the MS03 on 31th August 2020. In this phase *Rue de Pologne and Rue de Poissy* are proposed as pedestrian streets, therefore the in some street traffic directions change accordingly. Finally, area 9 corresponds to the area in front *Au Bon Accueil* restaurant in *Rue de Paris*.
- **Medium Term Micro-mobility Solutions Design (2nd phase project)** represent the previous phase 1 (ref. MS03 on 31th August 2020) reviewed according to the suggestion received, and it will be ready for March 2022, when the new suburban train-tram 13 is going to be inaugurated. It consists in a strong walkable area expansion, to reach the other **four areas (numbers 1, 4, 5 and 6** of the 9 areas that are eligible for the further urban furniture insertion) eligible for the further urban furniture insertion, bringing the pedestrian and cycling areas till the boundary of the *SGL City Center*.
- **Long Term Micro-mobility Solutions Design (3rd phase project)** represent the previous phase 2 (ref. MS03 on 31th August 2020) reviewed according to the suggestion received, and it will target the 2025 development. It consists in the walkable area expansion completion, to reach the other **two areas (numbers 3b, 7 and 8** of the 9 areas that are eligible for the further urban furniture insertion) eligible for the further urban furniture insertion, bringing the pedestrian and cycling areas till the boundary of the *SGL City Center*.

SGL City Center Urban Analysis

The panel [Urban mobility at city scale \[current situation\]](#) Fig. 2.2 describe the different urban transport alternatives, categorized in the following different modes:

- **train routes (RER) and train station**, that guarantee a fast and useful connection with *Paris*;
- **future tram line (13) and station**, that will guarantee the connection with *Versaille*;
- **bus lines**;
- **main routes**, one of which crosses the city centre, representing an improper source of traffic flow for the creation of a walkable environment;
- **secondary routes**;
- **municipal (public) car parking**, both underground and on the street level;
- **bike lanes**, most often identified with soft pavement signage or the usage of different materials on the roadway;
- **bike parking**, of which the largest one is effectively connected to the train (RER) station and for which only the need for a building renovation and better communication in terms of identity is highlighted.

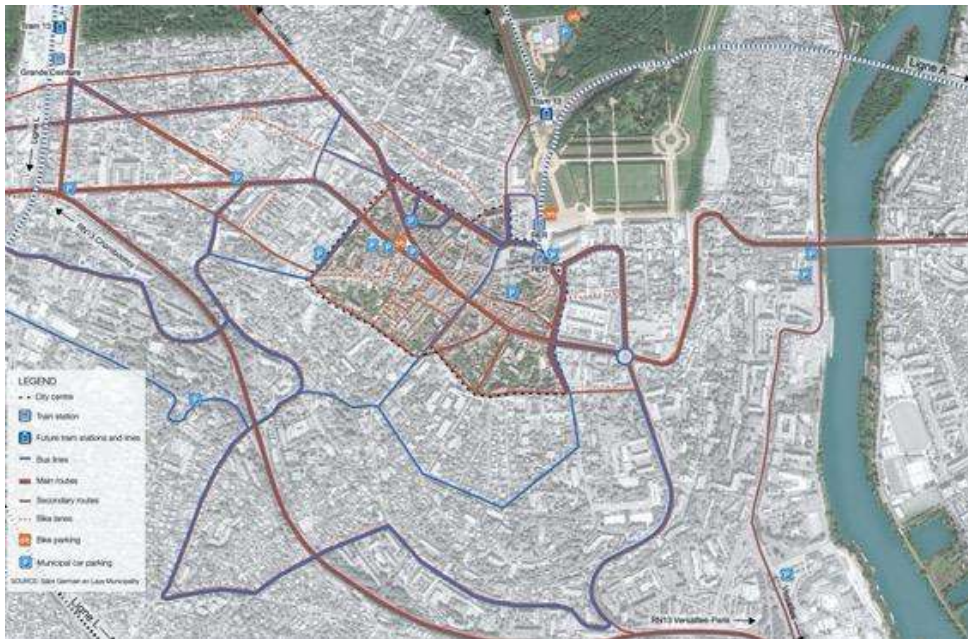


Figure 2.2. - Urban Analysis [current situation]: Urban mobility at city scale [link to the PDF HQ file]

The city of SGL results very well connected both with its periphery and with the city around, with particular reference with *Paris* in the current situation and *Versaille* in the forthcoming future. Most of the car parks are concentrated near the market square, for reasons related to the commercial and tertiary city destinations and purposes.

The panel [Vehicular mobility and public transport at city centre scale \[current situation\]](#) Fig. 2.3 represents a focus of what was previously identified, highlighting the **BUS lines (from R1 to R6) and stops** that perimeter the boundary of the historic city centre. Particular importance is given to the presence of a huge **slow mobility area** characterized by a speed limitation of 30 km/h. Moreover, the current situation of

pedestrian streets is defined; in those streets, the access is allowed only to residents and for delivery purposes. Finally, for each **public car parking**, both underground and on the street level, the accesses (both entrances and exits) are identified; this action was crucial to understand the possibility of pedestrianizations actions and public space reorganization according to the car parking needs.

The panel **Bicycle lane & active transport at city centre scale [current situation]** Fig. 2.4 represents a focus on:

- **bike lane one way**
- **bike lane double way**
- **bike lane shared with cars**
- **speed limitation 30 km/h**
- **pedestrian area**
- **pedestrian street (all days)**
- **electric car charging**

The panel is useful to emphasize the lack of continuity between the pedestrian streets caused by the main route the cross the city centre; this road layout represents a break of the walkable environment in progress and among the objectives of the EIT-UM project. In the city centre, there are no real **bike lanes** separated from the road by physical elements such as traffic bollards; the principle that characterizes the entire urban context is that the bike lanes are defined with horizontal signage (color stripes) or the shared roadway, due to the road section which is usually very narrow, with no clear physical distinction of the paths.

A dept analysis (GIS spatial elaboration) defined the current situation in terms of **Ratio between pedestrian streets and driveways**, and the forecasting scenario according to the pedestrianization actions that will be implemented Fig. 2.5-2.6.

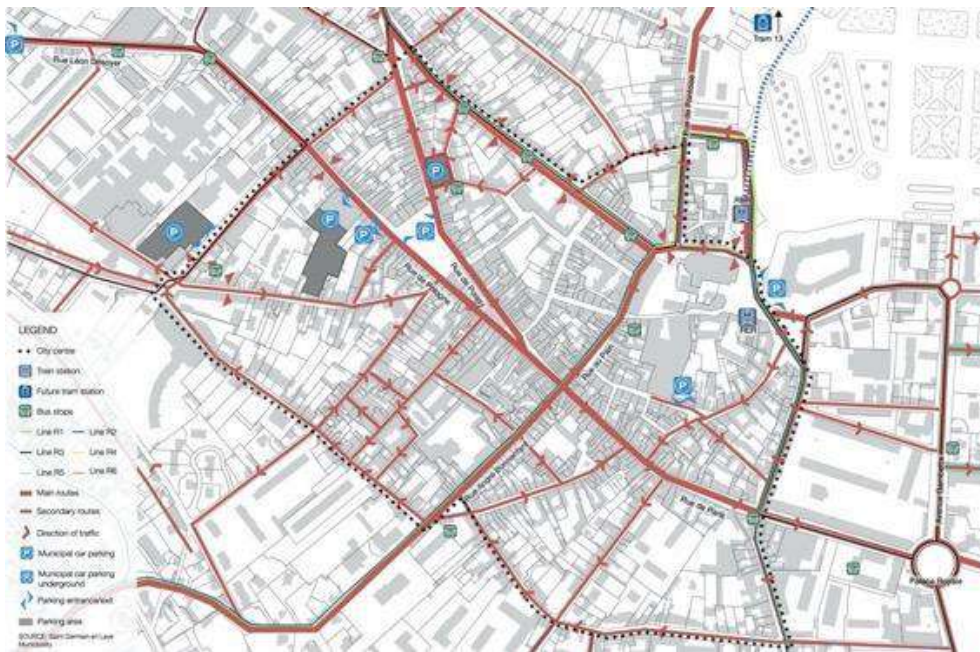


Figure 2.3 - Urban Analysis [current situation]:
 Vehicular mobility and public transport at city centre scale [link to the PDF HQ file]

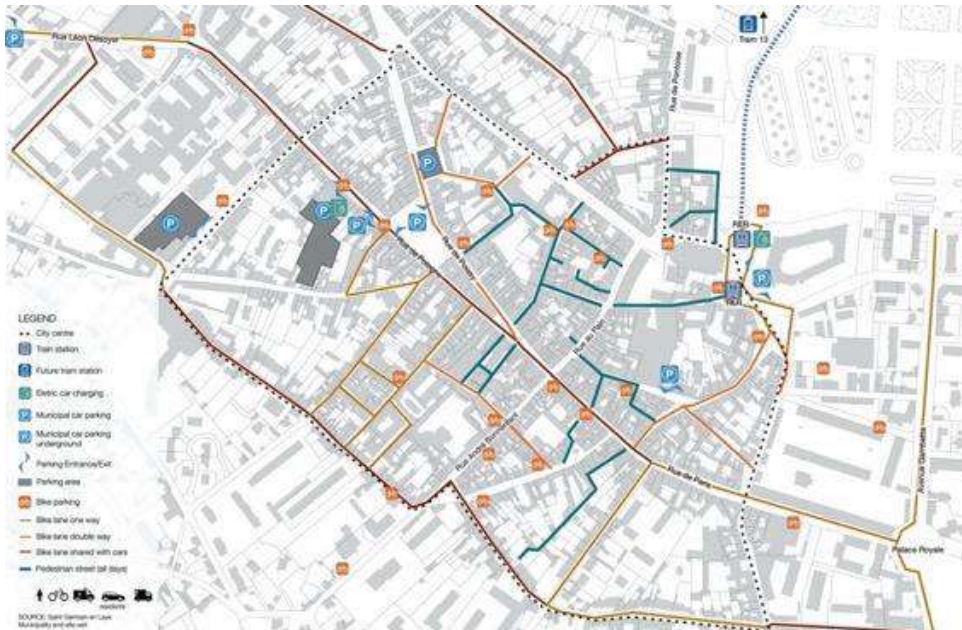


Figure 2.4 - Urban Analysis [current situation]:
Bicycle lane & active transport at city centre scale [link to the PDF HQ file]

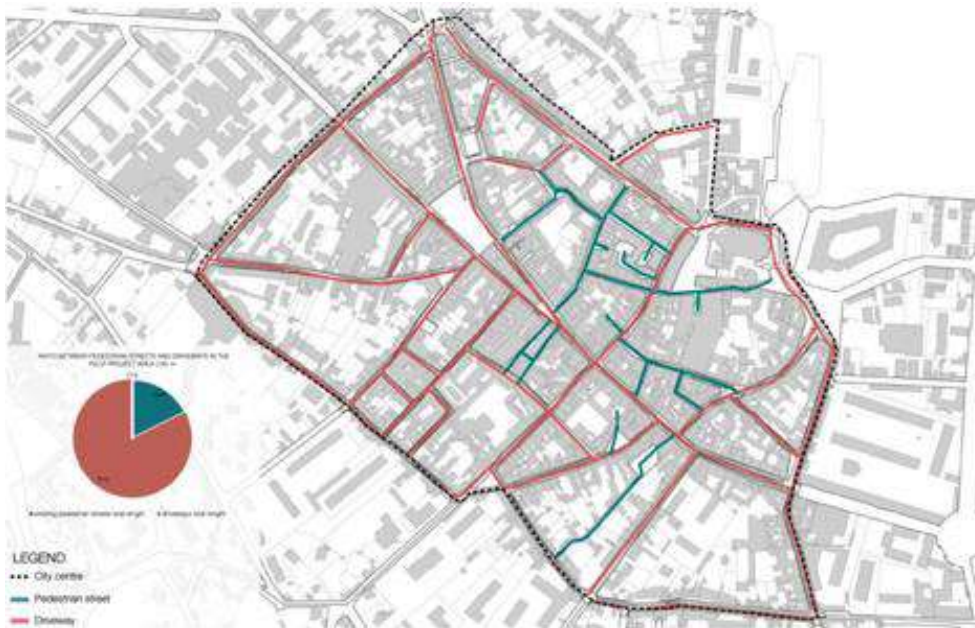


Figure 2.5 - Ratio between pedestrian streets and driveways in the "CURRENT SITUATION".
[link to the PDF HQ file]

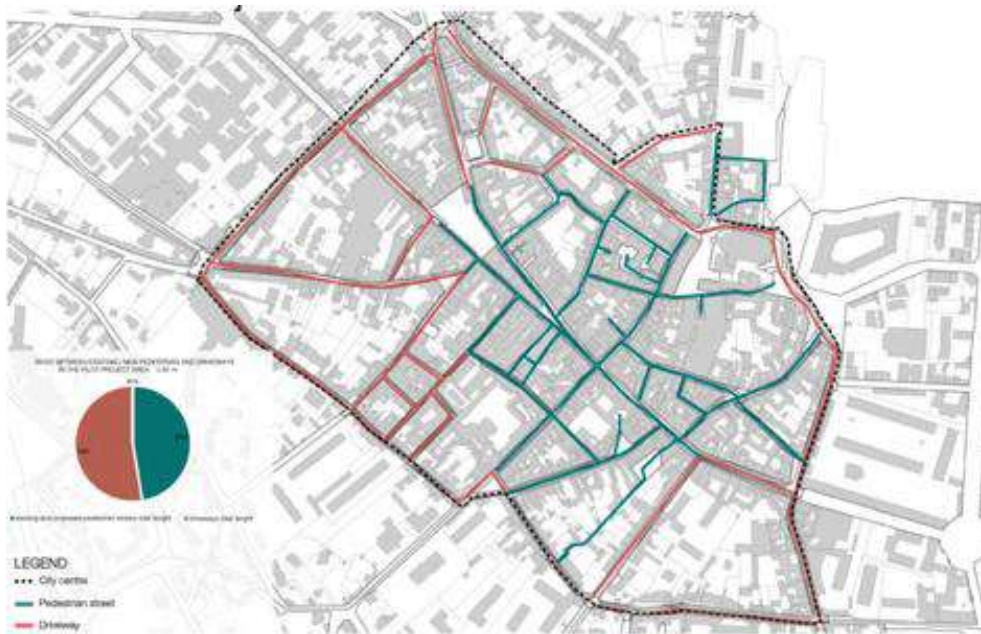


Figure 2.6 - Ratio between pedestrian streets and driveways in the "WALKABLE SCENARIO" referring to the micro-mobility solutions design implemented for the 3rd Phase project.
[\[link to the PDF HQ file\]](#)

The panel [Green infrastructures at city centre scale \[current situation\]](#) Fig. 2.7 describe the following green areas and elements:

- parks
- green spaces
- not accessible green spaces
- green squares
- paved / mineral squares
- playgrounds
- tree lines
- **punctual planting pots** provided by the SGL Municipality

Compared to the presence of the forest that characterizes the entire municipal territory, the city centre is mainly paved / mineral. This does not mean that the urban context suffers from a lack of greenery, as flower beds and potted planting that are frequent and recurring, which for reasons of size, have not been mapped. About the **planting pots**, the location of the vases will be agreed with the municipality in the strategic points of the new and bigger pedestrian area, in coherence with the chosen experimentation areas and to balance the green provision.



Figure 2.7 - Urban Analysis [current situation]:
Green infrastructures at city centre scale. [link to the PDF HQ file]

The panel **Functional MIX of the city centre's ground floor [current situation]** Fig. 2.8 describe the following different destinations:

- shops
- markets
- bars and restaurants
- commercial food
- culture
- churches
- hospital
- pharmacy
- offices, bank, post
- hotels and B&B

In the panels, the homogeneous functions are represented with similar colors. The density of destinations, that make the city centre a highly attractive place, is visible, but a strong attention should be given to the city hours. The functions are not homogeneously located, and this lack of clustering is - anyway - a positive aspect that guarantees a widespread offer of services in the city centre.

A dept analysis (GIS spatial elaboration) defined the current situation in terms of **N° of commercial activities / destinations facing the pedestrian streets**, and the forecasting scenario according to the pedestrianization actions that will be implemented Fig. 2.9-2.10.

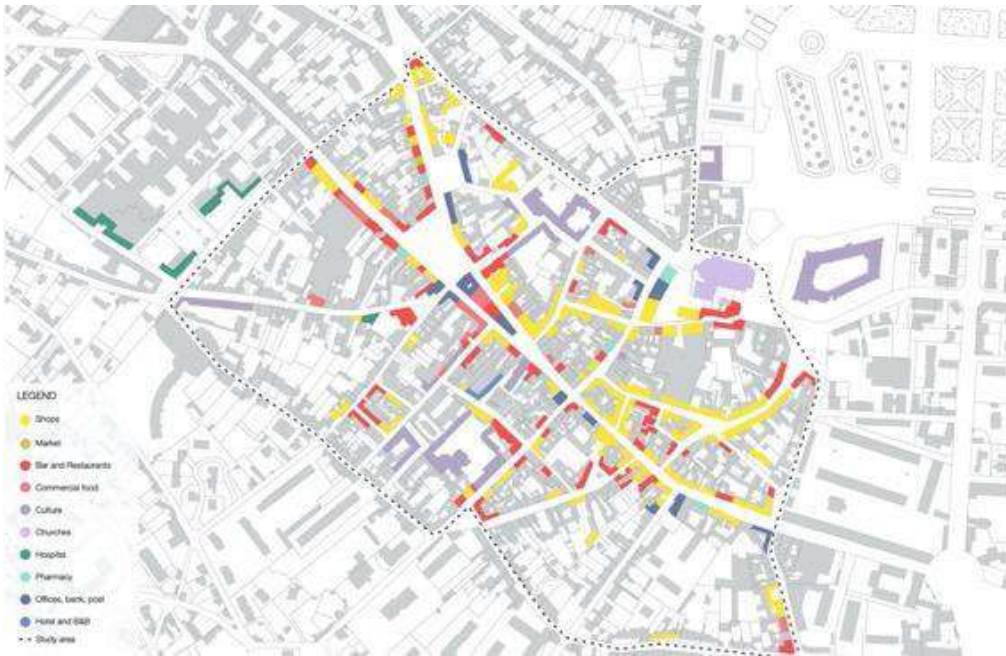


Figure 2.8 - Urban Analysis [current situation]:
Functional MIX of the city centre's ground floor [link to the PDF HQ file]

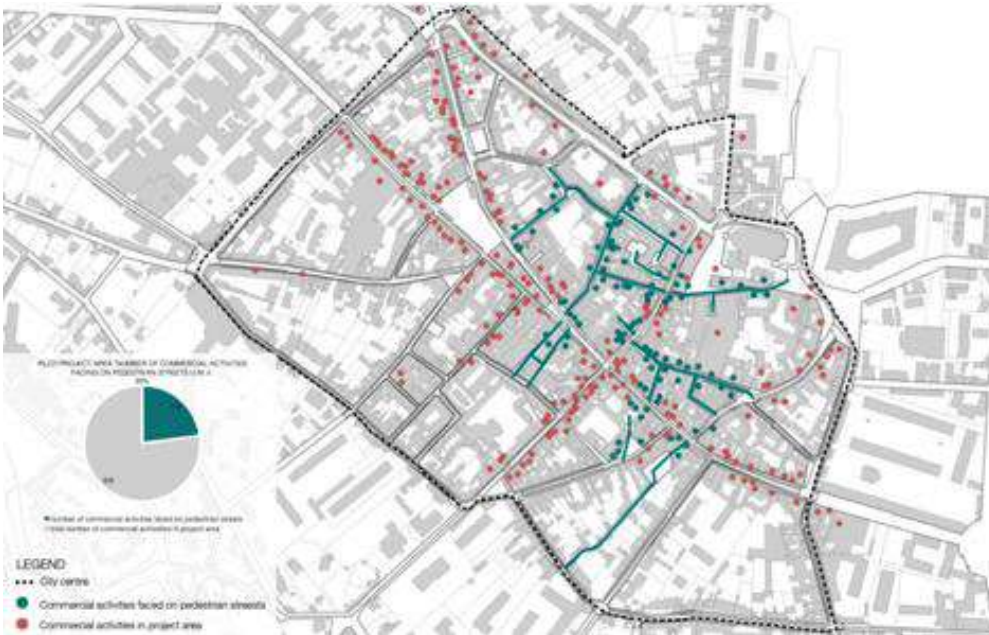


Figure 2.9 - N° of commercial activities / destinations
facing the pedestrian streets in the "CURRENT SITUATION" [link to the PDF HQ file]

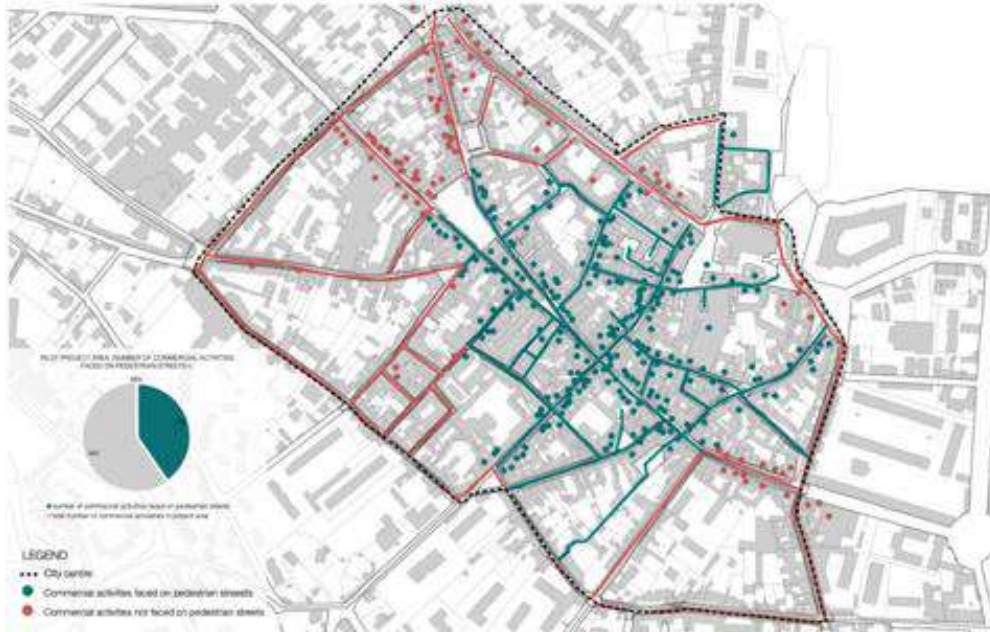


Figure 2.10 - N° of commercial activities / destinations facing the pedestrian streets in the “WALKABLE SCENARIO” referring to the micro-mobility solutions design implemented for the 3rd Phase project.

[link to the PDF HQ file]

Project of the new walkable city centre of SGL

According to the huge **urban analysis** developed and previously described and referring to the following **Micro Urban Mobility [current situation]** Fig. 2.11, the **micro-mobility solutions** are divided in three progressive phases.

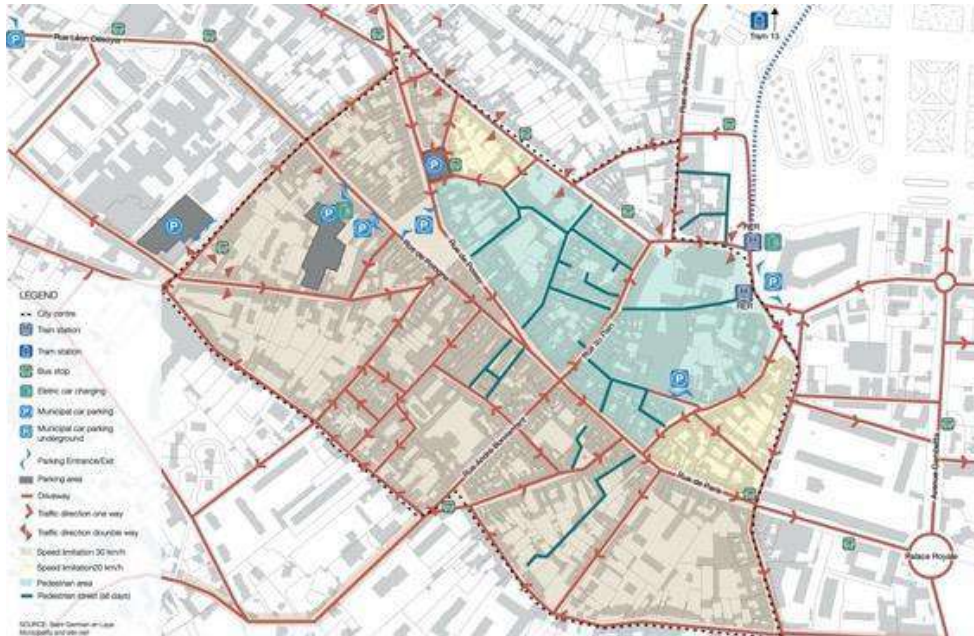


Figure 2.11 - Urban Analysis [current situation]: Micro Urban Mobility. [link to the PDF HQ file]

SGL City Center **Short Term Micro-mobility Solutions Design (1st phase project)** Fig. 2.12 starting at the end of the 2020 year and take into consideration firstly, preliminary and temporary pedestrianization actions aimed to test the effectiveness with small and cheap interventions of *Tactical Urbanism*, like redefinition of the walkable and cycling surfaces with different colors or soft materials, car slots' reduction, improvement of the public places for active transportation choices, implementation of 10/20/30 km/h zones. The speed moderation allows to obtain significant advantages in terms of the quality of the urban space, an increase in safety and a reduction in the level of severity of accidents, a reduction in the phenomena of rising dust and primary atmospheric emissions caused by traffic. The temporary emergency situation caused by COVID-19 is a strong reminder of the necessity to identify light and cheap, fast and reversible adaptation solutions, which if found effective could consolidate over time, accelerating the environmental transition period already planned to support sustainable alternatives of urban transports. It's necessary to create slow-streets and macro-blocks with a mainly walkable (pedestrian and cycling) vocation, keeping vehicular traffic only in some road axes. Main goal is to define **three areas (numbers 2, 3a and 9)** of the 9 areas that are eligible for the further urban furniture insertion) to experiment the *Open Air Urban Market* expected from the EIT-UM project.

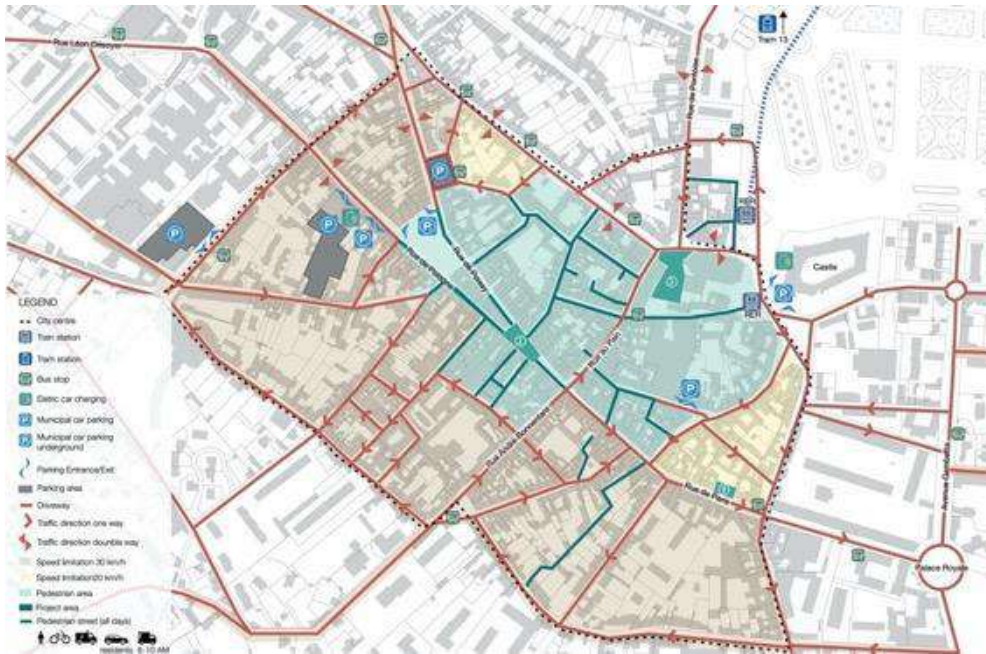


Figure 2.12 - Short Term Micro-mobility Solutions Design (1st phase project). [link to the PDF HQ file]

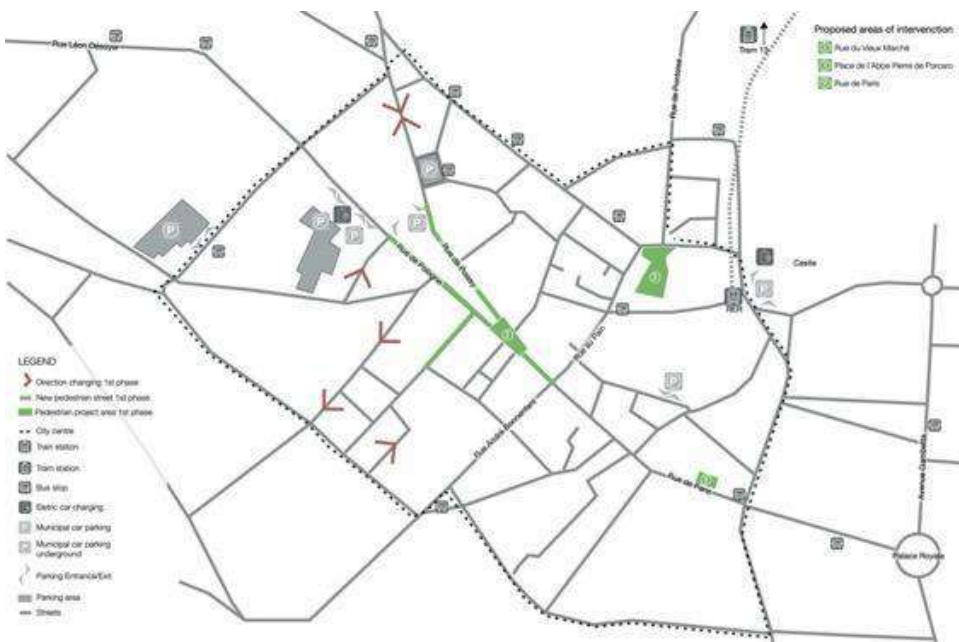


Figure 2.13 - Micro-mobility Solutions Design: Comparison Current Situation - 1st Phase [link to the PDF HQ file]

The *Short Term Micro-mobility Solutions Design (phase 1) plan* is added to the previous proposals delivered in the MS03 on 31st August 2020. In this phase *Rue de Pologne and Rue de Poissy* are proposed as

pedestrian streets, therefore the in some street traffic directions change accordingly. Finally, area 9 corresponds to the area in front *Au Bon Accueil* restaurant in *Rue de Paris*.

The design approach is divided into the following actions:

- priority pedestrianization for streets with a high density of commercial activities, to ensure greater involvement of the activities themselves in *Open Air Urban Market* that will be created through the installation of urban artifacts / equipment. The purpose is also to create a buffer zone in front of each commercial activity, in order to create an outdoor waiting area at the entrance / exit from the commercial point in order to guarantee the necessary physical spacing for COVID-19 purposes. Depending on the physical distancing measures, it will also be necessary to adjust the extension of the sidewalks, as well as facilitate the possibility of placing tables for bars and restaurants on the parking areas in order to recover part of the capacity lost inside. Encouraging the use of public space outdoors for cultural and sporting events may also allow organizers to carry out their activities in compliance with the public quota criteria.
- public car parks represent the starting / ending points of pedestrianization, as it is always necessary to ensure road accessibility both in entrance and exit (key example is the underground public parking in the main market square, which have the entrance in *Rue de Pologne* and the exit to the other side, *Rue de Poissy*);
- roads with a reduced road section can be one-way, referring to the *Superblock Model* developed in Barcelona, avoiding the common and failure *cul-de-sac* viability in spite of guaranteeing always the possibility of entry and exit; in other words, 30 km/h areas and traffic rings are created to discouraging the traffic crossing, allowing only the traffic for reaching the destination (i.e. timing of loading-unloading of goods or programming of this activity in the evening, or in times of closures and reduction of daily cycle-pedestrian flows);
- identification of possible strategic places of experimentation (insertion of the urban furniture artifact) that define the main entrance / exit gates to the *Open Air Urban Market*:
 - **areas 1, 7 and 8** (visible in the further micro-mobility solutions design phases) represent the three main entrance / exit gates of the pedestrianized area;
 - **areas 2, 3 and 4** are the small/medium central squares, characterized by daily moves of the fast transit, which require and improvement in terms of attractiveness; particular attention should be given to area number 3 if accompanied by a partial pedestrianization of the road intersection (between *Rue de la Republique* and *Rue de la Paroisse*), through interventions of *Tactical Urbanism* to enhance the view of the Castle;
 - **areas 5 and 6** represent the main square, where the weekly market takes place, and the mineral (paved) public space close to the SGeL Castle, the most important historical building of the City. They represent the main public spaces for their historical-artistic characterization and the consolidated identity value.

Few sketch settings of possible configurations for the experimentations are shown below, according to the first point of the *Decalogue of Healthy Design Strategies and COVID-19 proof Recommendations*, titled *Increasing quantity and quality of outdoor public spaces*: re-design of the urban public space with micro, temporary and experimental design actions of *Tactical Urbanism* to create and introduce the places hosting the new urban furniture. Starting from the experience deeply argued by the document *Streets for Pandemic Response & Recovery* of National Association of City Transportation Officials (NACTO) and *Global Designing Cities Initiatives*, it's necessary to experiment with the method of *Tactical Urban Planning* to generate new

public spaces instead of redundant roads or intersections, through implementation of light, fast and cheap interventions on an experimental basis (Fig. 2.14).

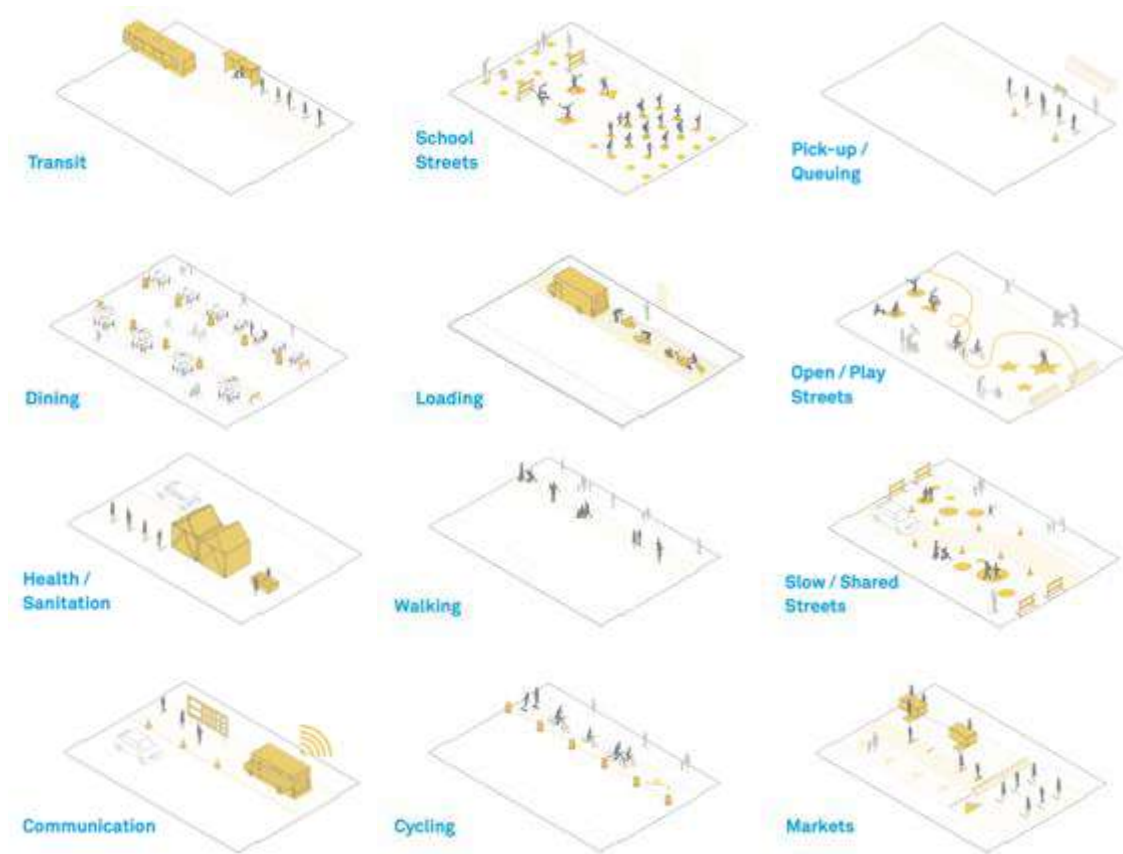


Figure 2.14 - Strategies developed by Streets for Pandemic Response & Recovery of National Association of City Transportation Officials (NACTO) and Global Designing Cities Initiatives [link to the PDF HQ file]

Rethinking streets in a time of physical distance, due to the COVID-19 needs, is a strong challenge from the Urban and Public Health purposes, but also for environmental benefits, like air pollution reduction. Streets must be configured so that people are able to move safely around the city. The **Walkable Environment** is crucial for our mental, physical, and immunological health. Streets are fundamental tools in a risk-reduction public health approach that creates space for people to exercise and play in close proximity to their homes, and provides them with the resources they need to realistically comply with physical distancing guidelines. Finally, streets in the COVID era provide space for the social services that will allow cities to safely re-open sooner. The sample approach used includes the following six principles:

- Support the most vulnerable people first.
- Amplify & support public health guidance.
- Safer streets for today and tomorrow.
- Support local economies.
- Bring communities into the process.
- Act now and adapt over time.

SGL City Center **Medium Term Micro-mobility Solutions Design (2nd phase project)** Fig. 2.15 represents the previous phase 1 (ref. MS03 on 31th August 2020) reviewed according to the suggestion received, and it will be ready for March 2022, when the new suburban train-tram 13 is going to be inaugurated. It consists in a strong walkable area expansion, to reach the other **four areas (numbers 1, 4, 5 and 6 of the 9 areas that are eligible for the further urban furniture insertion)** eligible for the further urban furniture insertion, bringing the pedestrian and cycling areas till the boundary of the SGL City Center.

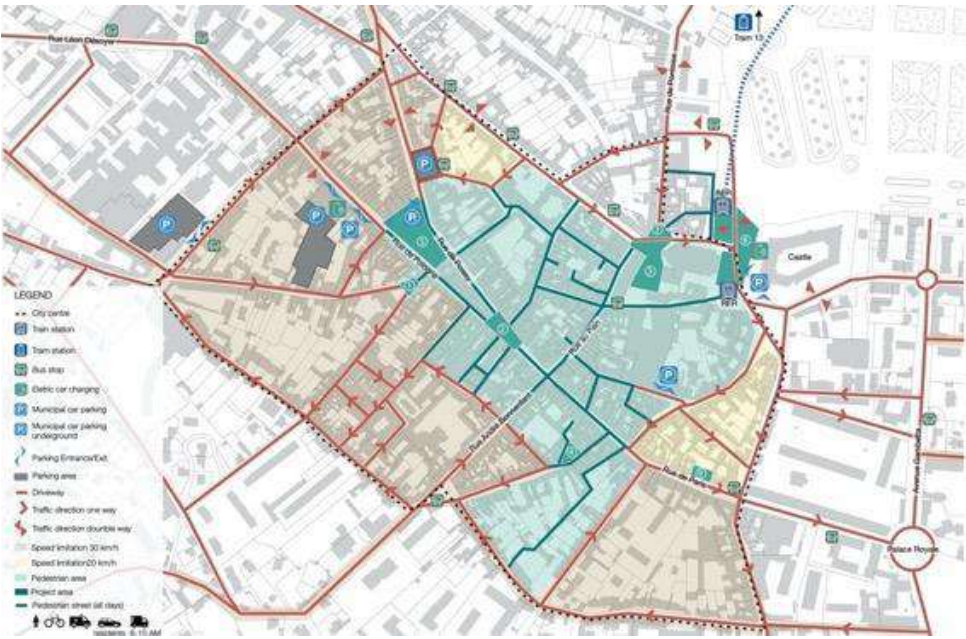


Figure 2.15 - Medium Term Micro-mobility Solutions Design (2nd phase project) [link to the PDF HQ file]

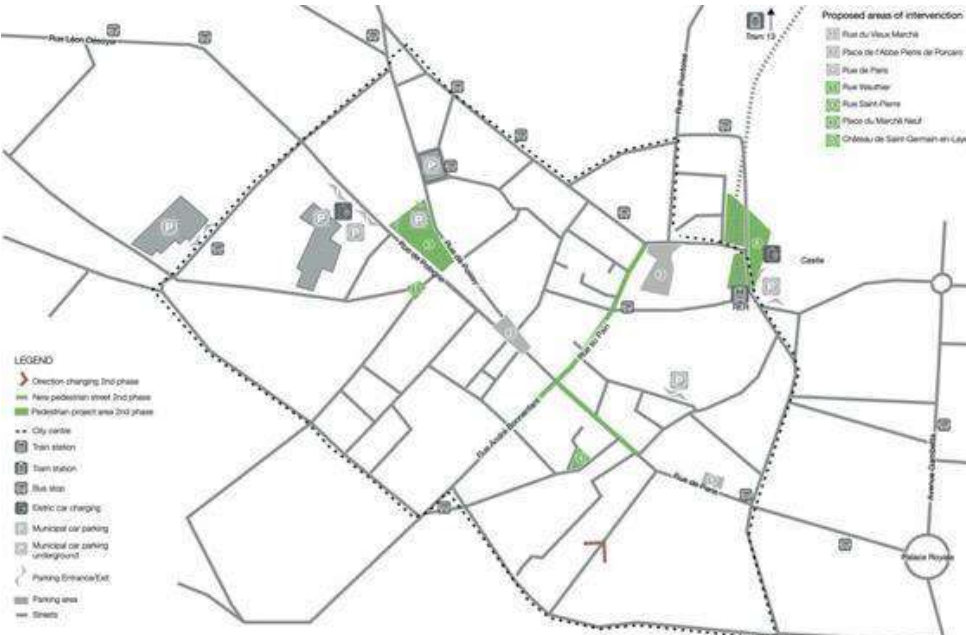


Figure 2.16 - Micro-mobility Solutions Design: Comparison 1st Phase - 2nd Phase [link to the PDF HQ file]

SGL City Center **Long Term Micro-mobility Solutions Design (3rd phase project)** Fig. 2.17 represents the previous phase 2 (ref. MS03 on 31th August 2020) reviewed according to the suggestion received, and it will target the 2025 development. It consists in the walkable area expansion completion, to reach the other two areas (numbers 3b, 7 and 8 of the 9 areas that are eligible for the further urban furniture insertion) eligible for the further urban furniture insertion, bringing the pedestrian and cycling areas till the boundary of the SGL City Center.

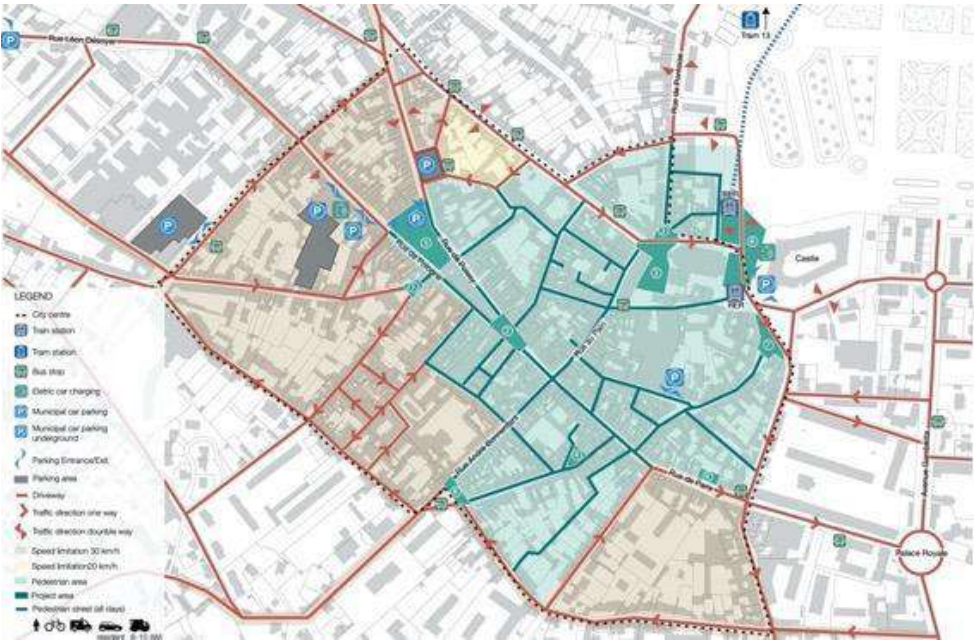


Figure 2.17 - Long Term Micro-mobility Solutions Design (3rd phase project) [link to the PDF HQ file]

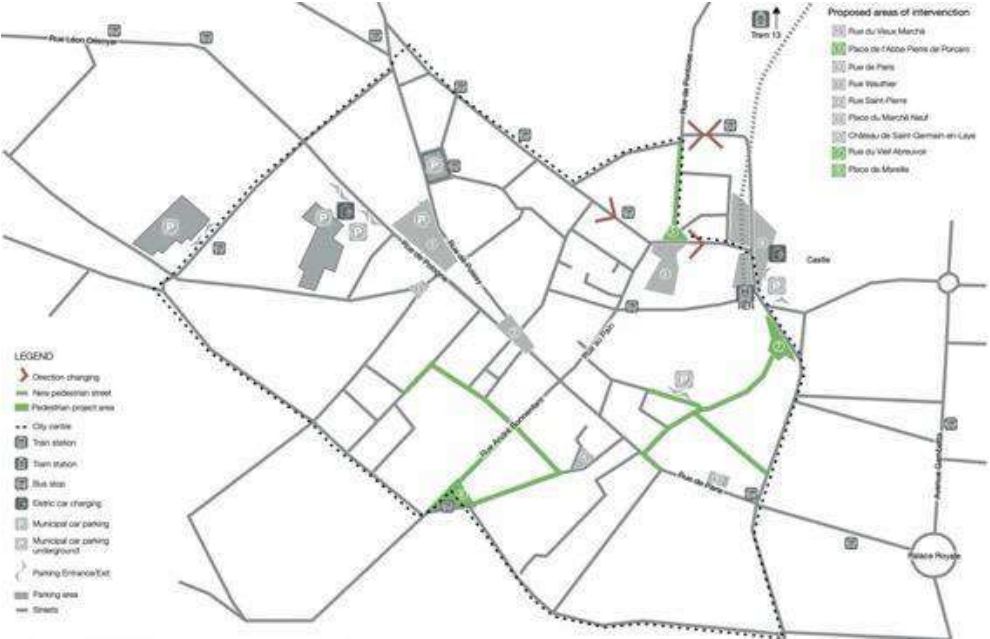


Figure 2.18 - Micro-mobility Solutions Design: Comparison 2nd Phase - 3rd Phase [link to the PDF HQ file]

3. Solutions for the management of the access and deliveries in pedestrian area

All the research and design activities described in this chapter were carried out by the Politecnico di Milano Dept. ABC Team. This chapter was developed and sent to SGL municipality the 5th of October 2020 and updated for Delivery 03.

The results fulfil the following KEY OUTPUTS and KPI:

OUT01 Operational toolkit: the Strategies and indications for access and deliveries management (paragraph 3.2) are a part of the operational toolkit. The same strategies are part of the EITN03 Core KPI Target: The Product “Operational toolkit: urban furniture and guidelines for healthy urban design”

OUT06 City center of SGL transformed in a lively and health safe open-air market: the suggestion for management of the access and deliveries in SGL (paragraph 3.4) is the a step of the transformation of the city.

Moreover, the results fulfil the following TASKS:

A2002 Design and testing of livable urban spaces.

A2005 Public space regulation package.

In the *Urban Health* scenario, and even more in the COVID19 post-pandemic period, the role of city planners and policy-makers becomes essential in fostering the adoption of healthy behavior, especially that which concerns the urban environment’s predisposition to become an active part of the processes of health promotion and disease prevention, encouraging the choice of active and sustainable transport modes.

Active transport is a concept fully represented by the term *Walkability*. The term “*Walkable*” refers to a place suitable for walking, that can be traveled, crossed, and covered by walking or cycling. Plan a slow and sustainable mobility network refers to the design and realization of something immediate and temporary, like urban paths with widened pavements, 30 kph (20mph) speed limits, pedestrian priority streets, low-cost emergency cycle networks, capable of offering a real alternative to those who decide to use a bike for active transport. Indeed, the project proposal is aimed to reallocate street space from cars to cycling and walking, in response to the COVID-19 crisis, improving the Walkable Environment.

In this regard, a common solution to raise Walkable Environment is to adopt **Traffic Limitation Zones**- or defined “**moderate traffic areas**” - were introduced in the 1970s in several northern EU Countries and are generally characterized by the introduction of the speed limit of 30/20/10 KM/h (from here the denomination in “Zone 30/20/10”) on all roads that cross them, ensuring compliance by introducing specific devices or traffic moderation measures, configured differently depending on the context.

Numerous researches conducted in the EU Countries that have adopted this approach, even in a widespread way in urban areas (the Netherlands, Germany, France, Denmark and Switzerland, to name the most relevant cases), show that the creation of these areas produces key benefits, both on the safety

conditions of weak road users and of drivers themselves. The introduction of the 30/20/10 KM/h limit does not only translate into a reduction of the vehicles' speeds, but also into a better and safer negotiation of conflicts between vehicles at intersections, homogenizing speeds around average values and increasing accordingly safety, compared to actual travel times that are usually unchanged.

Other positive effects are connected to:

- **environmental benefits:** air-noise pollution reduction thanks to lower vehicles' emissions, due to their speed reduction;
- **social and mental benefits:** social inclusion due to the creation of a walkable environment;
- **health benefits:** rising of the daily Physical Activity opportunities due to the creation of a walkable environment;
- **safety benefits:** better communication between drivers and pedestrian, perceiving mutual intentions, avoiding dangerous behaviors and to give priority to a pedestrian crossing;
- **economical benefits:** functional mix of the neighborhoods' ground floor that boost attractively of places;
- **urban quality benefits:** crossing traffic is discouraged and the space dedicated to motorized traffic, pedestrian and cycle mobility is rebalanced. Traffic congestion is reduced.

3.1. Methodology

Areas with transit restrictions are called in different ways in relation to contexts, restrictions' typologies or objectives, however in the present report they will be called 'Traffic Limitation Zones'.

The report is structured in three main sections: strategies, case studies, suggestions.

The '**strategy**' section provides an overview of the main strategies used in European Countries for access and deliveries management in areas with transit restrictions. The strategies description emerged from a literature review of bibliography and existing case studies which adopt Traffic Limitation Zone. In particular, the following issues have been analyzed:

- Traffic Limitation Zones typologies
- Access control devices
- Freight delivery strategies

The strategy description is followed by a comparison among their main characteristics: the nature of the problem, investments and implementation time.

The '**case studies**' section represents a collection of 11 case studies of different European cities that deal with the three mentioned issues, in order to have a broader scenario of international experiences. The case studies have been selected by using the following inclusion criteria:

- Geographic, social and legislative context: the choice to include only example of the European context has been taken to have case studies comparable and useful for the strategic definition of the Traffic Limitation Zone area in the city of SGL;
- Year of intervention: selected cities have all been realized in the last 20 years, in order to have best practices corresponding to current requirements;
- Scale of intervention: measured in relation to the number of inhabitants and surface of intervention. In particular, 6 cities selected have a dimension similar to SGL, while 4 have a broad surface in order to consider different approach too.

For each case study, the information has been processed and compared through indicators available in the sheet used for the analysis. This allows to compare the data obtaining a general framework and identifying

spatial and organizational common characteristics useful for the purpose of the study. After their description through specific sheets their characteristics are compared with indicators.

Finally, the **'suggestion' section** provides specific suggestions for SGL context in relation to the data and experiences collected in similar contexts.

3.2. Strategies and indications for access and deliveries management

Traffic Limitation Zones Typologies

The intent is to reduce traffic during peak hours in urban areas and to enhance environmental sustainability. Three main strategies have been identified:

- Time access restrictions
- Users/Vehicles typologies restrictions
- Economic restrictions

Time access restrictions

Specific objectives: decreasing noise pollution (e.g. restrictions during night hours); reducing congestion produced by traffic (e.g. restrictions during peak hours); promoting proximity of services that can be reached with short distances through slow and active mobility; enhancing shopping areas through pedestrianization and providing space for public events and markets.

Time access restrictions imposes schedules to enter to a specific area of the city (e.g. city centre). The main types of time access restrictions can be divided into daytime restrictions (e.g. Bordeaux and Donostia San-Sebastian) or access bans, and night-time restrictions (e.g. Barcelona and Lyon) or access bans. This strategy is used for instance in the cities of Barcelona, and Lyon.

Users/Vehicles typologies restrictions

Specific objectives: reducing air pollution and standard emission (e.g. restrictions to 'dirty' vehicles and promotion of electric or low-emission vehicles); reduction of congestion (e.g. restriction to size size/load/weight of the vehicle); enhancing walkable environment by fostering active mobility (e.g. restriction to all typologies regardless emergency vehicles, people with disabilities, delivery and residents and public transports).

This restriction prevents vehicles of a certain typology from using a particular road or area (e.g. Barcelona, Berlin, Bordeaux, London, Madrid, Milan and Parma). The different typologies of users and vehicles considered for the access permission or restriction are:

- All vehicles, creating a full pedestrian area or street
- User type: standard users or residents (usually residents are able to access)
- Type of trip: delivery, private user, public transport, taxi
- Size/load/weight of the vehicle
- Environmental restrictions: gasoline pre-EURO and diesel pre-EURO, EURO1 and EURO2 vehicles

Economic restrictions

Objectives: reducing congestion produced by traffic and promoting active mobility (e.g. use of public transport and bicycle instead of paying a fee).

Economic regulations are developed in relation to the economic context and to the social behaviour of the citizens in respect to the willingness to pay. This strategy can provide economic benefit to the municipality. Furthermore, the payment of a fee can be adopted following time access rules (e.g. Gothenburg, London, Madrid, Parma) or users/vehicles typologies (e.g. Berlin and Milan).

The main types of strategies which deal with the economic issue have been described as follows:

- **Pricing** – Road pricing means that motorists pay directly for driving on a particular roadway or in a particular area. This strategy is used for economic issues, in order to achieve a profit for the Municipality. Charges can be fixed or variable according to a vehicle's emission standards if the reduction of emissions is the target (e.g. Milan Area C).
- **Incentives and subsidies (delivery operators)** - The opposite of taxation and tolls is the use of incentives or subsidies to encourage the development of sustainable urban distribution in relation to freight delivery. Incentives may be economic (i.e. offered when purchasing electric or low emission vehicles) or competitive (i.e. rewarding those operators, who are in compliance with scheme requirements such as limits in relation to emissions standards, load factors, etc., with the right to access environmental zones for extended time intervals, to use reserved bus lanes, etc.).
- **Tradable permits and mobility credits (delivery operators)** - These measures involve the introduction of a pricing scheme based on the mobility credits model in order to reduce high levels of congestion and pollution in busy city centres. The mobility credits model establishes the total amount of "acceptable" emissions within a specified zone of a city and then allocates them to economic operators such as retailers and occupiers of offices to enable them to "purchase" freight transport services that are not subject to additional access charges or restrictions. When credits have been used up, more credits can be purchased from the city authority or, if a market has been established, from economic operators who have a surplus of credits. It therefore provides a financial incentive for the receivers of freight in city centres to analyse and carefully plan their deliveries to avoid exceeding their mobility credit budget.

Access Control Devices

The main control devices used in reduce traffic areas are:

Video cameras

Automatic access control where video or photo cameras are installed in specific electronic gates to enter in routes or areas of the city (Fig. 3.1). Cameras provides the immediate automatic license plate recognition (ALPR) and checks whether vehicles are authorized or not. Unauthorized vehicles will immediately receive a fine ticket. Cameras may be activated in specific time of the day or night. This system is used in most of the case studies analyzed (e.g. Donostia San Sebastian, Parma, Gothenburg, Madrid, Milan).

Badge and physical barriers

Access control is regulated through a badge or card used to open automatic bollards (Fig. 3.2) or bars which close the traffic in specific streets or areas of the city (e.g. Barcelona, Bordeaux, Grenoble, Lyon and Berlin). In addition, permanent physical barriers as fixed bollards can be used to restrict the access to specific areas.



Figure 3.1 – Camera to control the accesses to the Limited Traffic Zone (Area C) in Milan



Figure 3.2 – Automatic bollards to close traffic in city areas

Freight Delivery Strategies

Three main strategies have been identified for freight delivery:

- Intermodal/logistic delivery
- Collection points
- On site delivery

Intermodal/logistic delivery

The lack of parking and loading facilities aimed at receiving freight may require the use of staging areas (or nearby delivery areas). The objective is to develop an implementation-site and off-street areas at businesses or facilities that regularly receive freight. The establishment of common loading areas for sites that are large traffic generators or for other multi-tenant facilities may be a viable option. These areas might be implemented on public or private parking lots, empty lots, or other spaces that can accommodate a number of freight vehicles to conduct loading and unloading activities. In these staging areas, cargo can be unloaded from freight vehicles and loaded onto trolleys, carts, or other vehicles for last mile distribution. This strategy is experimented for instance in the city of Bordeaux and Rouen with the creation of ‘nearby delivery areas’ (Espace de livraison de proximité – ELP) (Fig. 3.3).

Collection points

This initiative promotes the use of specific locations for pick-up and deliveries, such as on-street automated locker systems, parcel shops and post offices as well as mini- depots. In this scheme trucks deliver to collection points and customers travel to these pick-up areas to get their goods, as in the city of Berlin where the ‘BentoBox’ system is experimented in a specific part of the city called ‘Laboratory area’ (Fig. 3.4). To be socially beneficial, these points need to be located at places where customers only need to make short deviations from their daily routines.

On site delivery

Standard delivery is the most used method that consists of direct shipment on site/shop. This modality needs parking spaces for loading and unloading and can cause congestion in the city centre if the deliveries are not scheduled in specific time slots. In this regard, the city of Barcelona programmed the deliveries

during night hours (Fig. 3.5), while Donostia San Sebastian during the morning. Another strategy is to limit the time for deliveries, as in Grenoble where 20 minutes are allowed. The city of London takes advantage of on site delivery to adequate kerb space for parking and loading activities.

Parking regulations - Frequently, the number of parking spaces available for delivery is not enough to satisfy the needs of delivery trucks. Lack of delivery spaces shifts delivery operations to traffic lanes or pavements and leads to congestion and potentially hazardous situations for other street users. The main types of parking regulation measures are as follows: loading and parking restrictions, vehicle parking reservation systems, timeshare of parking spaces, peak-hour clearways.



Figure 3.3 – Intermodal logistic delivery in Bordeaux



Figure 3.4 – BentoBox mobile station with removable trolleys in Berlin



Figure 3.5 – Nighttime delivery in Barcelona

Strategies Comparison

STRATEGIES		CHARACTERISTICS							INVESTMENT	IMPLEMENTATION TIME
		NATURE OF THE PROBLEM								
		Congestion	Inadequate infrastructure	Pollution	Noise	Safety	Lack of Walkable Environment			
ACCESS	Time access restrictions	X		X	X	X	X	low	short	
	Users/Vehicles typologies restrictions	X		X	X	X	X	low	short	
	Economic restrictions									
	- Pricing	X		X	X	X	X	high/moderate	medium/short	
	- Incentives and subsidies			X	X			high	medium	
	- Tradable permits and mobility credits			X	X			moderate	medium	
DELIVERY	Intermodal delivery methods	X	X				X	high	medium	
	Collection points	X	X					low	short	
	On site delivery (parking regulation)	X					X	low	short	

Table 3.1 Access and delivery management strategies comparison - Link to the PDF HQ file

3.3. Case Studies of European cities management

The strategies regarding access and delivery management in cities with traffic restrictions were drafted by analyzing a collection of the Europeans case studies, included in the [Annex II](#).

Each sheet is organized with:

- general information of the city, like the number of inhabitants, the extension of the city, the area of the project, and the project starting year, and a map of the area of intervention (Fig. 3.6);
- the strategy aspects: users allowed to access, access control methods, fee to enter, time access schedule both for users and delivery, freight delivery methods, parking regulations, if there are reserved routes and methods to get to the city (Fig. 3.6);
- case study description, which in some cases explore particular delivery methods (e.g. experiments) that briefly explain the strength of the project and the key points of it;
- references, where the information are coming from for example specific websites;
- images that represents the key aspects of the project and photos of the intervention area.

BARCELONA, SPAIN

STRATEGY ASPECTS

USERS ALLOWED TO ACCESS:
 Pedestrian Bicycles Motorcycle
 Resident's Vehicles Electric cars GPL/Hybrid vehicles Emergency vehicles
 Public transport Taxi Waste service
 Delivery trucks (Weight = 1.000 kg
 Weight 1.000 kg <x<6.000 kg Weight > 6.000 kg
 Other

ACCESS CONTROL METHOD:
 Cameras Badge

FEE TO ENTER:
 Specific categories All vehicles No fee

TIME ACCESS SCHEDULE - USERS:
 Monday to Saturday 11 am - 15:00, Sunday 17:00 - 20:30, Holidays: 00:00 - 24:00

TIME ACCESS SCHEDULE - DELIVERY:
 All days 22:00 - 7:00

FREIGHT DELIVERY METHODS:
 On site delivery Intermodal/logistic delivery Collection points

PARKING REGULATIONS:
 Loading and unloading Disabled parking Short time parking Residents Other

RESERVED ROUTES:
 Yes No

METHODS TO GET TO THE SITE:
 Public transport to/from parking areas near the city center Parking on site (in the city center) Other
Parking out of the Superblocks area

Inhabitants n° = 1.620.000
 Surface of the intervention (one superblock) = 1,5 km²
 Surface of the intervention (total) = 70 km²
 Project starting year = 2016 Superblocks



Figure 1 – Pedestrian areas of Superblocks in Barcelona

Figure 3.6 - Extraction of the first part of a case study sheet - Link to the PDF HQ file

The cities included in the analysis are 11 and are divided into two sections in relation to the intervention scale.

Dimension similar to SGL intervention area:

- Barcelona
Inhabitants n° = 1.620.000
Surface of the intervention (one superblock) = 1,5 km²
Surface of the intervention (total) = 20 km²
Project starting year = 2016 Superblocks
- Bordeaux
Inhabitants n° = 249.712
Surface of the intervention = 1.1 km² (pedestrian area)
Project starting year = 2003 (delivery project)
- Donostia San-Sebastian
Inhabitants n° = 186.665
Surface of the intervention = 0,4 km²
Project starting year = 2012
- Grenoble
Inhabitants n° = 158.454
Surface of the intervention = 0,7 km²
Project starting year = 2017
- Lyon
Inhabitants n° = 516.092
Surface of the intervention = 2,3 km²
Project starting year = 2019
- Parma
Inhabitants n° = 194.417
Surface of the intervention = 1,1 km²
Project starting year = 2001

Wider of SGL intervention area

- Berlin
Inhabitants n° = 3.645.000
Surface of the intervention = 4,9 km²
Project starting year = 2011
- Gothenburg
Inhabitants n° = 575.597
Surface of the intervention = 15 km²
Project starting year = 2007
- London
Inhabitants n° = 8.982.000
Surface of the intervention = 22 km²
Project starting year = 2003
- Madrid
Inhabitants n° = 3.223.000
Surface of the intervention = 5 km²
Project starting year = 2011
- Milano
Inhabitants n° = 1.352.000
Surface of the intervention = 8,4 km²

Project starting year = 2012

The information gathered through the indicators are then compared in two different matrixes.

Case studies comparison

In conclusion, a comparison of the information collected has been done by using two different matrixes: one about the users allowed to access to the area (first indicator) (Table 3.2) and another one with the other information provided by the other indicators (Table 3.3).

Finally, specific suggestions are provided for SGL in relation to the study conducted.

Table 3.2 Case studies comparison in relation to the users allowed to access at the area of intervention - Link to the PDF HQ file

CASE STUDIES	USERS ALLOWED TO ACCESS											
	Surface Intervention km2	Pedestrian	Bicycles	Motorcycles	Resident's Vehicles	Electric cars	GPL Hybrid Vehicles	Emergency Vehicles	Public Transport	Taxi	Waster service	Delivery trucks
Barcelona	1,5	X	X	X	X			X		X	X	X
Bordeaux	1,1	X	X		X			X	X	X	X	
Donostia San-Sebastian	0,4	X	X		X			X		X	X	X
Grenoble	0,7	X	X		X			X	X	X	X	X
Lyon	2,3	X	X		X			X	X	X	X	X
Parma	1,1	X	X	X	X	X	X	X	X	X	X	X
USERS ALLOWED TO ACCESS (Wider area of intervention)												
Berlin	4,9	X	X	X	X	X	X	X	X	X	X	
Gothenburg	15	X	X	X	X	X	X	X	X	X	X	X
London	22	X	X	X	X	X	X	X	X	X	X	X
Madrid	5	X	X	X	X	X	X	X	X	X	X	X
Milan	8,4	X	X	X	X	X	X	X	X	X	X	X

Table 3.3 Case studies comparison in relation to access and delivery management - Link to the PDF HQ file

CASE STUDIES	ACCESS AND DELIVERY MANAGEMENT							
	Access Control Method	Fee to Enter	Time Access Schedule USERS	Time Access Schedule DELIVERY	Freight delivered methods	Parking regulations	Reserved Routes	Methods to get to the site
Barcelona	Badge	Specific Categories	Monday to Saturday 11:00 - 15:00, Sunday 17:00 - 20:30, Holidays 00:00 - 24:00	All days 22:00 - 7:00	On site delivery	Loading/ Unloading, Disable parking, Residents	No	Parking on site (out of the Superblocks area)
Bordeaux	Badge	Specific Categories	All days 7:00 - 11:00	Monday to Friday 9:00 - 17:00, Saturday 9:00 - 11:00	Intermodal/logistic delivery	Disable parking, Residents	No	Public transport to/from parking areas near the city center
Donostia San-Sebastian	Cameras	Specific Categories	All days 7:00 - 11:30	All days 8:00 - 11:00	On site delivery	Loading/ Unloading, Disable parking, Short time parking, Residents	No	Public transport to/from parking areas near the city center
Grenoble	Badge	No fee	All days 00:00 - 24:00 for maximum 20 minutes	All days 00:00 - 24:00 for maximum 20 minutes	On site delivery	Loading/ Unloading, Disable parking, Residents	No	Public transport to/from parking areas near the city center
Lyon	Badge	No fee	All days 21:00 - 10:00	All days 00:00 - 24:00	On site delivery	Loading/ Unloading, Disable parking, Residents	No	Public transport to/from parking areas near the city center
Parma	Cameras	Specific Categories	All days Access 00:00-24:00 Fee to enter 07:30 - 19:30	All days 00:00-24:00	On site delivery	Loading/ Unloading, Disable parking, Short time parking, Residents	No	Parking on site

Table 4.3 Case studies comparison in relation to access and delivery management - Link to the PDF HQ file

ACCESS AND DELIVERY MANAGEMENT (Wider area of intervention)								
Berlin	Other – Sticker controlled manually	Specific Categories	All days 00:00-24:00	All days 00:00-24:00	Collection points	Loading/ Unloading, Disable parking, Short time parking, Residents	No	Parking on site
Gothenburg	Cameras	All vehicles	Access all days 00:00-24:00 Fee to enter 6:00 - 18:30 Monday to Friday	All days 00:00-24:00	On site delivery	Loading/ Unloading, Disable parking, Short time parking, Residents	No	Parking on site
London	Cameras	Specific Categories	All days Access 00:00-24:00 Fee to enter 7:00 - 10:00	All days 00:00-24:00	On site delivery	Loading/ Unloading, Disable parking, Short time parking, Residents	No	Parking on site
Madrid	Cameras	Specific Categories	All days Access 00:00-24:00 Fee to enter 7:00- 22:00	Vehicles zero 00:00-24:00 ECO 7:00-21:00 others 7:00-13:00	On site delivery	Loading/ Unloading, Disable parking, Short time parking, Residents	No	Parking on site
Milan	Cameras	Specific Categories	Access All days 00:00-24:00 Fee to enter weekdays 7:30 - 19:30 Thursdays 7:30 - 18:00	All days Electric cars 00:00- 24:00 Others 08:00 - 10:00	On site delivery	Loading/ Unloading, Disable parking, Short time parking, Residents	No	Parking on site

3.4. Suggestions for management of the access and deliveries in SGL

About the **Access Control Method**, Cameras are considered the most widespread method considering the flexibility of their management and the possibility of immediate updates. The **fee to enter**, very common in the case studies analyzed, could be applied to Specific Categories and should be agreed with the Municipal Departments in charge for work, mobility and social policies, since it risks to generate social inequalities and different opportunities in terms of public services' accessibility.

Table 3.4 Access and delivery management suggestions for SGL - Link to the PDF HQ file

ACCESS AND DELIVERY MANAGEMENT								
	Access Control Method	Fee to Enter	Time Access Schedule USERS	Time Access Schedule DELIVERY	Freight delivered methods	Parking regulations	Reserv ed Routes	Methods to get to the site
Saint Germain En Laye	Cameras	Specific Categories	All days 00:00-24:00	All days 6:00-10:00	On site delivery	Loading/ Unloading, Disable parking, Residents	No	Public transport to/from parking areas near the city center

In relation to, **Time Access Schedule Users**, it is suggested to adopt a Limited Traffic Zone, where specific categories of users can enter during all day: bicycle, residents, emergency vehicles, public transports, taxi, waste service and delivery vehicles with special restrictions.

Referring to the **Time Access Schedule Delivery**, the suggestion coming from the case studies' comparison is to define a morning slot (i.e. from 6:00 to 10:00) available for the deliveries, in the daily moments of less pedestrian flow, and in a useful way to supply the city and its commercial activities. Only in case of special situations, such as the market day, the morning slot for loading/unloading can be extended. According to the case studies comparison, the most widespread **Freight delivered methods** is the onsite delivery, suggested with trucks of maximum 6.000 kg. For what concerns long term mobility project, more active delivery solutions can be adopted, such as cargo bikes and trolleys, through intermodal/logistic delivery. Otherwise, deliveries can also be managed through a digital application.

About **Parking regulations** and capabilities, they are limited and reserved for Loading/Unloading, Disable parking, Residents. In addition, an online App might be adopted in long term mobility solution, to book the parking in relation to vehicles typology (e.g. delivery, residents, etc.). **Reserved Routes** will be no provided, since no high volumes of traffic were found to justify this choice.

Finally, the suggested **Method to get to the site** is the use of cars until the area of intervention or the train. However, for long term mobility design, more parking area near the city can be planned in strategic locations, allowing people to leave the car and get the city through public transport. Furthermore, users will be encouraged to arrive by public transport, through the new train-tram 13 line, and to use small size sharing electric vehicles such as bicycles and trottinettes.

4. Public engagement methods

All the research and design activities described in this chapter were carried out by the Politecnico di Milano Dept. ABC Team.

The results fulfil the following KEY OUTPUTS:

OUT02 Validated public engagement method tested in SGL: The engagement method (paragraph 4.2) and the criteria for the application (paragraph 4.3) are the project of the engagement program tested.

OUT03 Solidarity network consolidating the economic and social resilience. The engagement method started with interviews and stakeholders interaction (described in paragraph 4.2 and in DEL01)

Moreover, the results fulfil the following TASK:

A2002 Design and testing of liveable spaces

A2004 Citizens' engagement

The need of built environment evaluation is always more urgent and relevant for contemporary cities. Public administration, policy and Decision Makers (DM), and different stakeholders need reliable instrument to compare and assess urban transformations and design proposals implementation. The activities described in the chapter highlight the theoretical foundations, methodologies adopted and operative indications for the exploitation of public engagement methods in the process of urban public space design and implementation for the city of SGL. In particular the assessment of users' needs through online and offline mapping, interviews, on street campaigns, the shopkeepers and resident's engagement in the debate and proposals for the design and use of public space (i.e. ideas collection, informal workshops) and the public voluntary involvement has been considered, deepening what already declared in Delivery 01. Indeed, interviews have been conducted with shopkeepers, citizens and urban space users for the collection of specific needs and requirements. Furthermore, various meetings and workshops both in presence and online have been held for the executive design definition; this activity followed an iterative process and a high level of interaction with institutional stakeholders and Decision Makers (DM). Finally, a specific evidence-informed survey has been designed with the aim of providing to SGL an effective and validated tool for public engagement and users interaction along with Post Occupancy Evaluation of urban scale interventions. This instrument is flexible and scalable as it is composed by four different surveys able to evaluate in both qualitative and quantitative ways the effectiveness of urban intervention in medium sized European city centres through the application of validated public engagement methods. The tools proposed in this chapter is ready to be tested in several context while a simplified version has been applied and validated with specific regards to the intervention in SGL as detailed described in Chapter 8.

4.1. Theoretical principles for the definition of methods for the collection of public feedbacks about the built environment

The need of evaluation within built urban environments

Within the areas of research related to the built environment there is an increasing need to establish methods and techniques for the evaluation of the characteristics of interventions, or their impact on certain parameters both at the urban and building scales. Starting from 1970s, and with the recent birth of the green building concept this approach incorporated the Building Performance Evaluation (BPE) methodologies along with the spreading attention to environmental sustainability and ecology (Chew et al., 2017; Li et al., 2018; Meir et al., 2009; Preiser et al., 2018). This has also led to the development and international diffusion of tools such as LEED, BREEAM and many others. Several tools and methodologies have been developed to assess the qualities of the physical environment because of the growing awareness of the benefits that a good physical setting can give to occupants and stakeholders (Brambilla & Capolongo, 2019; Li et al., 2018).

The construction of a POE assessment tool for the built environment

Among different tools a very effective and well-structured approach is Post Occupancy Evaluation (POE), defined as the process of systematically comparing actual building performance after completion and occupation (Brambilla & Capolongo, 2019; Preiser, 1989). This approach of obtaining feedback about a building's performance looks at the architecture not only from the aesthetic point of view, but also with concerns from social and behavioural fields by comparing building performances with explicit human needs (Cooper et al., 1991). It can be used for several reasons, such as to verify if the results meet the intended organizational goals and user-occupant expectations. POE can be also seen as a strategy to make buildings more sustainable (Woon et al., 2015). Generally, a tool for assessment of the built environment is based on a hierarchical structure and the different parts can be related to a decision tree where the higher part is formed by fundamental and interconnected macro-areas (Capolongo et al., 2015). Each area is further divided into a hierarchical framework of Criteria & Indicator (C&I type), which are the elements concurring to the final score of each specific aspect. Each criterion relates to one key macro-area and may be described by one or more indicators. Eventually, an indicator might be composed by one or more very specific items to measure or verify with specific rationale and method. According to the definition of the standard UNI 11097 an indicator is: "The information, qualitative or quantitative, that is able to evaluate its change during the time and to verify the defined quality goals, in order to take the correct decisions and choices" (Gestione per La Qualità, 2003). Indicators can be either qualitative or quantitative and not only allow to compare different situations, but they can also give insights over time thanks to the indicators' periodical measurements. In particular composite indicators can summarize complex, multi-dimensional realities with a view to supporting decision-makers (European Commission et al., 2008).

Review of existing instruments and methods

Although compared to the building scale the evaluation of urban environment is less present in the literature, some studies are able to highlight important features such as green and blue areas, neighbourhood quality and social cohesion (Capolongo et al, 2019). It thus seems clear that urban and outdoor environments and features may function as salutogenic or health promoting elements in various ways as research in health-promotion environments shown. Studies highlight also that there is a need to identify in more detail the specific qualities for different urban environments in order to support salutogenic processes efficiently (Stoltz & Schaffer, 2018). Indeed, if evidence is to lead to effective, resilient and salutogenic changes in our physical environment, then findings that translate readily into a design framework will be most beneficial (Thompson, 2013). In this regards several tools and protocols have been developed, primarily as translation to the urban scale to well established certifications, such as the case of Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND), evolved from the standard LEED certification for buildings. Other tools that are widely used at the international level are: British Research Establishment Environmental Assessment Method for Communities (BREEAM), UK; Haute Qualité Environnementale for Urban Planning Development (HQE), France; Deutsche Gesellschaft für Nachhaltiges Bauen / German Sustainable Building Council (DGNB), Germany; Comprehensive Assessment System for Built Environment Efficiency for Urban Development (CASBEE UD), Japan; Global Sustainability Assessment System (GSAS), Qatar; Green Star Communities (GSC), Australia. These certification tools are implemented on the scale of the neighbourhood by adopting a holistic approach to addressing the three dimensions of sustainability: environmental, economic and social, to face the problems of urbanization and to take in consideration the problems related to Human Health. Although those instruments are very well defined at the urban scale, for the sake of the project they approach at the evaluation with a too wide perspective and they are not appropriate to properly evaluate the grafting scale of the urban project for the city of SGL.

Several papers have been collected through a review of the literature highlighting additional specific aspects to be considered in order to plan resilient cities and neighbourhoods in light of public health, urban health, universal design and COVID resiliency (Capolongo, Buffoli, et al., 2020; Capolongo, Rebecchi, et al., 2020). Nowadays is therefore clear that Public Health is deeply influenced by the environmental context. In fact, studies show that there are a lot of Non-Communicable Disease (NCDs) – like cardio-respiratory and skin diseases, cancer, allergopathies, obesity, diabetes, stress, anxiety, sleeping disorders, cognitive development and social exclusion – that are mainly connected to the Environmental Risk Factors and are rising worldwide (Capolongo et al., 2020). Architecture and Urban Design, and its deep relationship with Public Health can play a key role to make citizen healthier both physically and mentally.

Additionally, as those instruments developed it became clearer that the citizen participation is another important aspect to be considered along with stakeholders' involvement and public engagement. Too often projects haven't reached their objectives because citizen wasn't correctly involved in it (Simonofski et al., 2017). Therefore, an ad-hoc survey has been developed in order to catch the correct granularity of the impact that small interventions can provide to the social, economic and environmental urban environment of SGL.

4.2. Design of the proposed public engagement methods: i) Preliminary Interviews ii) Stakeholders Interactions and iii) Evaluation Surveys

As declared in the aims and operational characteristics of the project, the engagement program has been developed to process, in a collaborative way, the involvement of the different users (stakeholders, citizens, temporary users, etc.), also in order to streamline their relationship with political decision makers in expressing their reasoned opinion on the initiatives. The goal was to promote common interests, favouring teamwork and enhancing existing resources, also in terms of activating the skills and initiatives available. The proposed program has been based on the fundamental principles of continuous and progressive involvement. The continuity resulted in reoccurrence which is the condition that allows the public to make their own and take care of the common infrastructure, as stated by Teli et al. *"Public design should therefore produce not only useful artefacts, but also the means for discussion, improvement, and future autonomy of the publics engaged"*(Teli et al., 2015). The progressivity has been used as the operating method that allows you to regulate involvement based on the objectives set by the progress of the program. Here, the process of public space feature innovation, required the ability to accommodate different needs, involving different stakeholders and levels of technical preparation. This is possible by governing the innovation process and the use of possible tools; according to Kumar *"To plan innovations, it is possible to benefit from well-developed processes to foresee people's needs and the nature of contexts within which those innovations fit"*(Kumar, 2004). In this regard, the term innovation is exploited in its meaning of action that introduces new elements locally. An action that originates from the cognitive potential of politics and civil society, but develops through the circulation of ideas, the true source of inspiration for innovation and the *"frame within which the formulation of policy problems, their salience and their tractability are socially constructed"*(Gasparini, 2005). In this sense, the public space project guided by social involvements helps the community to identify and build its own strategies starting from the potential of relational assets, sense of belonging and attention to the common good. Facilitating the expression of the place through relational processes allowed to develop ideas and projects that create meaning and value for the community, and with them the possibility of finding the necessary resources for their realization (Fanzini et al., 2020). The public engagement methods are described below and include: i) Preliminary Interviews ii) Stakeholders Interactions and iii) Evaluation Surveys.

i) Preliminary Interviews

Semi-structured preliminary interviews have been conducted to collect general feedbacks, needs and requirements from the city councillors, mayor and related staff and, in particular, on site shopkeepers' interviews along with citizens and urban space users engaging residents to generate debate, map and collect feedback on desirable public space features. The involvement has been conducted as voluntary activities. Those activities have been conducted mainly through direct interactions and on-site visits with follow ups in case of further needs. A collection of needs and requirements has been elaborated and has been used as input elements for the design of space and services widely described in previous documents, deliverables and reports. This first instrument refers to the phase 1- Information and 2-Consultaion highlighted in Delivery 01, Engagement Activity. An example of preliminary interviews is provided in Figure 4.1.



Figure 4.1 Preliminary interviews conducted to the shopkeepers of SGL by the researchers of Politecnico di Milano with the support of the Municipality

ii) Stakeholders Interactions

Starting from the results of the first and second phases of the research (DEL 01 and DEL 02), various meetings have been held with the project stakeholders, the results of which have guided the re-design of the initially proposed solutions and the deepening of specific technology-driven or user-centered solutions. In order to increase the effectiveness of these consultations, evidence-informed approaches have been exploited. Those approaches meet the increasing need to establish methods and techniques for the evaluation of research related to the built environment at city and building level, of the characteristics of the interventions as well as their impact on certain parameters. This activity followed an iterative process and a high level of interaction with institutional stakeholders and Decision Makers (DM).

As a result of the application of these processes, it was possible to adapt the initial proposal to the various scales with specific regards to:

- spatial arrangement at urban scale;
- urban furniture and design object scale.

The process and changes made, taking into account the results of the consultations, are extensively described in the documents. This second instrument refers to the phase 2-Consultation and 3-Collaboration highlighted in Delivery 01, Engagement Activity. An example of Stakeholder Interaction workshop is provided in Figure 4.2.



Figure 4.2 Stakeholder interaction workshop held in SGL and led by Politecnico di Milano researchers -

iii) Evaluation Surveys

Starting from literature review, design objectives and city requirements, the assessment tool has been developed with a double objective.

- evaluate whether the project achieved the preliminary objective stated at the beginning of the process and shared between the different stakeholders;
- verify whether the project implementation and construction actually provided benefits to the social, economic and environmental urban tissue of SGL

Firstly, to appropriately evaluate whether the project achieved the preliminary objective stated at the beginning of the process and shared between the different stakeholders. This has been targeted through a quantitative survey “A) EVALUATION OF THE PROJECT OBJECTIVES”. It is a post executive design survey structured as a quantitative/performance-based evaluation checklist submitted after the complete executive design approval or the installation. This assessment can be conducted during the Design phase and/or during the Evaluation phase.

This survey is composed by two documents. The aim of the first document, named A1, is to know what stakeholders think about the key parts of the project such as the use of sustainable materials or the connection with neighbored shops. The stakeholders for this part can be municipalities of SGL, shop keepers, residents, tourists or city users. The second document, A2, has been made for technicians (i.e. designers or researchers), and seeks to verify the effective level of compliance with the project goals.

The second tool objective is to verify whether the project implementation and construction actually provided benefits to the social, economic and environmental urban tissue of SGL thorough pre and post occupancy primary data directly derived from the city users, urban market customers, bystanders, tourists, clerks, shopkeepers and shop owners. This section “B) EVALUATION OF URBAN SCALE IMPROVEMENTS” is a qualitative survey that aims at evaluating the perceptive improvement provided by the project application.

This survey is also composed by two documents to be submitted before and after installation to evaluate the improvements perceived by the user (citizen/tourist/students) and by retailers. In facts, the first part, named B1, is the pre installation evaluation and the second part, B2, is the post installation survey. The rank assignment per each indicator might be based on a Likert scale and both sections might contribute to

establishing a final synthetic rating. The flowchart of the assessment is provided in Figure 4.3 while a detailed description of the content of the evaluation framework is provided below.

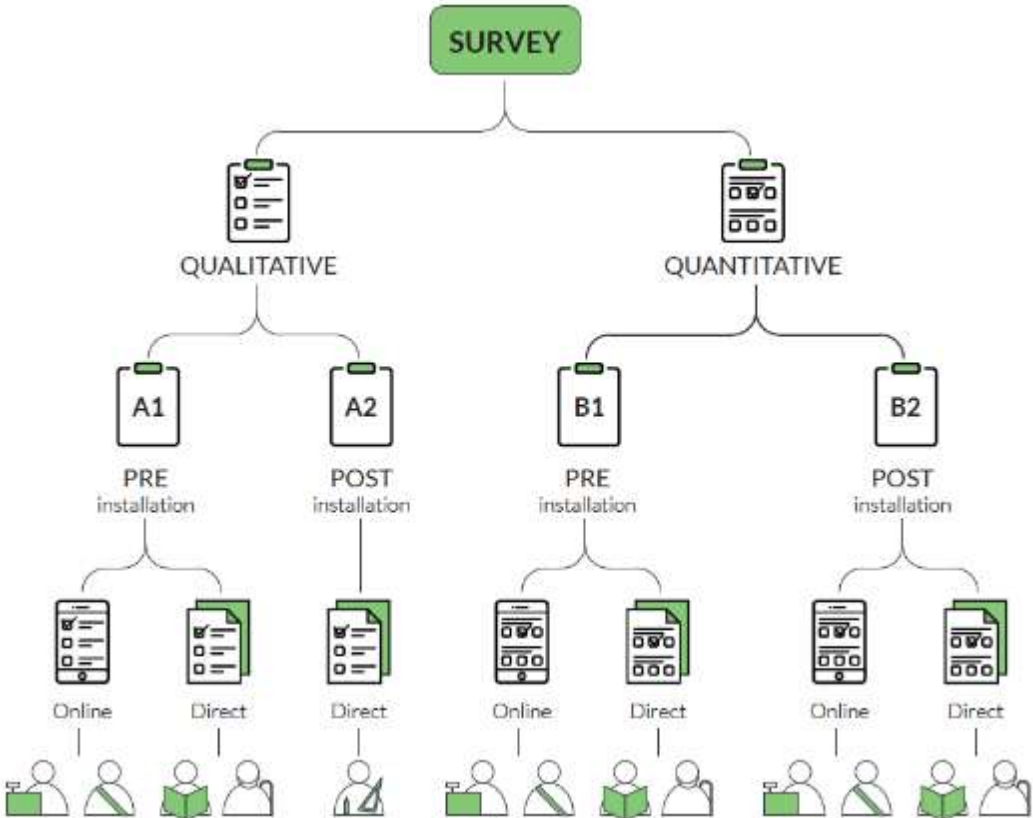


Figure 4.3: Flowchart for the Survey application composed of 4 different documents. The documents are submitted to either shopkeepers, citizens or technicians according to the different sphere of assessment to target

[Link to the HQ file](#)

Framework definition

Both sections A and B are structured with the same C&I framework, while each indicator is different due to the different target they have.

In particular, starting from the literature review and the project proposal, six criteria have been identified as main structure upon which building the evaluation.

The literature review informed which are the needs and the main characteristics that have to be considered to create a healthy, smart and innovative city. Much as the importance of green spaces that improve the urban residents’ health in terms of improving cardiovascular health, mental health and in general lowering all-cause of mortality and many other factors. (Huang et al., 2017)

A key part was also dedicated to investigating which materials have to be used for the project, due to the Covid-19 pandemic and the sustainability needs, to create a safe manufacture both for the environment and the citizens.

In particular, the proposed criteria are:

- **DESIGN FEATURES.** In an urban project, design features, such as furniture and quality of spaces, play a key role. For example, provide shaded seats within the city can encourage people to stay in open air longer. The same with the insertion of accessories like cabled workstations to encourage the open air-life and charging areas for electric vehicles and bikes to increase the use of low impact transport.
- **LOCAL AND CULTURAL IDENTITY.** The city of SGL is strongly linked with its tradition. In order to maintain and increase this aspect the project will have some connections with the history of the city. A cultural identity is fundamental to pass on traditions to the new generations.
- **ENVIRONMENTAL SUSTAINABILITY.** Nowadays every urban project should preserve and increase sustainability. This can be done with for example the use of sustainable and recycled materials or guaranteed the complete energy independence. It should also stimulate a sustainable way of life.
- **SAFETY AND SECURITY.** In a Smart and Healthy city, the safety and security should be a priority in order to give a better perception to the users and to reduce risks. To do this is necessary the use of light along the streets and active video surveillance.
- **ACCESSIBILITY AND UNIVERSAL DESIGN.** Every high-quality urban space must be fully accessible to all of the users. Special measures have to be considered to make the space pleasant and accessible to impairments.
- **HEALTH AND COVID-19.** Due to the Covi-19 pandemic, the urban space must be able to reduce risks. The use of outdoor spaces could be an important chance to create new safe spaces that can't be guaranteed in the city.

A detailed description of each criteria with related indicators is available in [Annex III](#).

This third instrument refers to the phase 3- Collaboration and 4-Evaluation highlighted in Delivery 01, Engagement Activity.

4.3. Criteria for the application of the validated public engagement methods on SGL, mitigation actions and scalability strategies

Operative procedure and methods of application

As previously mentioned, the tool is divided into two parts that are in their turn doubled for the evaluation before and after the installation or the draft of the executive project.

All the documents can be operatively submitted in many ways: directly with on-site surveys or on online with the use of a tool like Google form, according to the different users' category. The direct survey could be useful for city users, tourists and students/workers, in order to collect the highest number of answers. Posters with link to the online survey could be posted along the city and on the city's website with the purpose of collecting even more results.

Alternatively, or in addition to the direct assessment, in order to reach a bigger and more diverse sample, but also to overcome eventual limitations, the online form should be sent by email to shop keepers and SGL municipality acting as decision makers.

The response rate has to be consistent and must include a representative sample per each, category tourists, students, citizen, shop keepers and daily users, with about 1:1 gender ratio of every age groups identified.

In particular, the pre installation surveys (A1/B1) need to be drafted in 30 days in order to complete and eventually adequate the project based on the answers.

About the post installation surveys, A2 document have to be use by technicians (i.e.designers and researchers), B2 have to be filled possibly by the same individuals or groups who answered the pre-installation form.

Finally, as suggested by EIT and detailed reported in Chapter 8, mitigation actions have been planned in case of difficulties in applications of the aforementioned tools. A simplified version has been designed as comparison between pre and post intervention, in order to virtually validate the project on a sample of citizens.

Scalability strategies

After the conclusion of the project the tool will offer several possibilities for becoming an effective decision support instrument for the public administration in the city of SGL and any other city that wish to incorporate such concepts into the redesign of urban public space. The described methods are indeed applied in any other context of European cities. Furthermore, it is possible to implement the tool that is now acting as a cross sectional data collector, into longitudinal studies, incorporating epidemiological (i.e. life expectancy, COVID-19 spread, etc.) and environmental (i.e. pollution, etc.) data to understand evolutionary trends and long-term impact of the project implementation. This will allow to establish a continuous monitoring system for the management of health and environmental improvements with a wider and long-term vision.

5. Urban furniture

All the research and design activities described in this chapter were carried out by the Politecnico di Milano Dept. ABC Team. The first version of urban furniture project was developed and uploaded (according to the deadline) to EIT platform in DEL01. This chapter is the update version of urban furniture project made after request from SGL and other stockholders.

The results fulfil the following KEY OUTPUTS and KPI:

OUT01 Operational toolkit: the flexible urban furniture project (paragraph 5.1 and 5.3) is a part of the operational toolkit. The same furniture project is part of the **EITN03 Core KPI Target: The Product “Operational toolkit: urban furniture and guidelines for healthy urban design”**

OUT06 City center of SGL transformed in a lively and health safe open-air market: the project of the adopted solution for SGL (paragraph 5.2) is a step of the transformation of the city.

Moreover, the results fulfil the following TASK:

A2002 Design and testing of liveable urban spaces

A2005 Public space regulation package.

5.1. Redesign of the initial proposals

Following the delivery of the first project proposals at the end of the second month of activity (see DEL01), a process of dialogue and exchange with the project stakeholders was promoted and managed by the municipality of SGL. The programme of research, in effect, assumes that local people were informed by SGL and CAP SGL and co-opted from the beginning in the development, implementation, testing and improvement of the innovative solutions. In order to better explain the proposals (to decision makers and general audiences) some explanatory documents and 3D images showing the insertion of the urban furniture in the public space from the city centre in the various hypotheses considered have been created. During the consultation period, a group of designers provided detailed drawings of the urban supplies, the delivery of which took place in the third month of activity.

The first consultation ended with a list of changes to the original project, both to the proposed urban furniture, and to the proposal for the public space reorganization. Regarding the first point, the proposed urban furniture, the comments can be summarized in 3 main points:

- 1) improve the aesthetical aspect of the proposal to adapt it to the real signature / character of SGL (identification and elegance);
- 2) improve some functional aspects, lightening the structures that appear too closed and reducing any negative impact on symbolic views and the visibility of shops;
- 3) propose a range of alternative solutions to broaden the choice and composition of the various requirements.
- Regarding the second point, the proposal for the public space reorganization, the requests address the need for:

- 4) a clever solution for the management of access to the pedestrian area (the actual system with badges for residents and commercial vehicles seems outdated and will be even more problematic for a larger area);
- 5) an efficient system for the management of deliveries in the extended pedestrian area.

Moreover, to prevent strong opposition and enable a smooth transformation, the core group of politicians in charge of the public space consider it crucial to present a more gradual proposal for the extension of the pedestrian area. This will be structured in 3 phases correlated with the important projects and challenges of the city: short term plan (starting at the end of this year), medium term plan (March 2022, when the new suburban train-tram 13 is to be inaugurated) and long-term vision.

Redesign of the aesthetical aspect of the proposal

Following the comments and suggestions offered with regards the first submission of the Modular artefact, we have worked on improving the proposal, focusing in particular on the relationship between the new objects and the existing built environment and on the identity of the system. The enhancement of the system has also allowed for the development of the character and mood of the design proposal towards the concept of lightness and transparency. The new elements are in fact conceived to colonize and increase the functionality of the public space through the provision of unimpeded views of building façades and shops. In fact, the issue of visibility has been addressed by streamlining the elements, reducing the dimensions as much as possible as well as the perception of the structure, and selecting transparent materials.

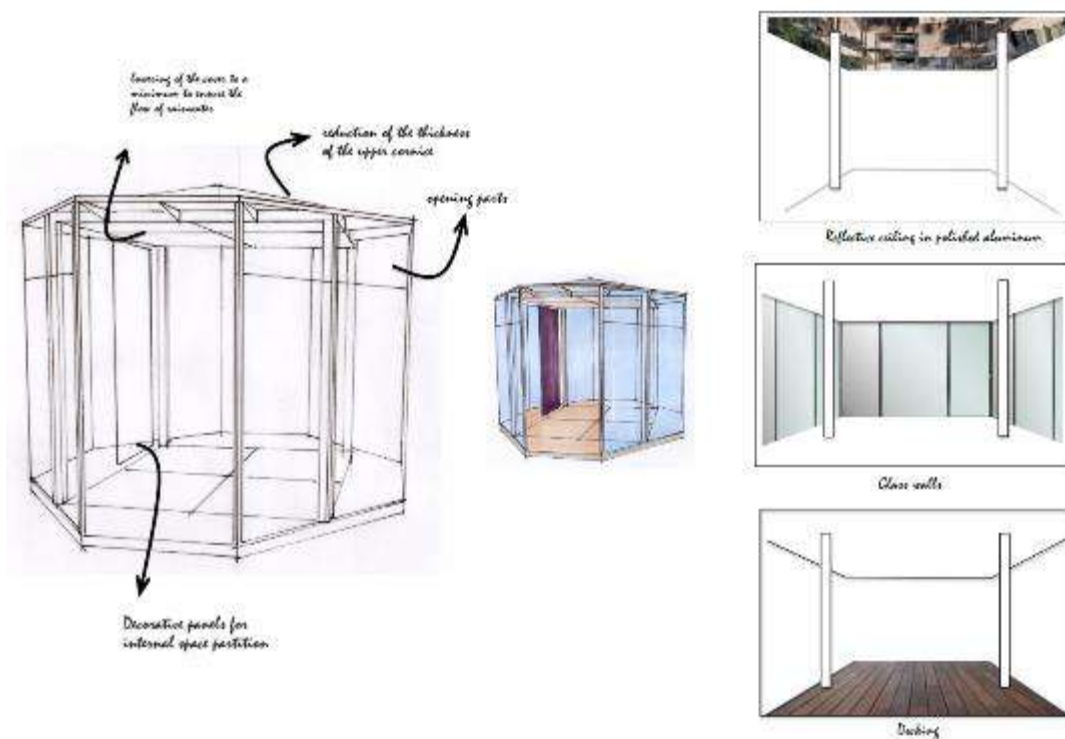
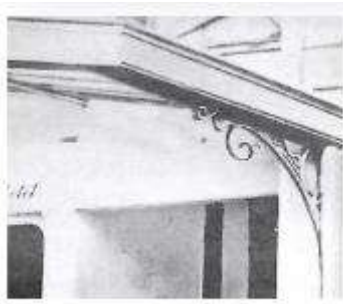


Figure 5.1: design solutions for a less visible canopy - [Link to the PDF HQ file](#)

The roof inclination is decreased to the minimum for rainwater drainage and the cantilevering panels tapered to the perimeter and clad with mirroring metal surfaces. The structures are conceived in order to almost disappear in order to avoid a contrast with the historic atmosphere of the city centre and to highlight the functions enclosed. These can also be temporary and will be defined according to the specific character of the area, thus strengthening its perceived identity. Only at night, illuminated, the elements will become big scale lanterns providing an altered experience of the public space.





Detail of the Pavillon Henry IV - SGL



Recalling the original geometries and shapes is the approach adopted to establish a relationship with history and the identity of place, as with the octagonal prism proposed. This principle, based on recollection rather than explicit mimesis, is also adopted to provide a catalogue of possible elements to customize the modules offering a choice of decoration.

Figure 5.2: Typical decoration- [Link to the PDF HQ file](#)

Improve some functional aspects

Basic module for parklets, dais, playground



Basic module for all the other functions (basic modul + trapezoidal module)



Trapezoidal module for specific punctual functions



The geometry and flexibility of the system are confirmed: the square modular platform can be enlarged to create an octagonal plan, equipped with a frame structure to shelter from rainfall and enclosed with transparent infill panels to protect from winter temperatures or for security purposes. These different combinations can be used to equip the public space with a diverse range of possible functions (tested to be Covid 19 proof for the materials adopted, the physical distancing created and the devices that can be installed) to enrich the experience of citizens and visitors, to increase the possible uses and to create a lively and walkable environment that people can enjoy and where they can develop a sense of belonging.

Figure 5.3: Geometry and flexibility of the system

[Link to the PDF HQ file](#)

From a functionality point of view, the platforms can create different urban furniture landscapes. The canopies with their possible assemblies offer pop-up open air rooms to respond to the needs of the retailers (display of goods and merchandise, temporary shops and kiosks, online purchase delivery boxes, temporary fairs and markets, etc.), of the tourists and visitors (info-box, visitor centres, ticket offices, bike rental/repair shops, temporary exhibitions, etc.), of the restaurant/food shop owners (“terrasses fermées”, spaces for fast food or slow food eating and drinking), of the inhabitants (gazebos, a leisure space for relaxation, a meeting point for a safe social gathering, a neighbourhood exchange box for books, clothes or other items to be recycled, a winter garden, an info or helpdesk for public services etc.), for students (room for studying together, wifi point, etc.).

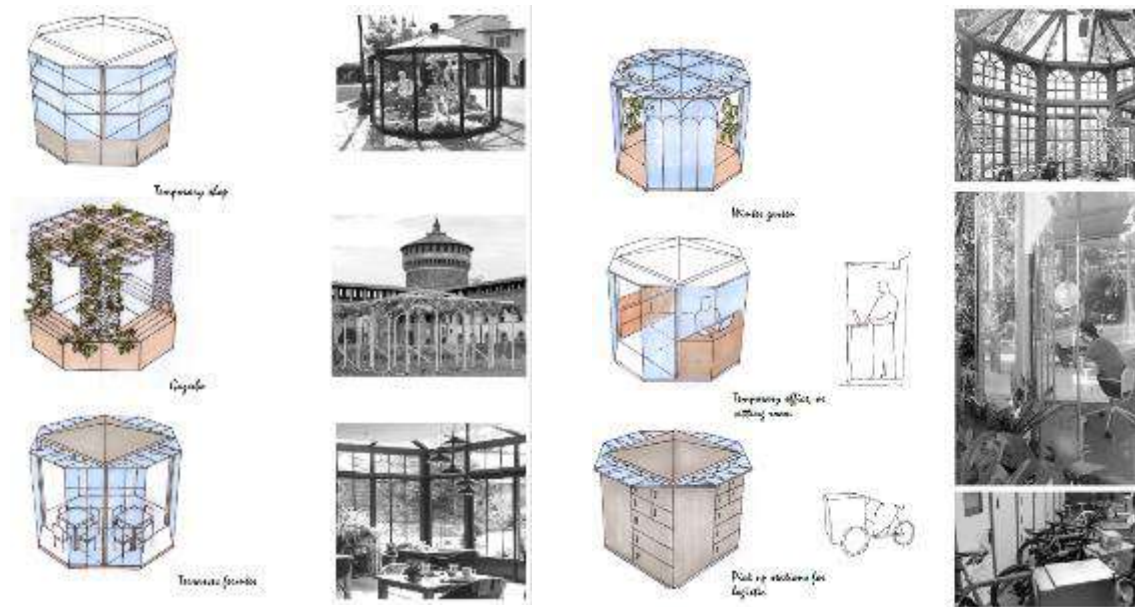


Figure 5.4: Functional adaptability of the system - Link to the PDF HQ file

New accessories (display stand multi-functional system) have been designed by evoking the geometrical partitions of historic shop display cases (“devantures”) or the mobile transformable stall inspired by the ancient market stalls which can be used to expand the existing market in the adjacent, soon to be pedestrianised, streets. In the final case, the integration of the display with the bicycle combines the slow mobility concept with a new interpretation of the public space. Similarly, smaller shelving displays are influenced by historic traditional patterns, motifs that can also be used for sun-shade screens for the canopies.

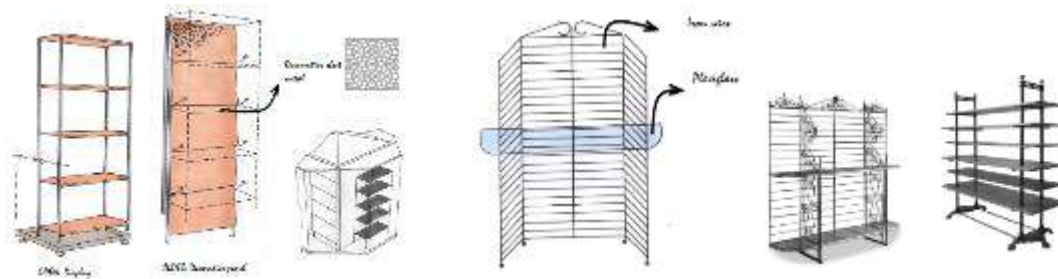


Figure 5.5: Alternative proposal for the display and shelves - Link to the PDF HQ file

Propose a range of alternative solutions

A design workshop attended by PhD students from the Department of Design and the Department of Architecture, Construction Engineering and Built Environment was organized with the aim of developing possible alternative solutions for urban furniture. The workshop took place between the end of September

and the beginning of October and produced a variety of proposals, some relating to the display of goods on the street, others relating to the modular system for outdoor areas. Among the various solutions that emerged, the following are reported: - the development of additional furnishing solutions for the parklet; - a system for street vendors inspired by the historic stalls of the SGL market to be used along the pedestrianized street.



Figure 5.6: Development of the parklet system - [Link to the PDF HQ file](#)

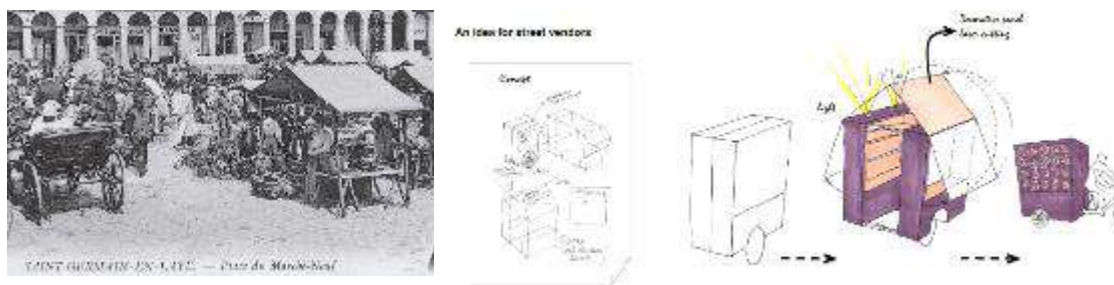


Figure 5.7: History inspired mobile stall - [Link to the PDF HQ file](#)

5.2. Description of the adopted solution

The modular metal structure allows for different types of configurations and settings. The 2-metre-wide square core covers the width of one car parking space. By combining several square central cores, parklets of various sizes are achieved. By combining central square cores and perimeter trapezoidal elements, octagons and other geometric figures are achieved.

Terrasse Restaurant Au Bon Accueil

The parklet of the Au Bon Accueil Restaurant measures 2m x 9m. The structure is made up of 4 square modules (4 x 2m = 8 m), plus two flowerpots on the short sides with a width of 0.50 m each. The size of 9 m x 2m corresponds exactly to that of the current parklet made with metal gabions filled with stones.

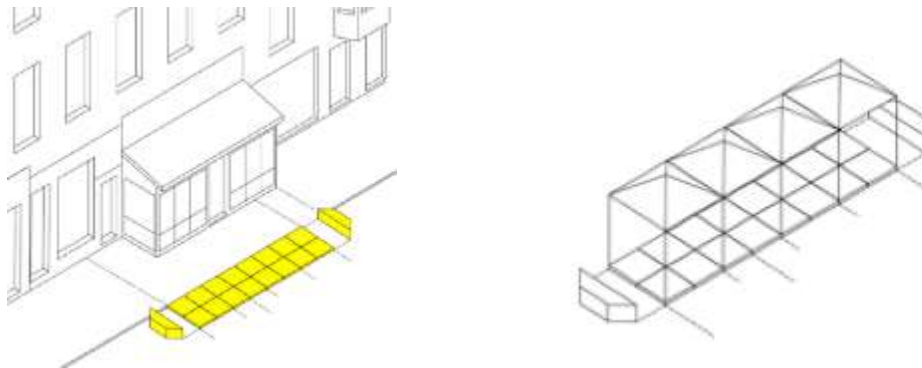


Figure 5.8: Measurement of the Au Bon Accueil Parklet - [Link to the PDF HQ file](#)

The parklet structure includes two glass shelves placed above the short sides of the structure. There are no shelves along the road as it has not yet been pedestrianized. Alternatively, shelves can be installed to protect the internal side of the terrace towards the sidewalk.

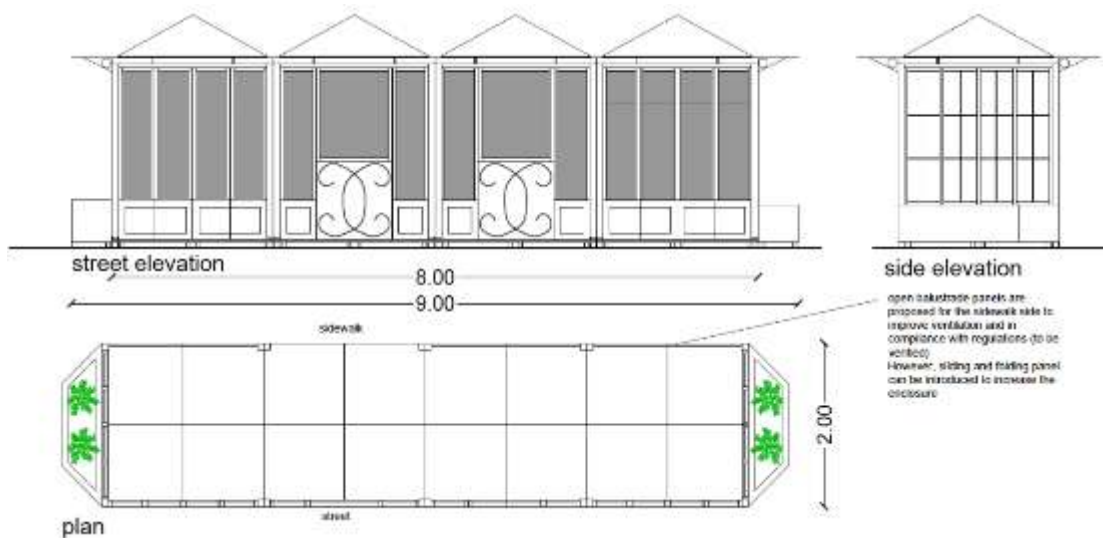


Figure 5.9: Design of the Au Bon Accueil terrasse - [Link to the PDF HQ file](#)

The following abacus provides the type and number of pieces accounted for the basic set-up. Panels with various opening systems (folding and sliding) are provided on the street side to protect the internal space of the outdoor area from the passage of cars. The two end sides are instead provided with grilled panels to accommodate climbing plants.

On the side of the pavement there are decorative balustrades only 1 m high to ensure maximum air circulation and visual continuity with the restaurant.

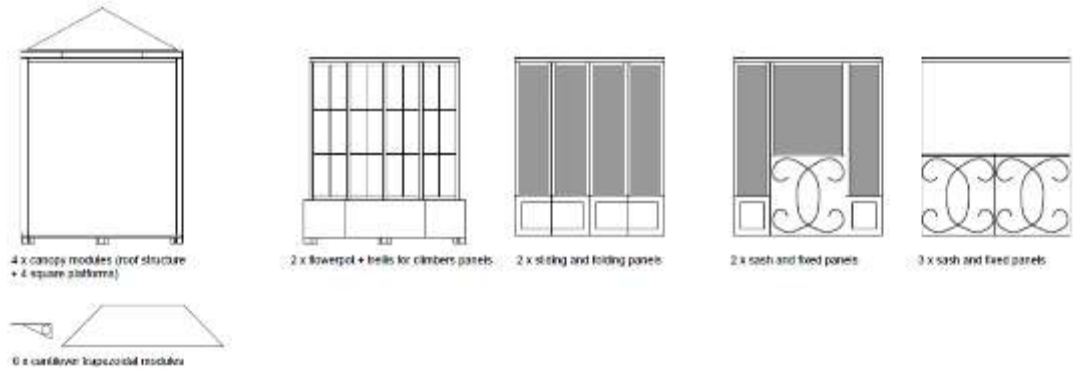


Figure 5.10: Components of the Au Bon Accueil Terrasse - [Link to the PDF HQ file](#)

Terrasse Restaurant Le Reveil Matin

The terrace of Le Reveil Matin occupies the central portion of the ancient market area where tables and umbrellas are currently arranged. The structure is measured to test the rectangular shape of the outdoor area and to install the playground with the seats.



Figure 5.11: Measurement of the Le Reveil Martin terrasse - [Link to the PDF HQ file](#)

The structure provides for the aggregation of six square modules for a total of $6\text{ m} \times 4\text{ m} = 24$ square metres of covered area. Along the sides towards the street, panels for climbing plants are provided, while on the end sides the use of completely openable panels will be installed to ensure total spatial continuity with the old market area and the possibility of seeing shows and events that may take place on the platform of the playground once freed from seats and flower boxes.

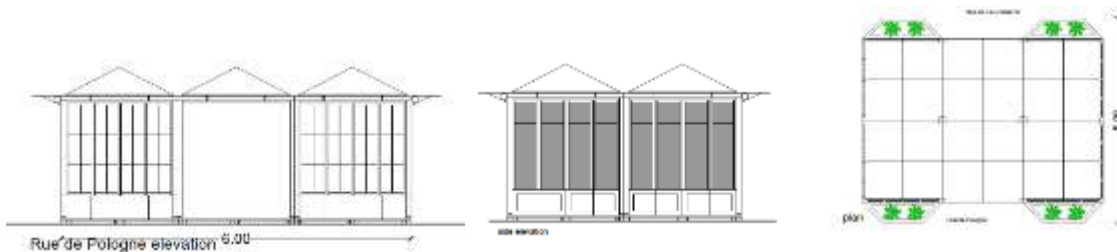


Figure 5.12: Design of the Le Reveil Martin terrasse - [Link to the PDF HQ file](#)

The following abacus describes the type and number of pieces that make up the structure. In addition to the six square modules of the structure, glass shelves are provided around the entire perimeter to protect

the space below from rain; 4 panels for climbing plants with trapezoidal flowerpot, and four glass panels with book opening for the two short sides.

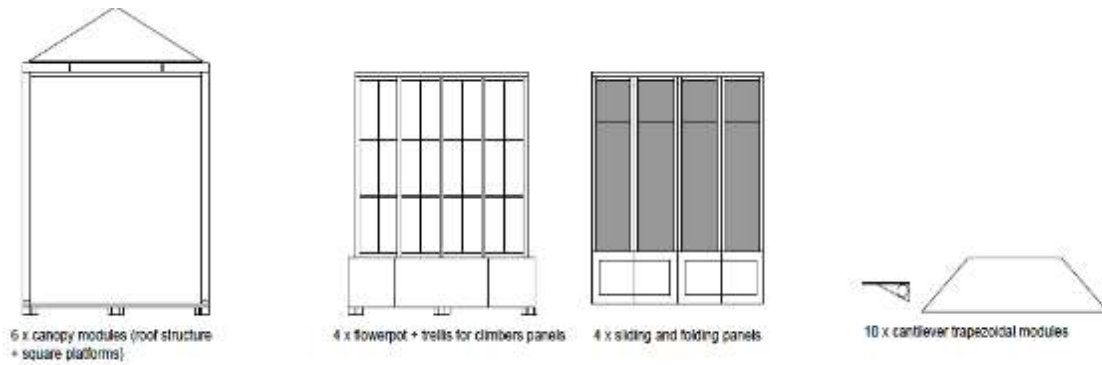


Figure 5.13: Components of the Le Reveil Matin terrasse - [Link to the PDF HQ file](#)

The design, modularity and rhythm of the panels are borrowed from tradition. Each background has been divided into four rectangular modules whose proportions reproduce those of the facades of historic buildings in the city centre.

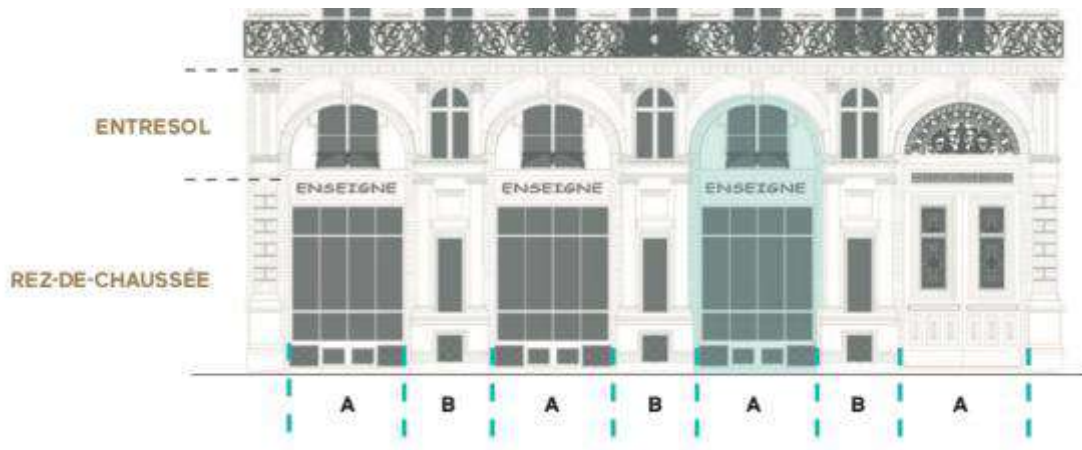


Figure 5.14: Rhythm alternation of the facade (source: <https://Mairie de Toulouse, Réussir son enseigne>) - source: <https://Mairie de Toulouse, Réussir son enseigne> - [Link to the PDF HQ file](#)

The modular panels can be freely combined to obtain different set-up solutions, each of which offers a different permeability gradient. There are four standard solutions:

- 1 - open glass balustrade, with the option of mounting sliding glass panels in winter;
- 2 - semi-open panel for climbing plants with planter. The planter is the same used for the playground. The climbing panel will have a full skirting as high as the planter;
- 3 - semi-closed panel with sliding glass. The panelling includes a blind part as high as the parapet with the historical frieze of solution 1;
- 4 - close panel with glass. In this case the panelling also has a blind plinth as high as the planter.



Figure 5.15: Types of closing panels [ensigne](#) - [Link to the PDF HQ file](#)

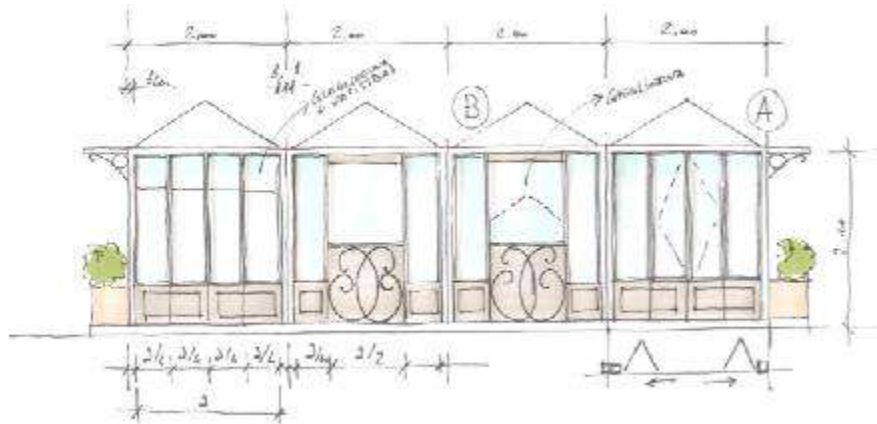
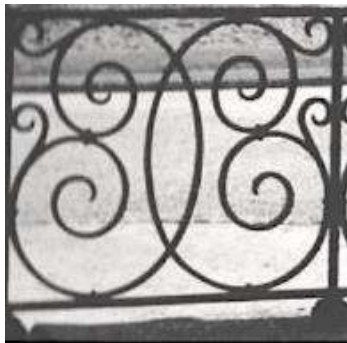
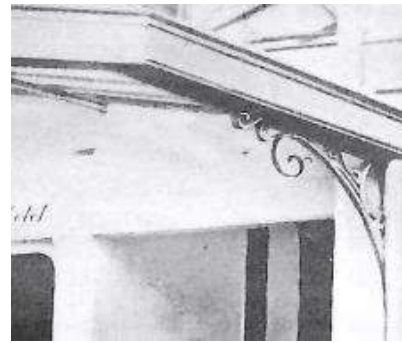


Figure 5.16: Types of closing panels [ensigne](#) - [Link to the PDF HQ file](#)

The free composition of the panels is guaranteed not only by the modularity of the components, but also by the unique fixing solution of the same, which uses a single steel frame composed of L-shaped metal profiles. Structure and infill panels are enriched with decorative motifs borrowed from local tradition. In addition to the wrought iron shelf, typical of Parisian steel and glass canopies, the motif of the balustrade of the castle terrace and some ornamental details of the traditional shop windows (piédroit and soubassement) have been included.



Castle balustrade – SGL
(source: Forteau-Venet 2014)



Detail of the Pavillon Henry IV – SGL
(source: Forteau-Venet 2014)

Figure 5.17: Historical decorative elements [ensigne](#) - [Link to the PDF HQ file](#)

Forms and proportions of the teaching elements have been suitably adapted to the characteristics and dimensions of the modular structure and its components. The overall effect is that of a whole that can be varied, while keeping its basic character intact.

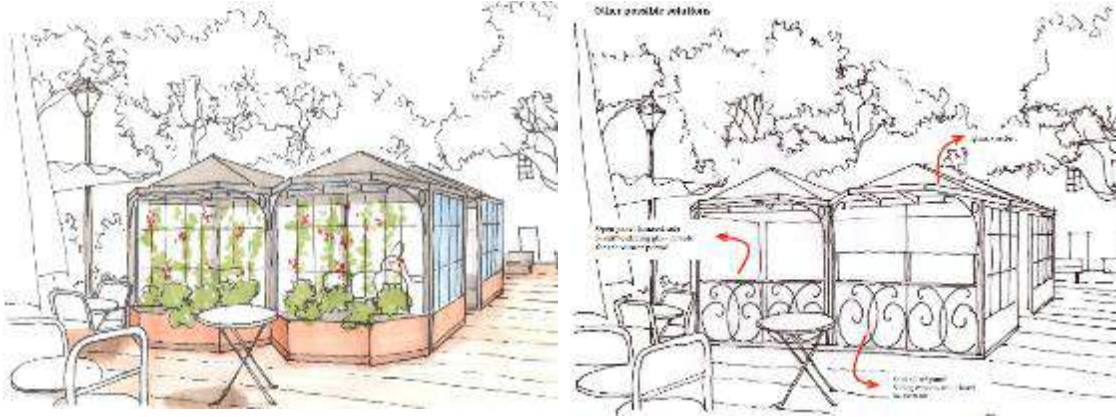
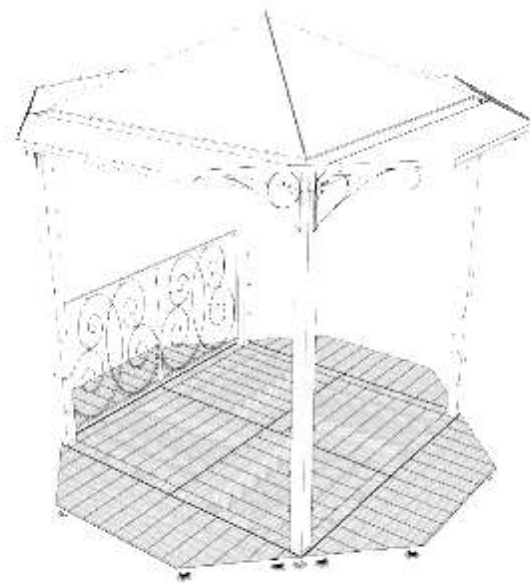


Figure 5.18: Compositional example enseigne - [Link to the PDF HQ file](#)

Technical characteristics of the terrasse

The structure of the dehor is made with iron sections held together by joints and simple bolted joints. There are three types of component:

1. the platform in metal structure with adjustable feet and wooden deck;
2. the metal structure in elevation;
3. the roof with canopy.



The platform in metal structure with adjustable feet and wooden deck can be divided into modules of different shapes and sizes. By combining the different modules, it is possible to obtain square, rectangular or octagonal surfaces for various uses: - parklet; - terrace for bars and restaurants; - platform for temporary events; - space for outdoor seating; individual furnishings such as benches, flower boxes and exhibition stands. The pillars of the structure in elevation integrate perfectly into the geometry of the base modules.

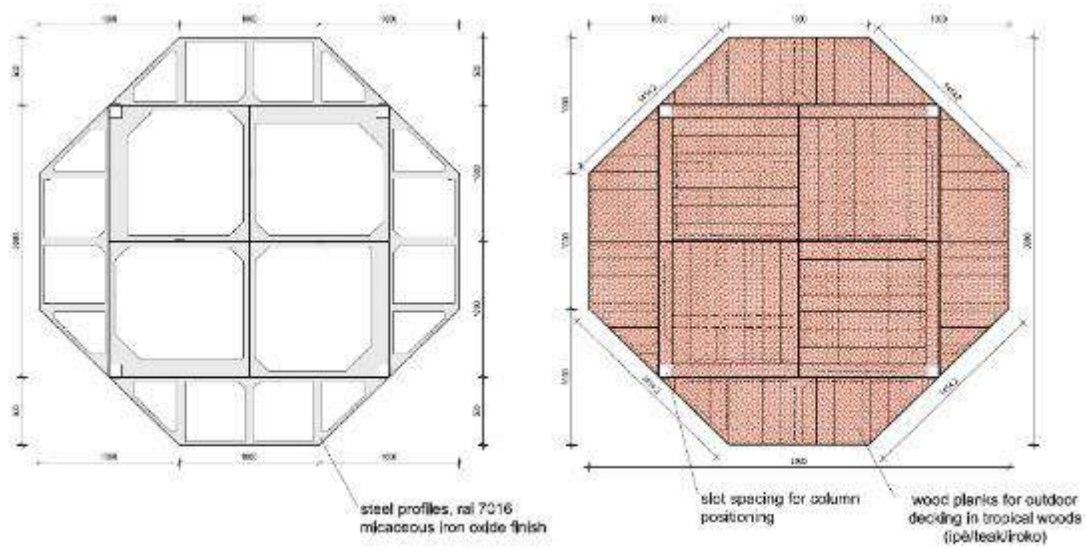


Figure 5.19: Canopy platform enseigne - Link to the PDF HQ file

The surface of the platform is made with wooden boards assembled in panels that rest on the metal structure. The special support solution along the perimeter allows for the removal of the panels for cleaning operations with the inclusion of any closing panels which are mounted on the perimeter.

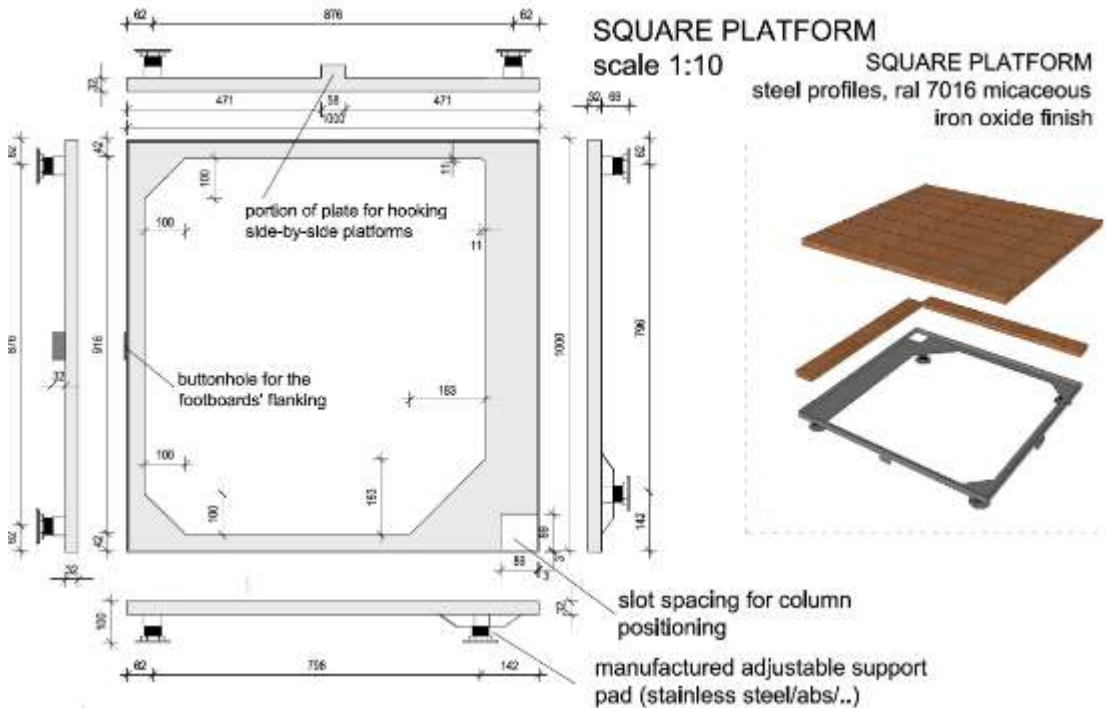


Figure 5.20: metal framework of the canopy platform - Link to the PDF HQ file

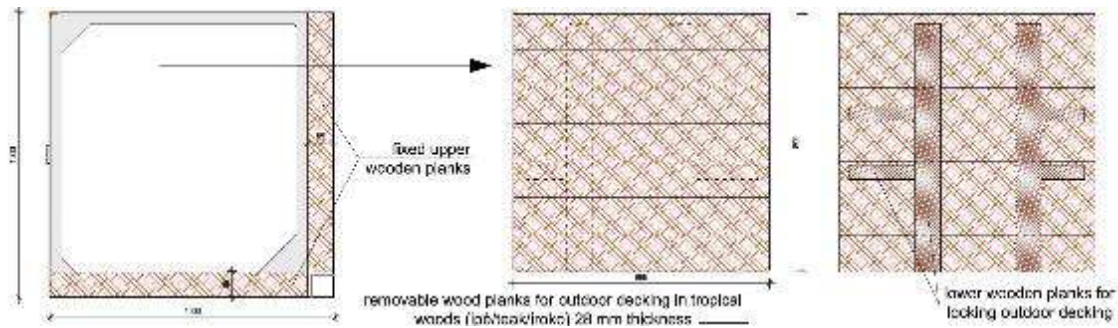


Figure 5.21: wooden panel of the canopy platform - Link to the PDF HQ file

The structure in elevation is made with pillars and beams in steel section simply bolted. To facilitate the assembly of the structure, the ends of the beams have been designed with socket joints in union with the pillar. Once the beams and pillars have been assembled, the joint of the structure is freed with special sealing bolts.

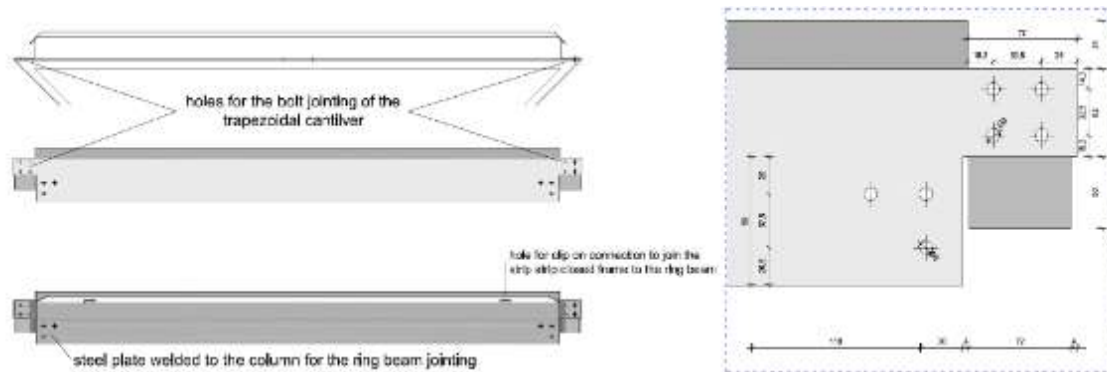


Figure 5.22: Beam of the canopy structure - Link to the PDF HQ file

The special shape of the beams and pillars allows them to act, not only as a load-bearing structure, but also as elements for the collection and disposal of water, avoiding it running off onto the perimeter surfaces with definite advantages for the sealing and cleaning of the panels themselves.

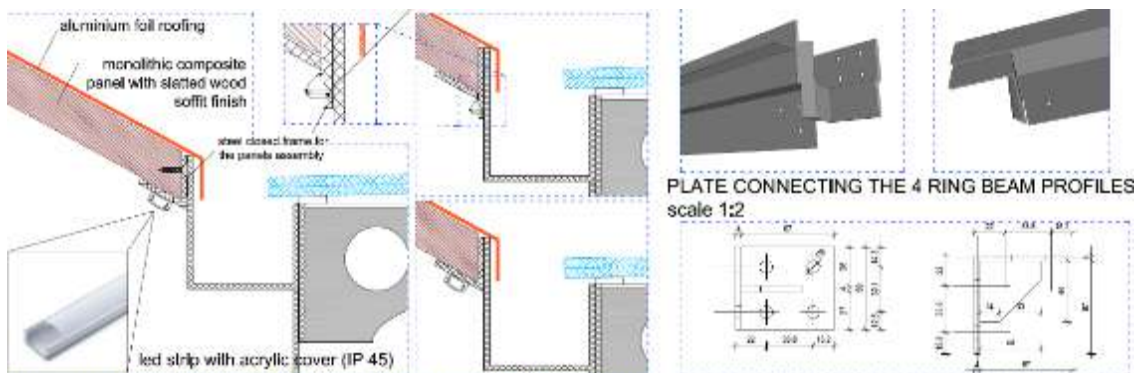


Figure 5.23: integrated system for the collection and disposal of rain water - Link to the PDF HQ file

The supporting structure also has adjustable ground support systems to adapt to the irregularities of the support surface. These adjustable systems are completely hidden inside the metal profile of the pillar, and are easily manoeuvrable from the outside through the shaped profile of the foot.

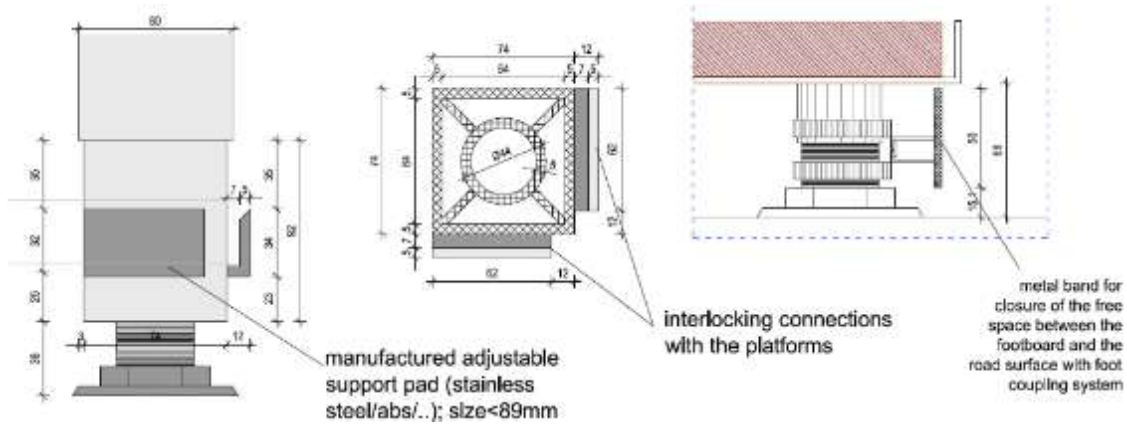


Figure 5.24: column base details - Link to the PDF HQ file

The roof of the metal structure is made up of two layers: - an external waterproof covering made of pre-painted aluminium or iron sheet, and an internal finishing layer in wood with the function of supporting the waterproof covering and soundproofing in case of heavy rain. Special metal angles arranged along the intersections of the four flaps of the cusp allow for the assembly of the components of the roof to the supporting metal structure.

Along the perimeter of the supporting structure, it is possible to install special glass canopies to protect the internal space. The shelters also have a metal structure that is fixed to the edge beam through simple bolted joints. The canopy cover is made of laminated safety glass with a total thickness of 8 mm.

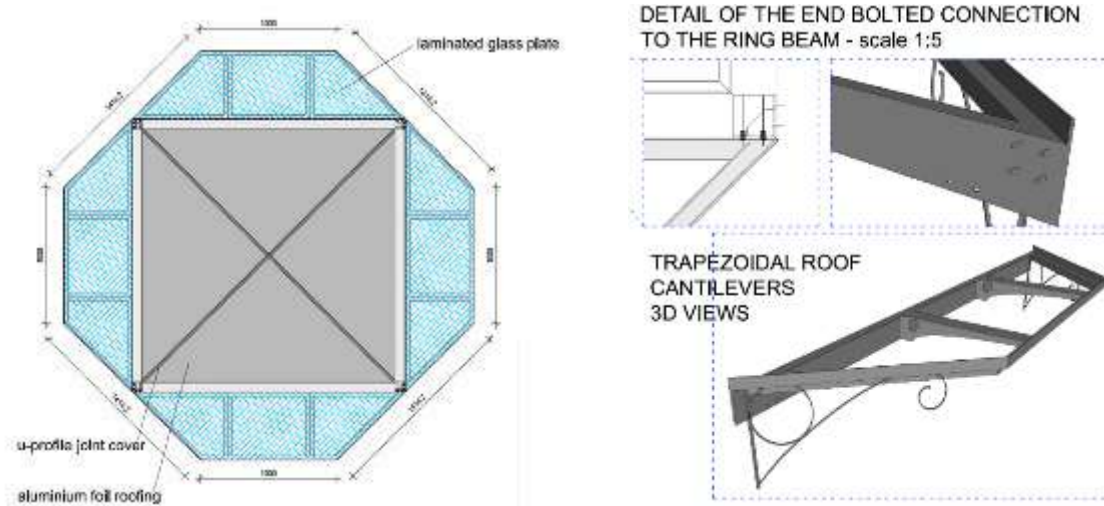


Figure 5.25: details - Glass shelter - Link to the PDF HQ file

The bolted connection between the glass canopies and the beam facilitates their assembly and disassembly operations. The special shape of the shelter also allows rainwater to be conveyed inside the same channel beam where it flows onto the roof, avoiding any run-off onto the space below or the infill panels.

The infill panels provide various degrees of protection thanks to the opening and closing system. Their modularity allows them to be perfectly integrated within the same fixing system consisting of a metal frame made of L-shaped metal profiles arranged on the perimeter of the beam / pillars / base (Fig. 5.26)

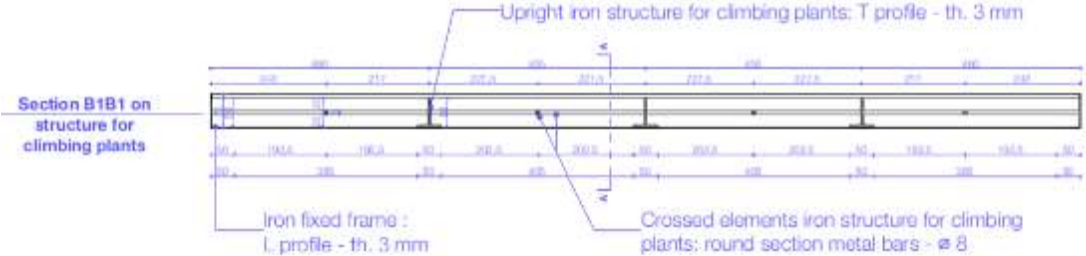


Figure 5.26: metal frame made of L-shaped metal profiles - Link to the PDF HQ file

There are fully closed glass panels with the option of fully opening the doors with a folding system in the summer (Fig. 5.27), sliding glass panels that can be integrated individually or two by two inside the square module (Fig. 5.28), fully open balustrades (Fig. 5.29). In this last case it is possible to mount sliding glass panels on floor and ceiling guides.

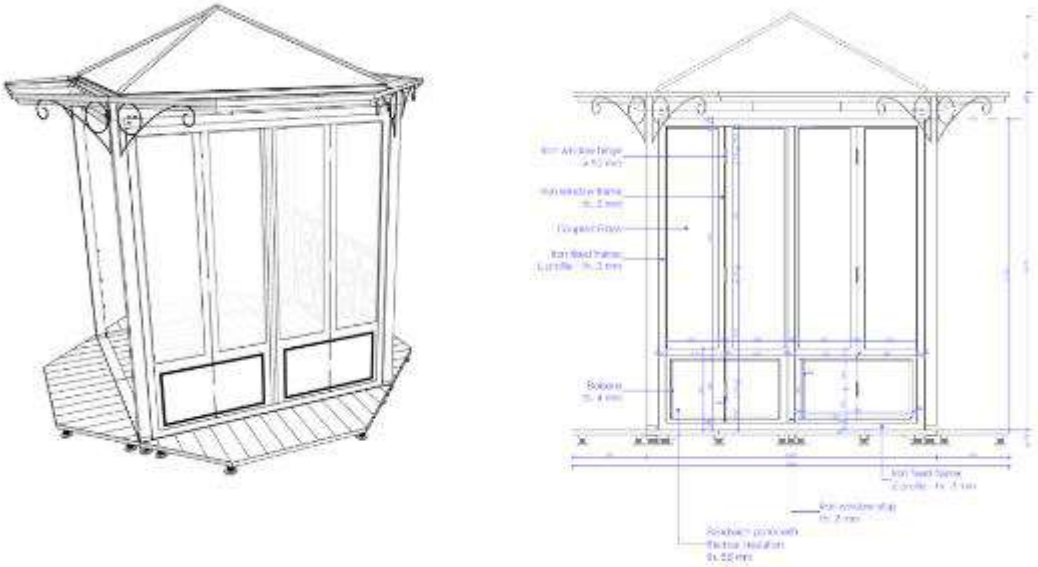


Figure 5.27: panel with fully opening doors using a folding system - Link to the PDF HQ file

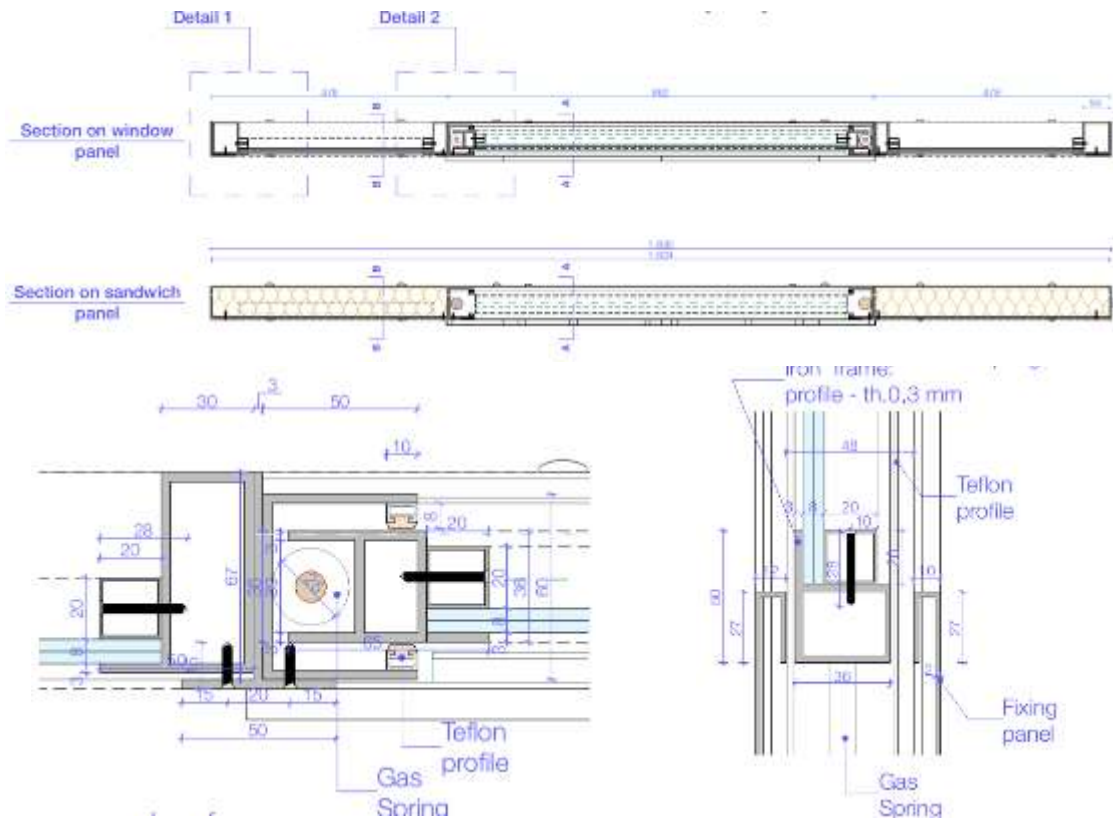


Figure 5.28: Detail of the semi-open panel with sliding glass - [Link to the PDF HQ file](#)

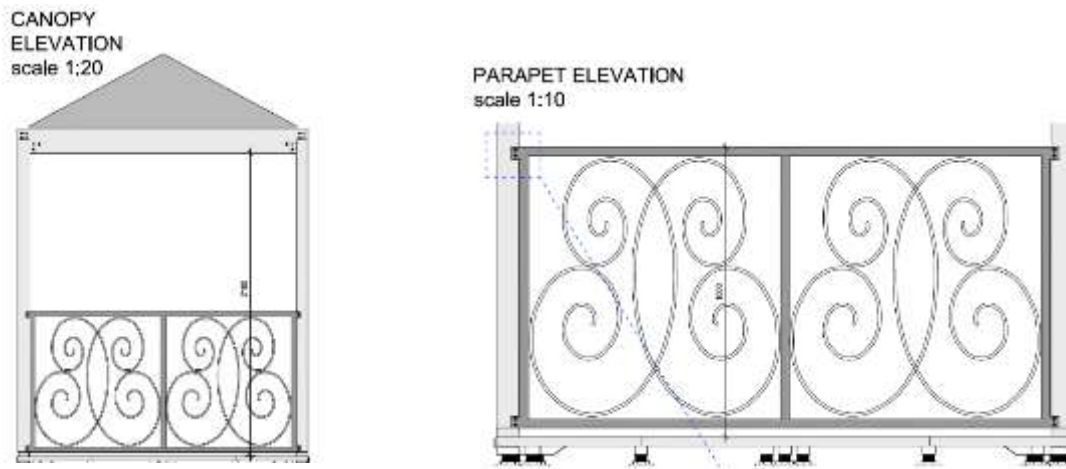


Figure 5.29: Open balustrade panels - [Link to the PDF HQ file](#)

Platform for events, seats, planters

The platform was conceived as a modular multifunctional structure adaptable for various types of use. The basic functionality is that of the wooden platform on a metal structure with adjustable feet for temporary events consisting of three octagons plus a central square-shaped connecting element. By superimposing

simple wooden volumes, it is possible to transform the platform into a sitting space enhanced by the presence of ornamental plants.

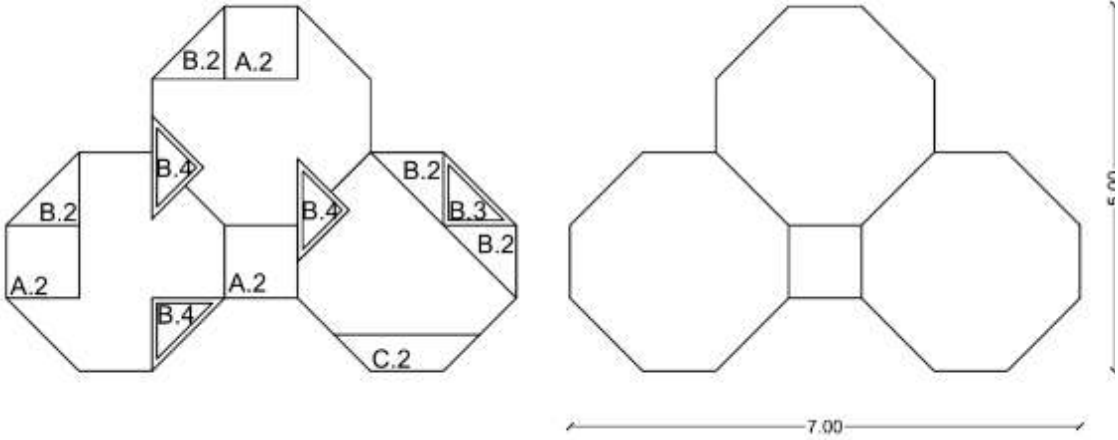


Figure 5.30: Playground platform - Link to the PDF HQ file

Platform and volumes are made by simply composing wooden profiles for outdoors. The joints are obtained through self-tapping screws. The volumes are secured to the platform and between them by means of suitable metal plates with self-tapping screws (Fig. 5.30-31-32).

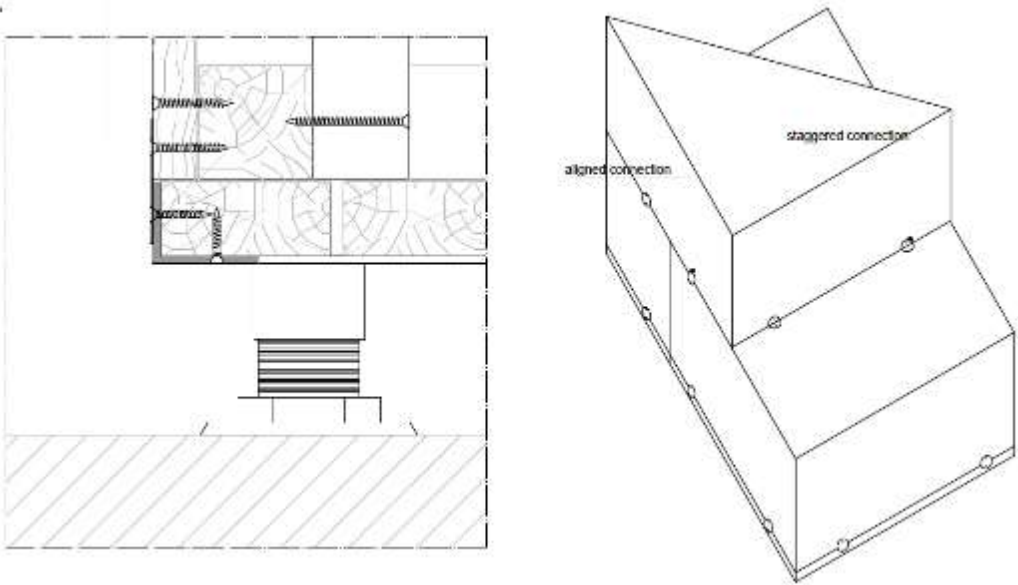


Figure 5.31: Detail of the connection through metal framework and wooden floor - Link to the PDF HQ file

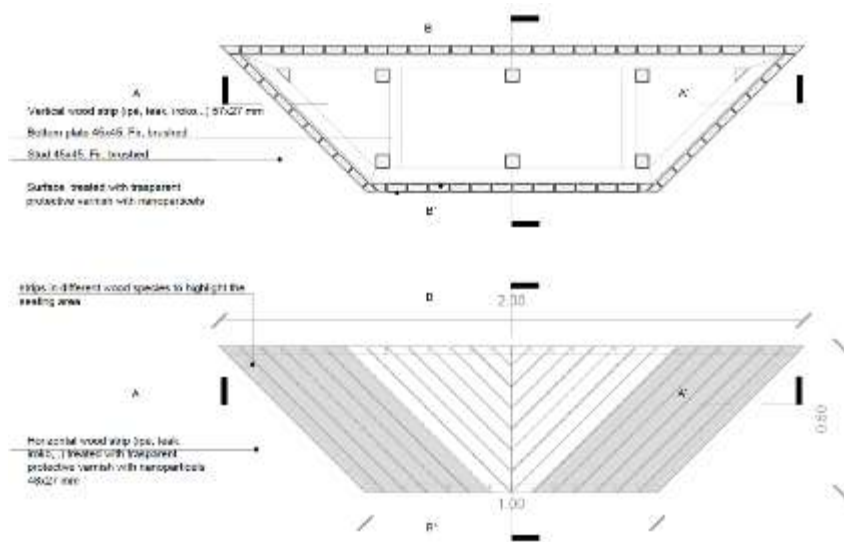


Figure 5.32: Playground platform seats - [Link to the PDF HQ file](#)

The planters are made of geotextile bags arranged inside the compartment. The geotextile pots give better growth, plants are vigorous with well-developed roots with oxygen that directly receive the roots (Fig. 5.33). The air infiltrating through the fibres of the tissue allows the roots to develop better during their cultivation. Fabrics pots are available in many different shapes and sizes, from small to large, with some in a rectangular shape.

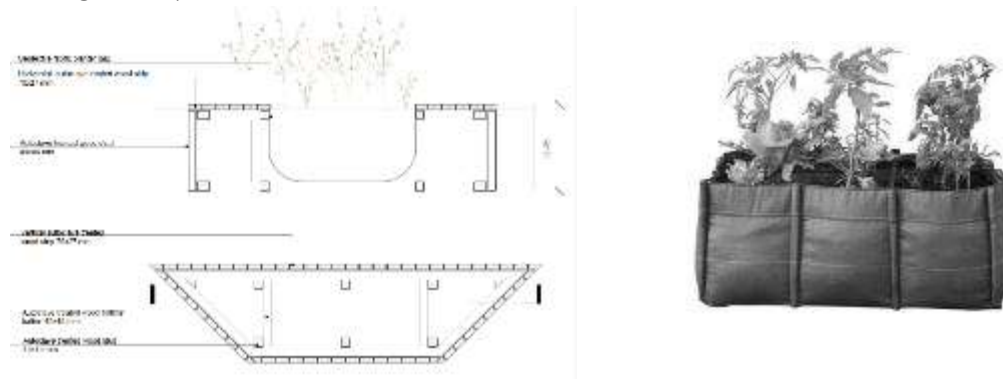


Figure 5.33/33: Playground platform flowers pots - [Link to the PDF HQ file](#)

The seating surface on the volumes is marked by the changing essence of the wood. The seat surface is also treated with a special protective nano-structured paint reducing the survival of the virus.

The simple juxtaposition of volumes on the base platform permits various combinations of landscapes, similar to a Lego structure. The elements are fastened through simple self-tapping screws and specially shaped metal plates.

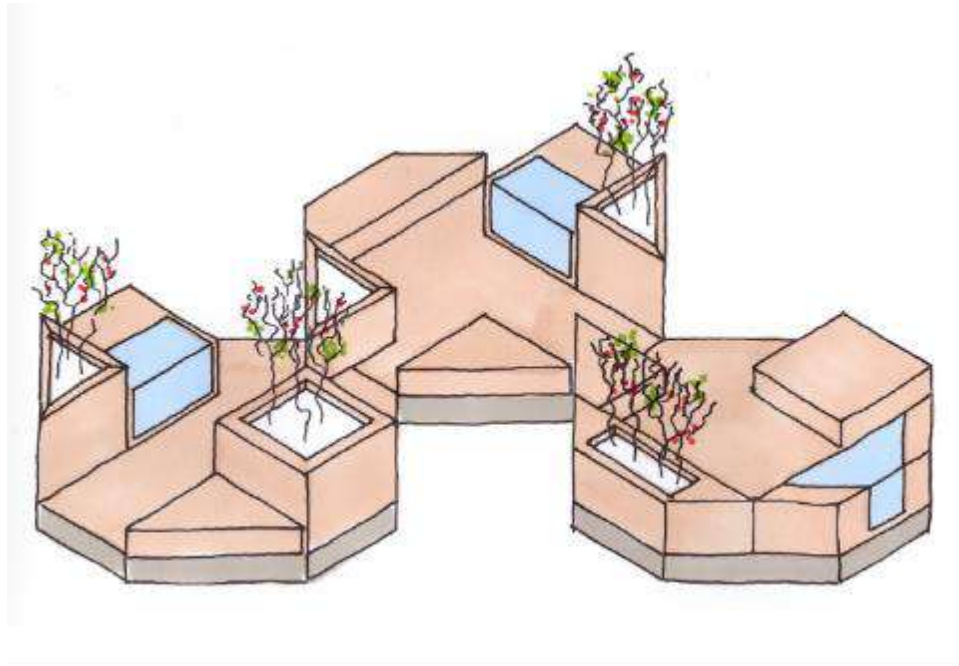


Figure 5.34: Example of playground layout - [Link to the PDF HQ file](#)

5.3 Anti-pandemic solution for the furniture

The solutions adopted for the canopy system and tested for the “terrasse” installation of the two restaurants, have been developed in compliance with the international guidelines and specifically with the following the main principles.

Personal measures

At the entrance of the canopies an easy visible and accessible disinfectant dispenser has been attached to one of the columns to allow for a frequent hand hygiene.

Movement measures

The layouts have been organised in order to separate the entrance and exit fluxes of the customers as well as of the waiters. Moreover, being installed in the street and along the sidewalks a special attention was dedicated to the rationalisations of the paths. Special tags will be applied on the pavement to indicate the paths and to create a safe space also for the customers standing on a line, waiting to take a seat. The paths will also change according to the principle adopted for the social distancing between people.

Physical and social distancing measures

Different layouts of the two canopies have been proposed following two main principles in order either to provide the distancing requirements of 6' (approximately 1.83 m.) according to the international guidelines (WHO, Overview of public health and social measures in the context of COVID-19 Interim guidance, 18 May 2020 and MASS, The Role of Architecture in Fighting COVID-19. Spatial Strategies for Restaurants in Response to COVID-19, May 8, 2020) or to separate the different areas with movable panels and screens. The innovative aspect of the canopy system concept relies in fact in its flexibility, in the possibility to change the configurations and to safely host also a higher number of people with a diverse range of special tables layouts.

In the following schemes the distancing principle is applied showing the possible layouts both for the parklet as well as for the bigger terrace in the public space. A reduced number of customers is thus necessary providing both for limiting the spread of the disease as well as for circulating in the area.

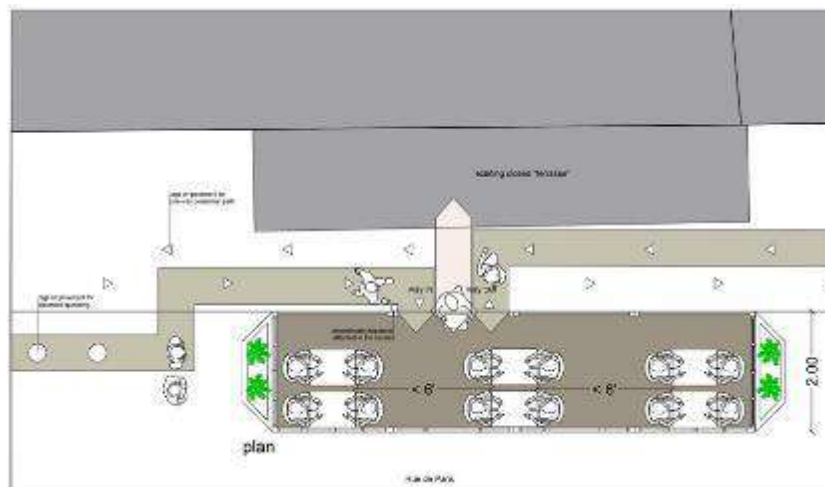


Figure 5.35: Terrasse in Rue de Paris, Covid 19 layout - LINK to the HQ file

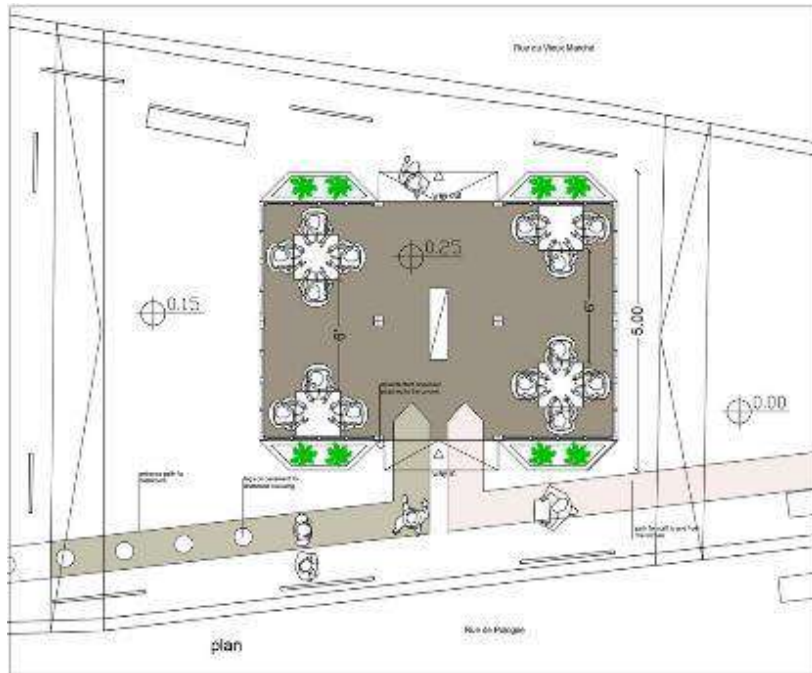


Figure 5.36: Terrasse in Rue de Pologne/Rue du Vieux Marché, Covid 19 layout - [LINK to the HQ file](#)

In the following schemes the separating principle is applied showing the potentials of the canopy system to cater for a wide range of layouts. The sliding and folding panels which have been designed for the enclosure of the space can also be installed, hinged to the frame of the interior columns, in order to separate the different areas. Built with steel and glass, they became a movable partition though allowing for the natural light to enter in the interiors.

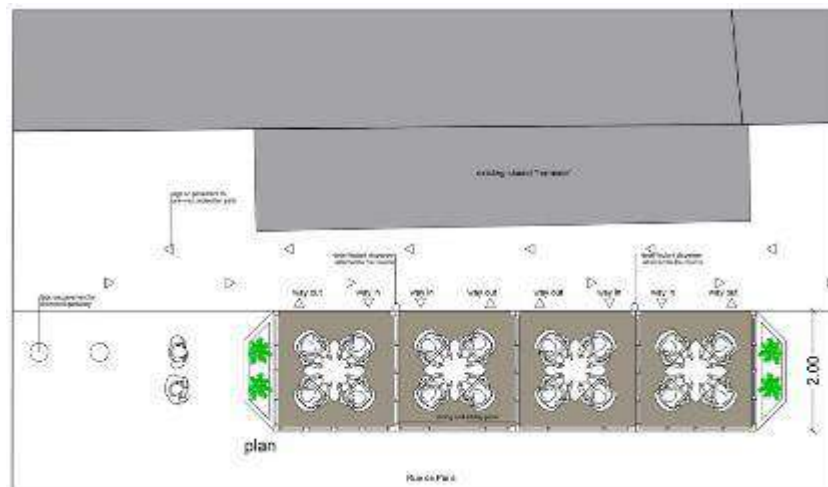


Figure 5.37: Terrasse in Rue de Paris, Covid 19 layout with sliding and folding panels - [LINK to the HQ file](#)

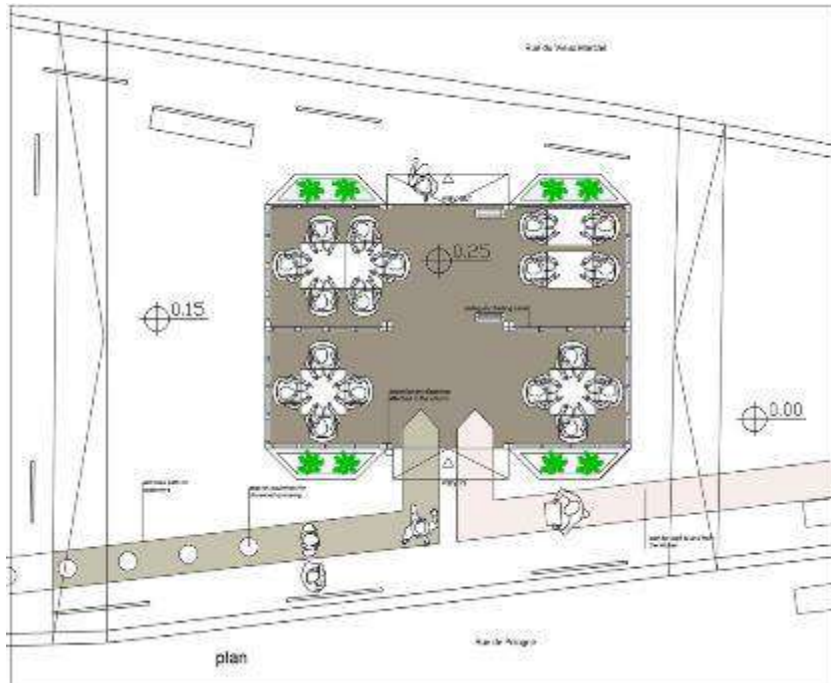


Figure 5.38: Terrasse in Rue de Pologne/Rue du Vieux Marché, Covid 19 layout with sliding and folding panels (Sol.1)

[LINK to the HQ file](#)

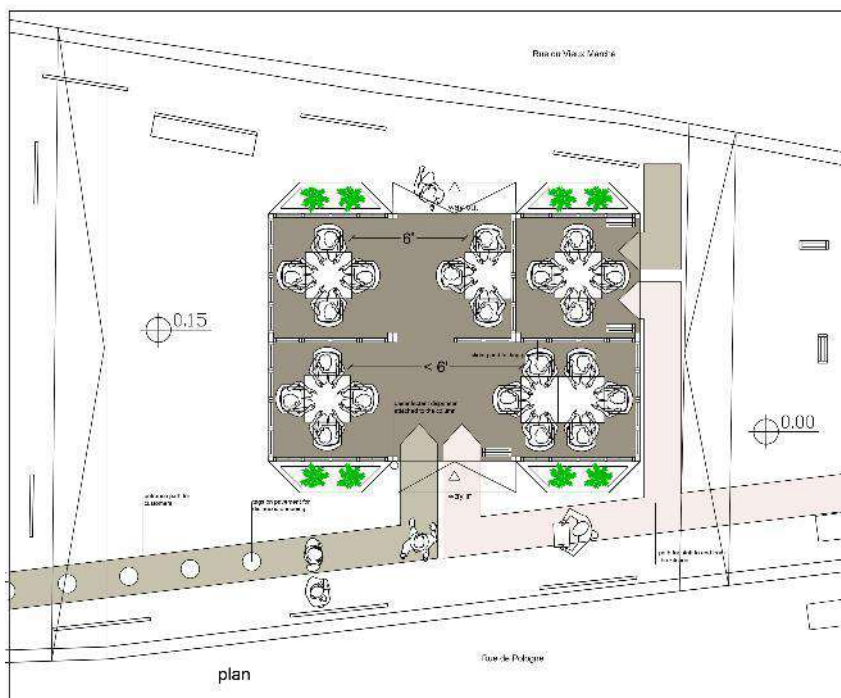


Figure 5.39: Terrasse in Rue de Pologne/Rue du Vieux Marché, Covid 19 layout with sliding and folding panels (Sol.2)

[LINK to the HQ file](#)

Finally, a post Covid-19 layout is shown for both restaurants terrasses, to explore and test the capacity of the spaces when the antipandemic measures will not be necessary anymore, even allowing for a tighter enclosure of the outdoor spaces.

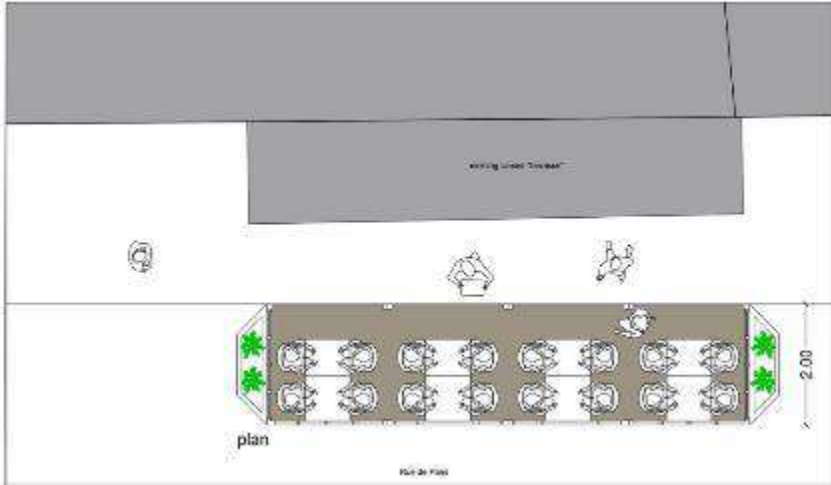


Figure 5.40: Terrasse in Rue de Paris, post Covid 19 layout - LINK to the HQ file

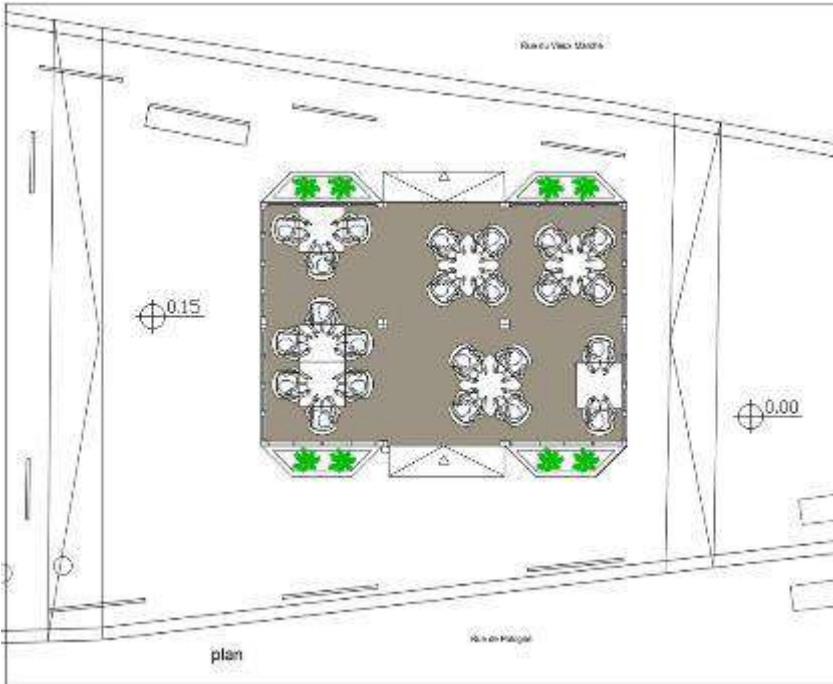


Figure 5.41: Terrasse in Rue de Pologne/Rue du Vieux Marché, post Covid 19 layout - LINK to the HQ file

Ventilation

As shown in the previous paragraphs the combination of the enclosure panels designed is conceived in order to allow for the cross ventilation of the canopy even when additional interior partitions are introduced. The vegetated screen in fact even when supporting the plants lets the air pass in order to guarantee an increased amount of air exchanges and to reduce possible contamination.

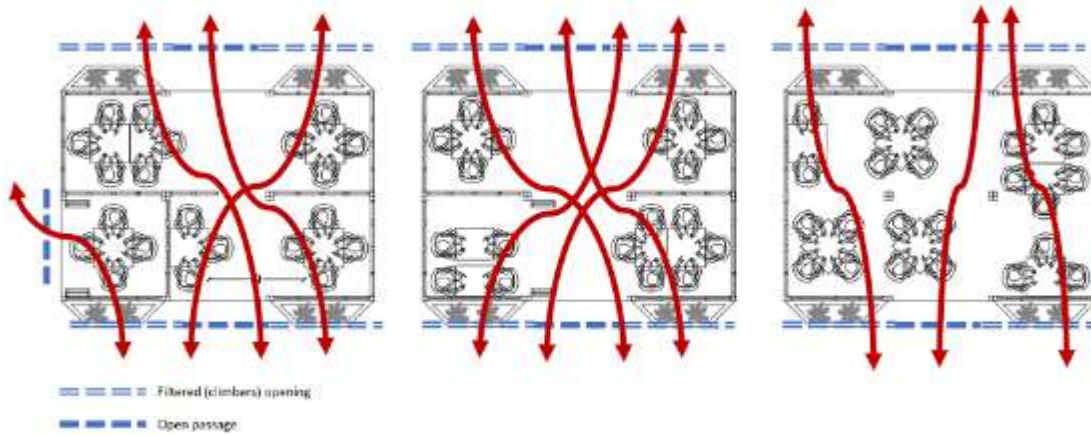


Figure 5.42: Cross ventilation and types of enclosure panels in the Terrasse in Rue de Pologne/Rue du Vieux Marché

[LINK to the HQ file](#)

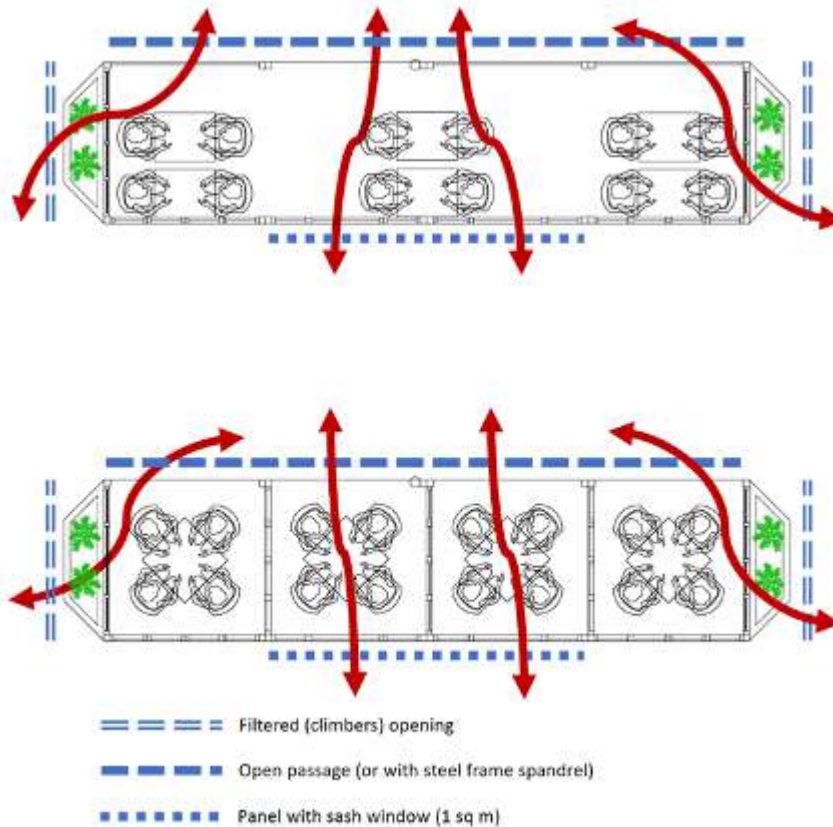


Figure 5.43: Cross ventilation and types of enclosure panels in the Terrasse in Rue de Paris - [LINK to the HQ file](#)

Platform for events, seats, planters

The design of the platform system application in Rue de Pologne, Rue du Vieux Marché follows the international Guidelines (WHO, Overview of public health and social measures in the context of COVID-19 Interim guidance, 18 May 2020) for what concerns the physical and social distancing measures to prevent the spread of the disease. The arrangement of the diverse modules on the platform in fact, allows for a distancing of more than 1 metre between the seating, signalled through colour, using a different essence of the wood.

The seat surface is also treated with a special protective nano-structured Polysil type paint produced by the company Nanoprom. Polysil™ is a low thickness self-levelling nanostructured silica coating. Once applied to the support, a "cold vitrification" is obtained which forms a "film" with a thickness of a few microns with a surface hardness (6H), much higher than that of the material on which it is applied and at the same time the film also acts as a UV filter. Thanks to the reduction in surface tension induced by the paint, the seat surface remains dry, making it more difficult for viruses to survive on the surface itself. <https://incronaca.unibo.it/archivio/2020/05/27/una-pellicola-antibatterica-per-superfici-contro-il-covid-19>

Polysil has the same qualities as glass. The product can be used on multiple surfaces, such as natural or painted gelcoat, painted wood resins, untreated wood, carbon, ferrous and non-ferrous metals.

Finally, the layout of the planters, according to the typology of vegetation in terms of height and density can contribute to create a separation between the different areas.

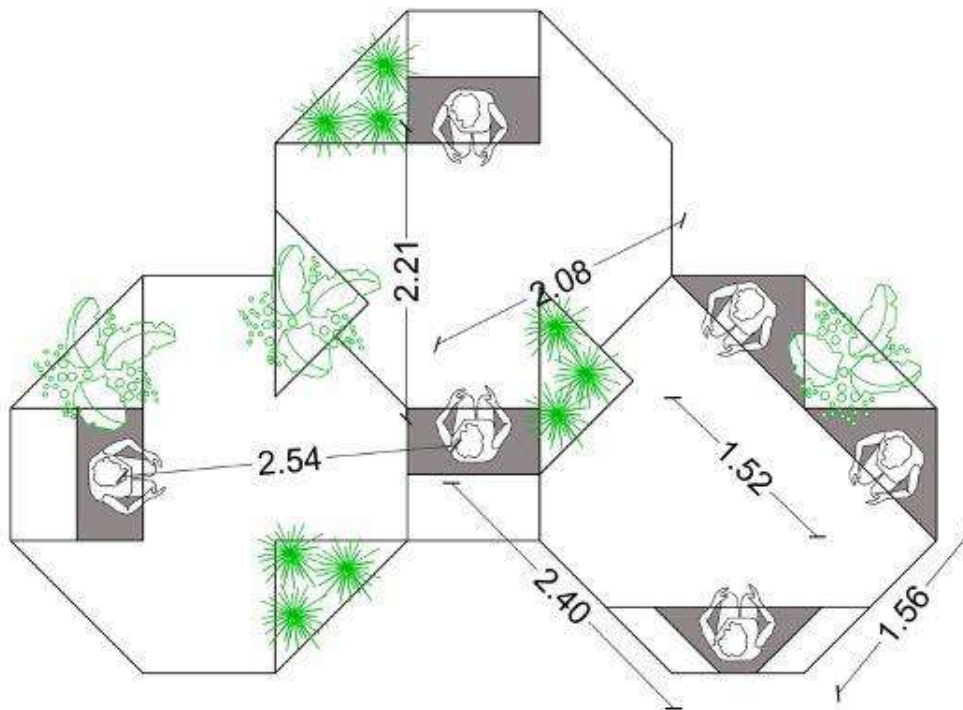


Figure 5.44: Physical distancing in the Rue de Pologne/Rue du Vieux Marché platform layout - LINK to the HQ file

6. Public space design for Covid-19

All the research and design activities described in this chapter were carried out by the Politecnico di Milano Dept. ABC Team.

The results fulfil the following KEY OUTPUTS:

OUT01 Operational toolkit: the guidelines for health and safely public space for Covid-19, (paragraph 6.2) are a part of the operational toolkit. The same guidelines are part of the EITN03 Core KPI Target: The Product “Operational toolkit: urban furniture and guidelines for healthy urban design”

OUT05 A reliable database regarding public space use and people behaviours. The project of the 3 new public spaces for SGL (paragraph 6.3) are crucial to do analysis regarding public space use and people behaviours.

OUT06 City center of SGL transformed in a lively and health safe open-air market: the project of the 3 new public spaces for SGL (paragraph 6.3) is an important step of the transformation of the city.

Moreover, the results fulfil the following TASK:

A2002 Design and testing of livable urban spaces.

A2005 Public space regulation package.

Public Health is an individual and collective condition, strongly influenced by the environmental context in which people lives and, consequently, by the economic, social and environmental strategies implemented on a territorial and local scale by the municipalities. It is therefore important to adopt strategies and actions to limit health risk factors and promote the complete state of well-being of citizens even in emergency conditions such as Covid-19. The Covid-19 pandemic contributes making more evident some critical issues in the design (organization) of our metropolis and cities spaces.

In this chapter, after a literature review and European case studies analysis (ch. 6.1), *Guidelines for healthy and safely public space for Covid-19* (ch. 6.2) have been developed. The public space guidelines, compared to the city guidelines addressed in the previous chapter (ch. 2.1), focus on a more detailed scale, suggesting strategies, even temporary, to be used at streets and squares level.

These Guidelines have been applied in three pilot areas of SGL (chosen through the engagement process, ch. 6.4):

- Rue de Paris and Au Bon Accueil restaurant
- Rue de Poissy and place du Vieux Marché
- Place de l’Abbè Pierre de Porcaro

6.1. Best practices analysis of healthy and safely public space for Covid-19

Public health is not only a question about protection and promotion of individual wellbeing, but a collective condition strongly influenced by the environmental context and the strategies implemented by local governments. The Covid-19 pandemic has deeply impacted every city around the world, bringing to attention questions about public spaces. The fast changing of the way of life in the social and physical distance period is making even more urgent the cities' transformation into resilient ecosystems able to promote and prevent the spreading of infectious diseases.

The pandemic highlights that some key measures have to be put in place in order to create a safe place rethinking cities' development in different dimensions (social, cultural, environmental and economic). The densely populated cities were the most affected from Covid-19, however they also were the first to respond to the pandemic. Over half of the world population live in urban context, the ongoing crisis has demonstrated the ability of some cities to respond to this challenging situation but also unearthed fundamental issues of equality, access, and participation.

Therefore, legislative adaptations are needed in order to promote economic and social resilience and enable fast repurposing of public space and mental and physical wellbeing by design, during the context of Covid-19. The critical period while we are living needs **special strategies in order to modify the urban structure to prevent the spreading of Covid-19**. These strategies were also adopted in the SGL project.

The current study adopts a theoretical background to identify the general best practices currently used by different Countries to promote healthy and safely public spaces during Covid-19 pandemic and how they are working to modify the urban environment. This analysis involved a methodological literature review of the existing guidelines in order to understand the different strategies. The strategies to prevent the spread of the virus in the city centers found from the literature have been applied in the context of Safely Connected Project

The information gathered by the literature analysis are summarized in table 6.1, which is a **matrix** that compares different Countries in the abscissa (France, Germany, Italy, Spain, United Kingdom, United States and SGL), while in the ordinates the best practices for healthy and safely outdoor and indoor spaces in relation to Covid-19. The last column of the table illustrates the SGL actions laid down in the Safely Connected Project, which follows the strategies for health promotion during Covid-19 pandemic. The next paragraph explains more in detail some of the best practices by means of the information gathered by the literature.

Table 6.1 Comparison between Countries and best practices for promoting healthy and safely public space during Covid-19 - Link to the PDF HQ file

STRATEGIES	BEST PRACTICES DURING COVID-19 PANDEMIC	FR	DE	ITA	ESP	UK	US	SGL
OUTDOOR	Public transport-only lanes	x		x	x	x	x	
	Local access only	x		x	x	x	x	x
	Active mobility promotion: increasing of raks and cycle's lane	x	x	x	x	x	x	x
	Slow down the traffic	x	x	x	x	x	x	x
	Time delivery shedule in specific loading bays	x	x	x		x		x
	Physical distance in public transports and bus stops		x	x	x	x	x	
	Pedestrianisation of the city centre	x	x	x	x	x	x	x
	Sidewalk expansions for queuing, outdoor markets and shops access	x	x	x	x	x	x	x
	Function proximity and mixité in short distance (15 min city)	x		x		x	x	x
	Physical distance indicators both visual and tactile (rubber and precast concrete curbs, paint, delineators, planters, and jersey barriers)	x	x	x	x	x	x	x
	Delivery areas for shops and restaurants		x	x	x	x	x	x
	Increasing of seating areas		x	x	x	x		x
	Construction of new dehors for bar and restaurants in parking areas or sidewalks	x	x	x	x			x
	Increasing of outdoor public space for playground and social activities	x		x	x	x	x	x
INDOOR	Social distance normes for indoor spaces (e.g. restaurants, bars, shops)	x	x	x	x	x		x
	Indication of n° of people allowed in bars, shops and restaurants	x	x	x	x			x
	Use of separations in shops restaurants and bars	x	x	x	x	x		x
	Presence of guidelines about the use of masks, distance and basic hygiene standards	x	x	x	x	x	x	
	Outdoor space for schools to safely conduct classes		x		x		x	
Provision of gloves and alcholic gel	x	x	x	x	x	x		
OTHER STRATEGIES	Involving final users and stakeholder for understanding their needs with interviews and brief survey(s) during the design process	x					x	x
	Pop-up Covid-19 medical and testing areas	x	x	x			x	x
	Provision of special guidelines for frail user (e.g. queue and sitting priority)	x	x	x		x	x	x
	Public Wifi hotspots			x	x		x	

6.2. Guidelines for healthy and safely public space for Covid-19

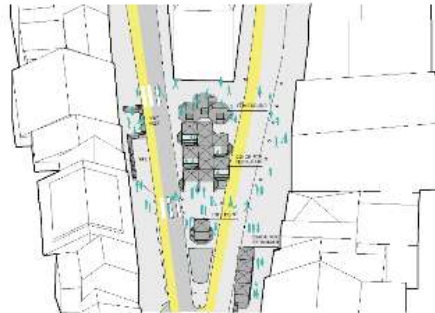
This section describes the **Guidelines for healthy and safely public space for Covid-19** in relation to the best practices of Table 6.1, adopted to prevent the spread of the virus in the city centers and promote citizens well-being and health. The strategies are presented through the support of images that illustrate those applied in different intervention areas of the city of SGL.

For instance, a strategy presented in the matrix by most of the Countries are actions on sidewalks and roads for creating additional public spaces and place for dehors by using parking slots to increase the area belonging to restaurants, bars and shops. At the same time, these actions increase the width for walking, allowing physical distances and safe queueing zones. Another concrete example is slow and sustainable mobility promotion, through projects that have been quickly multiplied after Covid-19 pandemic worldwide (e.g. Paris, Milan, Portland, etc.), offering to city users and citizen real alternatives to the public and private transports. Clear signage is also an important strategy in order to promote the maintenance of the social distance in spaces like playgrounds, bus waiting points, queue lines.

The best practices included in the previous matrix and described in this section have been considered during all the project phases and they can be an example for projects realized in similar situations, allowing scalability and flexibility in other contexts.

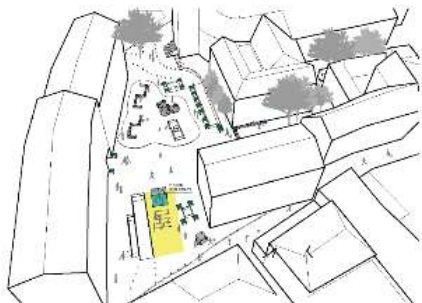
Active mobility promotion: Increasing of raks and cycle's lane

Encouraging the use of active mobility for travel through the development of a network of dedicated spaces for cyclists and pedestrians. Active mobility, as bicycles use, represents an efficient alternative in case of private and public transport reduction offering a safer in healthier option. Tactical urban planning interventions allow to quickly implement or to create temporary cycle lanes and widen the existing pedestrian paths, allowing pedestrians to respect the measures of social distancing. Another action is the increasing areas where the promiscuity of vehicles with bicycles and pedestrians can be safely guaranteed, such as zones 30 and shared roads.



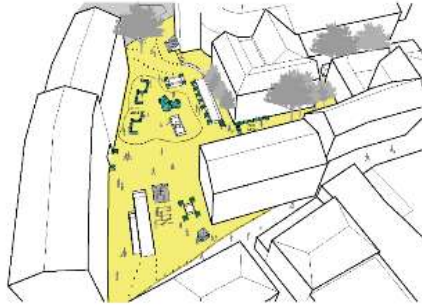
Physical distance indicators both visual and tactile (curbs, paint, delineators, planters, and jersey barriers)

Creation of a clear signage system to indicates how to keep social and physical distance, using both visual and tactile signals. This can be done with the use of curbs, lines and circles painted directly on the floor, and using delineators, planters or jersey barriers.



Increasing of seating areas

Increasing the number of sitting areas in order to create safe places where the citizens can wait outside shops or meet other people while keeping the correct physical distance by reducing the spread of the virus.



Pedestrianisation of the city centre and traffic slow down

Promotion of pedestrian travel in order to relieve local public transport and allow it carrying out social and physical activities outdoors in compliance with the distancing measures provided. By extending the space available on the sidewalks and establishing new pedestrian areas, it is possible to ensure the safety of those who walk and identifying protected routes for more fragile population, encouraging new ways of conceiving public space, sociality and accessibility to essential proximity services. This is possible through actions as: the use of temporary pedestrianization by developing light tactical urban planning interventions and the expansion of pedestrian paths with sidewalks widening.



Sidewalk expansions for queuing, outdoor markets and shops access

Expansions of the pedestrian ways, enlarging the sidewalks, where there is the needs of extra spaces (in particular in the intersections of streets and where there is an high density of shops) for queuing, outdoor markets and space for shops access.



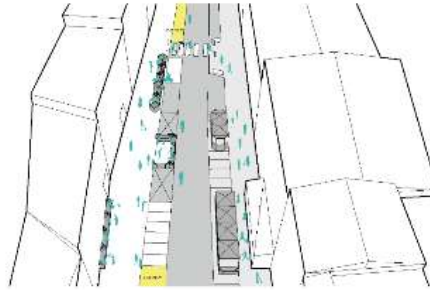
Increasing of outdoor public space for playground and social activities

Redefinition of the use of roads and public spaces and develop areas that allow recreational, cultural, commercial, sporting uses, respecting physical distances, facilitating the connection of socio-cultural and community services. The public space can be expanded in relation to green areas to encourage children to play, the physical activity of all people, but also to provide space for cultural and social events in complete safety.



Delivery areas for shops and restaurants

Provision of specific areas for the delivery of shops and restaurant using parking spaces. This areas can be use during specific time set during the day (expecially in the morning) in order to reduce traffic along the day and promote pedestrianization.



Construction of new dehors for bar and restaurants in parking areas or sidewalks

Creation of additional spaces for restaurants and bars using parking areas or large sidewalks in order to create safe places that can provide a correct physical distance, promoting the use of these activities even outdoors. Stores, markets and restaurants need outdoor space for seating and queuing in order to stay financially solvent.



Social distance normes for indoor spaces (e.g. restaurants, bars, shops)

For physical distancing, WHO recommends a minimum distance of at least one meter between people to limit the risk of interpersonal transmission. The current legislation on the organization of restaurant indoor space provides rules that vary on a technical level, but the requirement to maintain a distance of at least one meter is set in every context.

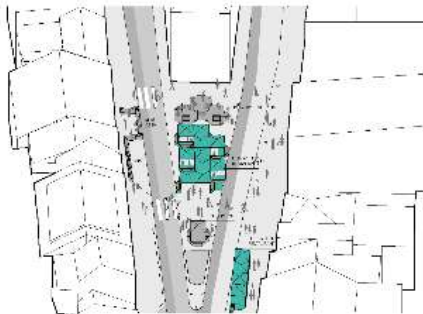


Figure 6.1 Guidelines for healthy and safely public spaces for Covid-19 - [Link to the PDF HQ file](#)

6.3. Design of the new public space for SGL

Methodology

The Guidelines for healthy and safely public space for Covid-19, have been applied in the three pilot areas, identified as strategic pedestrianization zones through the engagement process.

The three intervention areas, showed in figure 6.5, are:

- Rue de Paris and Au Bon Accueil restaurant
- Rue de Poissy and place du Vieux Marché
- Place de l'Abbé Pierre de Porcaro

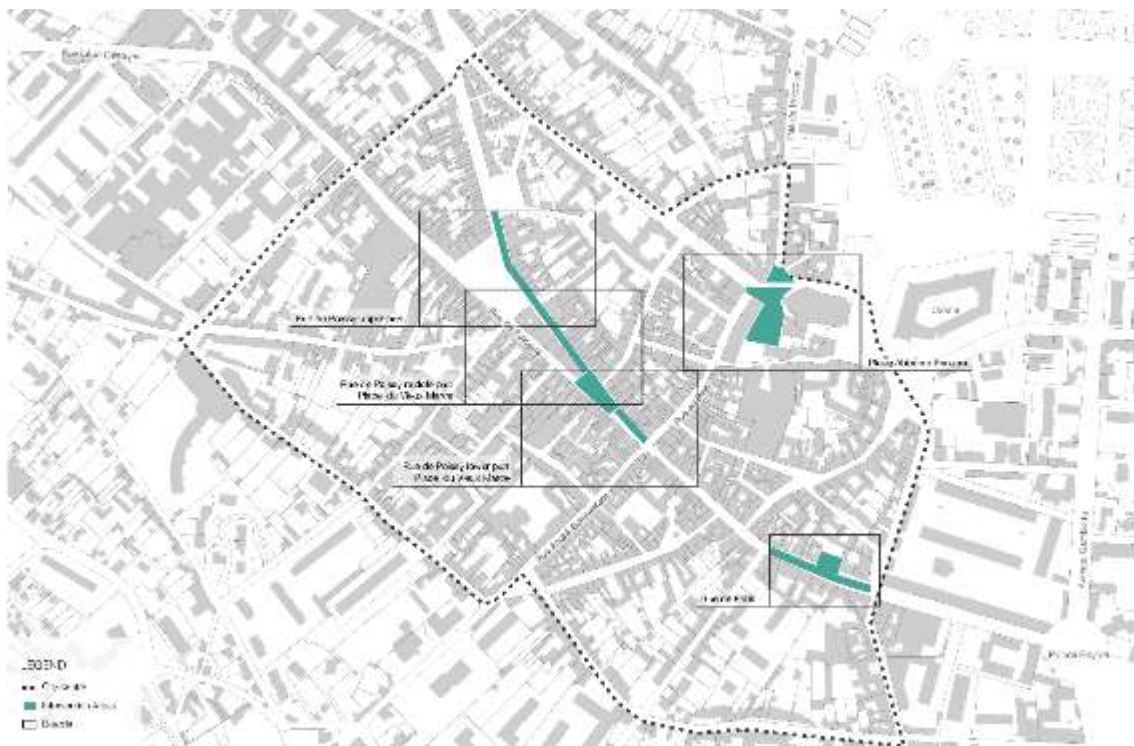


Figure 6.5 Intervention areas framework - [Link to the PDF HQ file](#)

Different panels have been developed for each area:

- **Current situation** analysis
- **Project** of the new pedestrianization and installation of the urban furniture modules designed by Politecnico di Milano team, described in the previous chapter (ch. 5)
- **Comparison** that illustrates what is removed (e.g. parking) and added (urban furniture modules, bicycles parking, etc.);
- **Axometric 3D view** of the new public space configuration (named Design proposal of street reconfiguration)

All the panels showed in the following chapter are attached in [Annex V](#).

The objectives that guided the design choices of the space reconfiguration were defined in relation to the needs of both final users and stakeholders involved in the participatory process. In particular these objectives are:

- increasing quantity and quality of outdoor public spaces: re-design of the urban public space with micro, temporary and experimental design actions of Tactical Urbanism to create and introduce the places hosting the new urban furniture.
- increasing shops' and commercial activities' visibility, that overlook public spaces by locating furniture which encourage passage and rest near the aforementioned commercial activities;
- creating areas for flexible activities (temporary events, books presentation, communication, leisure activities to be able to safely carry out through social distancing promotion);
- Creating leisure and play areas for the younger population in places where they can both stop safely and have complementary neighboring services (e.g. bars, bookstores, etc.);
- encouraging social inclusion promoting Design for All/Universal Design (Mosca et. all, 2019) strategies and the elimination of architectural barriers;
- creating outdoor spaces protected from atmospheric agents, where people can meet even with the presence of limitations due to health emergencies (Covid-19);
- keeping free-transit and parking areas for vehicles that are allowed to enter in the pedestrian areas (e.g. emergency, disabled, delivery);
- increasing active mobility by enlarging the pedestrian area, increasing dedicated bicycle paths and related bicycle parking, which are key features to encourage the adoption of correct lifestyles (Walkability and Cyclability);
- promoting Physical Activity (healthy behaviors) and reduction of vehicular traffic generating better Air Quality in the city;

To achieve these objectives, the current situation analysis was particularly detailed and focused on mapping and describing the following aspects:

- all the shops overlooking streets and squares under study (commercial functions, façades size and showcases, blind walls);
- existing car parking lots (type, size and location);
- roads' difference in height;
- fixed and mobile urban public furniture (wastes, pedestrian bollards, pedestrian rail, traffic lights, fountains, information totem etc.);
- private furniture (dehors, shops' bow windows)

The design of the public space was therefore developed by enhancing as much as possible the intervention areas through targeted pedestrianization of some road's portions, the transformation of some parking lots and the addition of the urban furniture modules designed by Politecnico di Milano team, using different solutions in relation to the contextual area.

The result is a more stimulating and inclusive space that was subsequently evaluated by final users through the participation process explained in chapter 8.

Rue de Paris and Au Bon Accueil restaurant

The area of the intervention is placed in Rue de Paris before the crossroad with Rue Alexandre Dumas and it is characterized by a one-way street with parking slots, sidewalks and shops to both sides.

The **aim** of the intervention for this area is to provide more space for the users of commercial activities and restaurants and to redefine the use of the road developing areas for social interactions. This can be achieved with increasing of sitting spaces outdoor and rest areas using parking areas or large sidewalks in order to create safe places that can provide physical distance and the use of the activities even outdoor.

The area of intervention is presented using 3 panels in 1:200 metric scale and 1 panel with an axonometry. The panel **Rue de Paris – Au Bon Accueil restaurant [Current situation]** (Fig. 6.6) represents the analysis of the existing situation defining the locations and functions of shops and restaurants of the area and the changes in level of the sidewalk with slopes in relation to crosswalk and tow way zones. The restaurant Au Bon Accueil is highlighted since it is one of the first shop which provides its availability to install the furniture of the project. Parking areas for cars and deliveries are distinguished in order to consider them in the design phase.

The panel **Rue de Paris – Au Bon Accueil restaurant [Project – plan]** (Fig 6.7) illustrates the project, in yellow the interested area to be renovated as walkable and in light blue the urban furniture design project elements. The strategy adopted is to insert the urban furniture on the sidewalk or occupying the parking areas.

The panel **Rue de Paris – Au Bon Accueil restaurant [Comparison – plan]** (Fig. 6.8) clearly shows the relation between the existing situation and the project and the design elements abacus with the number of furniture's elements. In particular:

- **4 cars parking** and one delivery parking have been removed;
- **15 bicycles parking** have been added for physical activity promotion and **10 motorcycles parking** have been added, since the restaurant Au Bon Accueil is frequented by different riders;
- **4 dehors for the restaurant** Au Bon Accueil have been added using parking slots, in order to allow more people to use it also outside providing physical distance;
- **1 computer station** has been added using one parking slot in front of a computer shop;
- **3 rest areas** have been added in the opposite side to the restaurant to provide public space for people developing areas for social interactions. Two of these areas are located on the sidewalk, while one occupies a parking slot. All these rest areas are composed by the alteration of seats and planters increasing the greenery of the street. One of the rest areas has also bicycle racks integrated in the design of the furniture.

The panel **Rue de Paris – Au Bon Accueil restaurant [Axonometry]** (Fig 6.9) represents people using the new public spaces for social interaction as the rest areas and the furniture for the restaurant that offer opportunity to use the space in a safer and livable environment.



Figure 6.6 Rue de Paris – Au Bon Accueil restaurant [Current situation] - Link to the PDF HQ file

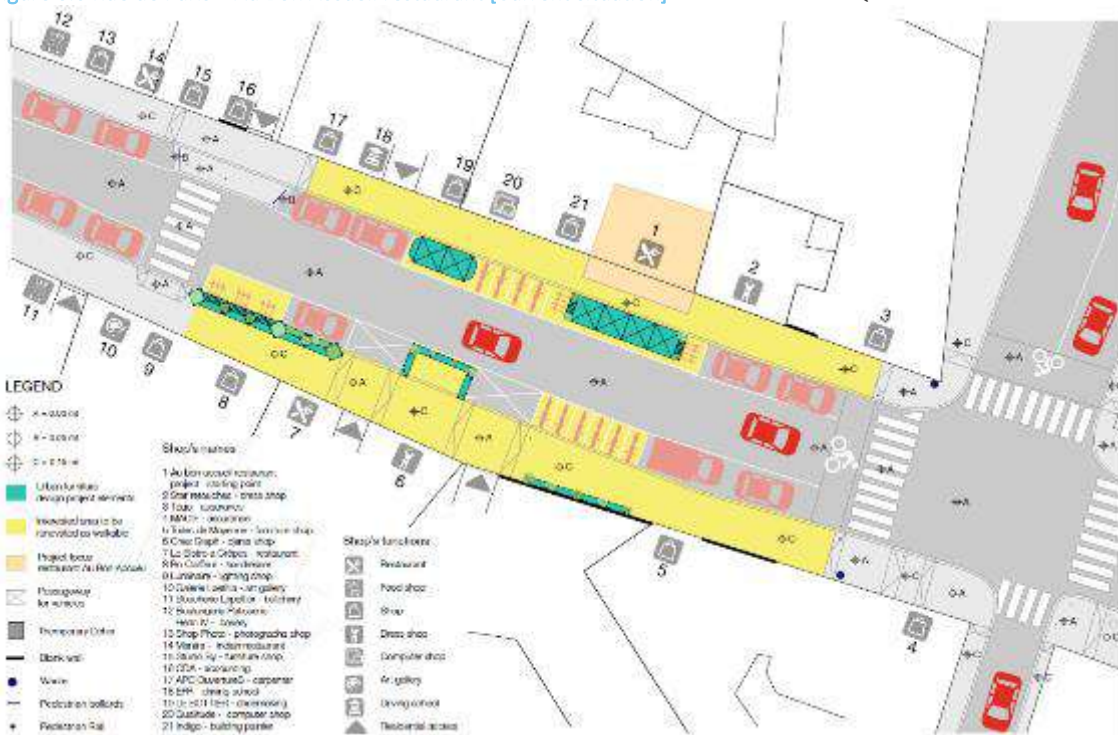


Figure 6.7 Rue de Paris – Au Bon Accueil restaurant [Project – plan] - Link to the PDF HQ file

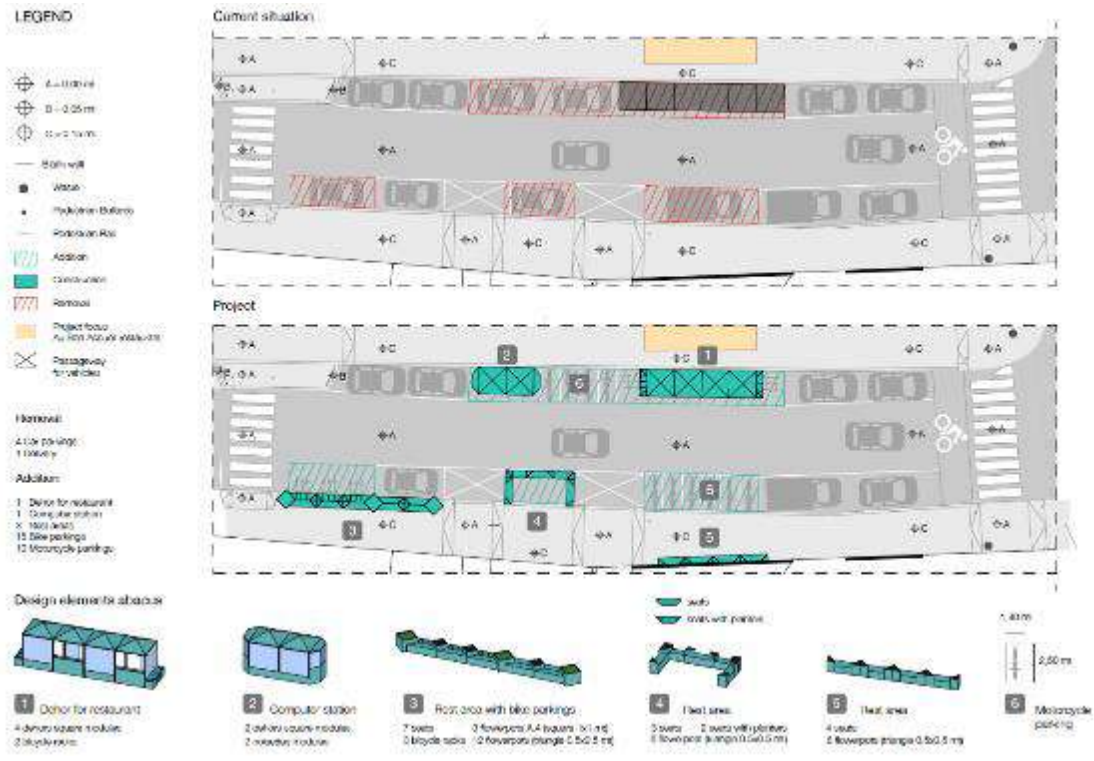


Figure 6.8 Rue de Paris – Au Bon Accueil restaurant [Comparison – plan] - Link to the PDF HQ file

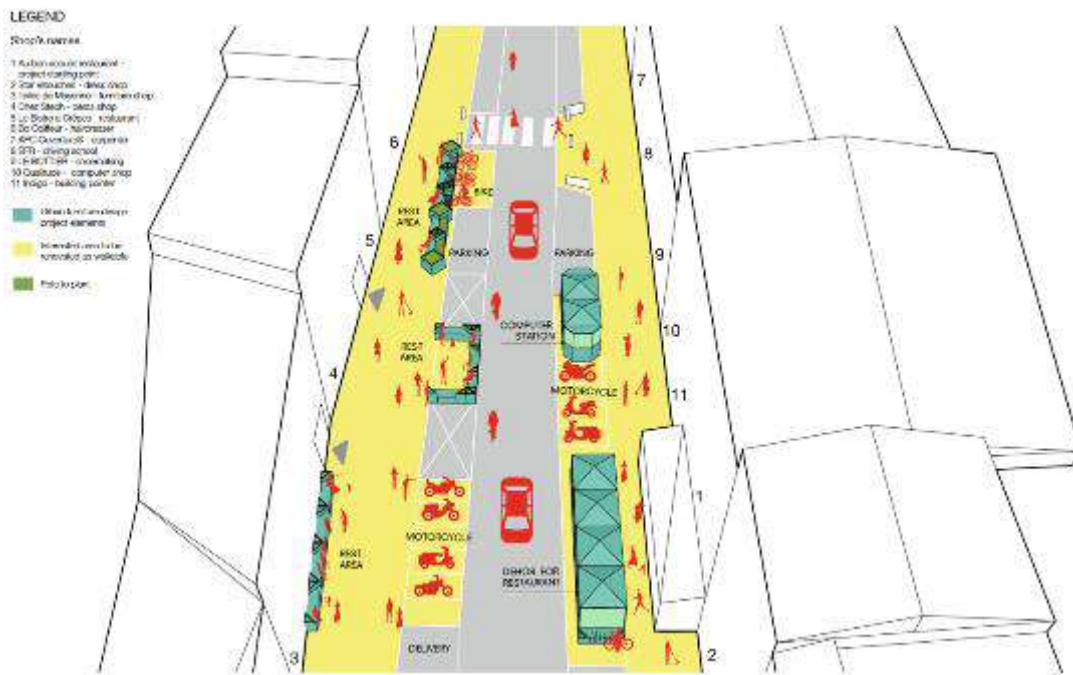


Figure 6.9 Rue de Paris – Au Bon Accueil restaurant [Axonometry] - Link to the PDF HQ file

Rue de Poissy and place du Vieux Marché

The area of the intervention is both the whole Rue de Poissy, from the Place du Marché Neuf to intersection with Rue au Pain, and Place du Vieux Marché. Rue de Poissy is a one-way street with parking slots, delivery areas and shops to both sides. Place du Vieux Marché is a square where Rue de Poissy intersects Rue de Pologne. The square faces the LCL bank, features tables of the Reveil Martin restaurants, an InfoPoint and a bike parking.

The **aim** of the intervention for this area is to make the entire way pedestrian, to provide a variety of functions like for example to create more space for restaurants and shops and to develop areas for social interactions. This can be done redesigning the square area and increasing of sitting spaces outdoor and rest areas using parking areas in order to create safe places that can provide physical distance and the use of the activities even outdoor.

Rue de Poissy intervention area is represented using 3 panels (both for the existing situation and project) in order to cover the whole area in 1:500 metric scale (upper part, middle part and lower part).

The panels **Rue de Poissy – upper, middle and lower part [Current situation]** (Fig.6.10,6.11,6.12) represent the analysis of the existing situation, defining the locations and functions of shops and restaurants of the area and the changes in level of the sidewalk with slopes in relation to crosswalk, tow way zones and underground parking.

The panels **Rue de Poissy – upper, middle and lower part [Project – plan]** (Fig. 6.13,6.14,6.15) illustrate the project, in yellow the interested area to be renovated as walkable and the parking lots that must be converted, in blue the urban furniture design project elements and in light blue the bicycle lane. The strategy adopted is to create a pedestrian way in order to promote physical activity, reduction of traffic and pollution and generally develop a healthier place.

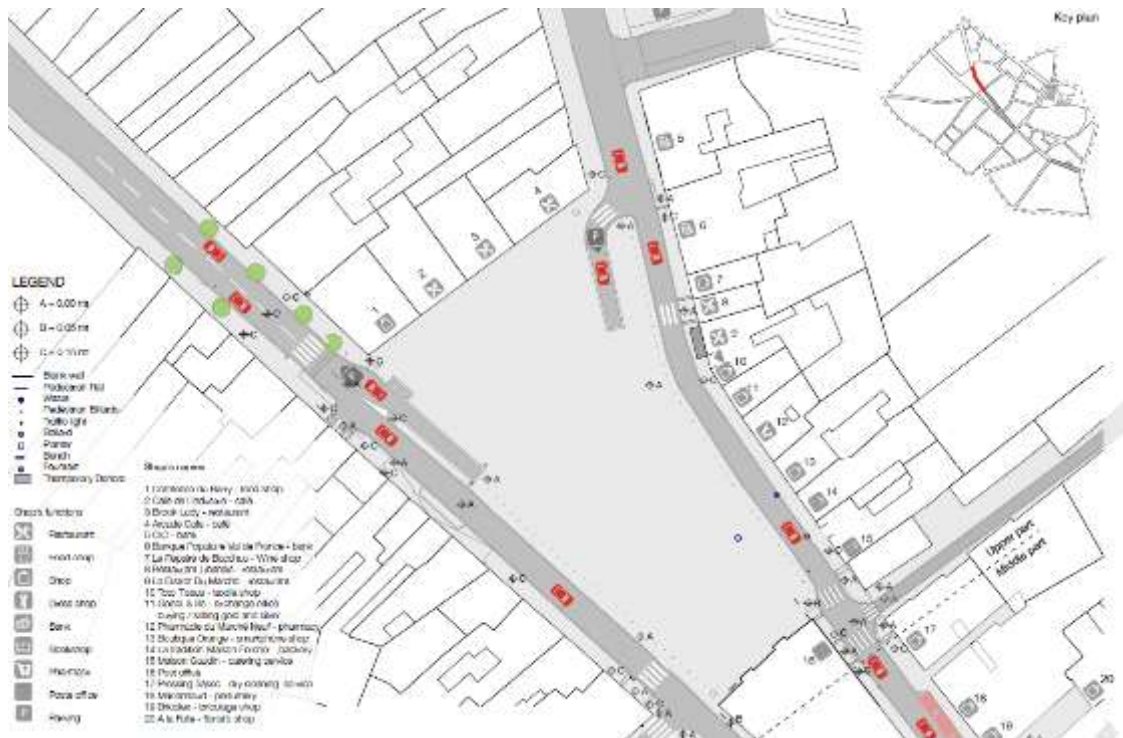


Figure 6.10 Rue de Poissy – upperpart [Current situation] - Link to the PDF HQ file

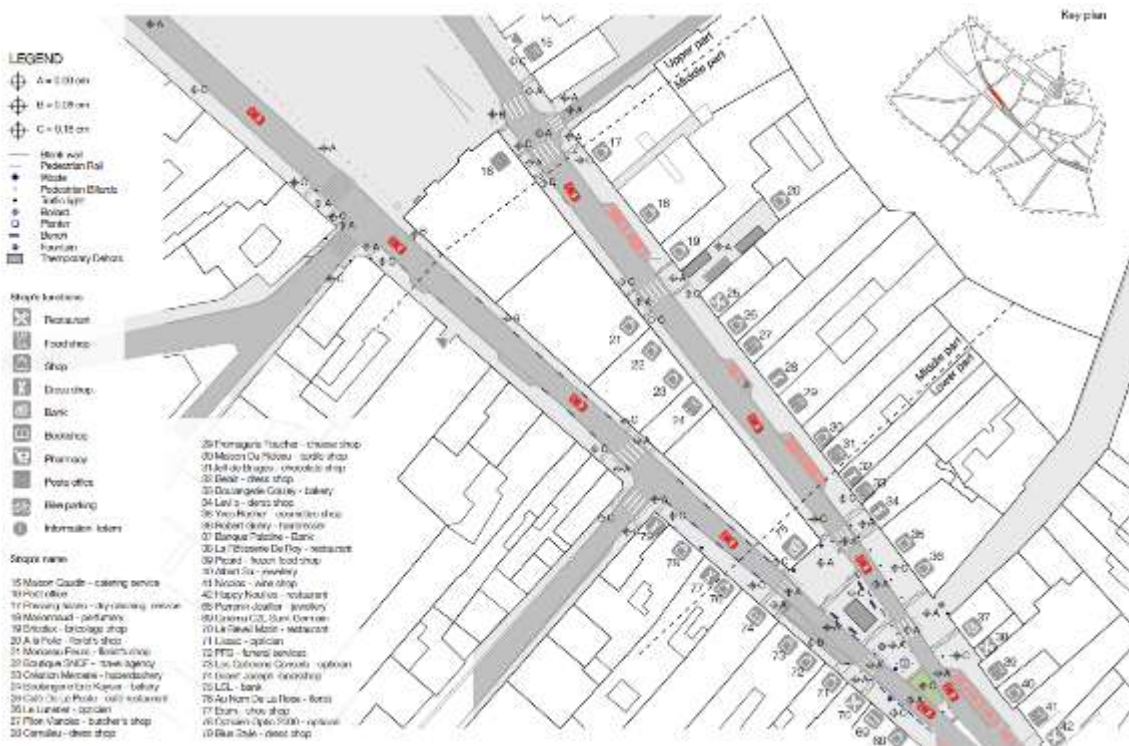


Figure 6.11 Rue de Poissy – middle part [Current situation] - Link to the PDF HQ file

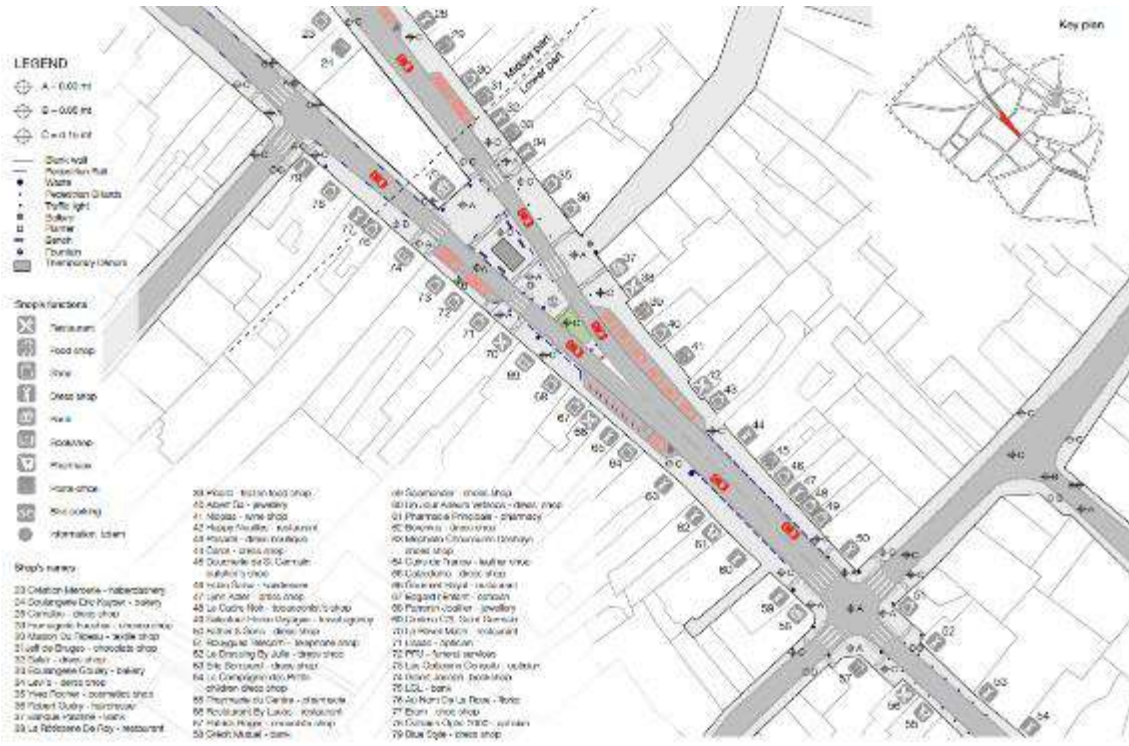


Figure 6.12 Rue de Poissy – lower part [Current situation] - Link to the PDF HQ file

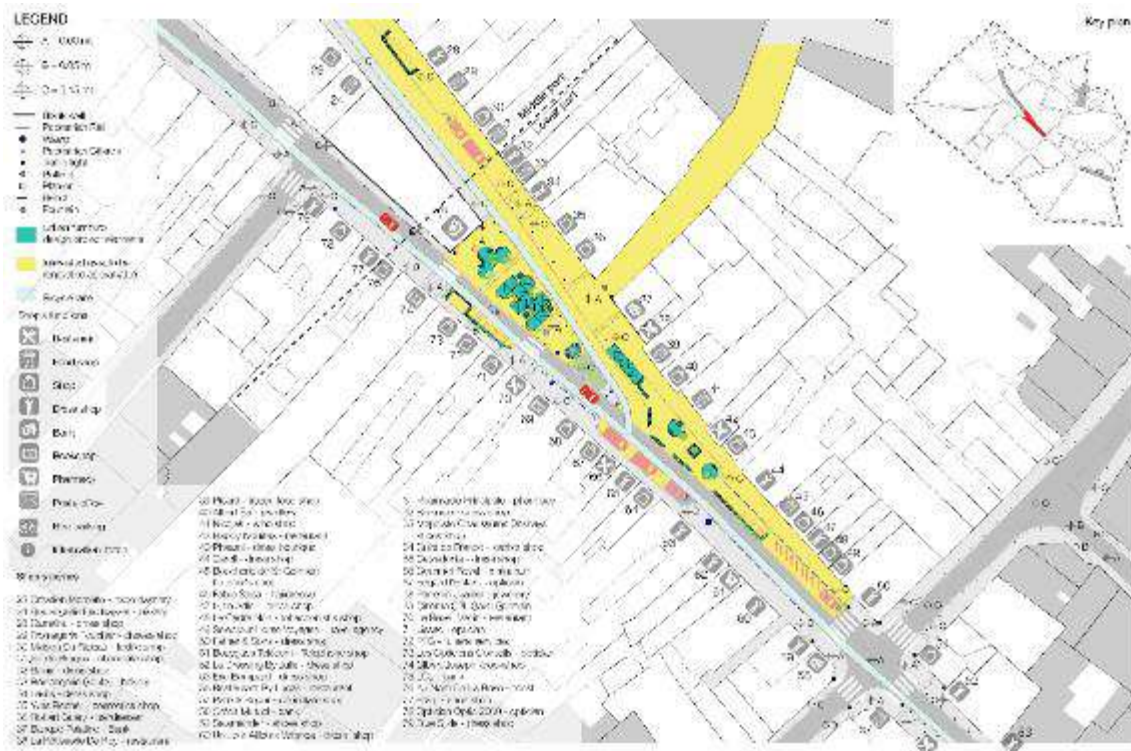


Figure 6.15 Rue de Poissy – lower part [Project Plan] - Link to the PDF HQ file

The specific intervention area of Place du Vieux Marché is represented by 3 panels in 1:200 metric scale and 1 panel with the axonometry.

The panel **Place du Vieux Marché [Current situation]** (Fig.6.16) illustrates the analysis of the existing situation defining the locations and functions of shops and restaurants of the area and the changes in level of the sidewalk with slopes in relation to crosswalk and tow way zones. There is a clear indication of the furniture (benches, waste and bollards) in order to evaluate which should be removed.

The panel **Place du Vieux Marché [Project – plan]** (Fig 6.17) illustrates the project, in yellow the interested area to be renovated as walkable and the parking lots that must be converted, in blue the urban furniture design project elements and in light blue the bicycle lane. The strategy adopted is to create different functional areas to increase the use of the public space in the square through the new urban furniture and the pedestrianization of the space. As showed by the scheme top right in the panel, a play area has been added in the upper part of the square front of the bank, an access area has been defined by a new info-point and different rest areas have been inserted both in the square, on the sidewalk and by the occupation of parking slots. The lower part of the area in Rue de Poissy is also reshaped by using part of the street, the sidewalk and the parking slots, in order to create a wider public space for the urban furniture project elements.

The panel **Place du Vieux Marché [Comparison – plan]** (Fig 6.18) shows the relation between the existing situation and the project and the design elements abacus with the number of furniture’s elements. In particular:

- **11 motorcycles parking, 6 cars parking and two deliveries parking** have been removed;
- **21 bicycles parking** have been added for physical activity promotion and the **11 motorcycles parking** have been relocated in the lower part of Rue de Poissy;

- **2 dehors areas for restaurants** have been added using the square and parking slots reshaping Rue de Poissy, in order to allow more people to use it also outside providing physical distance;
- **2 rest areas with bicycles parking** have been added, the first one in the delivery area of Rue de Pologne and the second in the lower part of the intervention area in Rue de Poissy. All the rest areas are composed by the alternation of seats and planters that increase the greenery of the street and by bicycle racks;
- **6 rest areas** have been added in the lower part of the intervention area. All these rest areas are also composed by the alternation of seats and planters;
- **1 platform for events/rest/play area** has been added in front of the bank in order to allow people to maintain physical distance while waiting outside the bank;
- **1 info-point** has been added in the lower part of the square, as symbolic access point.

The panel **Place du Vieux Marché [Axonometry]** (Fig6.19) represents people using the new public spaces for social interaction as the rest areas and the furniture for restaurants that offer opportunity to use the space in a safer and livable environment.



Figure 6.16 Place du Vieux Marché [Current situation] - Link to the PDF HQ file

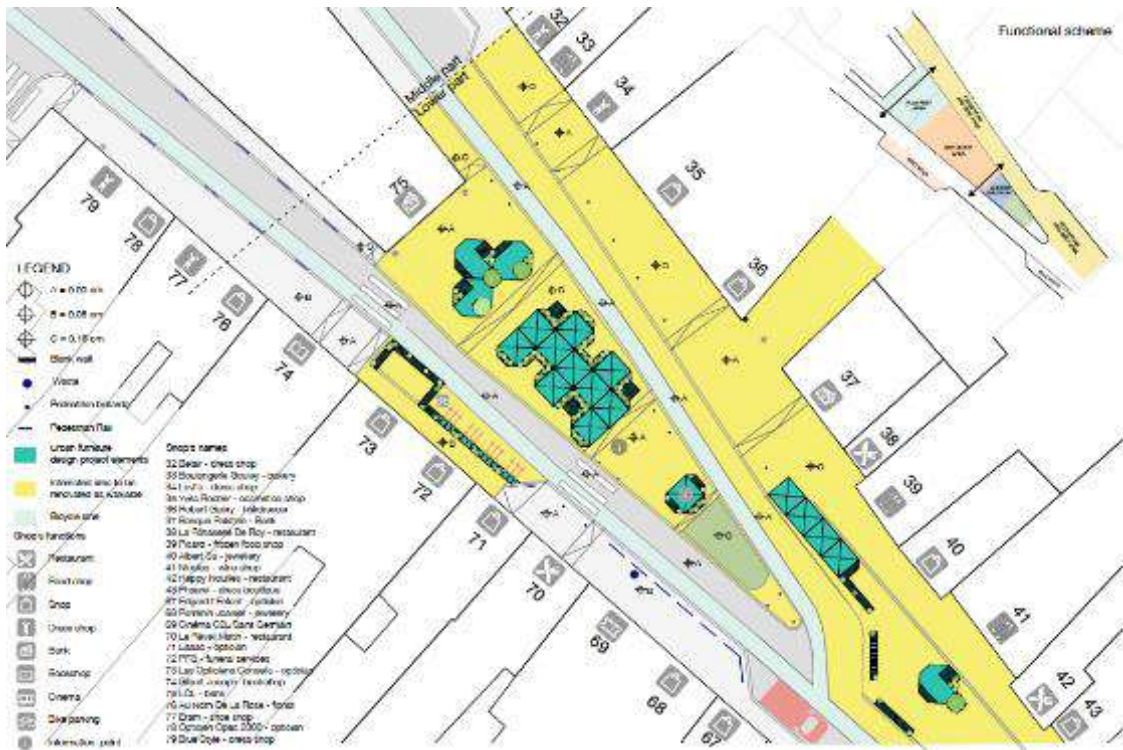


Figure 6.17 Place du Vieux Marché [Project – plan] - Link to the PDF HQ file

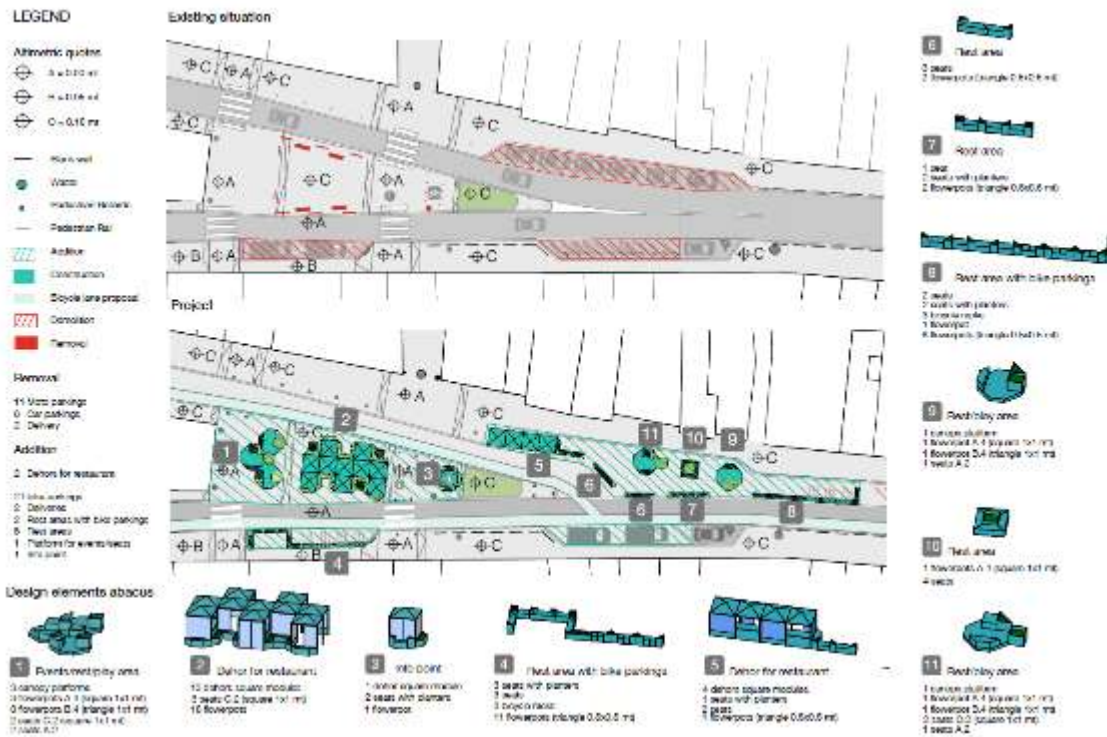


Figure 6.18 Place du Vieux Marché [Comparison – plan] - Link to the PDF HQ file

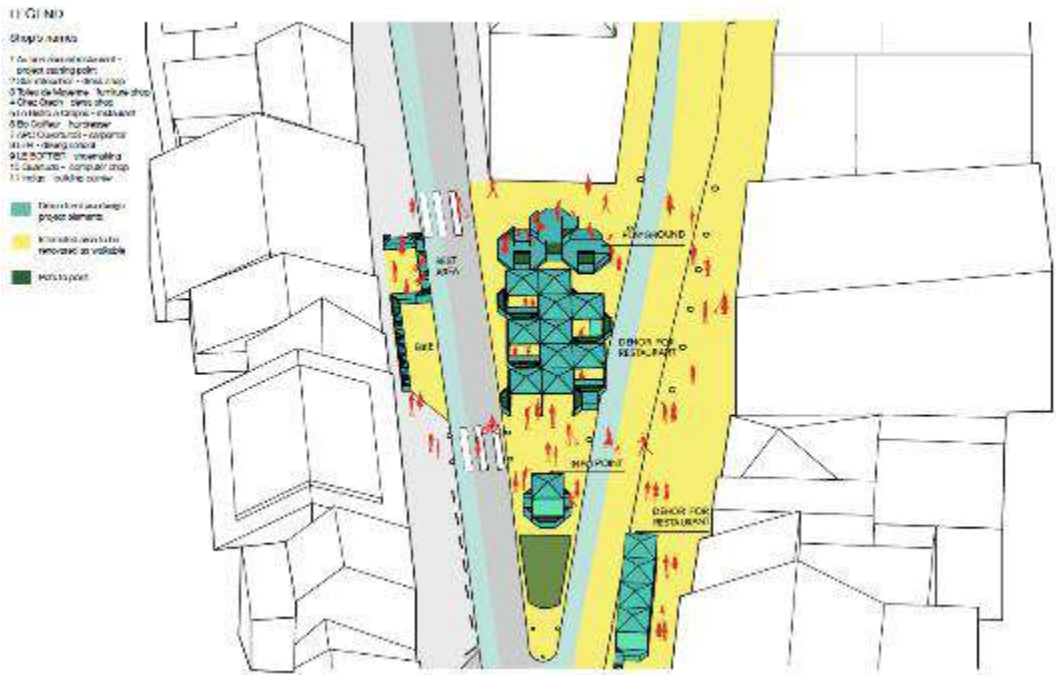


Figure 6.19 Place du Vieux Marché [Axonometry] - [Link to the PDF HQ file](#)

Place de l'Abbè Pierre de Porcaro

Place de Pierre Abbè de Porcaro is a square behind the main church of the city center adjacent to the castle. The square is surrounded by a pedestrian street with shops on the south side and by a crossroad on the north side. The west front of the square is formed by a residential building with shops at the ground level, while on the east there is the church and two residential buildings. The square is built on an underground parking of one of the two residential buildings, indeed two ramps for car are present.

The **aim** of the intervention is to redefine the use of the square, that currently is not used by citizen as public space, but only as a passage. This can be achieved by developing space for recreational, cultural and commercial activities outdoor.

The panel **Place de l'Abbè Pierre de Porcaro [Current situation]** (Fig. 6.20) represents the analysis of the existing situation defining the locations and functions of shops and restaurants of the area. Attention has been placed on the existing furniture as vases and pillars in the square and on the location of the two ramps of the cars parking. The analysis highlights the changes in level of the square in relation to the streets and sidewalks, in order to define the area of intervention.

The panel **Place de l'Abbè Pierre de Porcaro [Project – plan]** (Fig 6.21) illustrates the project, in yellow the interested area to be renovated as walkable which includes both the square and the pedestrian streets according to the general urban project for SGL. In light blue the urban furniture design project elements are represented. The strategy adopted is to create macro-areas in relation to the outcomes that the project wants to achieve: playground area for increasing the use of the square by different kind of users; events area to create a functional mix and guarantee the use of the square in different hours as during night for performance; rest area to allow people stay in the square and foster the use of commercial activities; info point area (access) in relation to the square's location, which is near the castle and the access to the city by tram and train.

The panel **Place de l'Abbè Pierre de Porcaro [Comparison – plan]** (Fig 6.22) shows the relation between the existing situation and the project and the design elements abacus with the number of furniture's elements. In particular:

- **7 vases** have been shifted
- **1 platform for events** has been added
- **1 info point** has been added near the pedestrian street that bring to the castle and tram-train shop;
- **3 rest areas** have been added, two within the new playground allowing also to look to the shops side, one in a corner of the square near trees which provide coverage.

The panel **Place de l'Abbè Pierre de Porcaro [Axonometry]** (Fig 6.23) represents people using the new public spaces for social interaction as the playground and the events area.

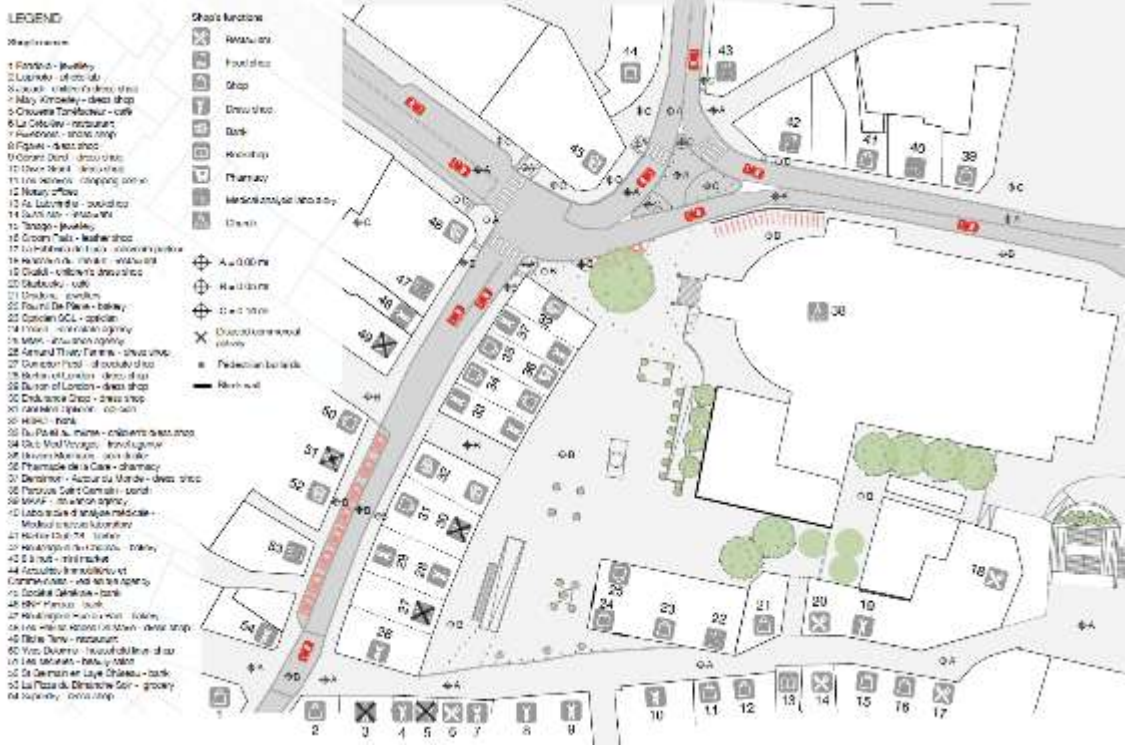


Figure 6.20 Place de l'Abbé Pierre de Porcaro [Current situation] - Link to the PDF HQ file

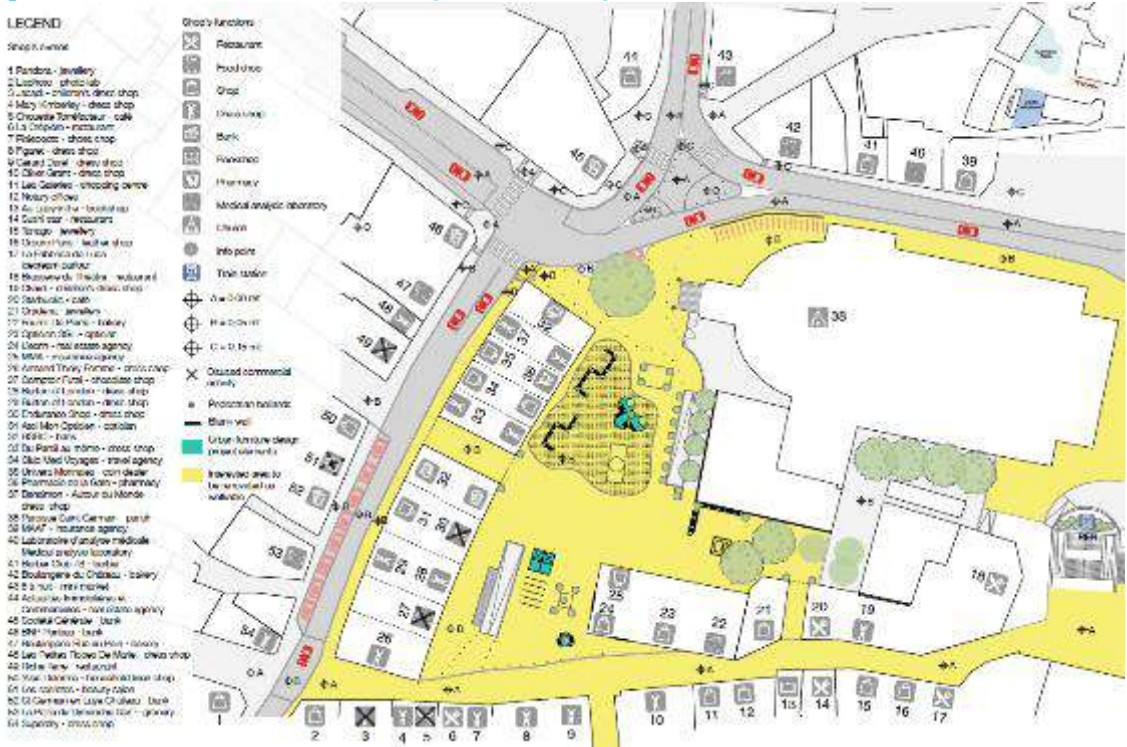


Figure 6.21 Place de l'Abbé Pierre de Porcaro [Project – plan] - Link to the PDF HQ file

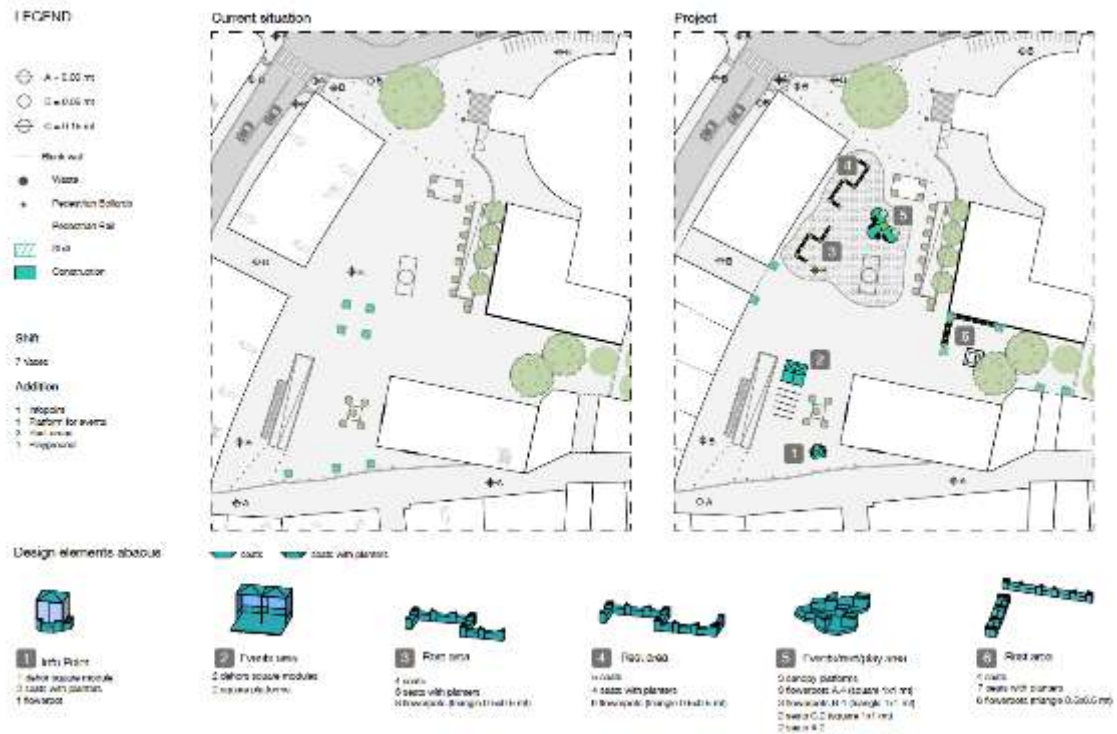


Figure 6.22 Place de l'Abbé Pierre de Porcaro [Comparison – plan] - Link to the PDF HQ file



Figure 6.23 Place de l'Abbé Pierre de Porcaro [Axonometry] - Link to the PDF HQ file

7. Pedestrianization actions on SGL and validation

All the research and design activities described in this chapter were carried out by SGL Team. The chapter explains the testing phase of the Design of the new walkable urban city centre for SGL described in chapter 2.2.

The results fulfil the following KEY OUTPUTS:

OUT02 Validated public engagement method tested in SGL (paragraph 7.2)

OUT05 A reliable database regarding public space use and people behaviours (paragraph 7.2)

OUT06 City centre of SGL transformed in a lively and health safe open-air market, a reliable reference of rapid and sustainable public space transformation and economic revival (paragraph 7.1)

Moreover, the results fulfil the following TASKS:

A2002 Design and testing of liveable urban spaces

A2004 Citizens' engagement

7.1. New pedestrianization areas in SGL

At the end of first confinement in May 2020, the City of SGL extended the pedestrian perimeter of its city centre – specifically the hypercenter (Fig. 7.1). Part of this initial pedestrian plan was later made permanent as city dwellers accepted and encouraged the perpetuation of the scheme and in the context of the Safely Connected Project.

The pedestrianisation of the hypercenter of SGL responded to emerging needs in the wake of the Covid-19 crisis.

It allowed the appropriation of more space by pedestrians because of social distancing, all the while maintaining, and improving, quality of life. In this sense, rethinking the city hypercenter and enlarging the pedestrian zone also met other needs, namely: the affirmation of the cultural and historical identity of the hypercenter, and of the attractiveness of the city. It was also an opportunity to make the public space accessible to all, integrate new sustainable mobilities and bring an additional touch of nature to the city.

All week-long – Monday to Sunday – pedestrians could walk freely around the main square and surrounding streets, from the end of the confinement on May 11th to June 22nd, during the first stage of the scheme. In its second stage, the same area was closed off to circulation from Friday to Sunday, while traffic could navigate on other days, until August.

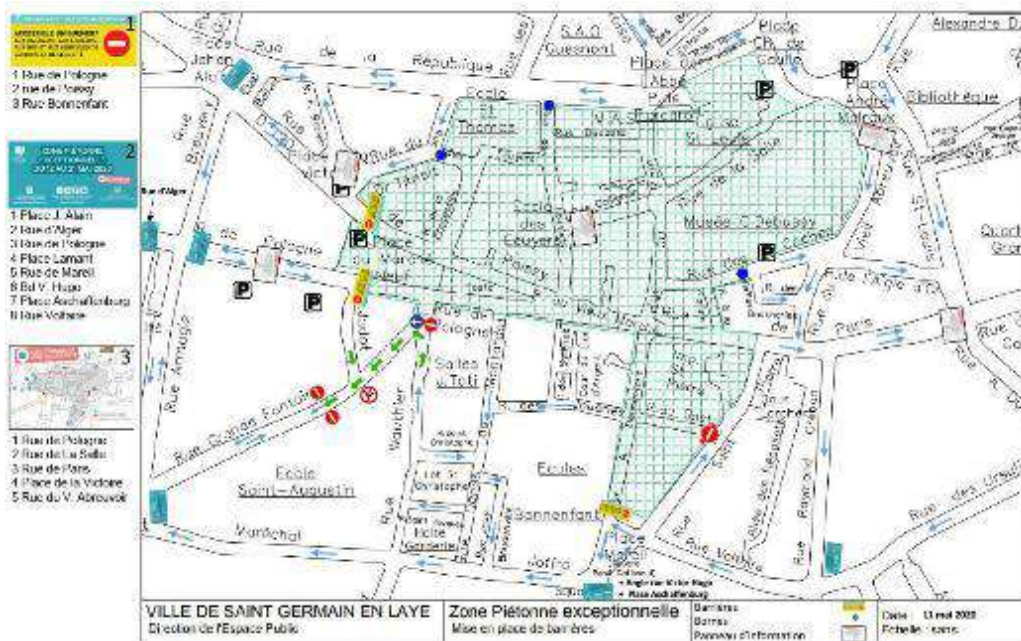


Figure 7.1 Pedestrianisation of the hypercenter (May 11th to August 1st) during Lockdown experience

As part of the objective to improve quality of life, and notably air pollution, temporary bike lanes were implemented during the first confinement period (Fig 7.2). They slowed down road traffic on the outside of the zone and thereby encouraged city dwellers to share the space with other non-motorised users.



Figure 7.2 Bike lanes in the hypercenter, with the temporary 'Covid-19' lanes in hashed purple and white

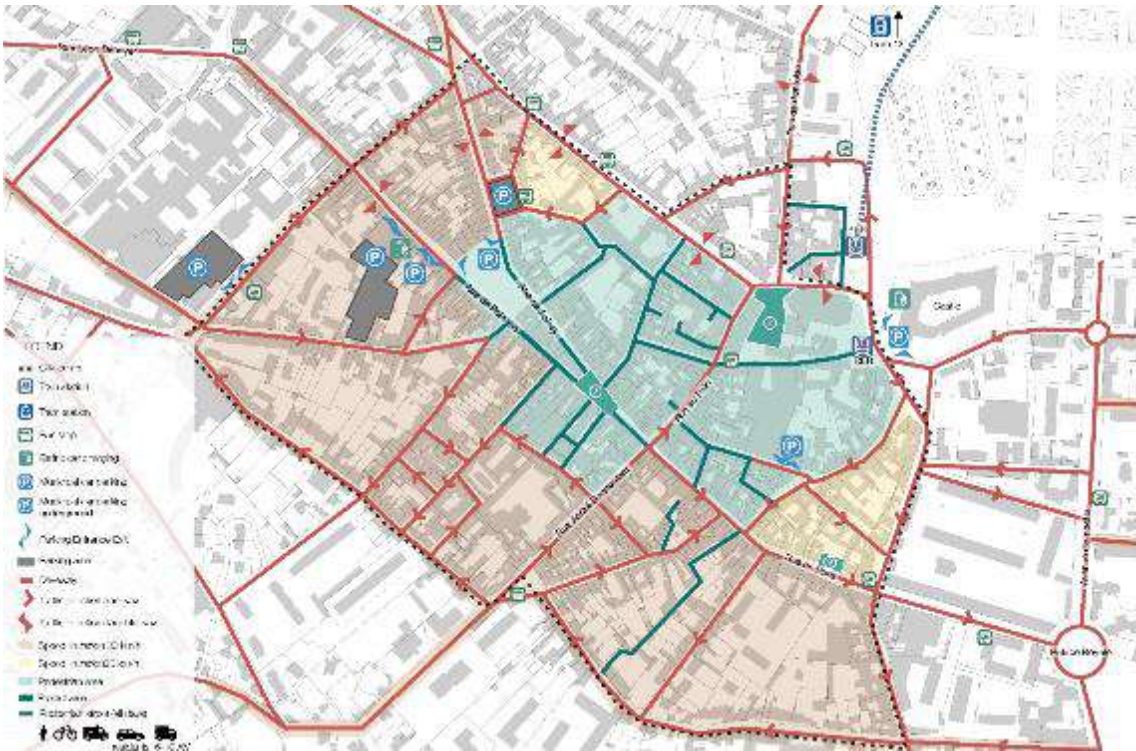


Figure 7.4 Design of the new walkable urban city centre for SGL by Politecnico di Milano -DABC 1st phase

[Link to the PDF HQ file](#)

This new, permanent pedestrian area made possible to optimise public space use in the hypercenter through collaboration with Politecnico di Milano.

The pedestrianization project of the historic centre of SGL (made by Politecnico di Milano) is divided into 3 times phases, the first to be implemented now, the second one in the medium term and the third one in the long term. This progressive implementation of the project is aimed to guarantee more resilient behaviour of the users and to ensure time to eventually adjust some aspects.

This first step of pedestrianisation was imperative for the implementations of the next actions. With the reduction and reorganisation of the traffic flow and parking in the hypercenter, revisiting its use is made easier and more accessible. Installation of urban furniture was planned, mobile, adaptable, with the capacity to fit different uses, to be utilised as a resting area, but also a place of socialisation, a performance venue, a playground, or sports area.

7.2. Survey on the new pedestrian areas to engage citizens of SGL

A survey on the perception of potential and existing pedestrian areas in the SGL city centre was conducted from November 20th to November 24th 2020 (Annex VI). On a total of 703 responders, 501 were residents of SGL (Fig 7.5), and 202 were residents of neighbouring communes. This survey was prepared based on the questionnaire guide proposed by Politecnico di Milano and conducted by the OpinionWay company specialised in the administration of this kind of inquiries and having the capacity to provide quick reliable results.

Overall, residents (85%) and neighbouring residents (73%) are satisfied with the current pedestrianisation

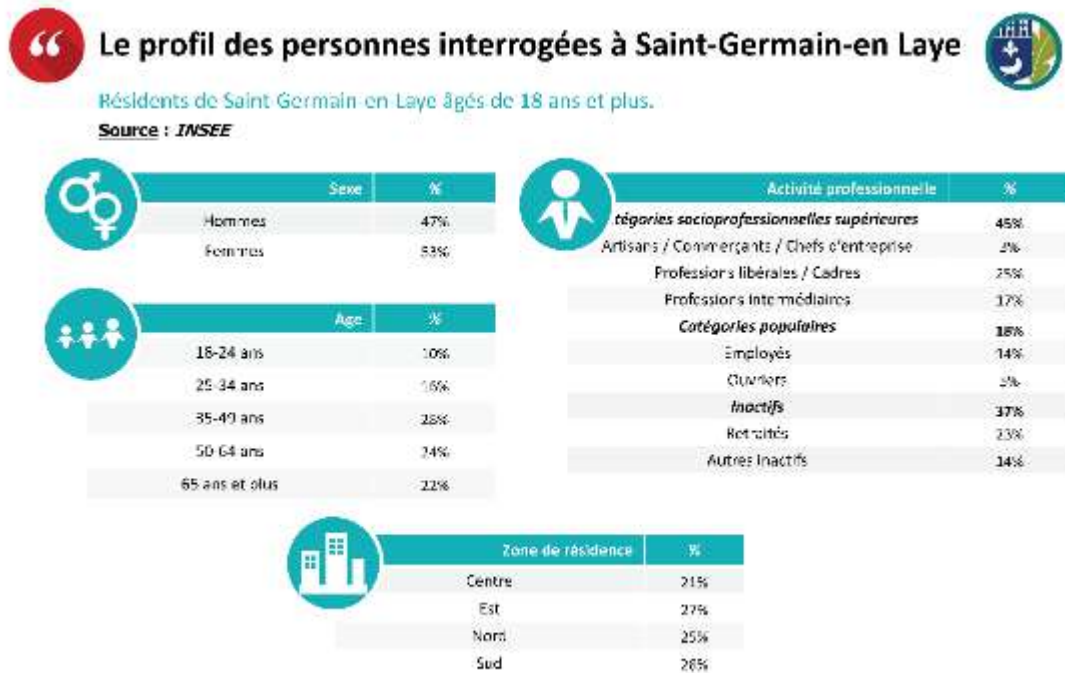


Figura 7.5 Data about the respondents to the questionnaire in SGL - Link to the PDF HQ file of the city, in other words the pedestrianisation from Friday to Sunday of the city centre.

Despite knowing little or nothing about upcoming pedestrianisation projects, a majority agree with this idea, both in the city (75%) and those living outside its walls (67%) (Fig. 7.6). Amongst the reasons listed for those in favour of increased pedestrianisation, the main arguments revolve

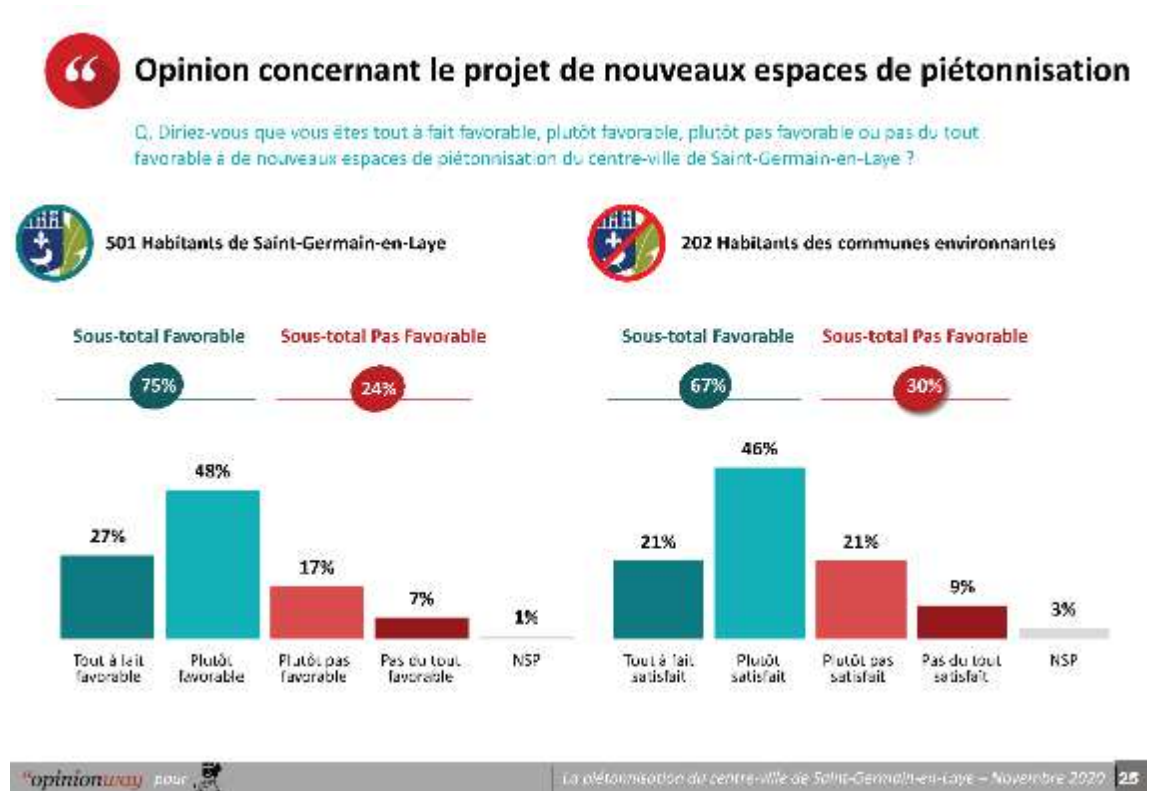


Figure 7.6 Results on the opinions about upcoming pedestrianisation projects. - Link to the PDF HQ file

around it evolving the city centre into a more pleasant, calm, accessible to soft mobilities, and more ecological area, as this also implies less noise and circulation of cars.

Indeed, the question around traffic and parking in the centre, is the most interesting take-away from the survey, as less responders tend to say they are satisfied with the current situation than for the other themes (shops and attractiveness): on average – blending responders from SGEL and neighbouring cities – 53,5% are content about traffic and circulation in the city, and only 37% are content with parking in the city. This leads to some responders explicitly disagreeing with further pedestrianisation of the city as they believe it will worsen the situation – roughly 15% of SGEL residents, and 23% of neighbouring residents.

On the other hand, while a great majority of responders seem to agree that increased pedestrianised areas in the city might make parking and traffic a larger issue, they also think it is a positive endeavour for the residents (83% and 79%), the local shops (80% and 79%) and the overall attractiveness of the city (79% and 72%).

During the survey, responders were asked which area of the city – in this case, street(s) – they would like to see pedestrianised first, and at all. The two leading propositions were for the rue au Pain and the rue de

Pologne, gathering the votes of 44% of total responders¹ from SGL and 30% from neighbouring cities. Responders were also interested in the pedestrianisation of the rue de Poissy – 13,5% of SGEL residents and 11% of neighbouring residents – although not as a first option.

Lastly, a large majority of responders, both from and around SGEL, opted for the pedestrianisation from Friday to Sunday, as it is currently, against the option of reinstating the Monday to Sunday cycle.

Overall, the survey highlights the approval of a majority of respondents to the increase of pedestrianised areas, and a need for a more accessible, calm and shared public space, despite concerns with traffic and parking management in the city centre.

¹ Only those favourable to further pedestrianisation were asked about the next pedestrianised areas and the days of the week for pedestrianisation, this percentage has been calculated for the whole sample of responders, for more clarity.

8. Virtual Validation of the Urban Furniture in SGL

All the research and design activities described in this chapter were carried out by the Politecnico di Milano Dept. ABC Team.

The results fulfil the following KEY OUTPUTS:

OUT02 Validated public engagement method tested in SGL: The virtual validation method (paragraph 8.2) and the result of the survey (paragraph 8.3) are an update part of the engagement program tested.

OUT03 Solidarity network consolidating the economic and social resilience. The virtual validation method is a scientific method used to engagement users

OUT06 City center of SGL transformed in a lively and health safe open-air market: the virtual validation method tested the impressions of city users about the transformation.

Moreover, the results fulfil the following TASKS:

A2002 Design and testing of livable urban spaces.

A2004 Citizens' engagement

A2005 Public space regulation package.

8.1. Transition from the public engagement instruments to the virtual validation of the new Urban space

Stakeholders and public engagement methods have been used throughout the different iterative design processes, allowing the project partners and in particular the design teams of Politecnico di Milano to actively incorporate structured stakeholders feedback into the various proposals, gradually improving and deepening the urban furniture and public space solutions. In particular, as detailed in Chapter 4, method i) and method ii) have been successfully adopted during the project phases. Eventually some difficulties have been found by the municipality of SGL in the application of method iii) Evaluation Surveys (referring to phase 3 Collaboration and phase 4 Evaluation, declared in Delivery 01). Therefore, as suggested by the European Institute of Innovation & Technology (EIT), and in agreement with the project partners, mitigation actions have been designed and rapidly applied in order to collect, analyse and exploit empirical data in order to validate the proposed solutions. In particular, a simplified version of the Post Occupancy Evaluation survey has been designed and developed through a virtual survey to be submitted on a general population sample.

This solution exploits an approach that is widely used in the field of evidence-based design research with specific regards to the design of complex facilities such as healthcare environments. Indeed, the healthcare

process often involves choosing between multiple design alternatives. Physical mock-ups have traditionally been used to garner subjective feedback from end users during the design process to support design decision-making with multiple stakeholders. However, the use of physical mock-ups to compare multiple design options, especially in early design stages, can be cost prohibitive in an era of cost containment where healthcare organizations are being challenged to do more with less. More cost and time-effective methodologies have been indeed designed including virtual mock-ups, simulations and virtual reality usage (Wingler et al., 2020).

Indeed, it is recognised that people interact with their surrounding environments using multiple senses, but the predominant source of input in most situations is the sense of sight and since the 80s visual simulations are considered good nonverbal environmental evaluation (Nejati et al., 2016). Today, the capacity of technology of creating realistic simulations is supporting this type of methodology.

Those approaches are designed in a way that multiple scenario or alternatives are proposed, and the different stakeholders are required to evaluate their specific preference through a comparative approach. This comparison is not just led by subjectivity, but surveys and methodologies based on structured scales are exploited in order to define in a precise way the qualities that are going to be assessed.



Figure 8.2 Example of a virtual visual comparison for a healthcare facility evaluation, taken from Nejati et al, 2016
- Link to the HQ file

8.2. Design and submission of the Virtual Validation Survey on a sample of stakeholders

Survey Design

Starting from the literature review conducted and the tools previously designed, a simplified version of the post occupancy evaluation surveys has been designed in order to rapidly validate the design solution before its actual installation. While starting the production, this approach allows to work in parallel and collect feedbacks from general citizens and possible future users resulting in an efficient and time-saving solution. The Virtual Validation Survey is the result of a mitigation strategy that allow to create a simplified and user-friendly version of the public engagement methods iii) designed for the phases 3 Collaboration and 4 Evaluation, declared in Delivery 01.

The survey is composed by three sections:

- the first one is an introduction section where the general aim of project is declared and instruction for the participants are provided. In particular it is clarified that the survey is anonymous and that the results are used for research purposes only. This section includes also two descriptive diagrams in order to clarify to the respondent the exact features of the intervention.
- the second section is the core of the survey and includes seven questions. Each question is structured with a statement, a comparative virtual visualization of the city of SGL before and after the intervention, and a ranking scale. The pictures are edited with the graphic editing software Adobe Photoshop version CC 2018 and the two options are named as Solution A and Solution B. The former is the current situation without the urban furniture installation and the latter is the situation with the urban furniture and some urban intervention such as pedestrianization or street layout modification. The ranking scale is based on a Likert scale with scoring from 1 (meaning “absolutely disagree”) to 5 (meaning “absolutely agree”). This psychometric scale has been chosen because it gives a more granular information about a perception rather than a classical binary yes/no scale. Each statement requires to take a clear position on some specific feature of the urban environment that might be impacted by the new solution. This method allowed for the isolation of target design features, while eliminating the potential confounding variables (Nejati et al, 2015).

The seven questions were related to:

- Design features, with specific regards to the creation of covered spaces
- Design features, with specific regards to the creation of space for sit, rest, chat or work on the PC
- Identity, with specific regards to the creation of iconic and recognizable elements
- Safety and security, with specific regards to the creation of bright and safe places
- Accessibility and Universal Design, with specific regards to the creation of a place comfortable for different users
- Health and Covid-19 prevention, with specific regards to the creation of public space comfortable to be used by shopkeepers, clients and citizens also in case of restrictions or indoor social distancing limitations (i.e. in shops)
- Sustainability, with specific regards to the creation of a place comfortable for slow mobility usage (i.e. bicycle, electric scooters)

- the third and last section includes basic demographic information such as gender and age for statistical purposes and questions were not mandatory.

A detailed version of the survey is available in [Annex VII](#).

Data collection and analysis

The survey has been designed in Italian, French and English language on Google Form and has been submitted via email and social networks during December 2020 to contacts in Italy and in France.

The results have been then analysed in both vertical and horizontal ways. The former approach looked at the main differences in terms of average, median and mode in each of the seven couple of alternatives in order to understand whether the new installation and the urban refurbishment increased the perception of urban quality by a general sample of population. Differences between the state of the art (Solution A) and the new proposal (Solution B) have been also discussed. Furthermore, for the second way of analysis, only the results referred to the new design (Solution B) have been studied; here higher and lower scores have been compared and further discussed. A more detailed description of the results is provided in the next section 8.3.

8.3. Results of the Virtual Validation of Urban Furniture in SGL

General data

Despite the short time in which the survey has been online, it has got a total of 371 full reply from Italian and French respondents. In particular 140 (38%) and 217 female (58%) responded with a ratio male: female of about 1:1.5 and 14 respondents that preferred not to declare their gender (4%). Over the 371 respondents the majority were in the age range of 25-45 years old (n=157; 42%), followed by 46-65 people (n=104;28%). Both under-25 (n=49; 13%) and over-65 people (n=49; 13%) responded to the questionnaire and 12 preferred not to declare the age. Probably the online accessibility of the survey made the filling process easier for younger adults rather than more elderly people and, therefore, to catch a significant number of replies from this category a direct survey with in-presence interviews might be preferred in future studies. At the same time, ad-hoc interactive surveys or direct interviews might better catch the needs of more specific age-ranges.

Results

Comparison between Solution A and Solution B

The first set of analysis highlighted the differences perceived by a general sample of population regarding the public space of SGL before and after the installation of the new urban furniture and the street layout implementation.

1. Concerning design features and in particular the possibility to be covered from the sun or rain, the state of the art (Solution A) received an average score of 1.98/5 with mode and median equal to 2 meaning that

the majority of the respondents feel that Solution A is not able to protect public space users from sun or rain. On the contrary Solution B received an average score of 4.10 with mode and median equal to 4, showing that the majority of respondents strongly agree in defining the new public space able to offer covered space for city users. For example, this fact is very important as SGL is located in a particularly rainy geographical area.

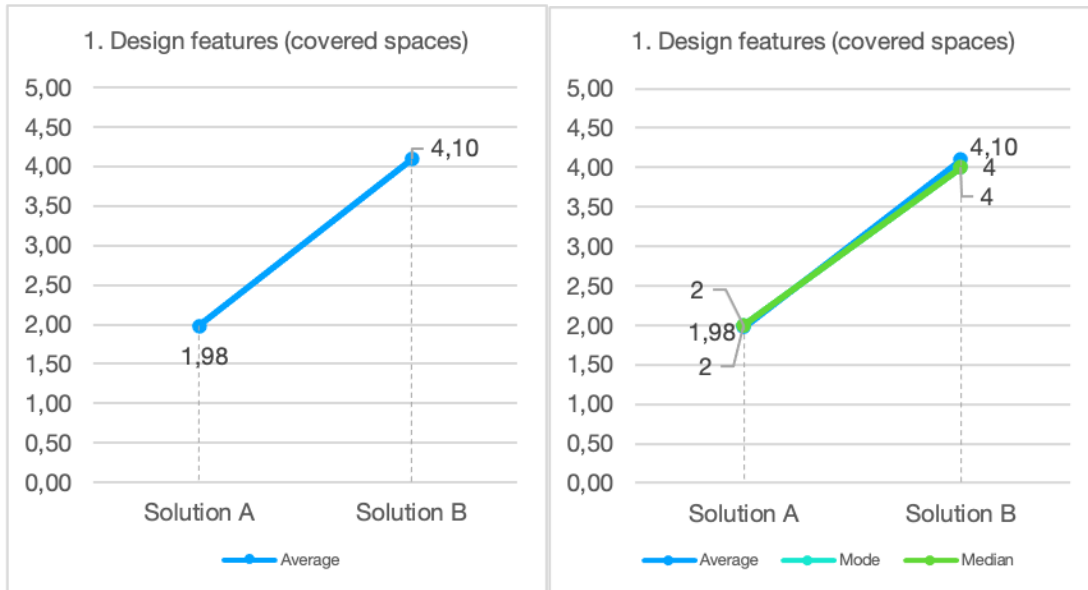


Figure 8.2 Comparison between Solution A and Solution B from question 1.Design features (covered space): average, mode, median

2. According to the respondents, the existing situation (Solution A) does not provide occasion for city users for sitting, resting, chatting or working on the PC, while the new proposal (Solution B) seems particularly appropriate. Indeed, the first one scored 1.85 as average (mode=1; median=2) while the second scored 4.25 as average (mode=5; median=4), showing that the majority of respondents feel Solution A strongly inappropriate and Solution B strongly appropriate for resting, sitting, chatting or working on the PC. This area is also the highest in terms of difference ($d=2.40$) between the before and after situations, highlighting the fact that Solution B significantly improved the current situation in providing occasion for multiple uses of the public space which is not just as a place of transit.

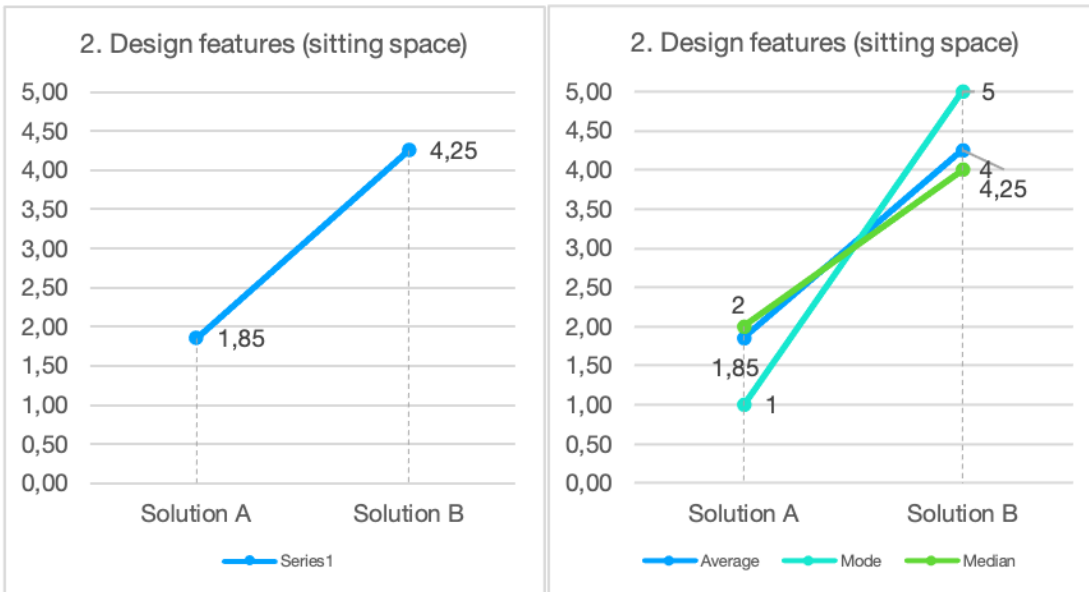


Figure 8.3 Comparison between Solution A and Solution B from question 2.Design features (sitting space): average, mode, median

3. The capability of a place to be recognized thanks to a proper identity has been also evaluate by respondents. In particular the existing public space is not very identifiable reaching an average value of 2.14/5 points with a mode and median value of 2, just few people indeed think that Solution A has iconic or recognizable elements. On the contrary the installation of new urban furniture and the redesign of the public space give to the city of SGL new iconic elements to be recognized; indeed, the most frequent value assigned by respondents for Solution B is 5/5 with mode and median of 4 and an average value of 4.05/5, as shown in the graphs below.

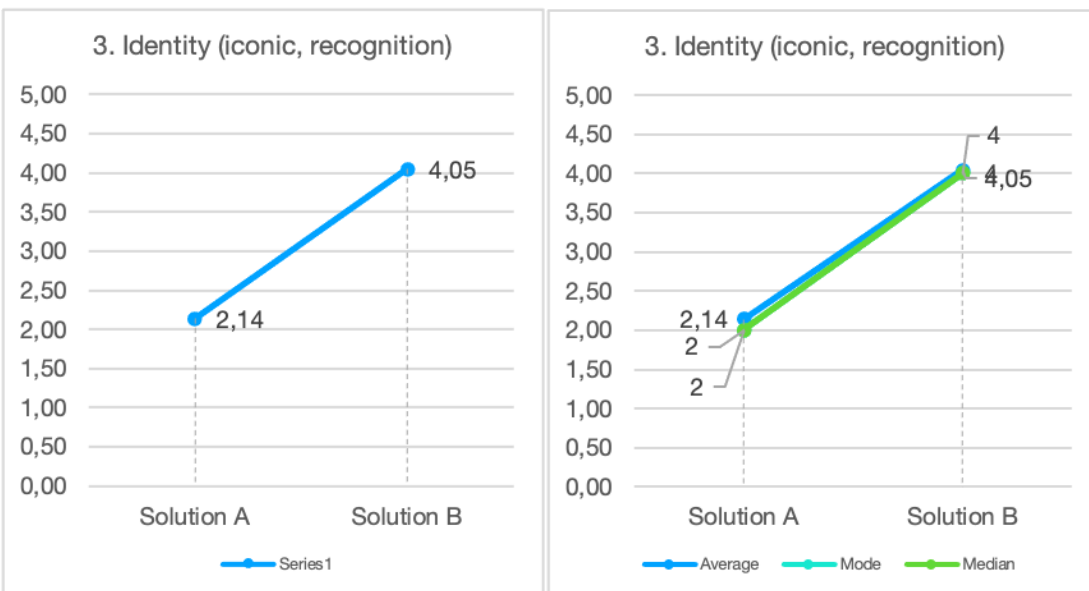


Figure 8.4 Comparison between Solution A - and Solution B - from question 3. Identity (iconic, recognition): average, mode, median

4. Perception of safety and security is a key issue in public space design and the user perception in this regard is very important. The existing situation of SGL is considered unsafe for the respondents due to scarce brightness. The safety and security issues for Solution A have a score of 2.01/5 (mode and median equal to 2), while when assessing the same environment with the inclusion of the new urban furniture the score is over 2 points higher reaching 4.17 as average, mode value of 5 and median value of 4. The new urban furniture act as an urban lighthouse which contribute to increasing the perception of safety and security of public space during night hours.

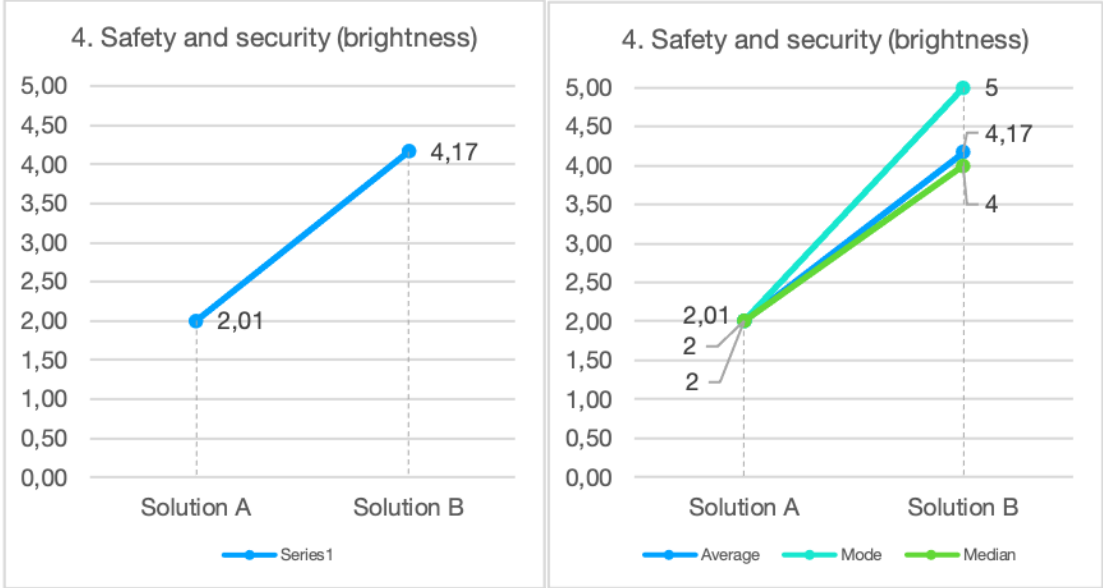


Figure 8.5 Comparison between Solution A and Solution B from question 4. Safety and security (brightness): average, mode, median

5. According to the respondents the new intervention allows public space to be more accessible and aligned with the Universal Design principles declared in the project brief and guidelines. Indeed, while the existing situation has an average score of 2.10/5 (mode and median equal to 2), Solution B reached 4.06/5 (mode and median equal to 4) thanks to the new street design, the introduction of sloped areas for wheelchairs or stroller users, the definition of slow mobility priority paths and the creation of sitting space for elderlies or families.

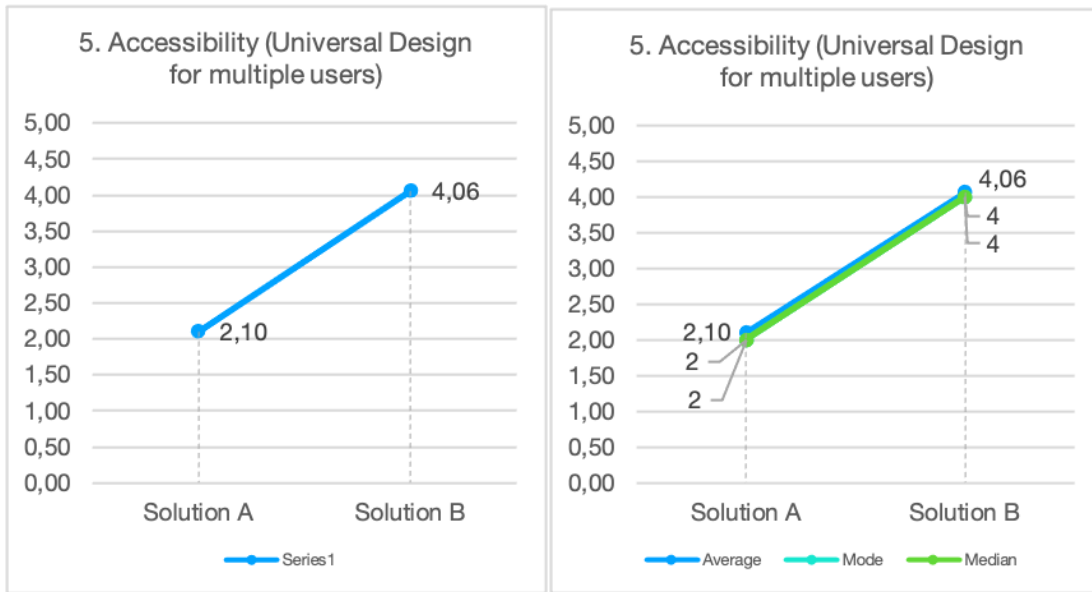


Figure 8.6 Comparison between Solution A and Solution B from question 5. Accessibility (Universal Design for multiple users): average, mode, median

6. The existing public space is considered neither appropriate nor inappropriate for the usage during Covid-19 restrictions and social distancing, scoring 2.46 as average with mode and median value equal to 2. Solution B introduce a consistent improvement increasing the average value toward 3.92 with mode and median equal to 4, showing that the majority of respondents considered the new public space design comfortable even when social distancing and restrictions are in place. Each pavilion can host a limited group of people and distance is guaranteed; furthermore, shopkeepers can benefit from additional space outside the shops to exhibit products in a safe and controlled environment.

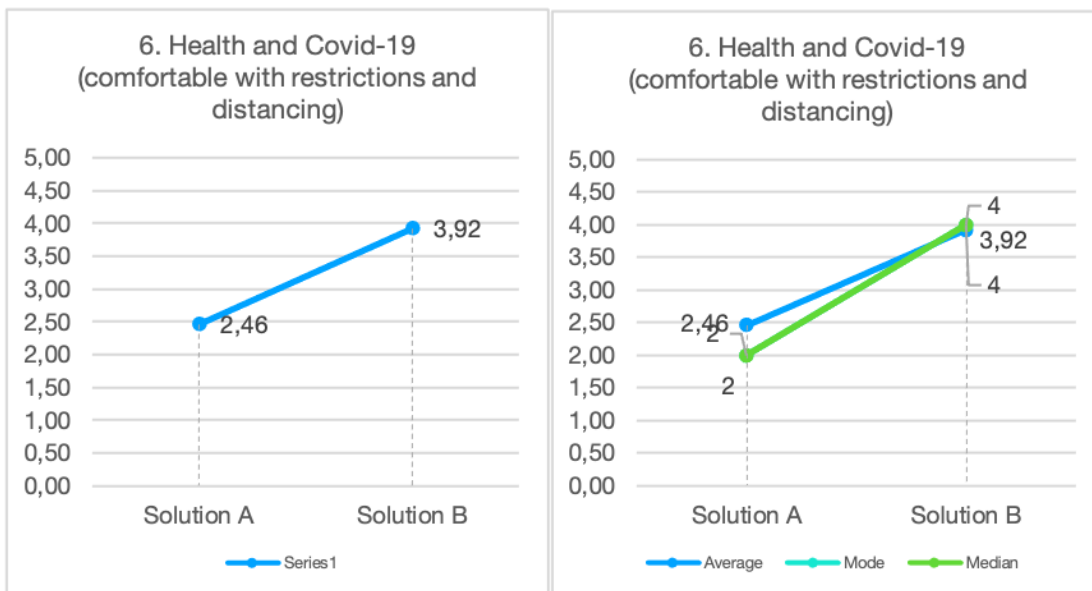


Figure 8.7 Comparison between Solution A- and Solution B from question 6. Health and Covid-19 (comfortable with restrictions and distancing): average, mode, median

7. The general perception of respondents is that the new proposal (Solution B) is twice more sustainable than the state of the art (Solution A). Indeed, while the former reached an average value of 4.33/5 with mode and median equal to 5, the latter got 1.99/5 as average, with mode value equal to 1 and median equal to 2. The new solution provides additional dedicated space for bicycle, e-scooters and other slow mobility tools.

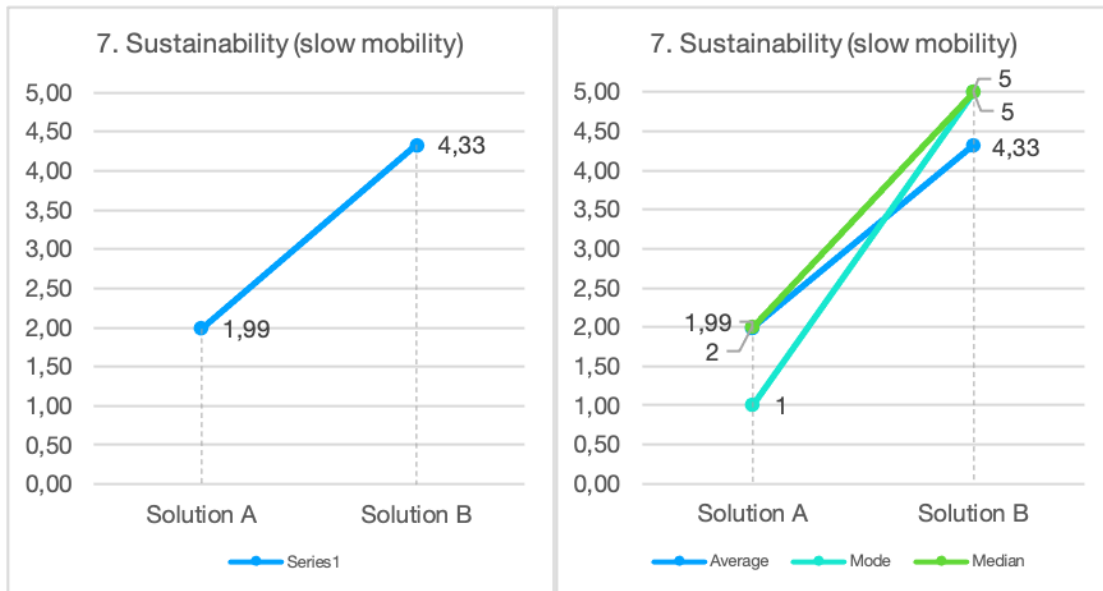


Figure 8.8 Comparison between Solution A and Solution B from question 7. Sustainability (slow mobility): average, mode, median

Comparison between the different features of Solution B

The new proposed public space of SGL (Solution B) appears to be very appreciated by the respondents who assigned mainly values 4 – *Agree* or 5 – *Absolutely agree* to the seven different statement provided. Indeed, the mode was 5 in three of the statements and 4 in the remaining four, and the median was 5 in one of the statements and 4 in the remaining six.

Although all received a high score it is interesting to compare the averages and see which features are more or less appreciated by the respondents in order to identify possible area of excellence or of further improvements. Additionally, highlighting the relative improvements in each area compared to the state of the art provide a more detailed understanding of the design solution. Figure 8.9 describes those factors, and a detailed explanation is provided below.

The highest average value has been obtained by 7. Sustainability (slow mobility) with score 4.33/5, followed by 2. Design features (sitting space) with score 4.25/5 and 4. Safety and security (brightness) with score 4.17/5. Generally, those aspects are also the ones that improved the most in comparison with the existing situation. Indeed, they have respectively 2.34, 2.40 and 2.16 points of improvement between Solution A and Solution B, moving from a general area of disagreement to an area of absolute agreement with the specific statements. On the contrary the lowest areas which, on average, scored slightly lower are 3. Identity (iconic, recognition) with 4.05/5 and 6. Health and Covid-19 (comfortable with restrictions and distancing) with score 3.92/5. Nevertheless, it is interesting to notice that, compared to Solution A both the

forementioned areas improved respectively by 1.91 and 1.96 points moving the perception of people closer to agreement with the specific statements.

In conclusion, the project meets the design objectives and overperform in all the seven area of analysis with excellent outcomes in Sustainability, Safety and Design features and good results in terms of Identity and Covid-19 restrictions, consistently improving the existing situation of public space within the city of SGL and opening robust possibilities for scalability and implementation in other similar cities.

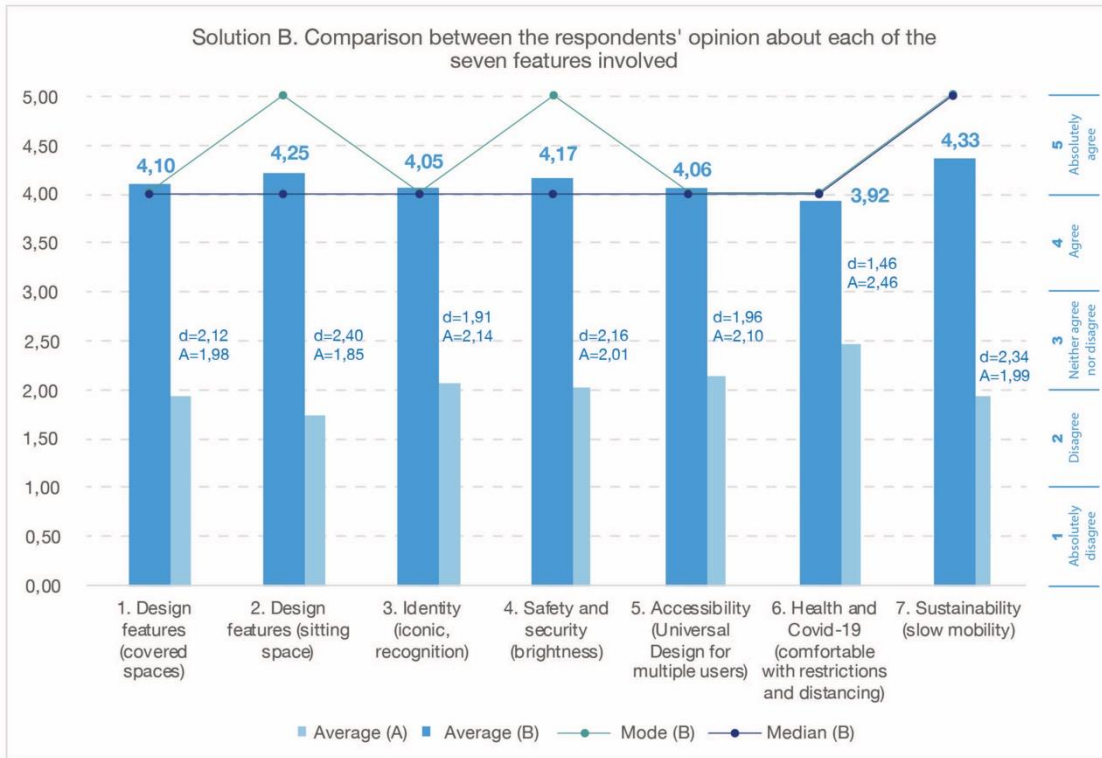


Figure 8.9 Comparison between the respondents' opinion about each of the seven features involved, with reference to the state of the art (A) and the difference with the new solution (d) [Link to the HQ file](#)

9. Results

The main results of the Deliverable 03 can be summarised as follows:

1. **Operational toolkit: urban furniture and guidelines for healthy urban design (OUT01);**
2. **Public engagement method (OUT02)**
3. **Public space's reconfiguration and renewal methodology**
4. **Project for SGL (OUT06)**

The Operational Toolkit is a manual to transform the city and the public space into a more liveable, healthier and safer place also in a pandemic situation (covid 19). It consists of two parts:

- the guidelines for the design and transformation of urban spaces;
- the modular system for flexible urban furniture (including its possible spatial configurations).

The guidelines include: indications to transform the city in a more walkable and healthier city (Ch. 2.1); strategies and indications for logistics (accessibility and deliveries management) (Ch. 3.2); guidelines for the redesign (also temporary) of portions of the public space (squares or streets) (Ch. 6.2) in synergy with the installation of the toolkit's flexible urban furniture.

The installations (Ch. 5) were conceived to respond to different requirements and needs such as: flexibility, modularity, easy and fast sanification/hygienization, economical sustainable, ease of assembly, social distancing, etc. The toolkit comprehends both the detailed drawings for each piece of furniture as well as the possible configurations that can be created.

The **Public engagement method** (Ch. 4.2 and Ch. 4.3) was developed to process, in a collaborative way, the involvement of the different users (stakeholders, citizens, temporary users, etc.) in urban transformation and public space projects. In fact, the public space project guided by the social involvement helps the community to identify and build up their own strategies starting from the potential of relational assets, sense of belonging and attention to the common good. The public engagement methods include 3 different instruments: i) Preliminary Interviews ii) Stakeholders Interactions and iii) Evaluation Surveys. Moreover, a simplified version of the Evaluation survey has been designed to have a Virtual Validation Survey (Ch. 8.2) to submit to public users.

The **Methodology** (Ch. 2.2 and Ch. 6.3) for the analysis of urban space and its reconfiguration as walkable public space for improving Public Health - even in the presence of health emergencies such as Covid-19 - regards all the steps that a municipality should go through to applicate the Toolkit (guidelines and urban furniture). These steps include: the identification of the main objectives, the analysis of the current situation and the public spaces design actions aimed at a fast, sustainable and effective adaptation of urban public space for multiple concomitant or successive uses and needs in the safety conditions required by the current Covid-19 context as well as by possible future challenging situations.

The **Project for SGL** is the concretization of all the tools developed. Specifically, the POLIMI team designed the new walkable urban city center for SGL (Ch. 2.2). All the future short, medium and long term mobility was redesigned. The areas where to increase pedestrianisation and to insert the public urban furniture were identified and suggestions for management of accessibility and deliveries (ch 3.4) were elaborated. For 3 selected public spaces in SGL city centre, the Polimi team developed a detailed project of all the transformation and the furniture configurations to increase walkability, health, and a safe and commercial regeneration of the shops (Ch. 6.3).

More results of the EIT Safely project can only be achieved after the completion of the project. In particular, the following steps include:

- design of a training course on Urban Health and EIT experience, organized in collaboration with the Formazione Permanente of Politecnico di Milano. This course will be dedicated to post graduate students or professionals wishing to improve their knowledge about healthy public spaces design.
- Dissemination of the results of the EIT project. The project and the results will be presented in a future conference (web in air) about Urban transformation for Health ab Covid 19.

For both these goals a presentation was prepared to explain all the EIT main results and applications: 1_Healthy Urban Guidelines, 2_Public engagement, 3_ Flexible urban furniture; 4_The Project for SGL (all the PDF presentation are available at the following [LINK](#)).

10. Conclusions and Lessons learnt

The contents development for the Deliverable 03 encountered several difficulties due to factors both internal and external to the working group. The first category includes repeated requests for changes to the aesthetical features of the project as a result of the participation process, as well as the need to entrust the construction of the urban furniture to a private company rather than to SGL team of builders. The long lockdown period due to the worsening of the contagion falls into the second category of factors.

While in the first case the effects of these difficulties resulted into simple program delays, which were addressed and resolved through an increased work of the research group, in the second case a properly change of strategy was necessary: instead of waiting for the physical realization of the urban furniture, delayed by the lockdown, the final validation of the solutions was carried out through an online questionnaire. This decision allowed to bypass the limitations whilst still obtaining valid results for the purposes of the experiment. Online testing is a rather widespread and accepted practice also in scientific fields. In addition to a significant saving of construction costs, the online practice allows to obtain a more effective and homogeneous administration of questions, as well as very short response times. Accordingly, the survey carried out online represents a good practice achieved by the Healthy and Safely Project albeit originated by a serious operational limitation imposed by external factors. Thanks to digital 3D rendering technologies, this practice can be improved in order to be applied even in normal operating conditions.

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20269 - Safely Connected: Sustainable Common Accessibility of Lively City Centres for Healthy People Activity Deliverable
[\[ANNEX I - DEL03\]](#)

[Panels of SGL: urban analysis and project of the new walkable city centre]

[This ANNEX is available in HQ at the following \[Link\] in order to respect the dimension of the overall file. All the panels are also inserted in the text of chapter 2.](#)

EIT Urban Mobility - Mobility for more liveable urban spaces

EIT Urban Mobility

Milan, December, 31st - 2020



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20269 - Safely Connected: Sustainable Common Accessibility of Lively City Centres for Healthy People Activity Deliverable
[ANNEX II - DEL03]

[Access and deliveries case studies]

Annex also available in HQ at the following [LINK](#)

EIT Urban Mobility - Mobility for more liveable urban spaces

EIT Urban Mobility

Milan, December, 31st - 2020

eiturbanmobility.eu



EIT Urban Mobility is supported by the EIT,
a body of the European Union

BARCELONA, SPAIN

STRATEGY ASPECTS

USERS ALLOWED TO ACCESS:

Pedestrian Bicycles Motorcycle
Resident's Vehicles Electric cars GPL/Hybrid vehicles Emergency vehicles
Public transport Taxi Waste service
Delivery trucks (Weight = 1.000 kg
Weight 1.000 kg <x<6.000 kg Weight > 6.000 kg
Other

ACCESS CONTROL METHOD:

Cameras Badge

FEE TO ENTER:

Specific categories All vehicles No fee

TIME ACCESS SCHEDULE - USERS:

Monday to Saturday 11 am - 15:00, Sunday 17:00 - 20:30, Holidays: 00:00 - 24:00

TIME ACCESS SCHEDULE - DELIVERY:

All days 22:00 - 7:00

FREIGHT DELIVERY METHODS:

On site delivery Intermodal/logistic delivery Collection points

PARKING REGULATIONS:

Loading and unloading Disabled parking Short time parking Residents Other

RESERVED ROUTES:

Yes No

METHODS TO GET TO THE SITE:

Public transport to/from parking areas near the city center Parking on site (in the city center) Other

Parking out of the Superblocks area

Inhabitants n° = 1.620.000

Surface of the intervention (one superblock) = 1,5 km²

Surface of the intervention (total) = 20 km²

Project starting year = 2016 Superblocks

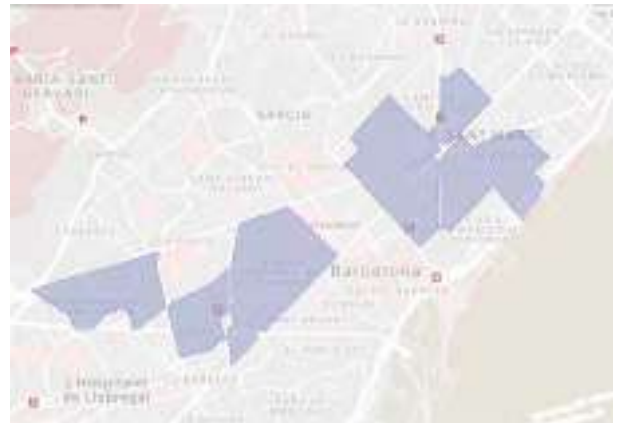


Figure 1 - Pedestrian areas of Superblocks in Barcelona

CASE STUDY DESCRIPTION

Access

Barcelona adopts the **Superblocks model**, which are neighbourhoods of nine blocks, where traffic is restricted to major roads around the outside, opening up entire groups of streets to pedestrians and cyclists. Pedestrian area is not accessible for non-residents by vehicle. Several time slots allow deliveries and residents to enter the zone. Access is free for ambulances, police and waste service. The maximum speed is 10km/h and maximum weight is 5.5 tonnes. Within the Superblocks area the access is only possible for residents with proper permit card. Card opens the bollards during the times the superblock is closed to traffic. Access time is Monday to Saturday 11:00 - 15:00 and 17:00 - 20:30 Sundays and holidays: 00:00 - 24:00.

Delivery experiment

During the CIVITAS MIRACLES project (2002-2006) the Municipality of Barcelona developed a system for quiet night deliveries in collaboration with two supermarket operators, Mercadona and Condis. In Valencia Street, the operator Mercadona demonstrated that **night-time deliveries** could be made using adapted trucks and quiet unloading methods. From the municipality's point of view, greater efficiency was achieved by replacing seven daytime deliveries at times of congestion with two deliveries by larger, quieter vehicles outside peak hours. The pilot projects showed that this initiative works and achieves good results: benefits in terms of reduced delivery times and associated lower transport operating costs. The city benefits from

lower congestion and a reduction in emissions associated with stop-start driving. Special trucks, special equipment and corresponding driver behaviour are the conditions required. Good communication between shop owners, the municipality and the residents is necessary when

introducing night-time delivery schemes. A nationwide up-scaling of the Barcelona trial was undertaken by Mercadona, which still operates silent unloading in off-peak hours where access and regulations permit.

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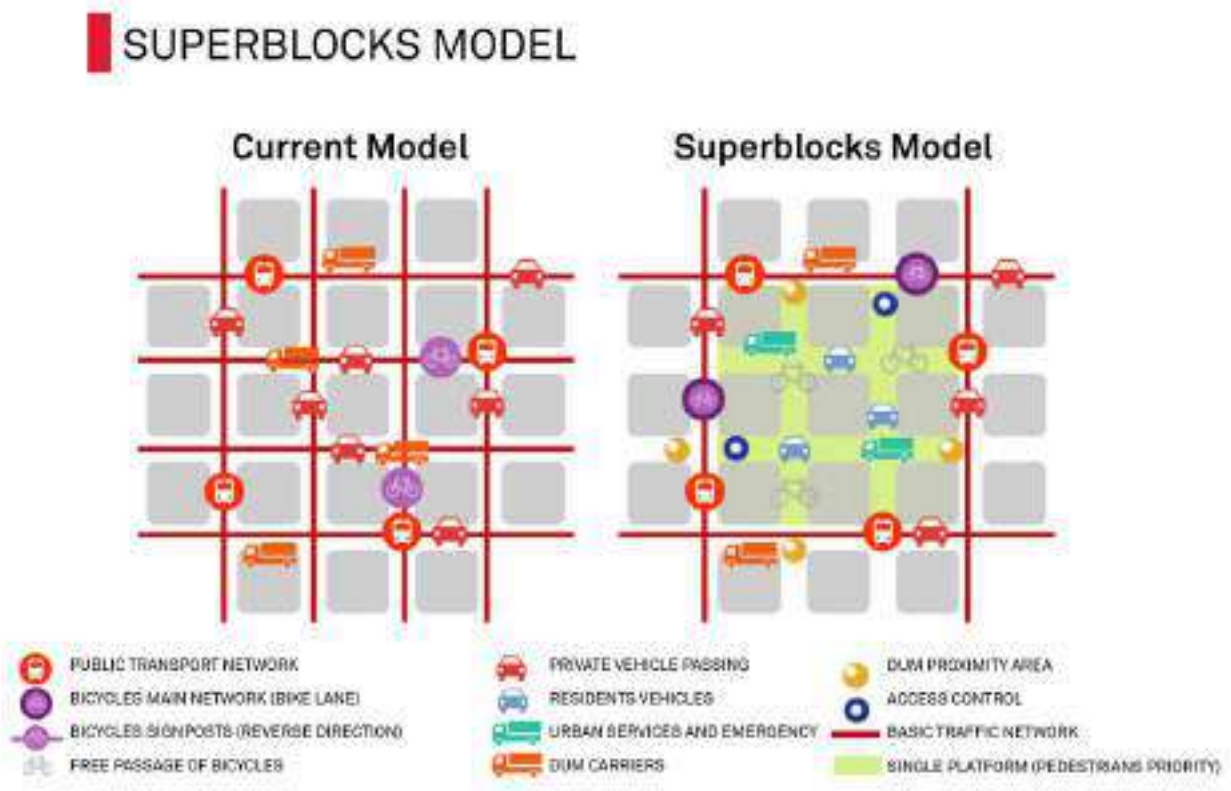


Figure 2 – Superblocks model



Figure 3 – Superblocks model



Figure 4 – Nighttime delivery in Barcelona

BORDEAUX, FRANCE

STRATEGY ASPECTS

USERS ALLOWED TO ACCESS:

Pedestrian Bicycles Motorcycle
Resident's Vehicles Electric cars GPL/Hybrid vehicles Emergency vehicles
Public transport Taxi Waste service
Delivery trucks (Weight = 1.000 kg
Weight 1.000 kg <x<6.000 kg Weight > 6.000 kg)
Other

ACCESS CONTROL METHOD:

Cameras Badge

FEE TO ENTER:

Specific categories All vehicles No fee

TIME ACCESS SCHEDULE - USERS:

All days 7:00 - 11:00

TIME ACCESS SCHEDULE - DELIVERY:

Monday to Friday 9:00 - 17:00, Saturday 9:00 -11:00

FREIGHT DELIVERY METHODS:

On site delivery Intermodal/logistic delivery Collection points

PARKING REGULATIONS:

Loading and unloading Disabled parking Short time parking Residents Other

RESERVED ROUTES:

Yes No

METHODS TO GET TO THE SITE:

Public transport to/from parking areas near the city center Parking on site (in the city center) Other

Inhabitants n° = 249.712

Surface of the intervention = 1.1 km² (pedestrian area)

Project starting year = 2003 (delivery project)



Figure 1 – EPL (Espace de livraison de proximité) area in Bordeaux

CASE STUDY DESCRIPTION

Access

The access to the historic center of Bordeaux is controlled by terminals. Traffic on the pedestrian streets of these protected areas is limited and regulated (speed below 15 km / h, distance of 1 m from the facades and overtaking of stationary vehicles only).

Access is 24 hours a day for: residents, ambulance, fire truck, cleaning service and waste collection services, taxi and exceptional transport of an urgent nature with temporary authorization. Instead, access is allowed from 7:00 to 11:00 every day for: deliveries (trolley not heavy vehicles), medical professionals and paramedics. Outside these times, access is not possible unless authorized by the Bordeaux city hall.

To access these restricted areas, you must have a Bordeaux ma ville card that activates the access

bollards. This card does not exempt you from paying parking fees.

Traffic in the city center of Bordeaux is prohibited on the first Sunday of each month from 10:00 to 7:00 in summer and from 10:00 to 18:00 in winter.

Delivery

In Bordeaux, a system was established in 2003 to facilitate the delivery of goods in the city centre involving the creation of 'nearby delivery areas' (Espace de livraison de proximité - ELP). ELP is an area of street space that has been dedicated to goods vehicles for the loading and unloading of goods destined for nearby shops. This space is reserved and controlled by up to two members of staff who can also help goods vehicle drivers to deliver their goods to the shops using trolleys. The ELP approach comprises the installation of an urban

transshipment platform on which dedicated personnel provides assistance for the dispatching of consignments for the last mile (inner city). Goods are unloaded from incoming vehicles, and can be loaded onto trolleys, carts, electric vehicles and bicycles for the final distribution leg. The space can

accommodate 3 to 5 delivery vehicles at once (it is about 30 meters wide). The ELP operates from Monday to Friday between 9:00 am and 5:00 pm and on Saturday between 9:00 am and 11:00 am. ELPs are also being established in other French cities (e.g. Rouen).

REFERENCES

SMART Choices for Cities Making Urban Freight Logistics More Sustainable – Civitas Policy Note <https://civitas.eu/>



Figure 2 – Espace de livraison de proximité (ELP) - nearby delivery areas



Figure 3 – Trolleys and carts for delivery

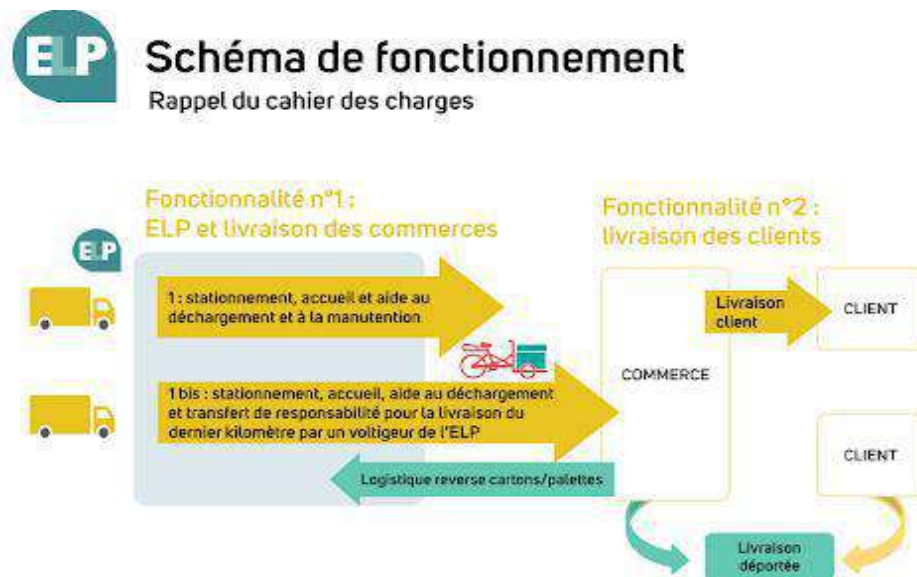


Figure 4 – Scheme of the delivery process in Bordeaux

DONOSTIA-SAN SEBASTIAN, SPAIN

STRATEGY ASPECTS

USERS ALLOWED TO ACCESS:

Pedestrian Bicycles Motorcycle
Resident's Vehicles Electric cars GPL/Hybrid vehicles Emergency vehicles
Public transport Taxi Waste service
Delivery trucks (Weight = 1.000 kg
Weight 1.000 kg <x<6.000 kg Weight > 6.000 kg)
Other

ACCESS CONTROL METHOD:

Cameras Badge

FEE TO ENTER:

Specific categories All vehicles No fee

TIME ACCESS SCHEDULE - USERS:

All days 7:00 - 11:30

TIME ACCESS SCHEDULE - DELIVERY:

All days 8:00 - 11:00

FREIGHT DELIVERY METHODS:

On site delivery Intermodal/logistic delivery Collection points

PARKING REGULATIONS:

Loading and unloading Disabled parking Short time parking Residents Other

RESERVED ROUTES:

Yes No

METHODS TO GET TO THE SITE:

Public transport to/from parking areas near the city center Parking on site (in the city center) Other

Inhabitants n° = 186.665
Surface of the intervention = 0,4 km²
Project starting year = 2012



Figure 1 - City Center Donostia San Sebastian

CASE STUDY DESCRIPTION

Access

Since 1995 Donostia-San Sebastian introduced a specific street regulation, the so called 'Flexible streets' that means: flexible use of the street, according to the real needs of residents, businesses and, of course, visitors/tourists. In detail the timetable can be summarized as follow:

- 8:00-11:00 load/unload deliveries
- 11:00-20:00 pedestrian zone
- 20:00-08:00 parking zone for residents

An access control system was planned and set up since 2012. Four distribution areas have been defined in the Old Quarter where access is allowed from 7:00 to 11:30 in the morning. Furthermore,

reduction of on-street parking support public spaces to return pedestrians.

Delivery experiment

During the CIVITAS ARCHIMEDES project (2008-2012), the city of Donostia-San Sebastián started to implement a strategy for a more efficient system for goods distribution in the old city centre. The strategy was based on the creation of a urban consolidation centre for last mile distribution, the use of clean vehicles, regulatory options to improve loading factors, increased control in the use of loading bays, a night distribution protocol and the use of new technologies to facilitate communication between distributors and local shops, including

communication with the municipal police and the possibility of reserving loading and unloading zones. The city combined the new urban consolidation centre with the use of electric cargo bikes for last mile goods distribution in the inner city. In one year, the fleet of 6 pedal-assisted tricycles, each with a cargo capacity of 1,500 litres or 180 kg, performed about 21,000 shipments, saving up to 26,849

kilometres in van and truck journeys. This approach led to a significant reduction in terms of energy consumption and harmful emissions. The distribution centre is located in the city centre and covers approximately 500m².

Walking and cycling improvements in Donostia-San Sebastian have resulted in a steady increase in the use of the bicycle.

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Figure 2 – ‘Flexible street’ example – pedestrian street



Figure 3 – Historical city centre



Figure 4 – Electric cargo bike



Figure 5 – Constitution square during load/unload time window

GRENOBLE, FRANCE

STRATEGY ASPECTS

USERS ALLOWED TO ACCESS:

- Pedestrian Bicycles Motorcycle
Resident's Vehicles Electric cars
GPL/Hybrid vehicles Emergency vehicles
Public transport Taxi Waste service
Delivery trucks (Weight = 1.000 kg
Weight 1.000 kg <x<6.000 kg Weight > 6.000 kg
Other

ACCESS CONTROL METHOD:

- Cameras Badge

FEE TO ENTER:

- Specific categories All vehicles No fee

TIME ACCESS SCHEDULE - USERS:

00.00 – 24:00 for maximum 20 minutes

TIME ACCESS SCHEDULE - DELIVERY:

00.00 – 24:00 for maximum 20 minutes

FREIGHT DELIVERY METHODS:

- On site delivery Intermodal/logistic delivery Collection points

PARKING REGULATIONS:

- Loading and unloading Disabled parking Short time parking Residents Other

RESERVED ROUTES:

- Yes No

METHODS TO GET TO THE SITE:

- Public transport to/from parking areas near the city center Parking on site (in the city center) Other

CASE STUDY DESCRIPTION

Access

The development of the 'Coeurs de ville, coeurs de Metropole' project, initiated by the Grenoble Metropolis, aims to make the city centers of the agglomeration more accessible and more pleasant to live in.

The project led to the establishment of a new traffic plan in Grenoble city center from April 2017. Atmo Auvergne-Rhône-Alpes carried out a large-scale study from 2016 to 2018 in order to assess the effects on air quality.

Following a consultation of residents, traders and users, the organization of the streets was rethought in 2017, promoting the use of public transport and bicycles, improving pedestrian traffic, to strengthen the attractiveness of the axis by defining a better sharing of public space.

Inhabitants n° = 158.454
Surface of the intervention = 0,7 km²
Project starting year = 2017



Figure 1 – Grenoble 'Coeurs de ville, coeurs de Metropole' project

The limitation of car traffic was possible by the Creation of a Limited Traffic Zone (LTZ) on Agutte-Sembat Boulevard and adjacent streets. Ground markings and road signs have been installed to mark the entrances to the ZTL. Obsolete street furniture (bollards, windows, candlesticks, etc.) were removed to free up space on the ground.

There are temporary stops authorized at delivery areas, to ensure the boarding or alighting of passengers, to carry out loading or unloading operations. Stops are limited to 20 minutes and the affixing of a parking disc is compulsory. Parking is prohibited, except for vehicles of people with reduced mobility, holders of the mobility inclusion card (which replaces the disability, priority and parking cards) in dedicated spaces.

The area reserved for terraces was reduced in width and extended in length in order to widen pedestrian

circulation on both sides. The planting of trees and the installation of a uniform shading device improves comfort by limiting heat islands. The flooring has been replaced. The public lighting system has been completely redesigned, with the installation of pendant luminaires on both sides of the terraces, the installation of projectors to highlight the fountain in the evening and the projection of luminous animations on the ground.

These installations have been designed in close collaboration with local traders, including the definition of the work schedule.

Commercial attractiveness is a strong component of the project. The entrances are redesigned as crossing pavements, allowing pedestrians to find their place. These installations have been designed in close collaboration with local traders, including the definition of the work schedule.

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Figure 2 – New traffic plan



Figure 4 – Project area



Figure 3 – Transformation of Palace Victor Hug for pedestrian accessibility

LYON, FRANCE

STRATEGY ASPECTS

USERS ALLOWED TO ACCESS:

Pedestrian Bicycles Motorcycle
Resident's Vehicles Electric cars GPL/Hybrid vehicles Emergency vehicles
Public transport Taxi Waste service
Delivery trucks (only with Crit'air sticker 0, 1, 2 ou 3)
(Weight = 1.000 kg Weight 1.000 kg <x<6.000 kg
Weight > 6.000 kg) Other

ACCESS CONTROL METHOD:

Cameras Badge (Crit'air sticker) Other

FEE TO ENTER:

Specific categories All vehicles No fee

TIME ACCESS SCHEDULE - USERS:

All days 21:00 – 10:00 *Within the pedestrian streets*

TIME ACCESS SCHEDULE - DELIVERY:

All days 00:00-24:00

FREIGHT DELIVERY METHODS:

On site delivery Intermodal/logistic delivery Collection points

PARKING REGULATIONS:

Loading and unloading Disabled parking Short time parking Residents Other

RESERVED ROUTES:

Yes No

METHODS TO GET TO THE SITE:

Public transport to/from parking areas near the city center Parking on site (in the city center) Other

CASE STUDY DESCRIPTION

Access

In Lyon the use of a Crit'air adhesive has been in place since November 1, 2017, with several applications in case of peak pollution. From the fifth day of persistence of a pollution peak, vehicles without Crit'air (i.e. those registered in rhyme of 1997) will be banned from circulation.

Lyon implemented on 12.12.2016 a similar system with restricted traffic zones in Lyon and Villeurbanne (adjacent municipality) in case of peak pollution. Only vehicles of electrical categories 1, 2 and 3 were allowed to drive, while from June 2019 only categories 0, 1 and 2 are authorized: an air protection zone, ZPA (zone de protection de l'air) has been established in Lyon. According to Decree No. 69-2019-07-03-005 of 03.07.2019, which

Inhabitants n° = 516.092

Surface of the intervention = 2,3 km²

Project starting year = 2019



Figure 1 - experimental pedestrian area in Lyon

came into force on 04.07.2019, it is activated in case of persistent pollution episodes and concerns all vehicles. This measure is taken when the threshold of 50 µg fine dust/m³ is reached. In case of a pollution peak, the measurements are divided into several phases.

After an "information and recommendation" phase without consequences for traffic restrictions, a first level of pollution alert is activated. It consists in reducing the speed limit by 20 km/h on the main axes of the air protection zone (ZPA).

Vehicles that do not have an eco-adhesive or whose adhesive category is insufficient may be excluded from circulation. On the third day of a pollution peak only some vehicles can circulate in the restricted

traffic zone ZCR (zone de circulation restreinte). These are those with Crit'air 0 sticker, (electric or hydrogen), 1 (gasoline registered since 2011), 2 (gasoline from 2006 to 2010 and diesel from 2011) and 3 (diesel from 2006 to 2010 and gasoline 2001-2005).

The declared objective is to halve the number of people overexposed to nitrogen dioxide, from

Pedestrianization experiment

In the fall of 2019, the Metropolis of Lyon organized a 5-day pedestrian experience in the Lyon peninsula. Non-resident motorists could only access the parking lots, they could not circulate in the test area, only some vehicles can circulate in the test area, at 5km/h and according to the indicated traffic direction. Residents and some users can also park in the indicated streets.

A second phase of testing took place in another 2 days, under the same conditions as the first phase. The pedestrianization took place from 11am to 8pm. The pedestrian zone extends from the bottom of the slopes of the Croix Rousse to Place Bellecour.

In order to leave the lanes of the Rhône-Saône open to motorists, the streets of Grenette and Costantine remain open to car traffic. The access to the parking lots is also maintained, with signs indicating the routes to be followed to reach them. Subway, trams and buses circulate normally.

Several categories of users have been able to access the Presqu'île, vehicles authorized to circulate and park are:

- Emergency services, intervention, rescue and public services (Fire Brigade, Police, etc);
- Transport of cash;
- Funeral conveyance;

16,000 to 8,000. For the time being, these decisions will not affect private vehicles.

In Lyon, a bike rental system has been set up by the municipality at reduced prices. Each bike can be used 30 minutes in a row, but it is possible to make several trips in the same day, there are also other types of long-term or occasional subscriptions.

- Residents living in the area, on presentation of a residential parking permit, and/or proof of residence;
- Non-residents with a garage, on presentation of an invoice;
- People with reduced mobility, on presentation of the mobility inclusion card "Parking";
- Health professionals (doctor, nurse...), on presentation of the caduceus or professional card;
- Deliveries (goods, parcels, meals), on presentation of the delivery note;
- Craftsmen in intervention, on presentation of the order book;
- Labeled car-sharing vehicle, on presentation of Auto-partage label;
- Cab in operation with their company car; VTC, on presentation of the 2 official badges. Stop allowed, only for the installation and removal of customers;
- Hotel guests, upon presentation of the reservation voucher – Voucher. The speed limit for all these vehicles was 5 km/h.

There is now the intention to permanently pedestrianize the Presqu'île in Lyon on weekends. On the weekend of 26-27 September 2020 Presqu'île and Villurbanne will be accessible only to pedestrians.

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Figure 2,3: study of the experimentation of pedestrianization



Figure 4 - Area of pedestrianization experiment



Figure 4 - Low Emission Zone map Lyon

PARMA, ITALY

STRATEGY ASPECTS

USERS ALLOWED TO ACCESS:

Pedestrian Bicycles Motorcycle
Resident's Vehicles Electric cars GPL/Hybrid vehicles Emergency vehicles
Public transport Taxi Waste service
Delivery trucks (Weight = 1.000 kg
Weight 1.000 kg <x<6.000 kg Weight > 6.000 kg
Other

ACCESS CONTROL METHOD:

Cameras Badge

FEE TO ENTER:

Specific categories All vehicles No fee

TIME ACCESS SCHEDULE - USERS:

All days Access 00:00-24:00, Fee to enter 07:30 - 19:30
(no longer than 30 minutes)

TIME ACCESS SCHEDULE - DELIVERY:

All days 00:00-24:00 (no longer than 30 minutes)

FREIGHT DELIVERY METHODS:

On site delivery Intermodal/logistic delivery Collection points

PARKING REGULATIONS:

Loading and unloading Disabled parking Short time parking Residents Other

RESERVED ROUTES:

Yes No

METHODS TO GET TO THE SITE:

Public transport to/from parking areas near the city center Parking on site (in the city center) Other

CASE STUDY DESCRIPTION

Access

Parma has an access regulation (ZTL) in place that is active daily from 07:30 - 19:30. Zona a traffico limitato (ZTL) is a restricted traffic area in Italy. They help protect historic city centres from excessive traffic, which would otherwise make the city less attractive. There are 3 ZTL areas in the center, All vehicles, except bicycles and motorbikes have to pay a ticket in enter in the ZTL in relation to time, while Electric vehicles are allowed to circulate and park for free. Each authorized vehicle will normally be granted access to the Z.T.L. for a fraction of time maximum of 30 minutes, calculated from the crossing of the electronic gate.

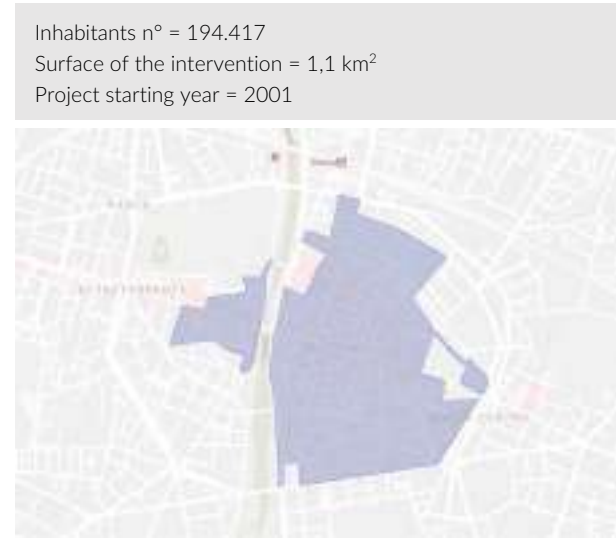


Figure 1 - ZTL (Zona Traffico Limitato) restricted traffic zone

Delivery

The basic idea of the overall ECOLOGISTICS scheme is to allow delivery operators to choose between two options for accessing the city centre. They can "credit" their vehicles if they meet some specific requirements regarding: type of goods to be transported, the use of eco-friendly fuels (CNG, bi-fuel or electric and/or Euro 3, 4, 5), the use of vehicles not exceeding 3.5 tonnes, a threshold value loading factor of at least 70% and the use of a location system for vehicle traceability. Alternatively, they simply do not have access to the city centre: they unload their goods at the CAL platform: goods are then consolidated and delivered in the city centre by the ECO CITY service. Loading and unloading is allowed at all times for no longer than 30 minutes.

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Smart Choices for Cities Making Urban Freight Logistics More Sustainable – Civitas Policy Note
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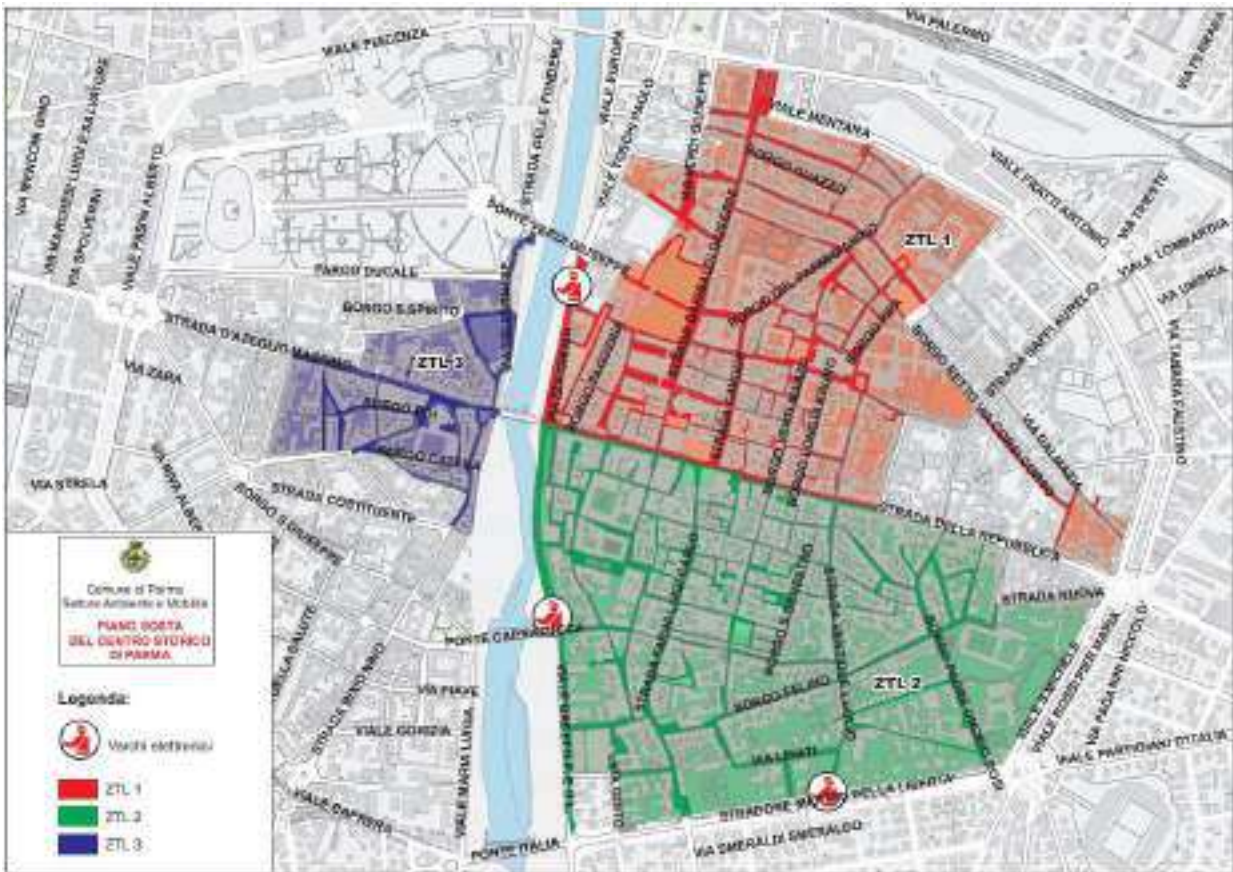


Figure 2 – ZTLs red, green and blue in Parma



Figure 3 – Road sign detail in Parma in the access to the area



Figure 4 – Eco City delivery truck service.

BERLIN, GERMANY

STRATEGY ASPECTS

USERS ALLOWED TO ACCESS:

- Pedestrian Bicycles Motorcycle
Resident's Vehicles Electric cars
GPL/Hybrid vehicles Emergency vehicles
Public transport Taxi Waste service
Delivery trucks (Weight = 1.000 kg
Weight 1.000 kg <x<6.000 kg Weight > 6.000 kg
Other

ACCESS CONTROL METHOD:

- Cameras Badge Other
Sticker controlled manually

FEE TO ENTER:

- Specific categories All vehicles No fee

TIME ACCESS SCHEDULE - USERS:

All days 00:00-24:00

TIME ACCESS SCHEDULE - DELIVERY:

All days 00:00-24:00

FREIGHT DELIVERY METHODS:

- On site delivery Intermodal/logistic delivery Collection points

PARKING REGULATIONS:

- Loading and unloading Disabled parking Short time parking Residents Other

RESERVED ROUTES:

- Yes No

METHODS TO GET TO THE SITE:

- Public transport to/from parking areas near the city center Parking on site (in the city center) Other

Inhabitants n° = 3.645.000

Surface of the intervention = 4,9 km²

Project starting year = 2011



Figure 1 - 'Laboratory area' of delivery experiment inside Berlin's Low-emission zone

CASE STUDY DESCRIPTION

Access

The case study considers the urban freight 'laboratory area' is a small residential and mixed-use business and retail area (4,9 km²) within the Berlin's Low-emission zone, in which innovative freight transport solutions are tested. For what concerns the Berlin's Low-emission zone (87 km²), low-emission vehicles are allowed, in order to reduce air pollution caused by diesel soot (particulate matter) and nitrogen oxides. These vehicles must be identified by a green sticker. Vehicles with high pollutant emissions are not permitted to drive or park within the low emission zone. The Berlin Senate decided for a Euro 6 low emission zone in July 2019 on parts of 8 streets. This means that only vehicles meeting the Euro 6 standard, are allowed to circulate.

Police checks if proper sticker is displayed in the windscreen.

Delivery experiment

The urban freight 'laboratory area' is a small residential and mixed-use business and retail area in a central borough of Berlin, in which innovative freight transport solutions are tested, studied and presented. The city of Berlin adopts the 'Bentobox', a mobile station for parcels storage, used as transshipment for final deliveries or customer pick-up, that was firstly tested under the CITYLOG project in December 2011. Instead of just being used by one single carrier, it is based on a flexible container system comprising two elements: a fixed docking station containing a user interface and control unit

and a chassis divided into six modules in which multi-owned, moveable and transportable trolleys can be locked.

Similarly, to other B2C locker systems it can be installed in residential districts, shopping malls or at transport nodes – wherever a critical mass of customers can access it with short pick-up distances. The idea is that more couriers can already fill the trolleys in their warehouses, and then transport trolleys to a number of shared Bentobox docking stations. The last mile parcel-tracking device notifies the receiver if a parcel has been delivered to the Bentobox. Residents and shop owners can also

deliver parcels to the Bentobox, in which case the logistics operator is notified. Customers can pick up their merchandise 24/7 at their convenience.

Berlin also tested the Bentobox as a consolidation hub and trans-shipment location between vans and cargo bikes for last-mile home delivery. The integration of the Bentobox in bike messengers' operations resulted in the de-coupling of the delivery (or collection) process, which resulted in a larger working area for the bike couriers. In 2012 the prototype of the BentoBox system was also tested in Lyon (France) and Turin (Italy).

REFERENCES

<http://www.bentobox-berlin.de>

<https://www.eltis.org/discover/case-studies/urban-hub-bentobox-fosters-more-sustainable-urban-freight-delivery-berlin>

<http://www.bestfact.net/best-practices/>

Smart Choices for Cities Making Urban Freight Logistics More Sustainable – Civitas Policy Note
<https://civitas.eu/>



Figure 2 – Berlin's Low Emission Zone area



Figure 3 – Berlin Low Emission Zone signage



Figure 4 – Bentobox locker system



Figure 5 – BentoBox mobile station with removable trolleys

GOTHENBURG, SWEDEN

STRATEGY ASPECTS

USERS ALLOWED TO ACCESS:

Pedestrian Bicycles Motorcycle
Resident's Vehicles Electric vehicles
GPL/Hybrid vehicles Emergency vehicles
Public transport Taxi Waste service
Delivery trucks (Weight = 1.000 kg
Weight 1.000 kg <x<6.000 kg Weight > 6.000 kg)
Other

ACCESS CONTROL METHOD:

Cameras Badge

FEE TO ENTER:

Specific categories All vehicles No fee

TIME ACCESS SCHEDULE - USERS:

All days Access 00:00-24:00 Fee to enter 6:00 - 18:30 Monday to Friday

TIME ACCESS SCHEDULE - DELIVERY:

All days 00:00-24:00

FREIGHT DELIVERY METHODS:

On site delivery Intermodal/logistic delivery Collection points

PARKING REGULATIONS:

Loading and unloading Disabled parking Short time parking Residents Other

RESERVED ROUTES:

Yes No

METHODS TO GET TO THE SITE:

Public transport to/from parking areas near the city center Parking on site (in the city center) Other

Inhabitants n° = 575.597
Surface of the intervention = 15 km²
Project starting year = 2007



Figure 1 - Low Emission area in Gothenburg

CASE STUDY DESCRIPTION

Gothenburg adopted the Low Emission Zone (LEZ), an administrative measure, often initiated by a municipality, that is meant to regulate, often restrict, entry of polluting motorized vehicles into central city areas and thus improve quality of life. LEZ was originally introduced to improve air quality in Gothenburg in 1997 and was then extended to cover a larger area in 2007. Operation hours are 06:00 - 18:30 Monday to Friday. All lorries and buses are allowed in the low emission zone for 6 years from the date of first registration. Euro 5 and EEV vehicles can be driven until 2020 or 8 years from first registration. Euro 6 or better has no time limit until when they can drive in the LEZ.

All HGVs (over 3.5 tonnes gross laden weight) are required to meet Euro 4 emissions standards. The year after the extension of the LEZ, some 96% of HGVs operating in the city centre met Euro 4 emissions standards and the city authority expected to reduce the amount of PM10 by 1 tonne and of NOx by 40 tonnes each year between 2007 and 2013.

The impacts measured after four years since the establishment of the ban showed a significant decrease in PM10 per year. In Sweden seven cities are using LEZs: Gothenburg, Helsingborg, Lund, Malmo, Molndal, Stockholm, Umea and Uppsala.

REFERENCES

Smart Choices for Cities Making Urban Freight Logistics More Sustainable – Civitas Policy Note
<https://civitas.eu/>

<https://urbanaccessregulations.eu/countries-mainmenu-147/sweden-mainmenu-248/goteborg>



Figure 2 – LEZ (Miljözon) sign in Gothenburg with text “Emission limits for heavy vehicles”.



Figure 3 – Historical city center



Figure 4 – Road sign detail and cameras at the access of the Low Emission zone.



LONDON, UK

STRATEGY ASPECTS

USERS ALLOWED TO ACCESS:

Pedestrian Bicycles Motorcycle
Resident's Vehicles Electric cars GPL/Hybrid vehicles Emergency vehicles
Public transport Taxi Waste service
Delivery trucks (Weight = 1.000 kg
Weight 1.000 kg <x<6.000 kg Weight > 6.000 kg
Other

ACCESS CONTROL METHOD:

Cameras Badge

FEE TO ENTER:

Specific categories All vehicles No fee

TIME ACCESS SCHEDULE - USERS:

All days Access 00:00-24:00 Fee to enter 7:00 - 10:00

TIME ACCESS SCHEDULE - DELIVERY:

All days 00:00-24:00

FREIGHT DELIVERY METHODS:

On site delivery Intermodal/logistic delivery Collection points

PARKING REGULATIONS:

Loading and unloading Disabled parking Short time parking Residents Other

RESERVED ROUTES:

Yes No

METHODS TO GET TO THE SITE:

Public transport to/from parking areas near the city center Parking on site (in the city center) Other

CASE STUDY DESCRIPTION

Access

London adopted the Congestion Charge, which is a fee charged on most cars and motor vehicles being driven within the Congestion Charge Zone in Central London between 7:00 am to 10:00 pm seven days a week.

In London, the Low Emission Zone (LEZ) measure, which regulates entry of polluting motorized vehicles into central city areas, affects diesel-engined lorries over 3.5 tonnes, buses, coaches, large vans and minibuses. The Ultra Low Emission Zone has started in London in 2019. Furthermore, from 18:30 - 08:00 no buss parking on the street in most areas.

Inhabitants n° = 8.982.000

Surface of the intervention = 22 km²

Project starting year = 2003



Figure 1 - Congestion Charge zone in London

Delivery

Kerbside loading guide in London, commissioned by the Transport for London (TfL) Freight Unit, aims to meet the information needs of those involved in providing kerbside loading facilities on London's road network. Facilitating kerbside loading at the right place and time, through a combination of appropriate physical infrastructure and traffic regulation/management orders, improves traffic flow and benefit the local economy. Kentish Town, in the London Borough of Camden, has developed a programme of "waiting and loading review" with the aim of simplifying parking controls and, where possible, both increasing short-stay parking provisions and introducing additional loading bays

REFERENCES

Smart Choices for Cities Making Urban Freight Logistics More Sustainable – Civitas Policy Note
<https://civitas.eu/>

<https://urbanaccessregulations.eu/countries-mainmenu-147/united-kingdom-mainmenu-205/london>



Figure 2,3 – Road sign detail of the Low Emission Zone in London.



Figure 3 – Kerbside loading guide in London.

MADRID, SPAIN

STRATEGY ASPECTS

USERS ALLOWED TO ACCESS:

Pedestrian Bicycles Motorcycle
Resident's Vehicles Electric cars GPL/Hybrid vehicles Emergency vehicles
Public transport Taxi Waste service
Delivery trucks (Weight = 1.000 kg
Weight 1.000 kg <x<6.000 kg Weight > 6.000 kg
Other

ACCESS CONTROL METHOD:

Cameras Badge

FEE TO ENTER:

Specific categories All vehicles No fee

TIME ACCESS SCHEDULE - USERS:

All days Access 00:00-24:00, Fee to enter 7:00-22:00

TIME ACCESS SCHEDULE - DELIVERY:

All days Vehicles zero 00:00-24:00 ECO, 7:00-21:00 others 7:00-13:00

FREIGHT DELIVERY METHODS:

On site delivery Intermodal/logistic delivery Collection points

PARKING REGULATIONS:

Loading and unloading Disabled parking Short time parking Residents Other

RESERVED ROUTES:

Yes No

METHODS TO GET TO THE SITE:

Public transport to/from parking areas near the city center Parking on site (in the city center) Other

CASE STUDY DESCRIPTION

Access

To be able to enter in the Traffic Limited Zone of Madrid Central, an authorization is required, which can be permanent, temporary or for a single day. Madrid, through its Air Quality Plan 2011-2015, has developed a group of nine measures specifically focused on e-mobility, including the development of a strategic framework for the promotion of electric vehicles, mobility advantages for cleaner vehicles, vehicles tax incentives and voluntary agreements with the private sector. The use of electric vehicles was also promoted through measures such as:

- exemption from the municipal street parking regulation (unlimited free parking is available for electric and plug-in electric hybrid vehicles),
- free recharge at 24 street points,

Inhabitants n° = 3.223.000
Surface of the intervention = 5 km²
Project starting year = 2011



Figure 1 – Traffic limited zone in Madrid

- 75% reduction in municipal tax on motor vehicles (during the first 6 years for hybrids and permanent for electric and plug-in hybrid electric vehicles) and a discount on the annual fee for freight. Operations for hybrids (free for electric and plug-in electric vehicles).

Madrid has a regulated parking service (Servicio de Estacionamiento Regulado = SER). It combines regulated parking with emissions criteria for the parking fees. Madrid also adopt weight restriction, for lorries over 12 tonnes there is no access on weekdays between 07:00 and 22:00 and Sundays and holidays at all times in the Low Emission Zone; while for over 1 tonnes, in the same timing, there is no access within the ring road M-30 that encircles the centre of Madrid.

REFERENCES

Smart Choices for Cities Making Urban Freight Logistics More Sustainable – Civitas Policy Note
<https://civitas.eu/>



Figure 2 – Madrid Central, Traffic Limited Zone.

<https://urbanaccessregulations.eu/countries-mainmenu-147/spain/madrid-access-restriction.>



Figure 3 – 500 electric cars for Madrid car sharing



Figure 4 – Madrid Central, Traffic Limited Zone

MILAN, ITALY

STRATEGY ASPECTS

USERS ALLOWED TO ACCESS:

Pedestrian Bicycles Motorcycle
Resident's Vehicles Electric cars GPL/Hybrid vehicles Emergency vehicles
Public transport Taxi Waste service
Delivery trucks (Weight = 1.000 kg
Weight 1.000 kg <x<6.000 kg Weight > 6.000 kg
Other

ACCESS CONTROL METHOD:

Cameras Badge

FEE TO ENTER:

Specific categories All vehicles No fee
All vehicles excepted for Electric vehicles and GPL/Hybrid vehicles and motorcycles

TIME ACCESS SCHEDULE - USERS:

All days Access 00:00-24:00 Fee to enter weekdays 7:30 - 19:30, Thursdays 7:30 - 18:00

TIME ACCESS SCHEDULE - DELIVERY:

All days Electric cars 00:00-24:00 Others 08:00 - 10:00

FREIGHT DELIVERY METHODS:

On site delivery Intermodal/logistic delivery Collection points

PARKING REGULATIONS:

Loading and unloading Disabled parking Short time parking Residents Other

RESERVED ROUTES:

Yes No

METHODS TO GET TO THE SITE:

Public transport to/from parking areas near the city center Parking on site (in the city center) Other

CASE STUDY DESCRIPTION

Access

Milan adopted the "AREA C" scheme (C stands for congestion charge), a combined LEZ and urban road charging scheme in force in the central area. The scheme entered into force on 1st January 2012 when the previous ECOPASS scheme (a pollution charge scheme) stopped working. The road charging scheme operates on weekdays, from 7:30 am - 7:30 pm, Thursdays from 7:30 - 6:00 pm and does not operate on weekends or bank holidays. The fee is 5 euros for all vehicles.

The payment allows users to travel for the whole day in the area to which the charge relates. Special

Inhabitants n° = 1.352.000
Surface of the intervention = 8,4 km²
Project starting year = 2012



Figure 1 - Area C in Milan

terms are applied to registered duty vehicles (5 euro ticket for entrance plus two hours of free parking, or a 3 euro ticket for entrance only - with no parking facilities). Entrance is forbidden for gasoline pre-EURO and diesel pre-EURO, EURO1 and EURO2 vehicles. While the entrance is free for Electric vehicles and GPL/Hybrid vehicles and motorcycles. The decline in the number of cars has led to a significant reduction in harmful emissions, particularly black carbon (-30%), a component of particulate matter considered by experts to be the most toxic to human health.

REFERENCES

Smart Choices for Cities Making Urban Freight Logistics More Sustainable – Civitas Policy Note
<https://civitas.eu/>

<https://www.comune.milano.it/>
<https://areac.atm-mi.it/AreaC/IWeb/FAQ2.aspx>

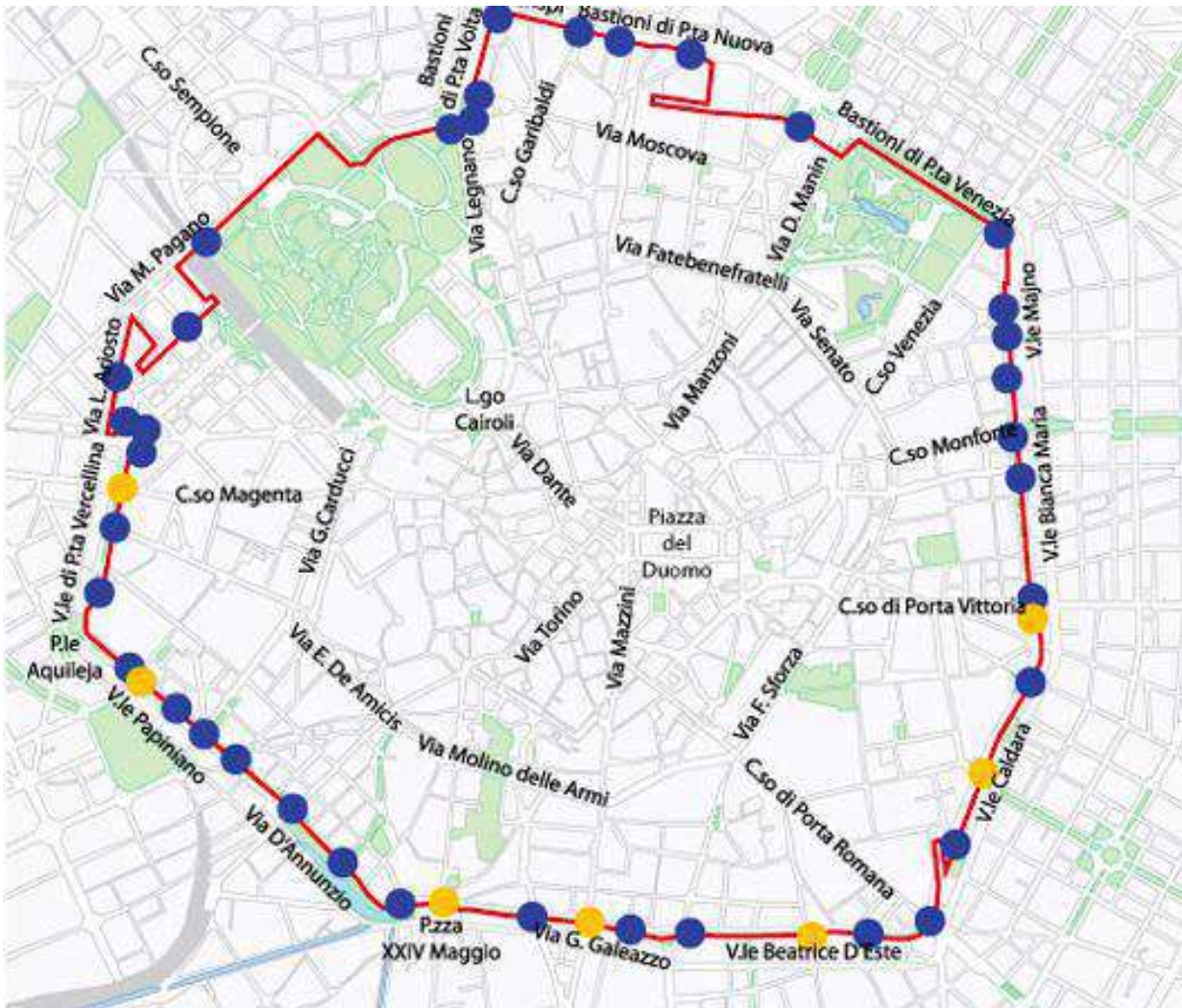


Figure 2 – Map of the Area C accesses. Blu points represent the accesses for users, yellow points for public transports.



Figure 3 – Camera to control the accesses to Area C



Figure 4 – Sign located in each access



20269 - Safely Connected: Sustainable Common Accessibility of Lively City Centres for Healthy People Activity Deliverable
[ANNEX III - DEL03]

[Evaluation Surveys]

Annex also available in HQ at the following [LINK](#)

EIT Urban Mobility - Mobility for more liveable urban spaces

EIT Urban Mobility

Milan, December, 31st - 2020

eiturbanmobility.eu



EIT Urban Mobility is supported by the EIT,
a body of the European Union



Survey A1

Public participation to the project (Shopkeepers)



EIT Urban Mobility is supported by the EIT,
a body of the European Union

A1 - PUBLIC PARTICIPATION TO THE PROJECT (shopkeepers)

WHAT IS THE PURPOSE OF THIS STUDY?

This study is part of the European Research project conducted by Politecnico of Milano and Saint Germain en-Laye municipality "Safely Connected - Sustainable Common Accessibility of Lively Downtowns for Healthy People". The purpose of the research is to modify the historical city centre of Saint Germain en-Laye in order to create a new open air commercial and urban environment following the COVID-19 standards.

To do this a modular and flexible urban furniture will be designed and installed in key points of the city. The solution will be adaptable to different urban activities like slow mobility, dehours, increase of green areas, shop valorisation and improving accessibility.

WHAT IF I DON'T WANT TO PARTECIPATE?

Participation in this study is completely voluntary and anonymous. Personal data (questions 1-4) will be collected only for statistical purpose.

WHAT WILL I NEED TO DO AS A PARTICIPANT?

You will complete a brief survey about some of the main aspects that the manufacture should have and how these are important for you. This survey will take approximately 10 minutes. In order to complete the survey you have to answer all the questions.

HOW CAN I BE UPDATED ABOUT THE DEVELOPMENT?

For more informations feel free to leave us your email and we'll contact you.

***Campo obbligatorio**

1. Email address

2. Age *

Contrassegna solo un ovale.

- < 25
- 25-45
- 46 - 65
- > 65
- I prefer not to answer

3. Sex *

Contrassegna solo un ovale.

- M
- F
- I prefer not to answer
- Altro: _____

4. Category *

Contrassegna solo un ovale.

- SGL municipality
- Shop keeper

1. DESIGN FEATURES

5. 1.1 Should the project lead to increase the sitting areas (i.e. benches, seats, etc.)? *

Contrassegna solo un ovale.

Yes

No

6. 1.1.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

7. 1.2 Should the designed structure have to provide covered areas (i.e. shades for sun, cover for rain, etc.)? *

Contrassegna solo un ovale.

Yes

No

8. 1.2.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

9. 1.3 Should the designed structure have to provide seats only for the exclusive use of shopkeepers (i.e. tables for restaurants)? *

Contrassegna solo un ovale.

- Yes
 No

10. 1.3.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

11. 1.4 Which of these accessories are most important for you? (Choose 3) *

Seleziona tutte le voci applicabili.

- Separate waste control
 Bike racks
 Charging stations for electric bike and scooter
 Wi-fi and pc workstations
 City maps
 Ash trays
 Space for advertisements

Altro: _____

12. Please if you have other considerations/needs related to the design features provide them here

2. LOCAL AND CULTURAL IDENTITY

13. 2.1 Should the project have to be iconic and identifiable (i.e. relationship with SGL history)

Contrassegna solo un ovale.

Yes

No

14. 2.1.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

15. 2.2 Should the project have to provide attractive functions to the community? (ex. space cinema, conference, expositions) *

Contrassegna solo un ovale.

Yes

No

16. 2.2.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

17. 2.3 Should the project have to provide extra space for commercial activities (i.e. space for products exposition, more external tables)? *

Contrassegna solo un ovale.

Yes
 No

18. 2.3.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

19. Please if you have other considerations/needs related to the design features provide them here

3. ENVIRONMENTAL SUSTAINABILITY

20. 3.1 Should the designed structure have to provide for the total energy independence (i.e. solar panels, etc.)? *

Contrassegna solo un ovale.

Yes

No

21. 3.1.2 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

22. 3.2 Should the designed structure have to be made of sustainable materials (i.e. certified, recycled/recyclable materials)? *

Contrassegna solo un ovale.

Yes

No

23. 3.2.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

24. 3.3 Should the structure have to be completely demountable and modular in different configurations/dimensions/aggregations? *

Contrassegna solo un ovale.

- Yes
 No

25. 3.3.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

26. 3.4 Should the structure have to provide an increase in green areas? *

Contrassegna solo un ovale.

- Yes
 No

27. 3.4.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

- not important
 very important

28. Please if you have other considerations/needs related to the design features provide them here
-

4. SAFETY AND SECURITY

29. 4.1 Should the project have to provide the presence of an active video surveillance system

*

Contrassegna solo un ovale.

Yes

No

30. 4.1.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

31. 4.2 Should the designed structure have to be transparent in order to ensure safety (i.e. see through)? *

Contrassegna solo un ovale.

Yes

No

32. 4.2.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

33. 4.3 Should the project have to include lighting in order to improve the city's light system?

Contrassegna solo un ovale.

Yes

No

34. 4.3.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

35. Please if you have other considerations/needs related to the design features provide them here

5. ACCESSIBILITY AND UNIVERSAL DESIGN

36. 5.1 Should the project include an experimentation test phase with the actual users participation and engagement? *

Contrassegna solo un ovale.

Yes

No

37. 5.1.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

38. 5.2 Should the structure have flexible elements that can be personalised by the users according to their needs? (ex. for different ages and use) *

Contrassegna solo un ovale.

- Yes
- No

39. 5.3.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

40. 5.3 Should the designed structure have information that are easily understandable by different users? (i.e. different languages, colour blindness code, font easy to read, symbols, braille, totem with auditory information or LIS video) *

Contrassegna solo un ovale.

- Yes
- No

41. 5.3.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

42. 5.4 Should the structure have embedded elements for wheelchair users, strollers? *

Contrassegna solo un ovale.

Yes
 No

43. 5.4.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

44. Please if you have other considerations/needs related to the design features provide them here

6. HEALTH AND COVID-19 PREVENTION

45. 6.1 Should the structure have to embed devices for monitoring vital parameters (i.e. heart rate/blood pressure)? *

Contrassegna solo un ovale.

- Yes
 No

46. 6.1.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

47. 6.2 Should the structure have to contain systems for health promotion? (tablet with interactive surveys, gamification, informations) *

Contrassegna solo un ovale.

- Yes
 No

48. 6.2.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

49. 6.3 Should the structure have devices to detect environmental parameters (i.e. temperature, air pollution, microclimatic parameters) for public health promotions? *

Contrassegna solo un ovale.

- Yes
 No

50. 6.3.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

51. 6.4 Should the structure have to be fully sanitizable/cleanable? *

Contrassegna solo un ovale.

- Yes
 No

52. 6.4.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

53. 6.5 Should the structure have to be made entirely with self-cleaning and eco-active materials (materials with the ability to eliminate pollution, bacteria, viruses)? *

Contrassegna solo un ovale.

- Yes
 No

54. 6.5.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

55. 6.6 Do you think that can be useful to have outdoor delimited spaces in order to decrease the infection risks increase personal distance while maintaining the same lifestyles?

Contrassegna solo un ovale.

- Yes
 No

56. 6.6.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

57. Please if you have other considerations/needs related to the design features provide them here

58. Please if you have other general considerations provide them here

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Google Moduli



Survey A1

Public participation to the project (Users)



EIT Urban Mobility is supported by the EIT,
a body of the European Union

A1 - PUBLIC PARTICIPATION TO THE PROJECT (users)

WHAT IS THE PURPOSE OF THIS STUDY?

This study is part of the European Research project conducted by Politecnico of Milano and Saint Germain en-Laye municipality "Safely Connected - Sustainable Common Accessibility of Lively Downtowns for Healthy People". The purpose of the research is to modify the historical city centre of Saint Germain en-Laye in order to create a new open air commercial and urban environment following the COVID-19 standards.

To do this a modular and flexible urban furniture will be designed and installed in key points of the city. The solution will be adaptable to different urban activities like slow mobility, dehours, increase of green areas, shop valorisation and improving accessibility.

WHAT IF I DON'T WANT TO PARTECIPATE?

Participation in this study is completely voluntary and anonymous. Personal data (questions 1-4) will be collected only for statistical purpose.

WHAT WILL I NEED TO DO AS A PARTICIPANT?

You will complete a brief survey about some of the main aspects that the manufacture should have and how these are important for you. This survey will take approximately 10 minutes. In order to complete the survey you have to answer all the questions.

HOW CAN I BE UPDATED ABOUT THE DEVELOPMENT?

For more informations feel free to leave us your email and we'll contact you.

***Campo obbligatorio**

1. Email address

2. Age *

Contrassegna solo un ovale.

- < 25
- 25-45
- 46 - 65
- > 65
- I prefer to not answer

3. Sex *

Contrassegna solo un ovale.

- M
- F
- I prefer to not answer
- Altro: _____

4. Category *

Contrassegna solo un ovale.

- Citizen
- Tourist
- Daily users
- Altro: _____

1. DESIGN FEATURES

5. 1.1 Should the project lead to increase the sitting areas (i.e. benches, seats, etc.)? *

Contrassegna solo un ovale.

Yes

No

6. 1.1.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

7. 1.2 Should the designed structure have to provide covered areas (i.e. shades for sun, cover for rain, etc.)? *

Contrassegna solo un ovale.

Yes

No

8. 1.2.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

9. 1.3 Should the designed structure have to provide seats only for the exclusive use of shopkeepers (i.e. tables for restaurants)? *

Contrassegna solo un ovale.

Yes

No

10. 1.3.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

11. 1.4 Which of these accessories are most important for you? (Choose 3) *

Seleziona tutte le voci applicabili.

- Separate waste control
- Bike racks
- Charging stations for electric bike and scooter
- Wi-fi and pc workstations
- City maps
- Ash trays
- Space for advertisements

Altro: _____

12. Please if you have other considerations/needs related to the design features provide them here

2. LOCAL AND CULTURAL IDENTITY

13. 2.1 Should the project have to be iconic and identifiable (i.e. relationship with SGL history)

Contrassegna solo un ovale.

Yes

No

14. 2.1.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

15. 2.2 Should the project have to provide attractive functions to the community? (ex. space cinema, conference, expositions) *

Contrassegna solo un ovale.

Yes

No

16. 2.2.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

17. 2.3 Should the structure have to provide extra space for daily use of the city? (i.e. waiting area near bus stations / workstations with electricity and wifi) *

Contrassegna solo un ovale.

- Yes
- No

18. 2.3.1 Which spaces are must important for you? *

Seleziona tutte le voci applicabili.

- Charging areas for pc/smartphone
- Waiting areas near bus station
- Extra study areas
- Space for cultural activities

Altro: _____

19. Please if you have other considerations/needs related to the design features provide them here

3. ENVIRONMENTAL SUSTAINABILITY

20. 3.1 Should the designed structure have to provide for the total energy independence (i.e. solar panels, etc.)? *

Contrassegna solo un ovale.

- Yes
 No

21. 3.1.2 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

22. 3.2 Should the designed structure have to be made of sustainable materials (i.e. certified, recycled/recyclable materials)? *

Contrassegna solo un ovale.

- Yes
 No

23. 3.2.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

24. 3.3 Should the structure have to be completely demountable and modular in different configurations/dimensions/aggregations? *

Contrassegna solo un ovale.

- Yes
 No

25. 3.3.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

26. 3.4 Should the project have to provide an increase in green areas? *

Contrassegna solo un ovale.

- Yes
 No

27. 3.4.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

- not important
 very important

28. Please if you have other considerations/needs related to the design features provide them here
-

4. SAFETY AND SECURITY

29. 4.1 Should the project have to provide the presence of an active video surveillance system

*

Contrassegna solo un ovale.

Yes

No

30. 4.1.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

31. 4.2 Should the designed structure have to be transparent in order to ensure safety (i.e. see through)? *

Contrassegna solo un ovale.

Yes

No

32. 4.2.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

33. 4.3 Should the project have to include lighting in order to improve the city's light system?

Contrassegna solo un ovale.

Yes

No

34. 4.3.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

35. Please if you have other considerations/needs related to the design features provide them here

5. ACCESSIBILITY AND UNIVERSAL DESIGN

36. 5.1 Should the project include an experimentation test phase with the actual users participation and engagement? *

Contrassegna solo un ovale.

Yes

No

37. 5.1.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

38. 5.2 Should the structure have flexible elements that can be personalised by the users according to their needs? (ex. for different ages and use) *

Contrassegna solo un ovale.

- Yes
- No

39. 5.3.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

40. 5.3 Should the designed structure have information that are easily understandable by different users? (i.e. different languages, colour blindness code, font easy to read, symbols, braille, totem with auditory information or LIS video) *

Contrassegna solo un ovale.

- Yes
- No

41. 5.3.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

42. 5.4 Should the structure have embedded elements for wheelchair users, strollers? *

Contrassegna solo un ovale.

Yes
 No

43. 5.4.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

44. Please if you have other considerations/needs related to the design features provide them here

6. HEALTH AND COVID-19 PREVENTION

45. 6.1 Should the structure have to embed devices for monitoring vital parameters (i.e. heart rate/blood pressure)? *

Contrassegna solo un ovale.

Yes

No

46. 6.1.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

47. 6.2 Should the structure have to contain systems for health promotion? (tablet with interactive surveys, gamification, informations) *

Contrassegna solo un ovale.

Yes

No

48. 6.2.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

1 2 3 4 5

not important very important

49. 6.3 Should the structure have devices to detect environmental parameters (i.e. temperature, air pollution, microclimatic parameters) for public health promotions? *

Contrassegna solo un ovale.

Yes

No

50. 6.3.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

51. 6.4 Should the structure have to be fully sanitizable/cleanable? *

Contrassegna solo un ovale.

Yes

No

52. 6.4.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

53. 6.5 Should the structure have to be made entirely with self-cleaning and eco-active materials (materials with the ability to eliminate pollution, bacteria, viruses)? *

Contrassegna solo un ovale.

- Yes
 No

54. 6.5.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

55. 6.6 Do you think that can be useful to have outdoor delimited spaces in order to decrease the infection risks increase personal distance while maintaining the same lifestyles? *

Contrassegna solo un ovale.

- Yes
 No

56. 6.6.1 If your answer is YES, how much this characteristic is important for you?

Contrassegna solo un ovale.

	1	2	3	4	5	
not important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very important

57. Please if you have other considerations/needs related to the design features provide them here

58. Please if you have other general considerations provide them here

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Survey A2

Post Installation - Technical Checklist



EIT Urban Mobility is supported by the EIT,
a body of the European Union

A2 - Post Installation - Technical Checklist

The following checklist is provided in order to evaluate the appropriateness of the design solution based on users' needs and requirements collection. The following checklist is a model to be adapted according to the specific answers provided in survey A1 pre-installation "public participation to the project".

***Campo obbligatorio**

1. Email address

2. Affiliation *

1. DESIGN FEATURES

3. 1.1 Is the project increasing the sitting areas (i.e. benches, seats, etc.)? *

Contrassegna solo un ovale.

Yes

No

4. 1.1.1 If your answer is YES, please describe the solution reporting specific quantities

5. 1.2 Is the designed structure providing covered areas (i.e. shades for sun, cover for rain, etc.)? *

Contrassegna solo un ovale.

Yes

No

6. 1.2.1 If your answer is YES, please describe the solution reporting specific quantities

7. 1.3 Is the designed structure providing seats only for the exclusive use of shopkeepers (i.e. tables for restaurants)? *

Contrassegna solo un ovale.

Yes

No

8. 1.3.1 If your answer is YES, please describe the solution reporting specific quantities

9. 1.4 Which of these accessories are included in the solution? *

Seleziona tutte le voci applicabili.

- Separate waste control
- Bike racks
- Charging stations for electric bike and scooter
- Wi-fi and pc workstations
- City maps
- Ash trays
- Space for advertisements

Altro: _____

10. Please if you have other considerations/needs related to the design features provide them here

2. LOCAL AND CULTURAL IDENTITY

11. 2.1 Is the project iconic and identifiable (i.e. relationship with SGL history)? *

Contrassegna solo un ovale.

- Yes
- No

12. 2.1.1 If your answer is YES, please describe the solution reporting specific quantities

13. 2.2 Is the project providing attractive functions to the community? (ex. space for cinema, conference, expositions) *

Contrassegna solo un ovale.

Yes

No

14. 2.2.1 If your answer is YES, please describe the solution reporting specific quantities

15. 2.3 Is the structure providing extra space for daily use of the city? (i.e. waiting area near b stations / workstations with electricity and wifi) *

Contrassegna solo un ovale.

Yes

No

16. 2.3.1 If your answer is YES, please describe the solution reporting specific quantities

17. 2.3.1 Which of the following features have been included in the solution? *

Seleziona tutte le voci applicabili.

Charging areas for pc/smartphone

Waiting areas near bus station

Extra study areas

Space for cultural activities

Altro: _____

18. Please if you have other considerations/needs related to local and cultural identity provide them here

3. ENVIRONMENTAL SUSTAINABILITY

19. 3.1 Is the designed structure total energy independent (i.e. solar panels, etc.)? *

Contrassegna solo un ovale.

Yes

No

20. 3.1.2 If your answer is YES, please describe the solution reporting specific quantities

21. 3.2 Is the designed structure made of sustainable materials (i.e. certified, recycled/recyclable materials)? *

Contrassegna solo un ovale.

Yes

No

22. 3.2.1 If your answer is YES, please describe the solution reporting specific quantities

23. 3.3 Is the structure completely demountable and modular in different configurations/dimensions/aggregations? *

Contrassegna solo un ovale.

Yes

No

24. 3.3.1 If your answer is YES, please describe the solution reporting specific quantities

25. 3.4 Is the project increasing the green areas? *

Contrassegna solo un ovale.

Yes

No

26. 3.4.1 If your answer is YES, please describe the solution reporting specific quantities

27. Please if you have other considerations/needs related to the sustainability provide them here

4. SAFETY AND SECURITY

28. 4.1 Is the project equipped with an active video surveillance system? *

Contrassegna solo un ovale.

Yes

No

29. 4.1.1 If your answer is YES, please describe the solution reporting specific quantities

30. 4.2 Is the designed structure transparent in order to ensure safety (i.e. see through)? *

Contrassegna solo un ovale.

Yes

No

31. 4.2.1 If your answer is YES, please describe the solution reporting specific quantities

32. 4.3 Is the project including lighting in order to improve the city's light system? *

Contrassegna solo un ovale.

Yes

No

33. 4.3.1 If your answer is YES, please describe the solution reporting specific quantities

34. Please if you have other considerations/needs related to safety and security provide them here

5. ACCESSIBILITY AND UNIVERSAL DESIGN

35. 5.1 Is the project including an experimentation test phase with the actual users participati and engagement? *

Contrassegna solo un ovale.

Yes

No

36. 5.1.1 If your answer is YES, please describe the solution reporting specific quantities

37. 5.2 Is the structure equipped with flexible elements that can be personalised by the users according to their needs? (ex. for different ages and use) *

Contrassegna solo un ovale.

Yes

No

38. 5.3.1 If your answer is YES, please describe the solution reporting specific quantities

39. 5.3 Is the designed structure equipped with information that are easily understandable by different users? (i.e. different languages, colour blindness code, font easy to read, symbols, braille, totem with auditory information or LIS video) *

Contrassegna solo un ovale.

Yes

No

40. 5.3.1 If your answer is YES, please describe the solution reporting specific quantities

41. 5.4 Is the structure equipped with elements for wheelchair users, strollers? *

Contrassegna solo un ovale.

Yes

No

42. 5.4.1 If your answer is YES, please describe the solution reporting specific quantities

43. Please if you have other considerations/needs related to accessibility and universal design provide them here

6. HEALTH AND COVID-19 PREVENTION

44. 6.1 Is the structure equipped with devices for monitoring vital parameters (i.e. heart rate/blood pressure)? *

Contrassegna solo un ovale.

Yes

No

45. 6.1.1 If your answer is YES, please describe the solution reporting specific quantities

46. 6.2 Is the structure equipped with systems for health promotion? (tablet with interactive surveys, gamification, informations) *

Contrassegna solo un ovale.

Yes

No

47. 6.2.1 If your answer is YES, please describe the solution reporting specific quantities

48. 6.3 Is the structure equipped with devices to detect environmental parameters (i.e. temperature, air pollution, microclimatic parameters) for public health promotions? *

Contrassegna solo un ovale.

Yes

No

49. 6.3.1 If your answer is YES, please describe the solution reporting specific quantities

50. 6.4 Is the structure fully sanitizable/cleanable? *

Contrassegna solo un ovale.

Yes

No

51. 6.4.1 If your answer is YES, please describe the solution reporting specific quantities

52. 6.5 Is the structure made entirely with self-cleaning and eco-active materials (materials with the ability to eliminate pollution, bacteria, viruses)? *

Contrassegna solo un ovale.

Yes

No

53. 6.5.1 If your answer is YES, please describe the solution reporting specific quantities

54. 6.6 Is the project delimiting outdoor spaces in order to decrease the infection risks increasing personal distance while maintaining the same lifestyles? *

Contrassegna solo un ovale.

Yes

No

55. 6.6.1 If your answer is YES, please describe the solution reporting specific quantities

56. Please if you have other considerations/needs related to the health issues provide them here

57. Please if you have other general considerations provide them here

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Survey B1

Evaluation of the perceived improvement - Pre Installation Survey (Shopkeepers)



B1 - EVALUATION OF THE PERCEIVED IMPROVEMENT - PRE INSTALLATION SURVEY (shopkeepers)

WHAT IS THE PURPOSE OF THIS STUDY?

This study is part of the European Research project conducted by Politecnico of Milano and Saint Germain en-Laye municipality "Safely Connected - Sustainable Common Accessibility of Lively Downtowns for Healthy People". The purpose of the research is to modify the historical city centre of Saint Germain en-Laye in order to create a new open air commercial and urban environment following the COVID-19 standards.

To do this a modular and flexible urban furniture will be designed and installed in key points of the city. The solution will be adaptable to different urban activities like slow mobility, dehors, increase of green areas, shop valorisation and improving accessibility.

WHAT IF I DON'T WANT TO PARTECIPATE?

Participation in this study is completely voluntary and anonymous. Personal data (questions 1-4) will be collected only for statistical purpose.

WHAT WILL I NEED TO DO AS A PARTICIPANT?

You will complete a brief survey about the perception of city center environment and activities as they are today, if they are adequate or needs to be improved. This survey will take approximately 10 minutes. In order to complete the survey you have to answer all the questions.

HOW CAN I BE UPDATED ABOUT THE DEVELOPMENT?

For more informations feel free to leave us your email and we'll contact you.

***Campo obbligatorio**

1. Email address

2. Age

Contrassegna solo un ovale.

- < 25
- 25 - 45
- I prefer to not answer

3. Sex *

Contrassegna solo un ovale.

- M
- F
- I prefer to not answer
- Altro: _____

4. Category *

Contrassegna solo un ovale.

- SGL municipality
- Shop keeper

1. DESIGN FEATURES

5. 1.1 Are the sitting areas within the district are adequate and sufficient (i.e. benches, seats, etc.)? *

Contrassegna solo un ovale.

	1	2	3	4	5	
totally disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	totally agree

6. 1.2 Are covered areas (benches covered in shades for sun or near green elements) adequate and sufficient? *

Contrassegna solo un ovale.

	1	2	3	4	5	
totally disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	totally agree

7. 1.3 Are the outdoor spaces dedicated to commercial activities adequate and sufficient? (i.e. for products exposition, restaurants/bar seats and tables) *

Contrassegna solo un ovale.

	1	2	3	4	5	
totally disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	totally agree

8. Please if you have other considerations/needs related to the design features provide them here

2. LOCAL AND CULTURAL IDENTITY

9. 2.1 Do you often stop inside the SGL historic city centre? *

Contrassegna solo un ovale.

Yes

No

10. 2.1.1 If so, how often? *

Contrassegna solo un ovale.

	1	2	3	4	5	
rarely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	often

11. 2.2 Is the promotion of SGL historical city centre activities sufficient? *

Contrassegna solo un ovale.

	1	2	3	4	5	
not satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very satisfied

12. 2.3 About what % of your clients are tourists? *

Contrassegna solo un ovale.

- 0 - 25%
- 26 - 50 %
- 51 - 75 %
- 76 - 100 %

13. 2.4 Do you notice an increase / decrease in tourists compared to previous years? *

Contrassegna solo un ovale.

- Increase
- Decrease
- Same

14. 2.5 Are you satisfied with the current conditions of the public space? Do you think it can be improved? *

Contrassegna solo un ovale.

	1	2	3	4	5	
not satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely satisfied

15. Please if you have other considerations provide them here

3. ENVIRONMENTAL SUSTAINABILITY

16. 3.1 How do you generally move around the city? *

Contrassegna solo un ovale.

- car/motocycle
- bicycle / scooter
- public transports
- walking

17. 3.2 Do you think that present urban space facilitates the use of electric scooters-bicycles

Contrassegna solo un ovale.

	1	2	3	4	5	
absolutely not	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

18. 3.3 Do you think that present urban space and furnitures facilitates separate waste collection? *

Contrassegna solo un ovale.

	1	2	3	4	5	
absolutely not	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

19. 3.4 Are you satisfied with the amount and quality of green areas in the SGL historical city centre? *

Contrassegna solo un ovale.

	1	2	3	4	5	
unsatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully satisfied

20. Please if you have other considerations provide them here

4. SAFETY AND SECURITY

21. 4.1 Is the SGL historical city centre safe? Do you think it is a safe place to stop and walk even in the early morning / late evening? *

Contrassegna solo un ovale.

	1	2	3	4	5	
disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	agree

22. 4.2 Are you satisfied with present public lighting in SGL historical city centre? *

Contrassegna solo un ovale.

	1	2	3	4	5	
unsatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully satisfied

23. Please if you have other considerations provide them here

5. ACCESSIBILITY AND UNIVERSAL DESIGN

24. 5.1 Is SGL historical city centre easily accessible even by those with mobility impairments' (i.e. wheelchair/strollers/etc.) *

Contrassegna solo un ovale.

	1	2	3	4	5	
not accessible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully accessible

25. 5.2 Is the SGL historical city centre easily accessible even by those with visual, hearing and cognitive impairments? *

Contrassegna solo un ovale.

	1	2	3	4	5	
not accessible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully accessible

26. 5.3 Do you believe that urban furniture (benches, rest areas) are accessible to impairment? *

Contrassegna solo un ovale.

	1	2	3	4	5	
not accessible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully accessible

27. Please if you have other considerations provide them here

6. HEALTH AND COVID-19 PREVENTION

28. 6.1 How often do you control your health? (i.e. blood pressure, saturation) *

Contrassegna solo un ovale.

- Once a year
- Every six month
- Every month
- Every day

29. How often do you make physical activities (i.e. fast walk, sport, exercise)? *

Contrassegna solo un ovale.

- 15 minutes or less
- 30 minutes
- 60 or more minutes
- Altro: _____

30. 6.3 Do you feel safe (from a health point of view) to stay in the outdoor urban spaces of the neighbourhood after the recent Covid-19 pandemic? *

Contrassegna solo un ovale.

- Yes
- No

31. Please if you have other considerations provide them here

32. Please if you have general considerations provide them here

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Survey B1

Evaluation of the perceived improvement - Pre Installation Survey (Users)



B1 - EVALUATION OF THE PERCEIVED IMPROVEMENT - PRE INSTALLATION SURVEY (users)

WHAT IS THE PURPOSE OF THIS STUDY?

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To do this a modular and flexible urban furniture will be designed and installed in key points of the city. The solution will be adaptable to different urban activities like slow mobility, dehors, increase of green areas, shop valorisation and improving accessibility.

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***Campo obbligatorio**

1. Email address

2. Age *

Contrassegna solo un ovale.

- < 25
- 25 - 45
- 46 - 65
- > 65
- I prefer to not answer

3. Sex *

Contrassegna solo un ovale.

- M
- F
- I prefer to not answer
- Altro: _____

4. Category *

Contrassegna solo un ovale.

- Citizen
- Tourist
- Daily users
- Altro: _____

1. DESIGN FEATURES

5. 1.1 Are the sitting areas within the district adequate and sufficient (i.e. benches, seats, etc.)

Contrassegna solo un ovale.

	1	2	3	4	5	
totally disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	totally agree

6. 1.2 Are covered areas (benches covered in shades for sun or near green elements) adequate and sufficient? *

Contrassegna solo un ovale.

	1	2	3	4	5	
totally disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	totally agree

7. 1.3 Are the outdoor spaces dedicated to commercial activities adequate and sufficient? (i.e. for products exposition, restaurants/bar seats and tables) *

Contrassegna solo un ovale.

	1	2	3	4	5	
totally disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	totally agree

8. Please if you have other considerations/needs related to the design features provide them here

2. LOCAL AND CULTURAL IDENTITY

9. 2.1 Do you often stop inside the SGL historic city centre? *

Contrassegna solo un ovale.

Yes

No

10. 2.1.1 If so, how often? *

Contrassegna solo un ovale.

1 2 3 4 5

rarely very often

11. 2.2 Is the promotion of SGL historical city centre activities sufficient? *

Contrassegna solo un ovale.

1 2 3 4 5

not satisfied very satisfied

12. 2.3 Do you notice an increase / decrease in tourists compared to previous years? *

Contrassegna solo un ovale.

Increase

Decrease

Same

13. 2.4 Are you satisfied with the current conditions of the public space? Do you think it can be improved? *

Contrassegna solo un ovale.

	1	2	3	4	5	
not satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely satisfied

14. Please if you have other considerations provide them here

3. ENVIRONMENTAL SUSTAINABILITY

15. 3.1 How do you generally move around the city? *

Contrassegna solo un ovale.

- car/motocycle
- bicycle / scooter
- public transports
- walking

16. 3.2 Do you think that present urban space facilitates the use of electric scooters-bicycles

Contrassegna solo un ovale.

	1	2	3	4	5	
absolutely not	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

17. 3.3 Do you think that present urban space and furnitures facilitates separate waste collection? *

Contrassegna solo un ovale.

	1	2	3	4	5	
absolutely not	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

18. 3.4 Are you satisfied with the amount and quality of green areas in theSGL historical city centre? *

Contrassegna solo un ovale.

	1	2	3	4	5	
unsatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully satisfied

19. Please if you have other considerations provide them here

4. SAFETY AND SECURITY

20. 4.1 Is the SGL historical city centre safe? Do you think it is a safe place to stop and walk ev in the early morning / late evening? *

Contrassegna solo un ovale.

	1	2	3	4	5	
disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	agree

21. 4.2 Are you satisfied with present public lighting in SGL historical city centre? *

Contrassegna solo un ovale.

	1	2	3	4	5	
unsatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully satisfied

22. Please if you have other considerations provide them here

5. ACCESSIBILITY AND UNIVERSAL DESIGN

23. 5.1 Is SGL historical city centre easily accessible even by those with mobility impairments' (i.e. wheelchair/strollers/etc.) *

Contrassegna solo un ovale.

	1	2	3	4	5	
not accessible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully accessible

24. 5.2 Is the SGL historical city centre easily accessible even by those with visual, hearing and cognitive impairments? *

Contrassegna solo un ovale.

	1	2	3	4	5	
not accessible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully accessible

25. 5.3 Do you believe that urban furniture (benches, rest areas) are accessible to impairments? *

Contrassegna solo un ovale.

	1	2	3	4	5	
not accessible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully accessible

26. Please if you have other considerations provide them here

6. HEALTH AND COVID-19 PREVENTION

27. 6.1 How often do you control your health? (i.e. blood pressure, saturation) *

Contrassegna solo un ovale.

- Once a year
- Every six month
- Every month
- Every day

28. How often do you make physical activities (i.e. fast walk, sport, exercise)? *

Contrassegna solo un ovale.

- 15 minutes or less
- 30 minutes
- 60 or more minutes
- Altro: _____

29. 6.3 Do you feel safe (from a health point of view) to stay in the outdoor urban spaces of the neighbourhood after the recent Covid-19 pandemic? *

Contrassegna solo un ovale.

- Yes
- No

30. Please if you have other considerations provide them here

31. Please if you have general considerations provide them here

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Survey B2

Evaluation of the perceived improvement - Post Installation Survey (Shopkeepers)



EIT Urban Mobility is supported by the EIT,
a body of the European Union

B2 - EVALUATION OF THE PERCEIVED IMPROVEMENT - POST INSTALLATION SURVEY (shopkeepers)

WHAT IS THE PURPOSE OF THIS STUDY?

This study is part of the European Research project conducted by Politecnico of Milano and Saint Germain en-Laye municipality "Safely Connected - Sustainable Common Accessibility of Lively Downtowns for Healthy People". The purpose of the research is to modify the historical city centre of Saint Germain en-Laye in order to create a new open air commercial and urban environment following the COVID-19 standards.

To do this a modular and flexible urban furniture will be designed and installed in key points of the city. The solution will be adaptable to different urban activities like slow mobility, dehors, increase of green areas, shop valorisation and improving accessibility.

WHAT IF I DON'T WANT TO PARTECIPATE?

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WHAT WILL I NEED TO DO AS A PARTICIPANT?

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***Campo obbligatorio**

1. Email address

2. Age

Contrassegna solo un ovale.

- < 25
- 25 - 45
- I prefer to not answer

3. Sex *

Contrassegna solo un ovale.

- M
- F
- I prefer to not answer
- Altro: _____

4. Category *

Contrassegna solo un ovale.

- SGL municipality
- Shop keeper

1. DESIGN FEATURES

5. 1.1 Are the sitting areas within the district are adequate and sufficient (i.e. benches, seats, etc.)? *

Contrassegna solo un ovale.

	1	2	3	4	5	
totally disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	totally agree

6. 1.2 Are covered areas (benches covered in shades for sun or near green elements) adequate and sufficient? *

Contrassegna solo un ovale.

	1	2	3	4	5	
totally disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	totally agree

7. 1.3 Are the outdoor spaces dedicated to commercial activities adequate and sufficient? (i.e. for products exposition, restaurants/bar seats and tables) *

Contrassegna solo un ovale.

	1	2	3	4	5	
totally disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	totally agree

8. Please if you have other considerations/needs related to the design features provide them here

2. LOCAL AND CULTURAL IDENTITY

9. 2.1 Do you often stop inside the SGL historic city centre? *

Contrassegna solo un ovale.

Yes

No

10. 2.1.1 If so, how often? *

Contrassegna solo un ovale.

	1	2	3	4	5	
rarely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	often

11. 2.2 Is the promotion of SGL historical city centre activities sufficient? *

Contrassegna solo un ovale.

	1	2	3	4	5	
not satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very satisfied

12. 2.3 About what % of your clients are tourists? *

Contrassegna solo un ovale.

- 0 - 25%
- 26 - 50 %
- 51 - 75 %
- 76 - 100 %

13. 2.4 Do you notice an increase / decrease in tourists compared to previous years? *

Contrassegna solo un ovale.

- Increase
- Decrease
- Same

14. 2.5 Are you satisfied with the current conditions of the public space? Do you think it can be improved? *

Contrassegna solo un ovale.

	1	2	3	4	5	
not satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	completely satisfied

15. Please if you have other considerations provide them here

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16. 3.1 How do you generally move around the city? *

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- car/motocycle
- bicycle / scooter
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17. 3.2 Do you think that present urban space facilitates the use of electric scooters-bicycles

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absolutely not	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

18. 3.3 Do you think that present urban space and furnitures facilitates separate waste collection? *

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	1	2	3	4	5	
absolutely not	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully agree

19. 3.4 Are you satisfied with the amount and quality of green areas in the SGL historical city centre? *

Contrassegna solo un ovale.

	1	2	3	4	5	
unsatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully satisfied

20. Please if you have other considerations provide them here

4. SAFETY AND SECURITY

21. 4.1 Is the SGL historical city centre safe? Do you think it is a safe place to stop and walk even in the early morning / late evening? *

Contrassegna solo un ovale.

	1	2	3	4	5	
disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	agree

22. 4.2 Are you satisfied with present public lighting in SGL historical city centre? *

Contrassegna solo un ovale.

	1	2	3	4	5	
unsatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully satisfied

23. Please if you have other considerations provide them here

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Contrassegna solo un ovale.

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Evaluation of the perceived improvement - Post Installation Survey (Users)



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- 25 - 45
- 46 - 65
- > 65
- I prefer to not answer

3. Sex *

Contrassegna solo un ovale.

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Contrassegna solo un ovale.

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rarely very often

11. 2.2 Is the promotion of SGL historical city centre activities sufficient? *

Contrassegna solo un ovale.

1 2 3 4 5

not satisfied very satisfied

12. 2.3 Do you notice an increase / decrease in tourists compared to previous years? *

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Increase

Decrease

Same

13. 2.4 Are you satisfied with the current conditions of the public space? Do you think it can be improved? *

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3. ENVIRONMENTAL SUSTAINABILITY

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Contrassegna solo un ovale.

	1	2	3	4	5	
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Contrassegna solo un ovale.

	1	2	3	4	5	
unsatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully satisfied

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21. 4.2 Are you satisfied with present public lighting in SGL historical city centre? *

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	1	2	3	4	5	
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22. Please if you have other considerations provide them here

5. ACCESSIBILITY AND UNIVERSAL DESIGN

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	1	2	3	4	5	
not accessible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	fully accessible

24. 5.2 Is the SGL historical city centre easily accessible even by those with visual, hearing and cognitive impairments? *

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Contrassegna solo un ovale.

- Yes
- No

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Google Moduli



20269 - Safely Connected: Sustainable Common Accessibility of Lively City Centres for Healthy People Activity Deliverable

[ANNEX IV - DEL03]

Annex also available at the following [LINK](#)

[Modular urban furniture design]

EIT Urban Mobility - Mobility for more liveable urban spaces

EIT Urban Mobility

Milan, December, 31st - 2020

eiturbanmobility.eu



EIT Urban Mobility is supported by the EIT,
a body of the European Union



Redesign of the multi-functional modular system



EIT Urban Mobility is supported by the EIT,
a body of the European Union

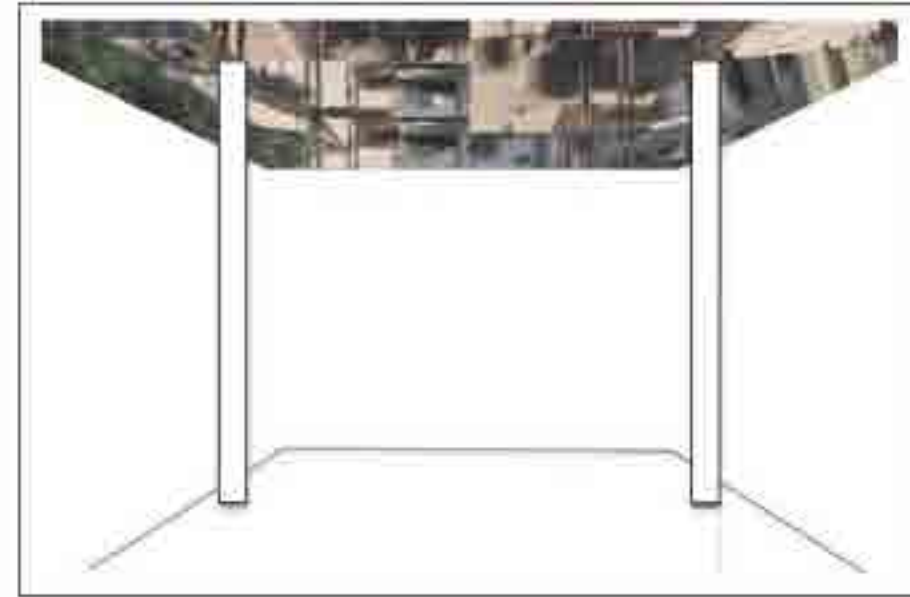
Basic principles of the redesign process

Following the comments and suggestions offered to the first submission of the Modular artefact, we have worked at the improvement of the proposal focusing in particular on the relationship between the new objects and the existing built environment and on the identity of the system.

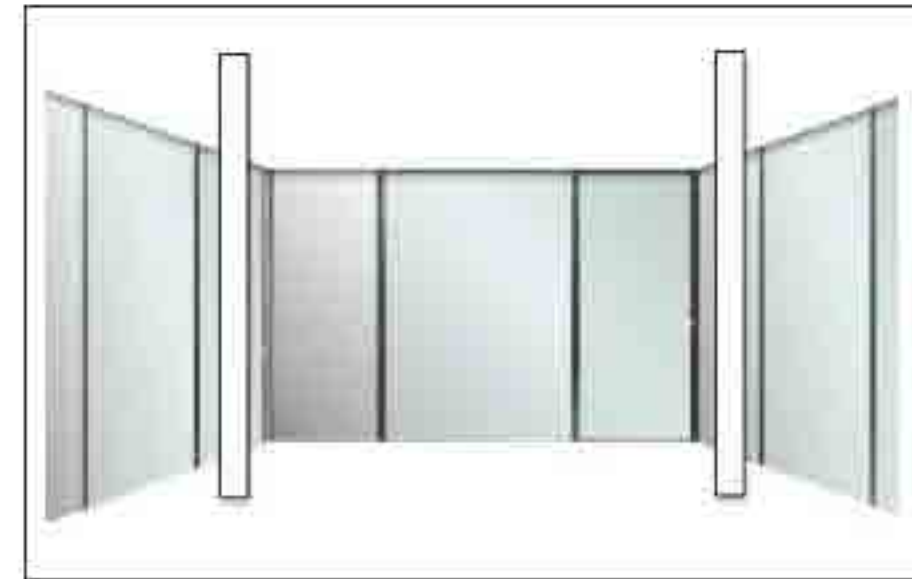
The enhancement of the system has also allowed for the development of the character and mood of the design proposal towards the concept of **lightness** and transparency. The new elements are in fact conceived in order to colonize and increase the functionality of the public space though offering unimpeded views of building façades and shops. In fact, the issue of the visibility, has been addressed streamlining the elements, reducing as much as possible the dimension and the perception of the structure, and selecting transparent materials. The roof inclination is decreased to the minimum for rainwater drainage and the cantilevering panels tapered to the perimeter and clad with mirroring metal surfaces. The structures are conceived in order to almost disappear in order to avoid a contrast with the city centre historic atmosphere and to highlight the **functions** enclosed. These can also be temporary and will be defined according to the specific character of the place thus strengthening its perceived identity. Only at night, illuminated, the elements will become big scale lanterns providing a changed experience of the public space.

Criteria adopted in the redesign process:

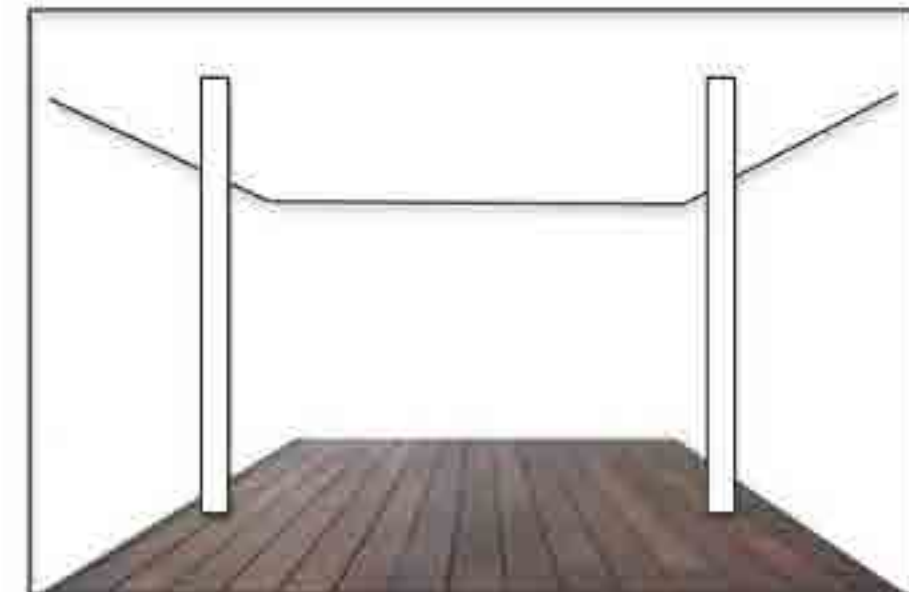
- 1- transparency and neutrality of forms;
- 2- lightness of components, reflectance of surfaces;
- 3- technical-constructive simplification.



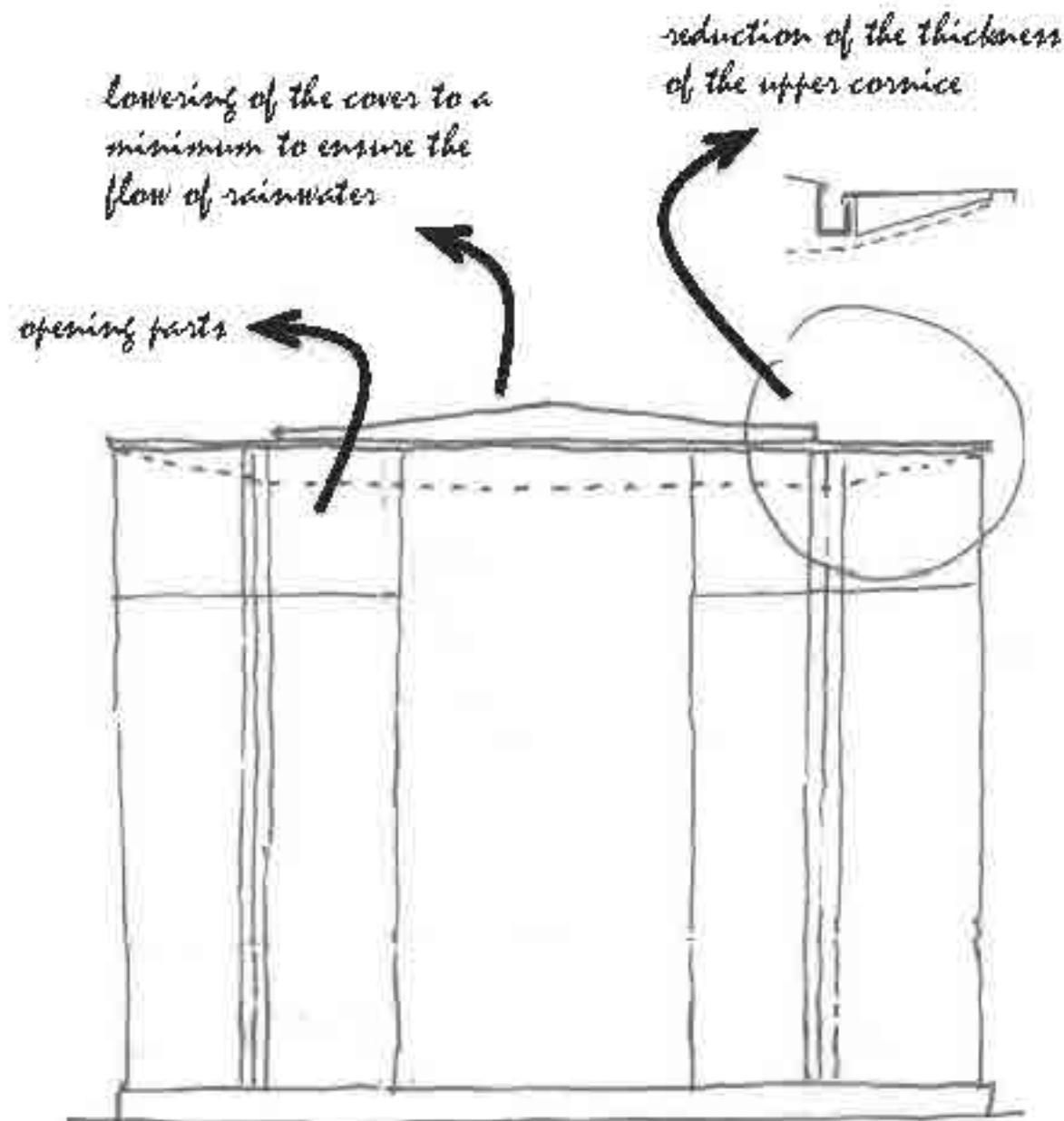
Reflective ceiling in polished aluminum



Glass walls



Decking



Previous solution

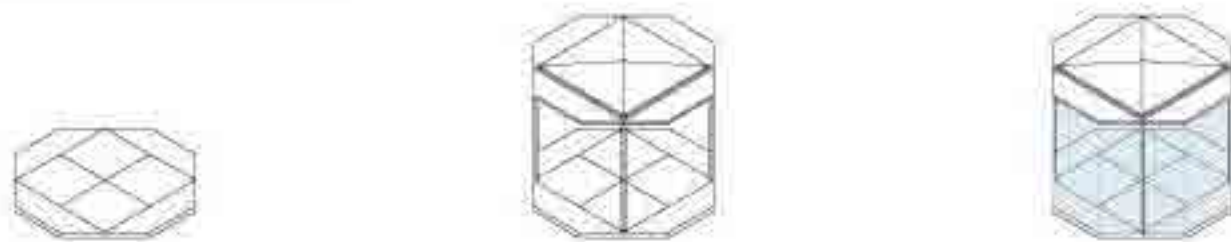
New solution

The geometry and flexibility of the system are confirmed: the square modular platform can be enlarged to create an octagonal plan, equipped with a frame structure to shelter from rainfalls and enclosed with transparent infill panels to protect from winter temperatures or for security purposes. These different combinations can be used to equip the public space with a diverse range of possible functions (tested to be Covid 19 proof for the materials adopted, the physical distancing created and the devices that can be installed) to enrich the experience of citizens and visitors, to increase the possible uses and to create a lively and walkable environment that people can enjoy and where they can develop a sense of belonging.

Basic module for parklett, dais, playground



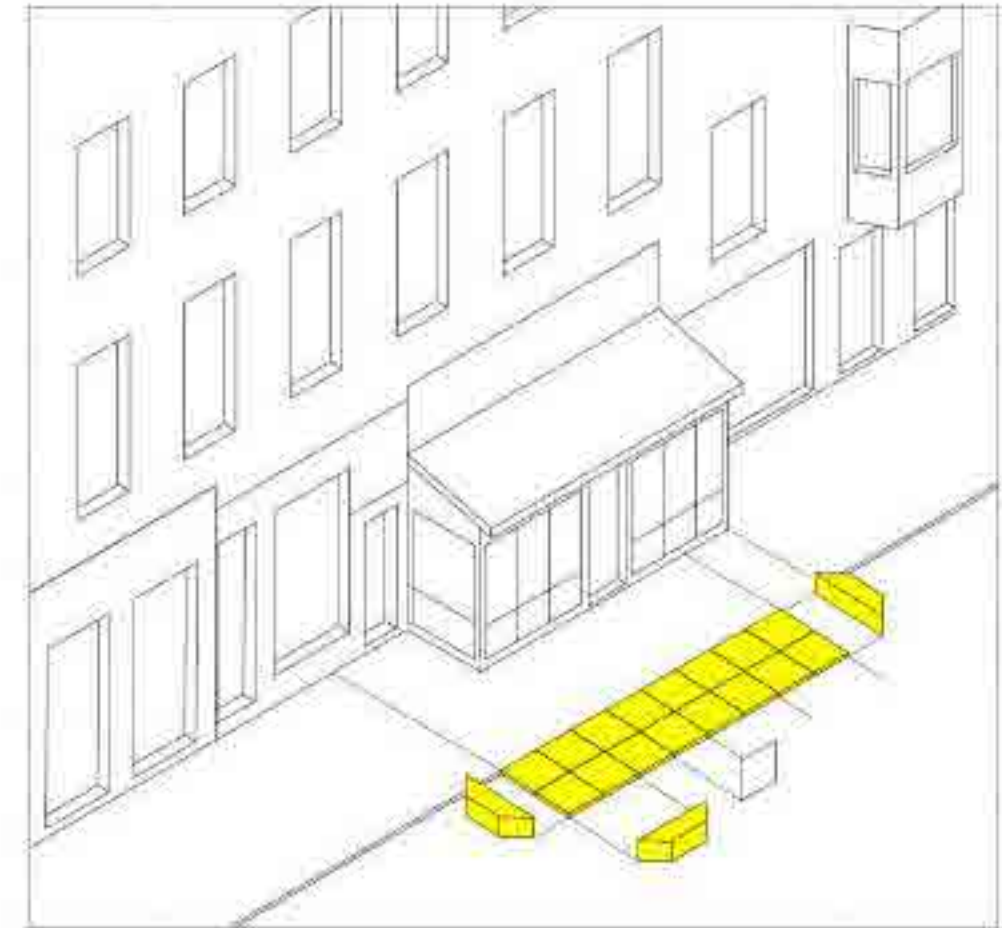
Basic module for all the other functions (basic modul + trapezoidal module)



Trapezoidal module for specific punctual functions

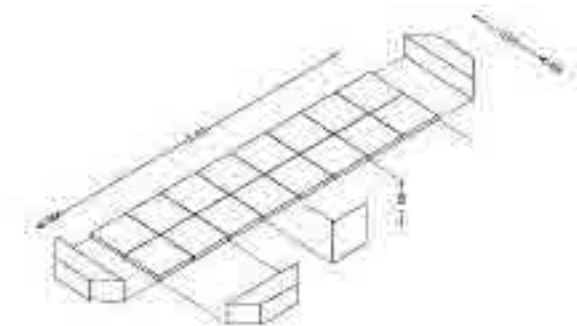


Examples for parklett (Restaurant Au Bon Accueil)



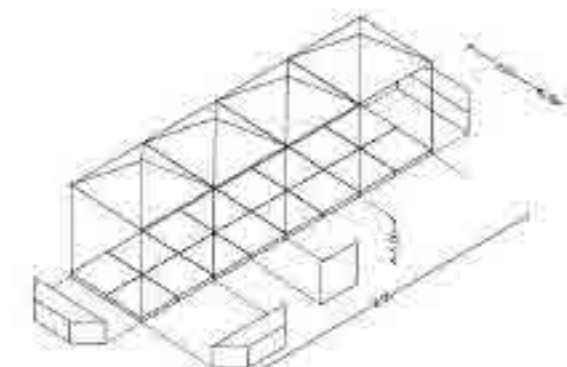
SOLUTION A
Platform with benches and protective flower pot on the external side

- maximum freedom in the arrangement of the tables
- maximum adaptability to existing furniture
- minimum protection (additional plexiglass separation required)
- total lack of weather sheltering



SOLUTION B
Platform with planters, benches and roof

- maximum freedom in the arrangement of the tables
- maximum adaptability to existing furniture
- minimum protection (additional plexiglass separation required)
- rainwater sheltering

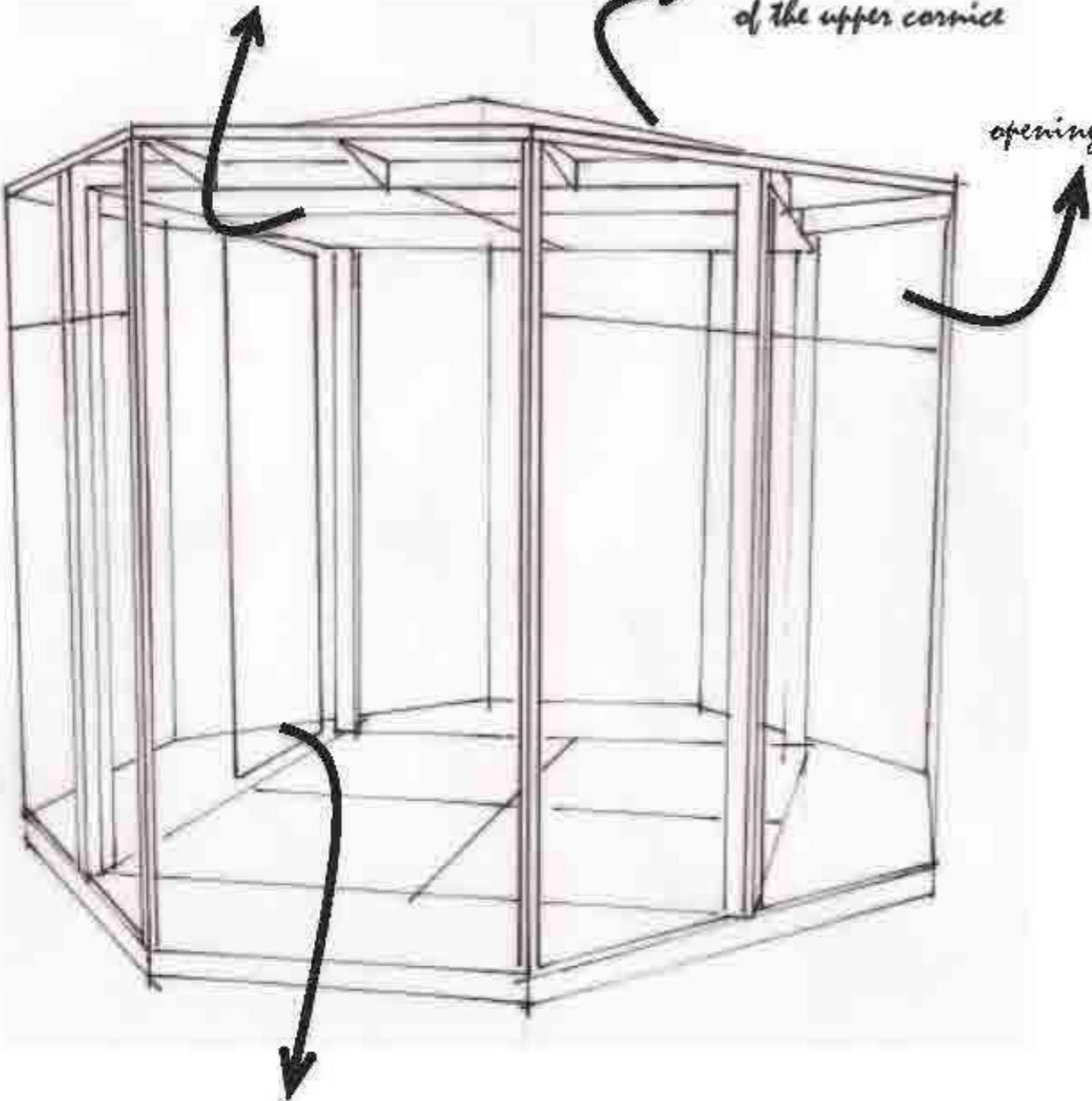


lowering of the cover to a minimum to ensure the flow of rainwater

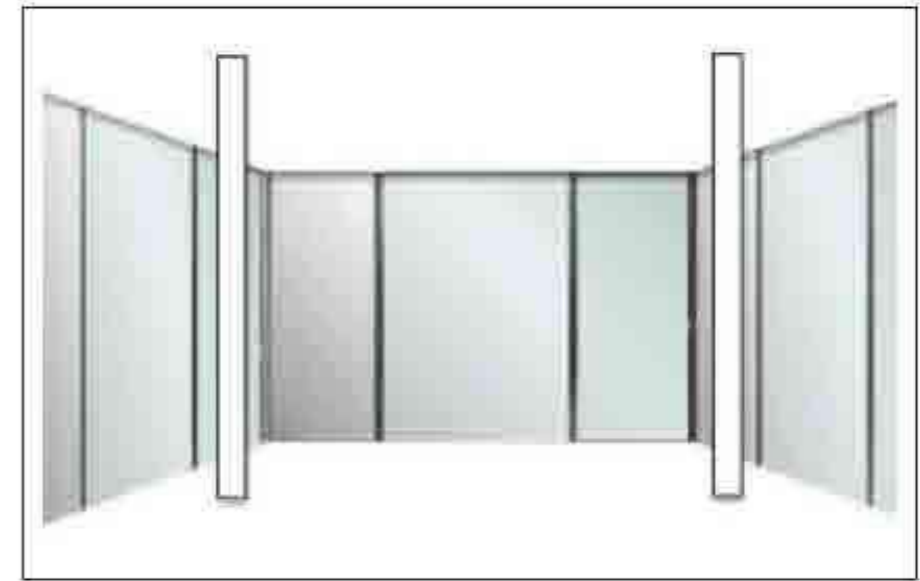
reduction of the thickness of the upper cornice

opening parts

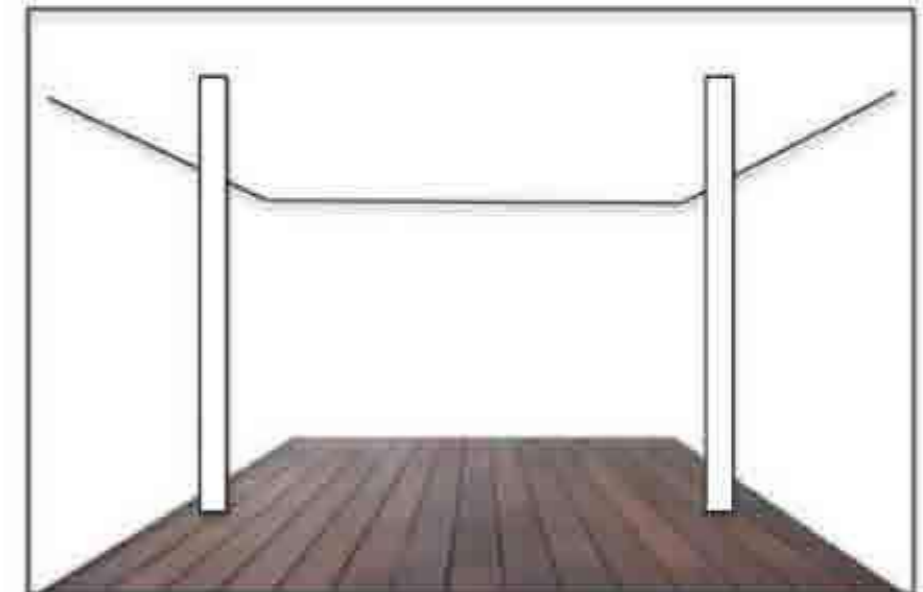
Decorative panels for internal space partition



Reflective ceiling in polished aluminum



Glass walls



Decking



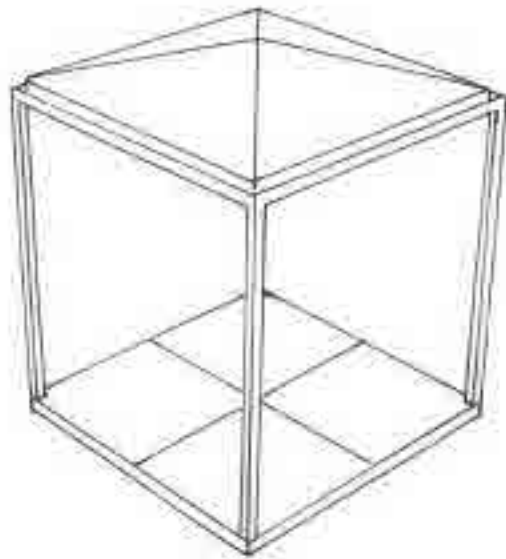




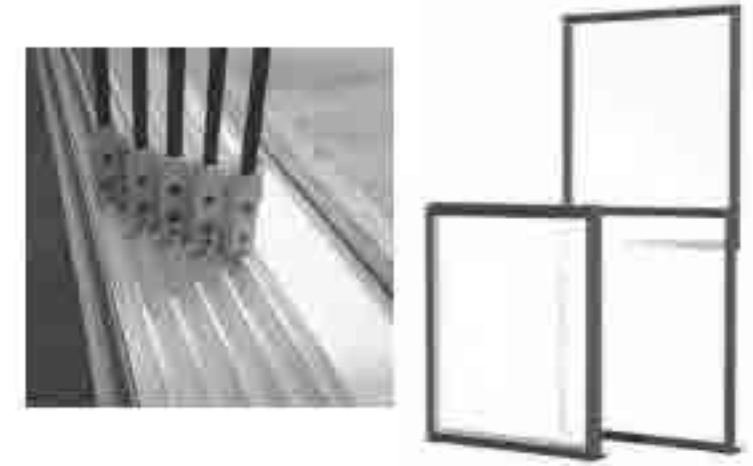
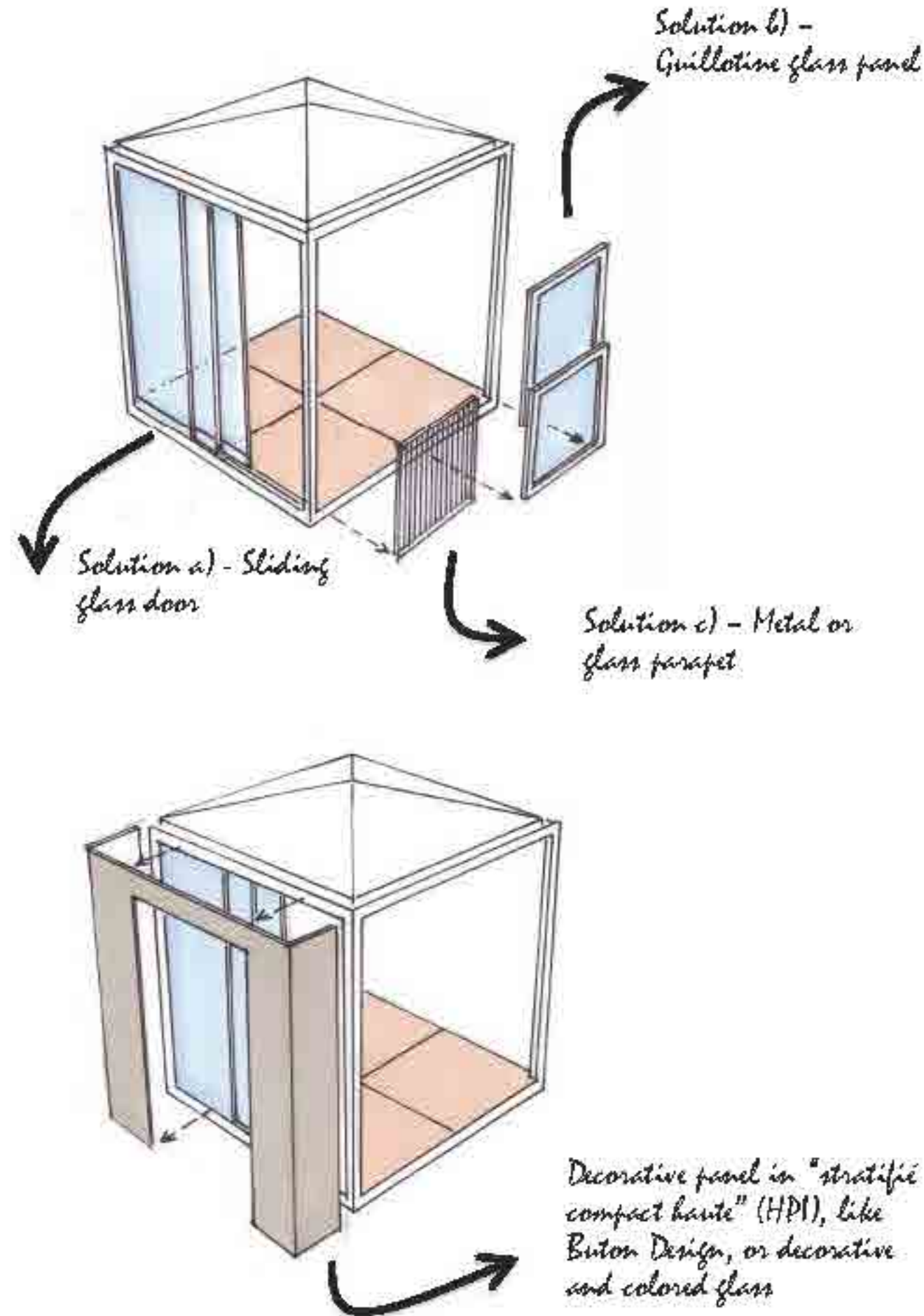


Versatility of the multi-functional modular system

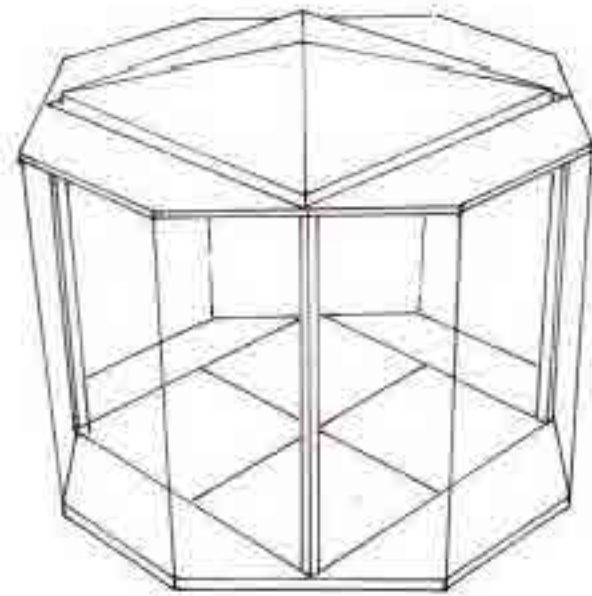
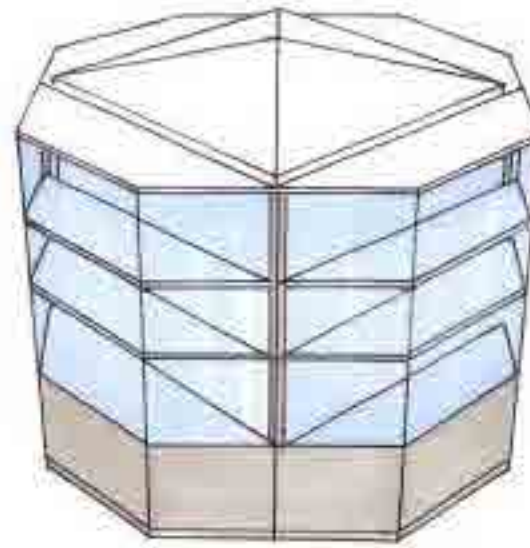
As the platform can create different urban furniture landscapes, the canopies with their possible assemblies offer pop-up open air rooms to respond to the needs of the retailers (showcases of the goods and merchandises, temporary shops and kiosks, online purchases delivery boxes, temporary fairs and markets, etc.), of the tourists and visitors (info-box, visitor centres, ticket offices, bike rental/repair shops, temporary exhibitions, etc.), of the restaurant/food-shop owners ("terrasses fermées", spaces for fast food or slow food eating and drinking), of the inhabitants (gazebos, a leisure space where to relax, a meeting point for a safe social gathering, a neighbourhood exchange box for books, outfit or other stuff to be recycled, a winter garden, an info or helpdesk for public services etc.), for students (room for studying together, wifi point, etc.).



Basic modul for creating parklet, platform for public events and terrasses fermées

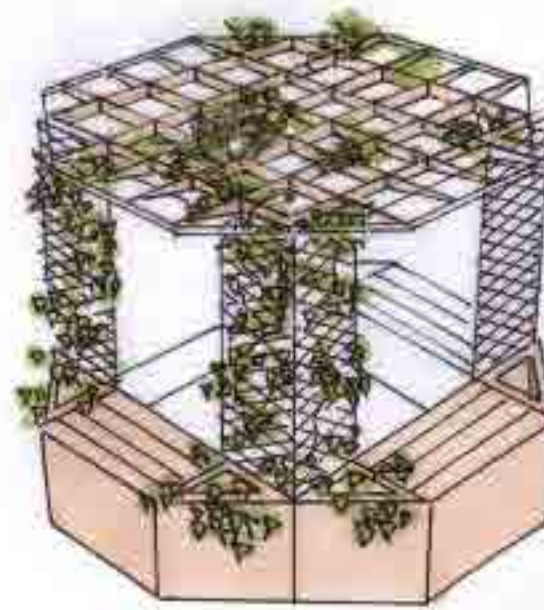


The system is completed with a trapezoidal plan module for display: a transparent showcase which can be freely located near the shop or adjacent to a building wall. The multifaceted nature of the volume recalls the projecting volumes of the ancient historic shops' showcases

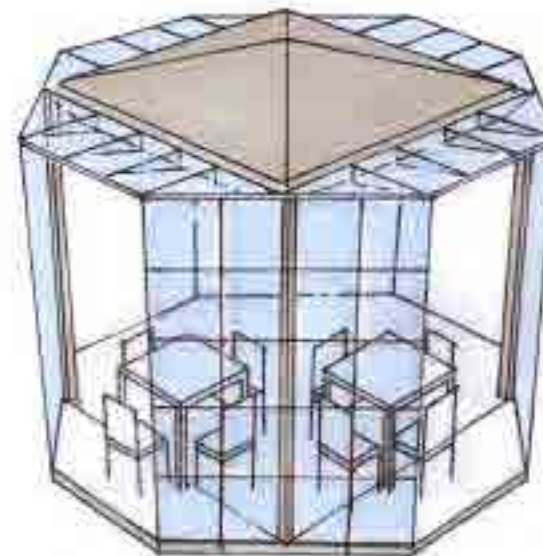


Canopy for other functions

Temporary shop



Gazebo



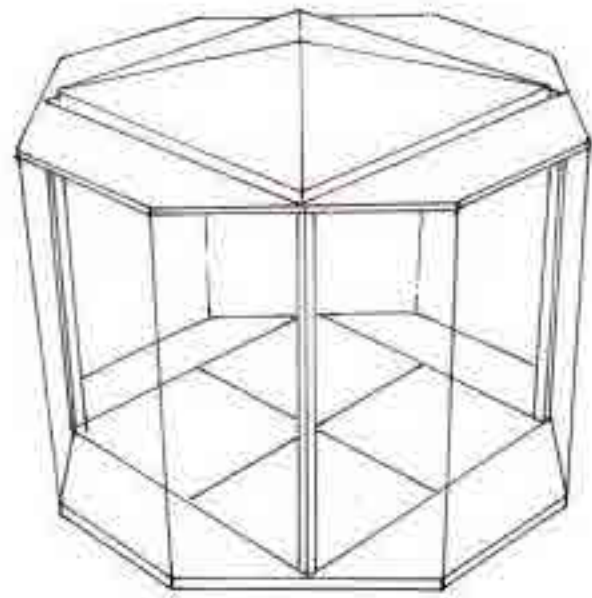
Terraces fermées



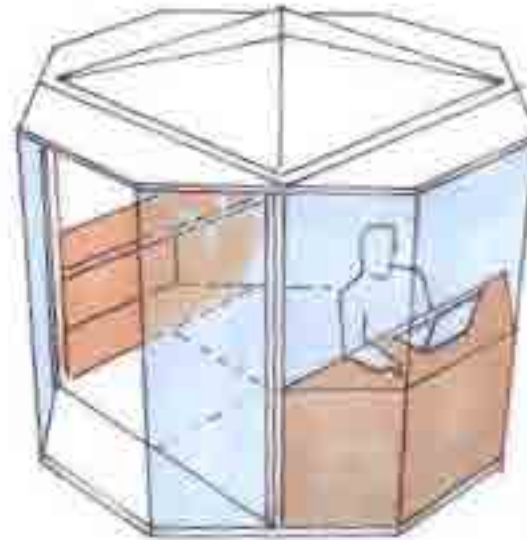
The system is completed with a trapezoidal plan module for display: a transparent showcase which can be freely located near the shop or adjacent to a building wall. The multifaceted nature of the volume recalls the projecting volumes of the ancient historic shops' showcases



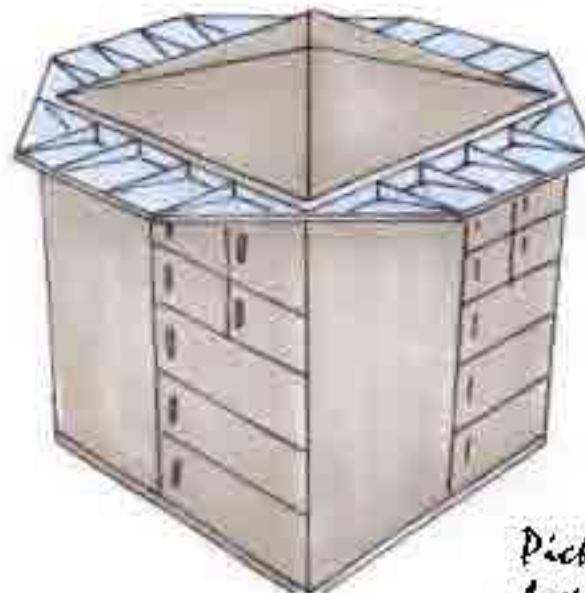
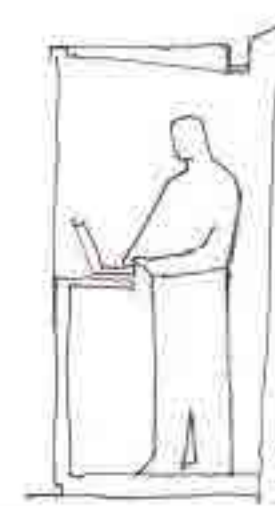
Winter garden



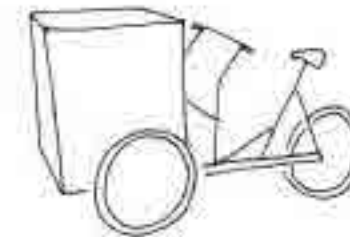
Canopy for other functions



Temporary office, or sitting room



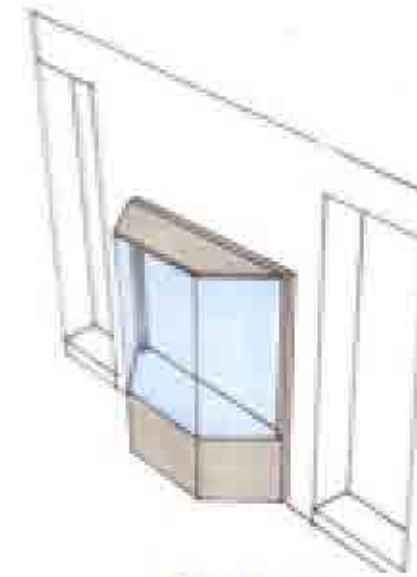
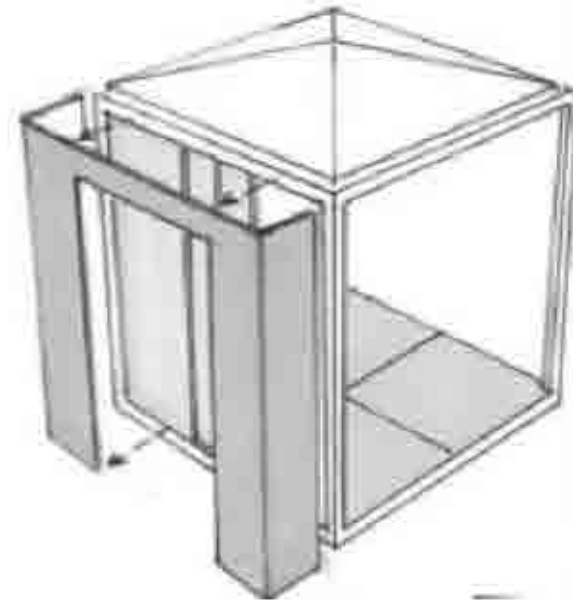
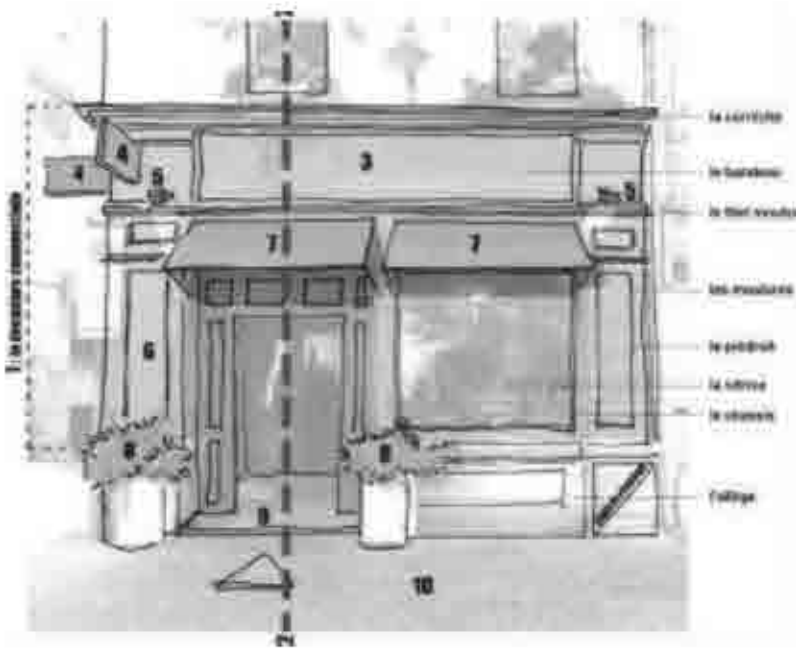
Pick up stations for logistic



The remembrance of the original geometries and shapes is the approach adopted to establish a **relationship with history** and the **identity** of the place, as for the octagonal prism proposed.

This principle, based on recollection rather than explicit mimesis, is also adopted to provide a catalogue of possible elements to customize the modules offering a means of **decoration**: such as the High Pressure Laminate portal to evoke the geometrical partitions of historic shops' showcases ("devantures") or the mobile transformable stall inspired by the ancient market stalls which can be used to expand the existing market in the adjacent soon to be pedestrianised streets. In the last case the integration of the display with the bicycle combines the slow mobility concept with a new interpretation of the public space.

Similarly, smaller shelving displays are influenced by historic traditional patterns, motifs that can also be used for sun-shading screens for the canopies.



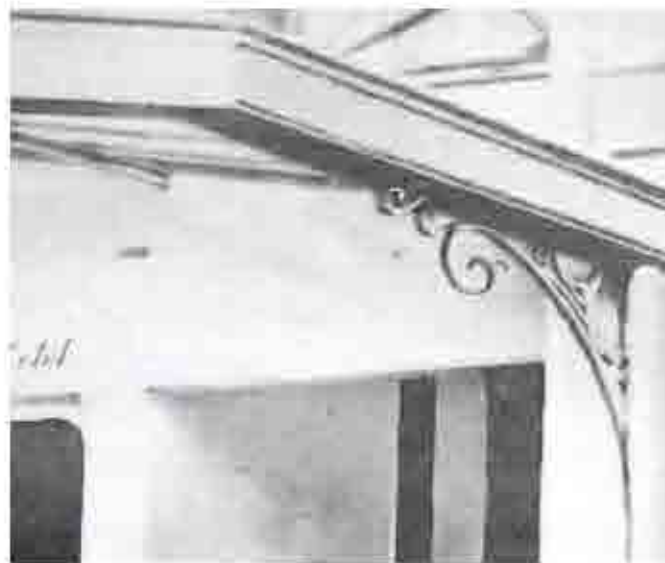
Wall glass display



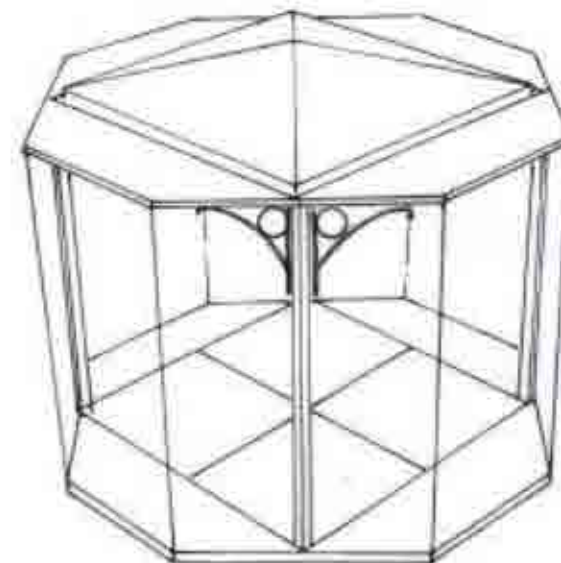
Street glass display



Touch screen



Detail of the Pavillon Henry IV - SGL



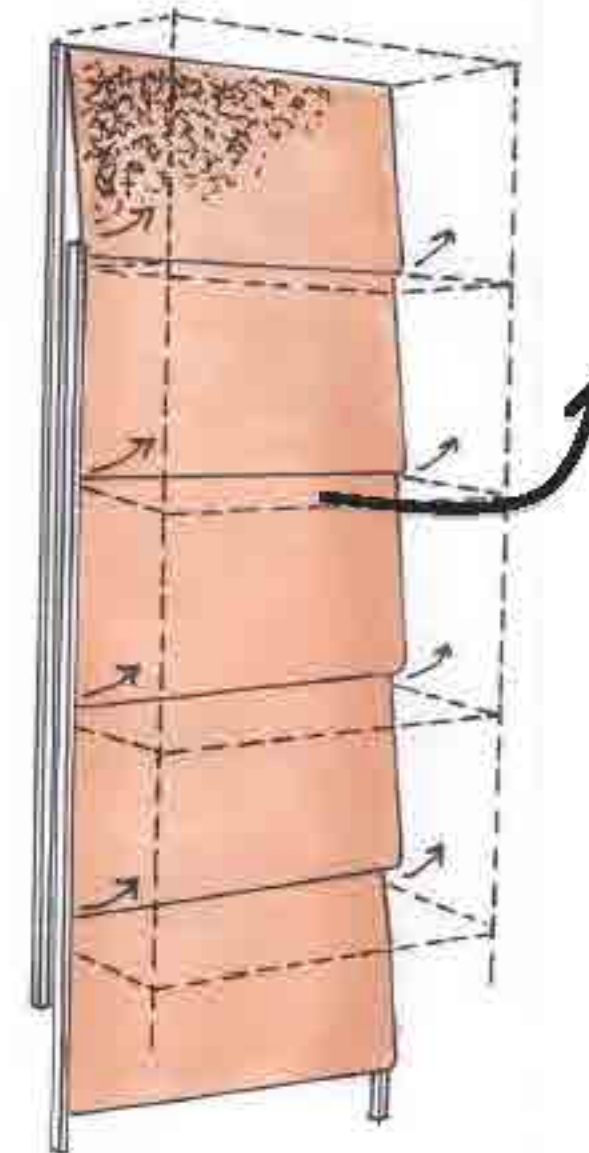
Accessories: display for pavement or multifunctional modular system



Display and decorative panel

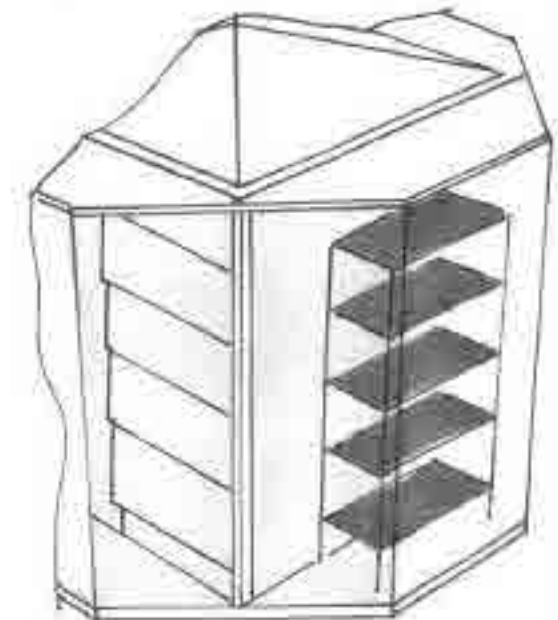
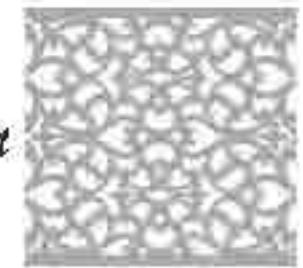


OPEN: Display



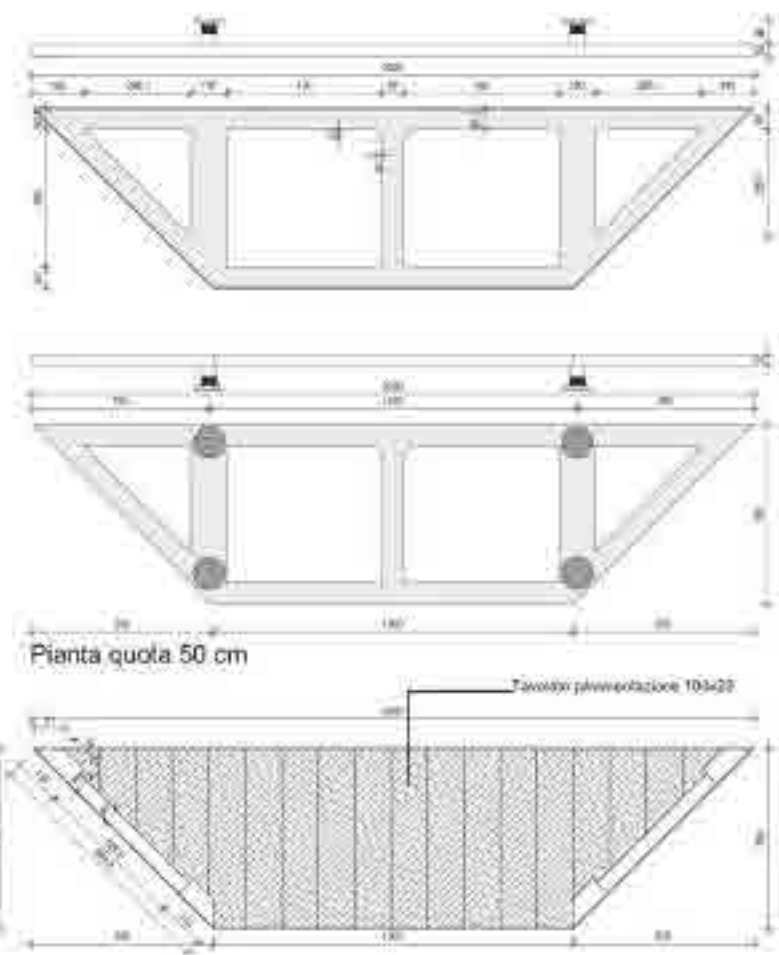
CLOSE: Decorative panel

Decorative sheet metal

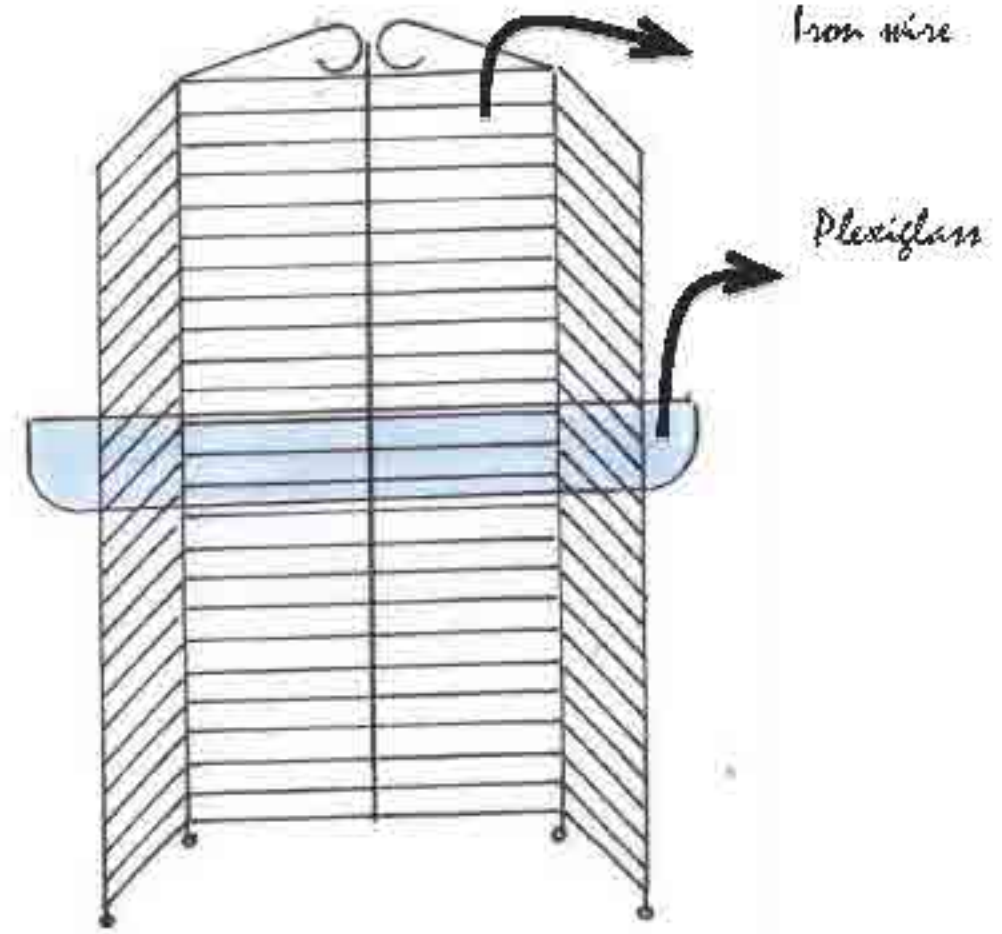




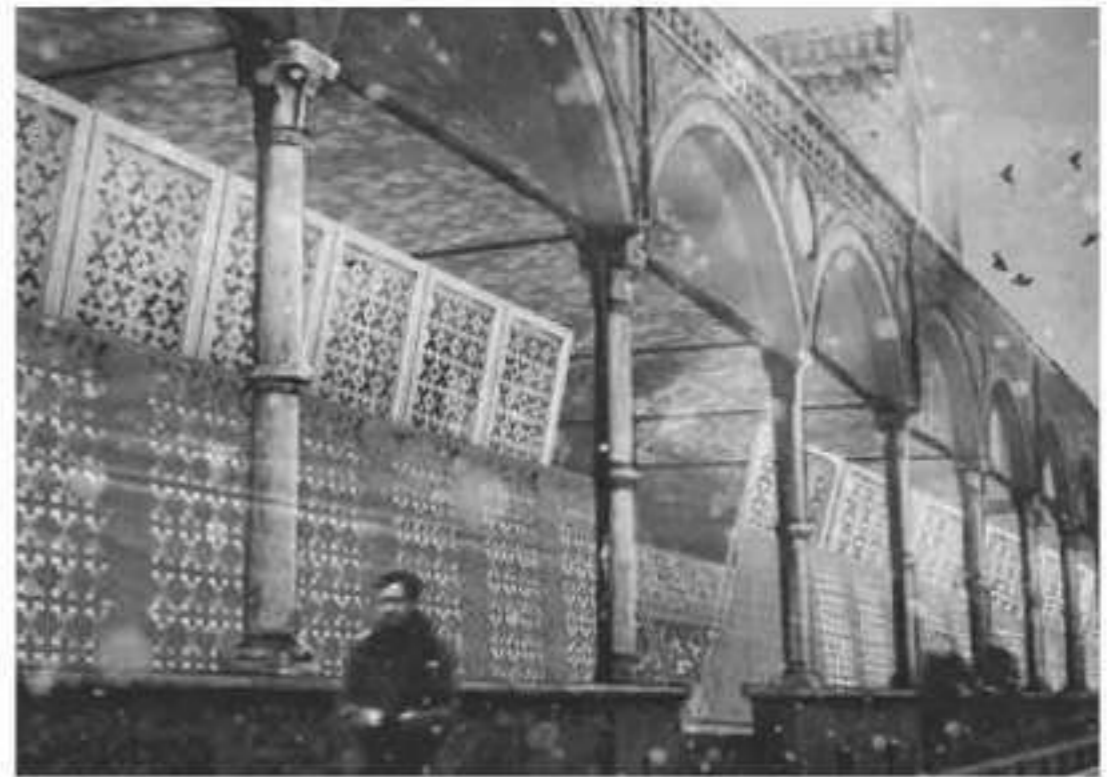
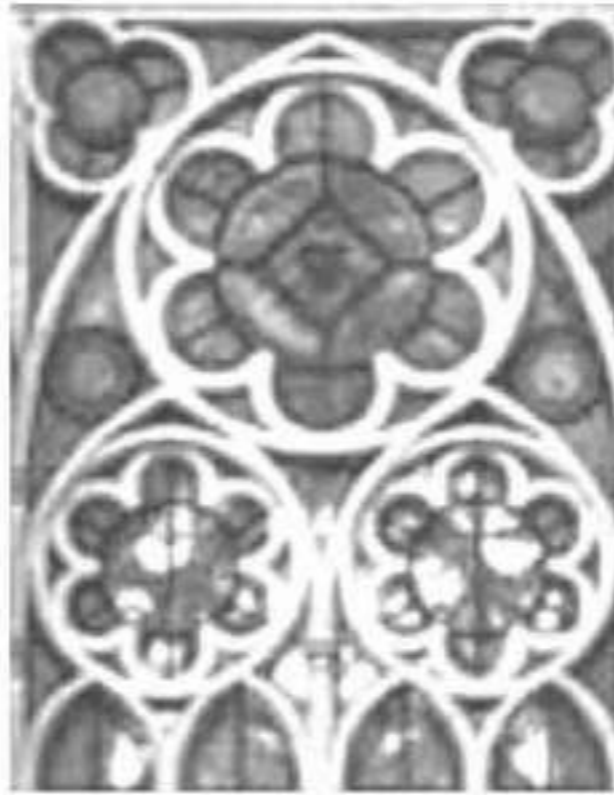
Cheap and light display



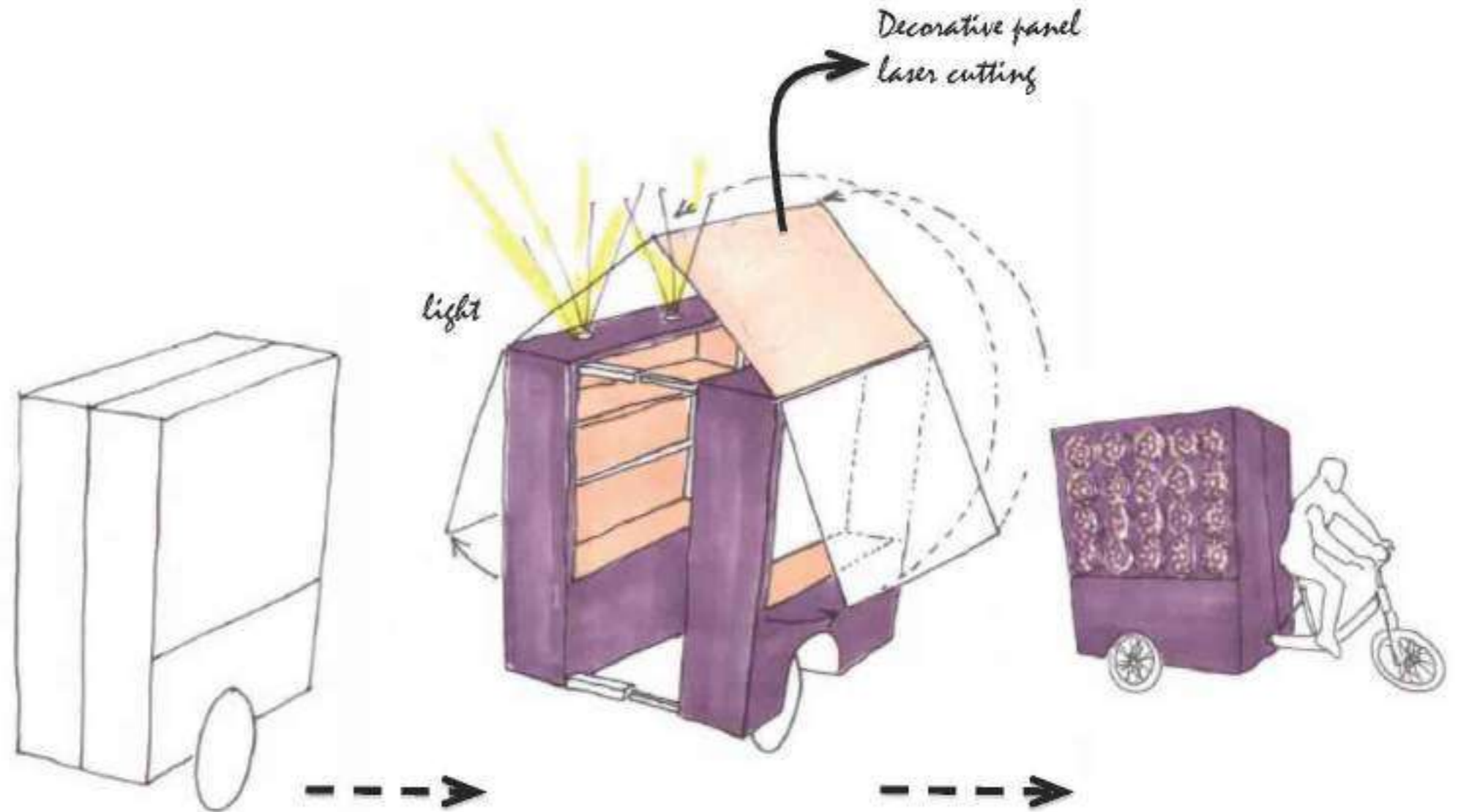
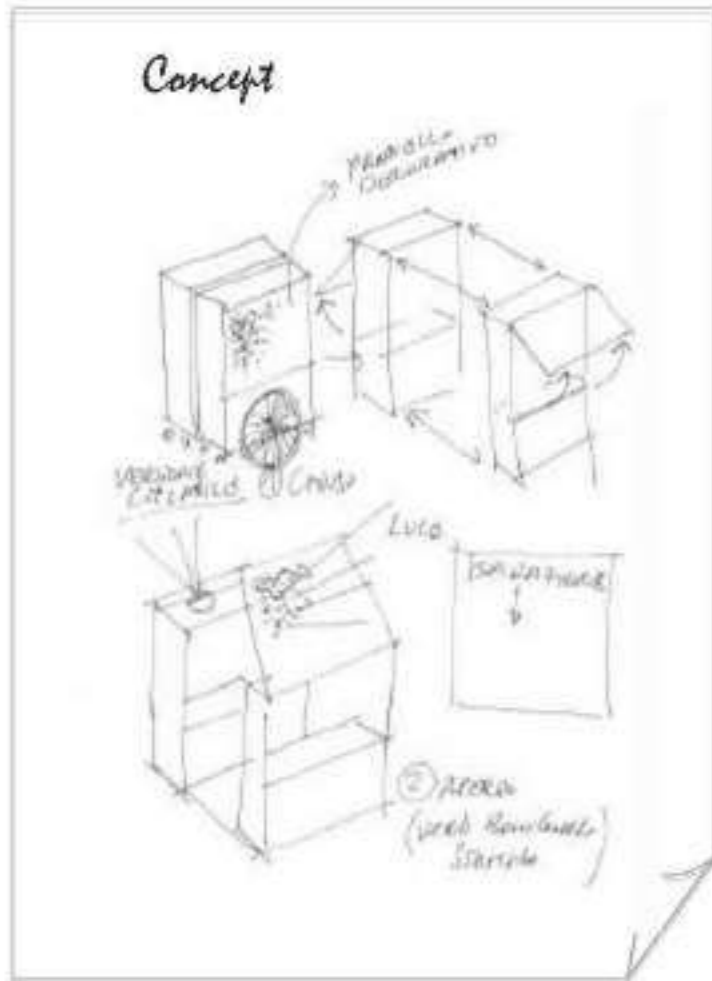
Wooden version



Iron wire version



An idea for street vendors



Perspective sketches

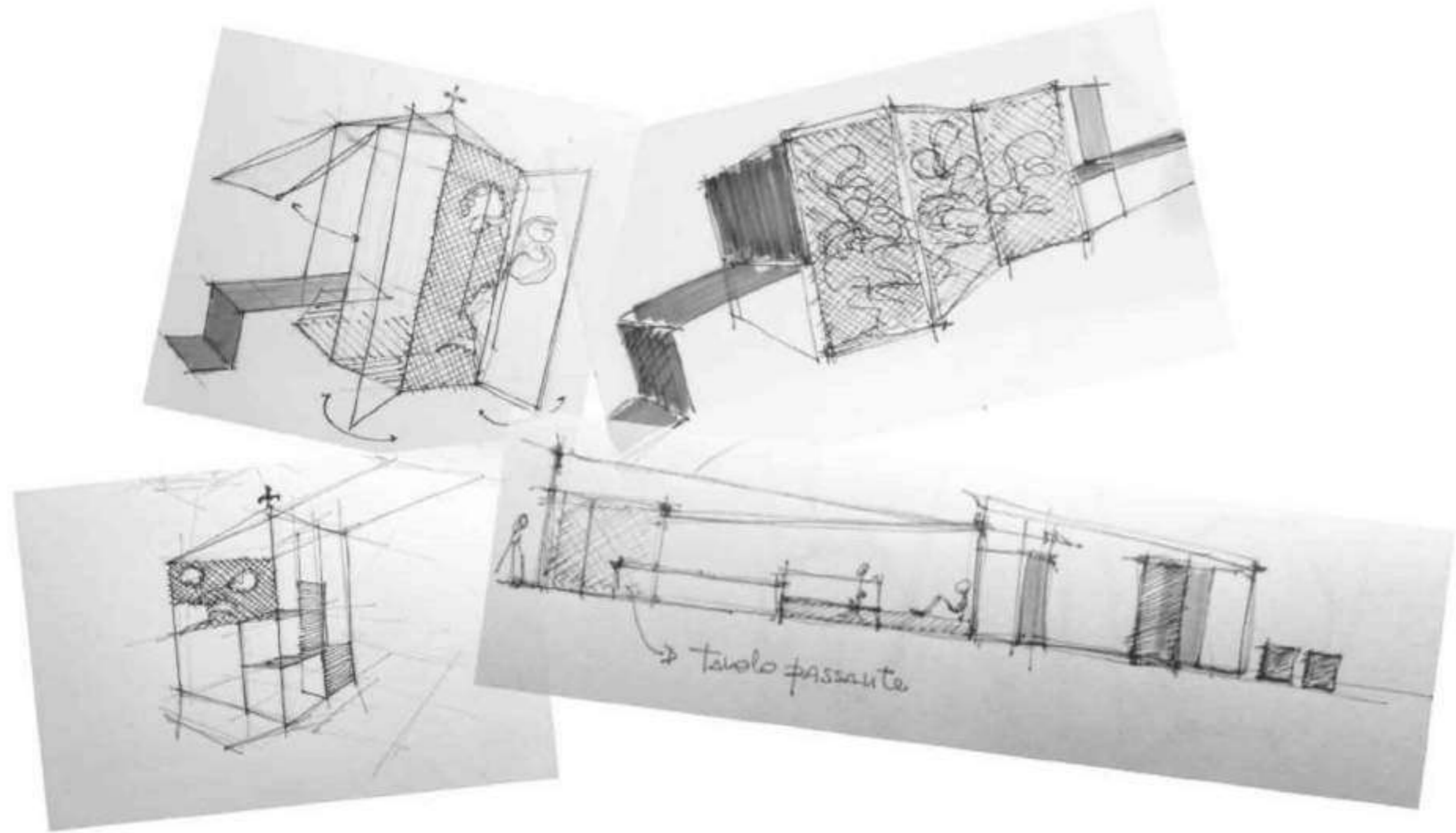
In the following sketches, drawings and renders provide different solutions for the modular artefact displays in order to offer possible alternatives. In addition, the system is applied in 4 different scenarios to adapt and reinterpret the existing environments and urban landscapes types recognised in Saint Germain en Laye.



Alternative scenarios

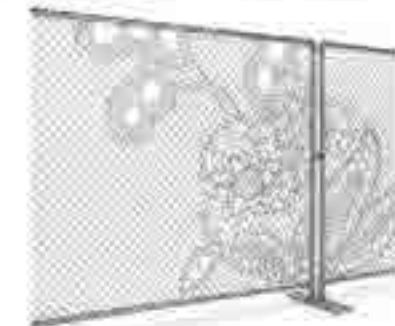
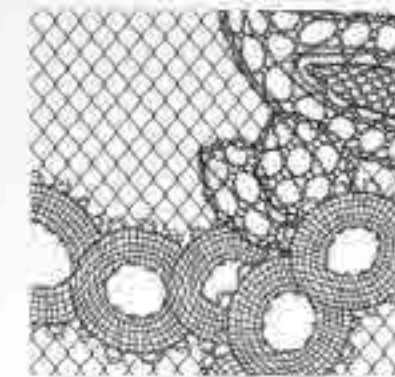
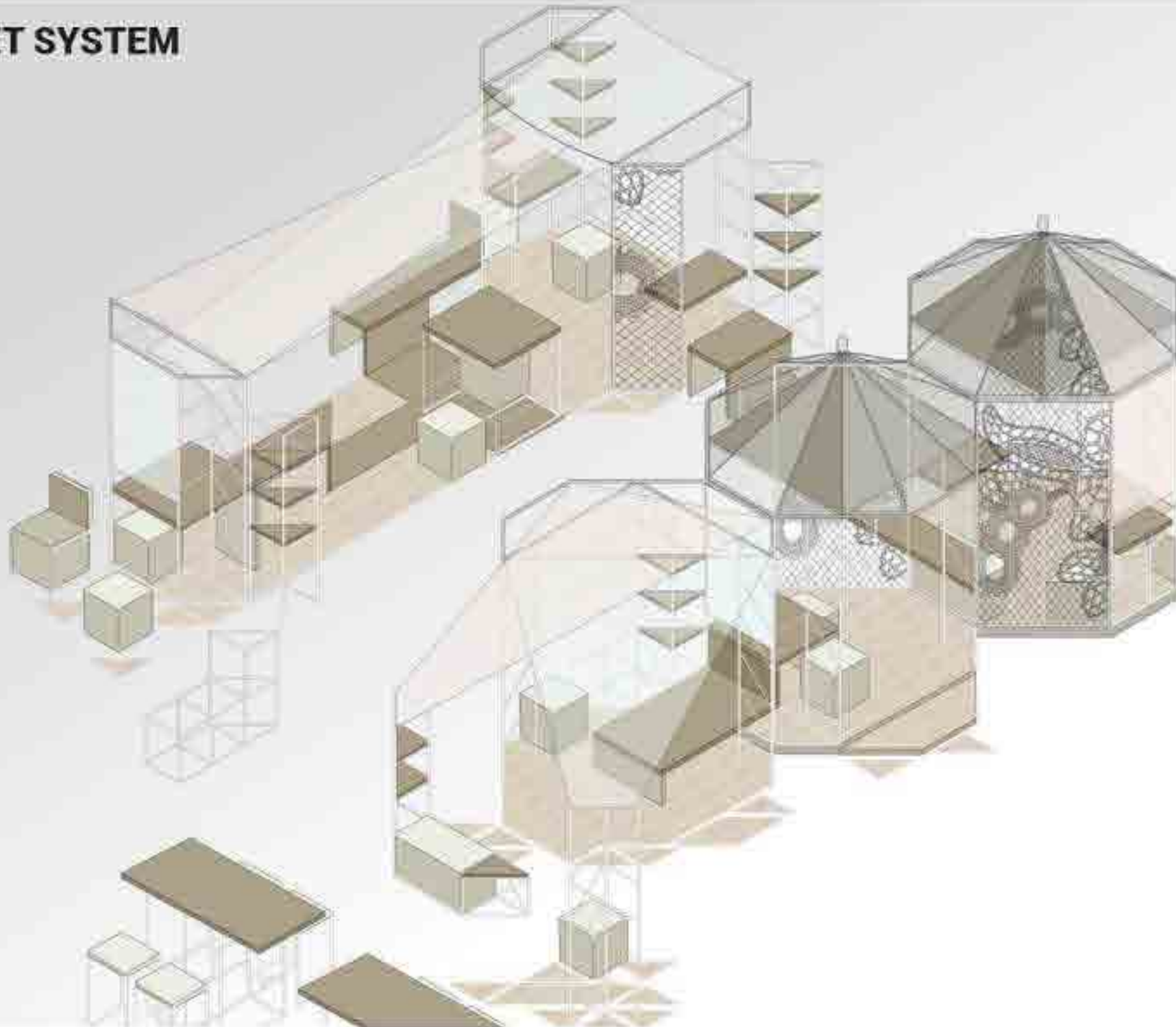
Pursuing the same goals of lightness, flexibility of the modular system and evocative reference to the past tradition as ornamental features, a second variant is also proposed. This alternative extensively plays with the geometry of the modules combined to organise different functional set-ups, offering an integration between the urban landscapes created with the parklet proposal and the canopies to allow for outdoor more complex and bespoke installations. The stronger formal language of this second scheme, albeit in clear relationship with the overall proposal, suggests a possible application in the more modern districts around the historic centre.

SKETCHES

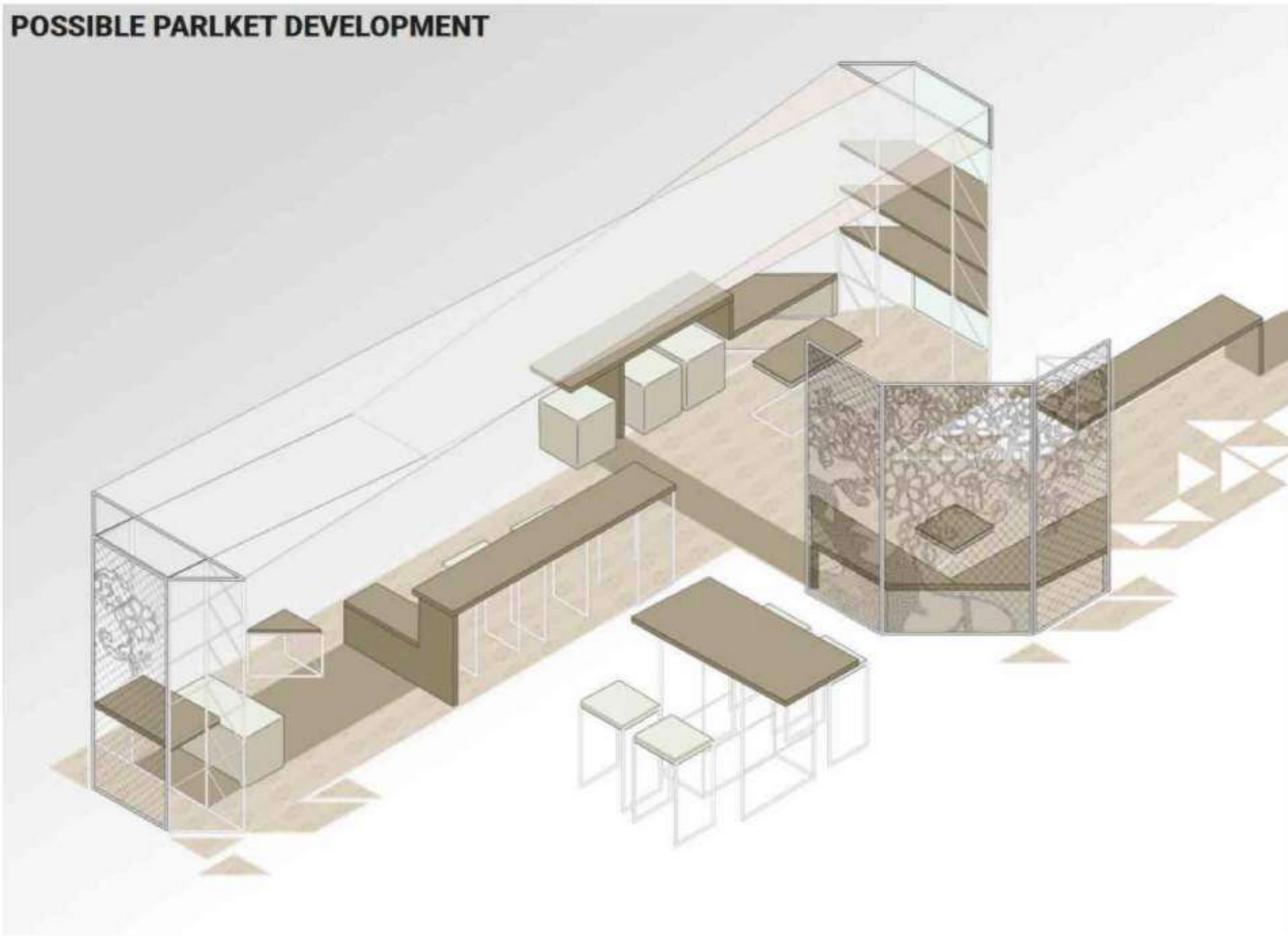


The following alternative design scenarios are based on octagonal units that generate elements capable of creating different configurations. Each octagon, or part of it, is equipped according to different needs, functions and places. The system is made up of metal structures, furniture and decorative elements: clothes, metal lattice decorated with local motifs, suspended shoots particularly suitable for temporary installations. The whole solution includes the possibility of integrating vegetation, climbing plants and potted plants.

PARKLET SYSTEM



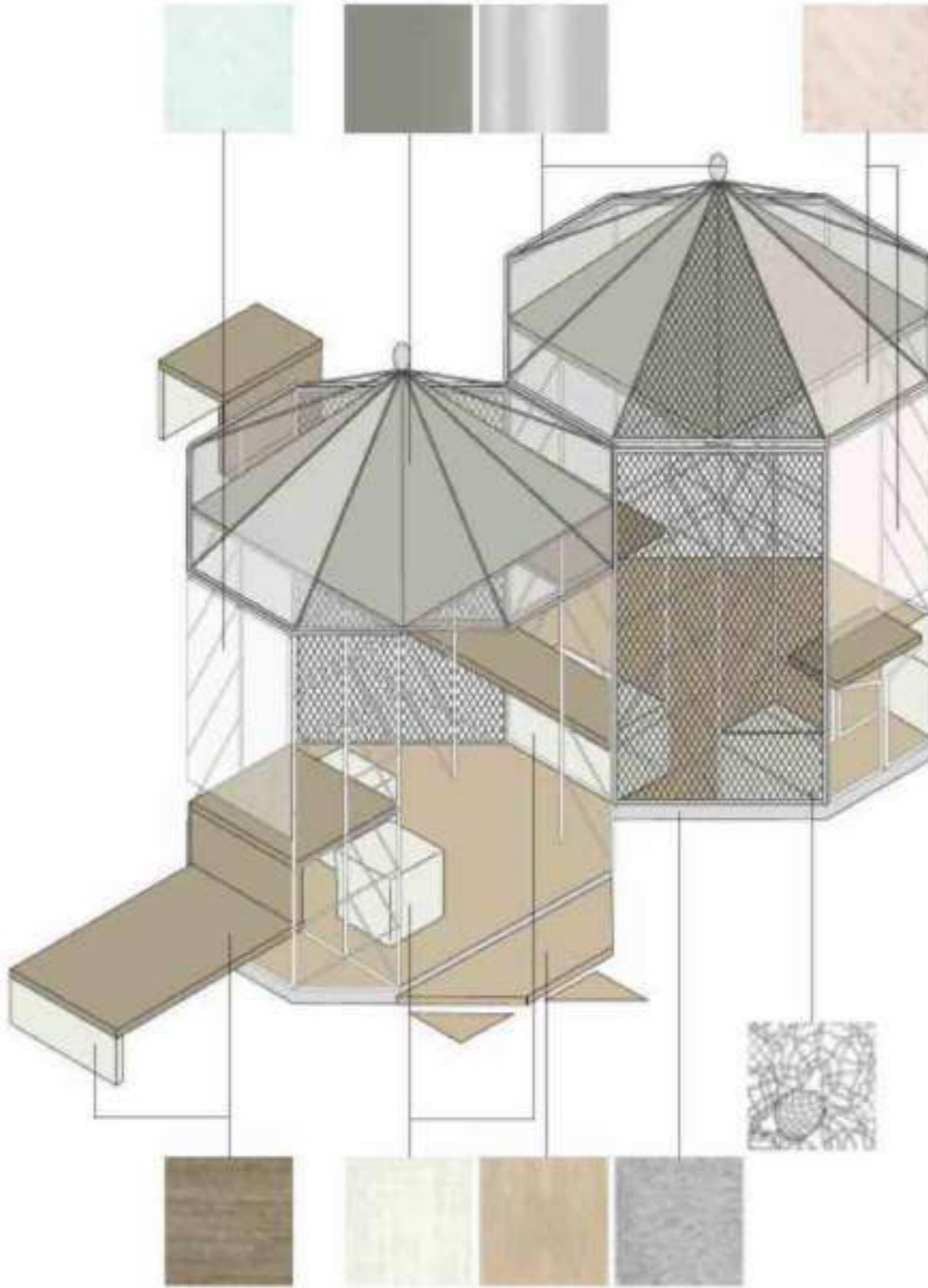
POSSIBLE PARLKET DEVELOPMENT



MATERIALS & COLOR VARIATIONS

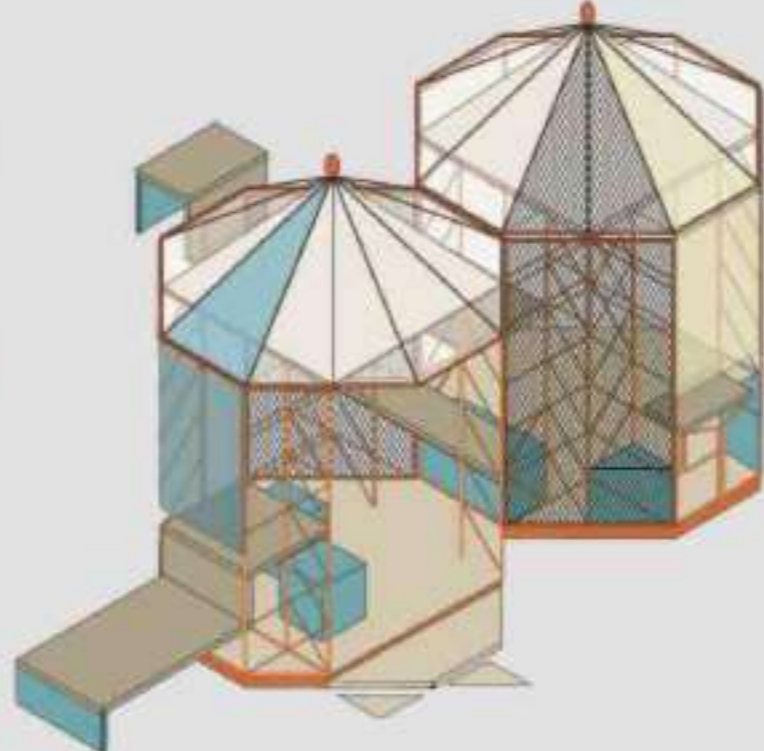
STANDARD palette

- Light beige triangle
- Light grey triangle
- Dark brown triangle
- Light beige triangle
- Light beige triangle
- Dark grey triangle
- Light grey triangle
- Light grey triangle
- Dark brown triangle



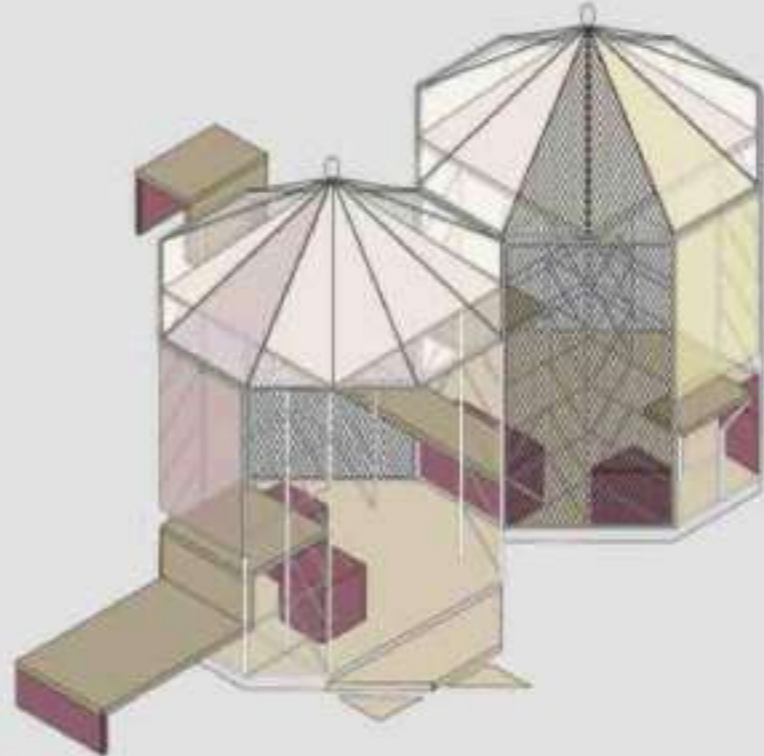
"CIRCUS" palette

- Light blue triangle
- Dark blue triangle
- Light blue triangle
- Orange triangle
- Light blue triangle
- Light blue triangle



"WINE" palette

- Light beige triangle
- Dark brown triangle
- Dark brown triangle
- Light beige triangle
- Light beige triangle
- Light beige triangle



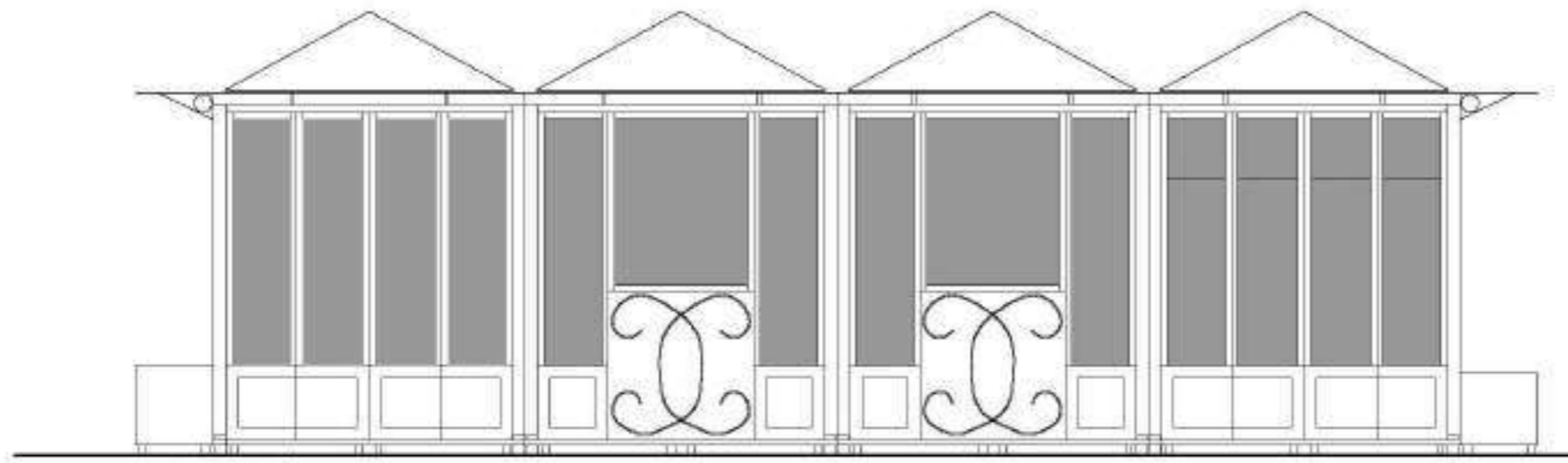


Abacus of the selected dehors



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TERRASSE RESTAURANT AU BON ACCUEIL



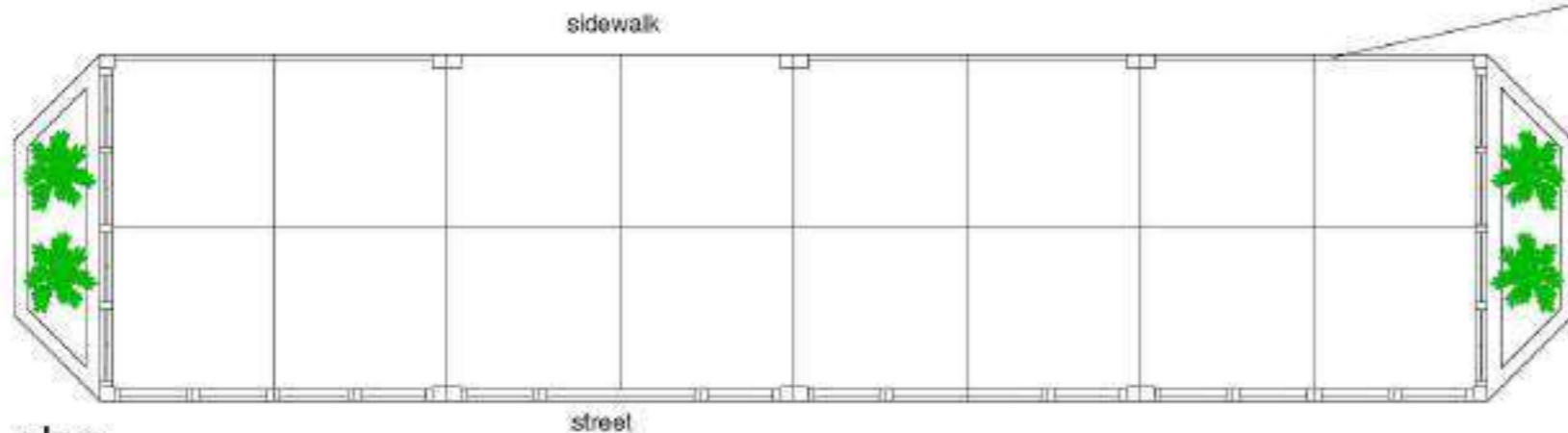
street elevation

8.00

9.00



side elevation



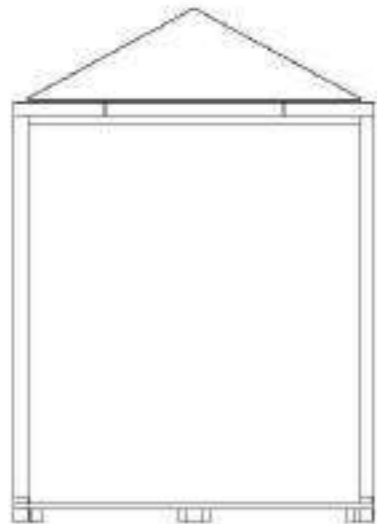
plan

street

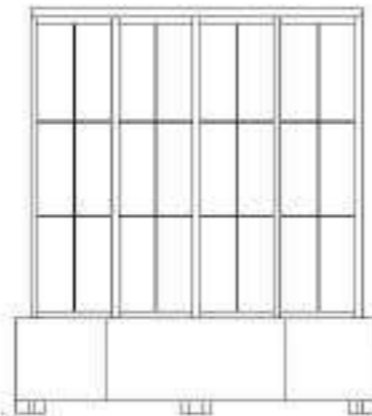
2.00

open balustrade panels are proposed for the sidewalk side to improve ventilation and in compliance with regulations (to be verified)
However, sliding and folding panel can be introduced to increase the enclosure

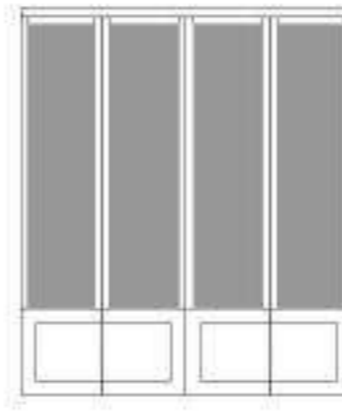
Modules employed



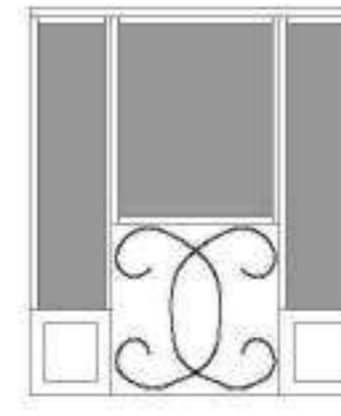
4 x canopy modules (roof structure + 4 square platforms)



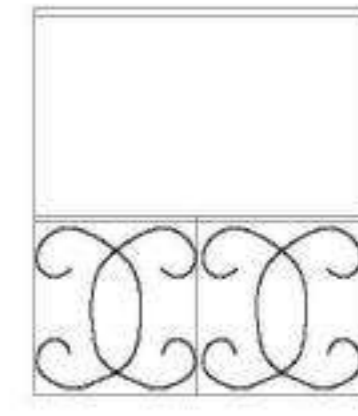
2 x flowerpot + trellis for climbers panels



2 x sliding and folding panels



2 x sash and fixed panels

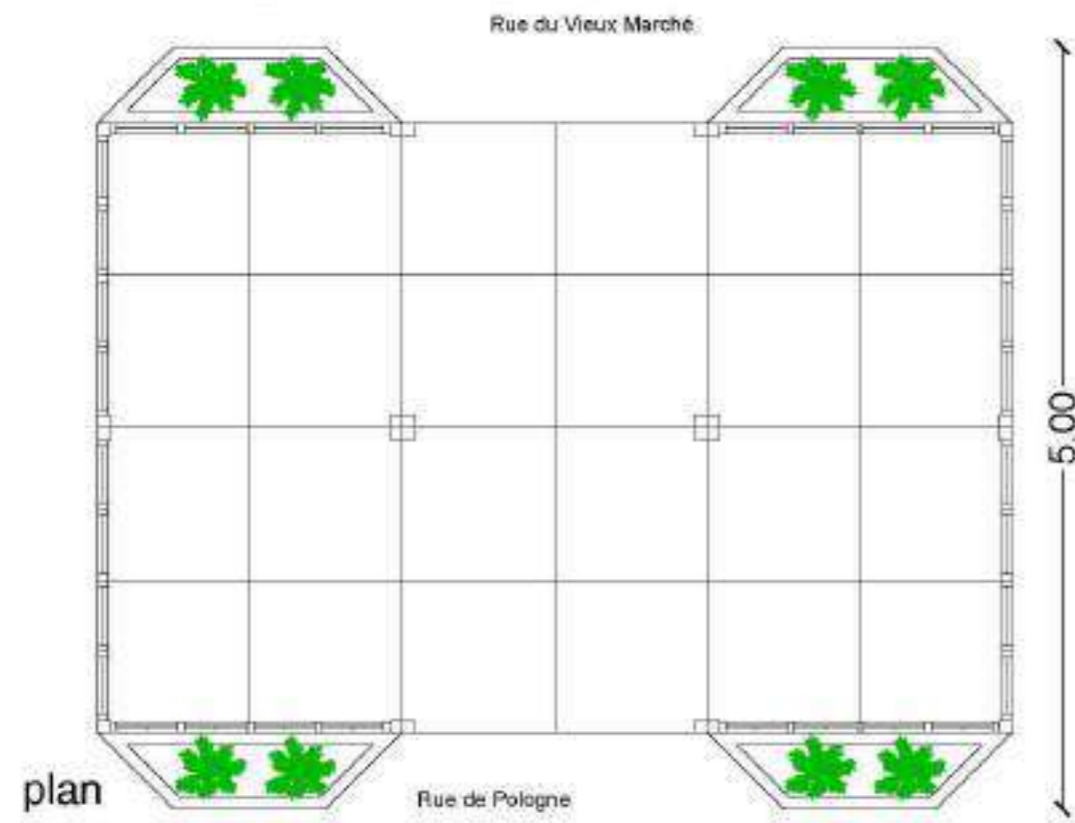
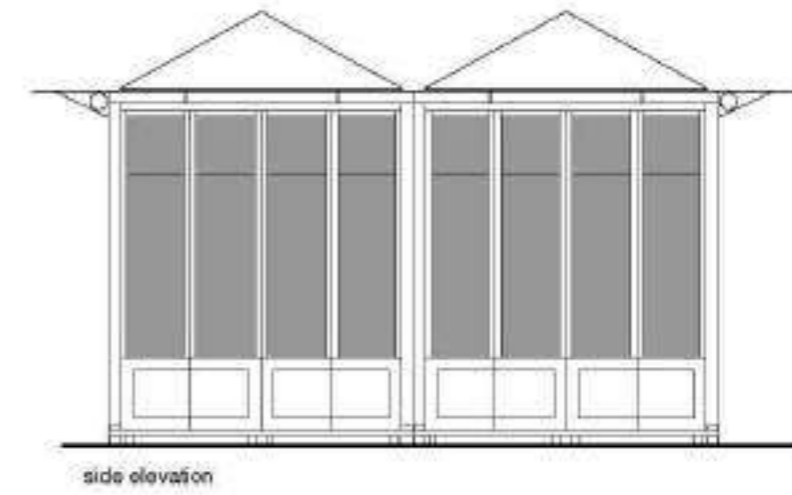
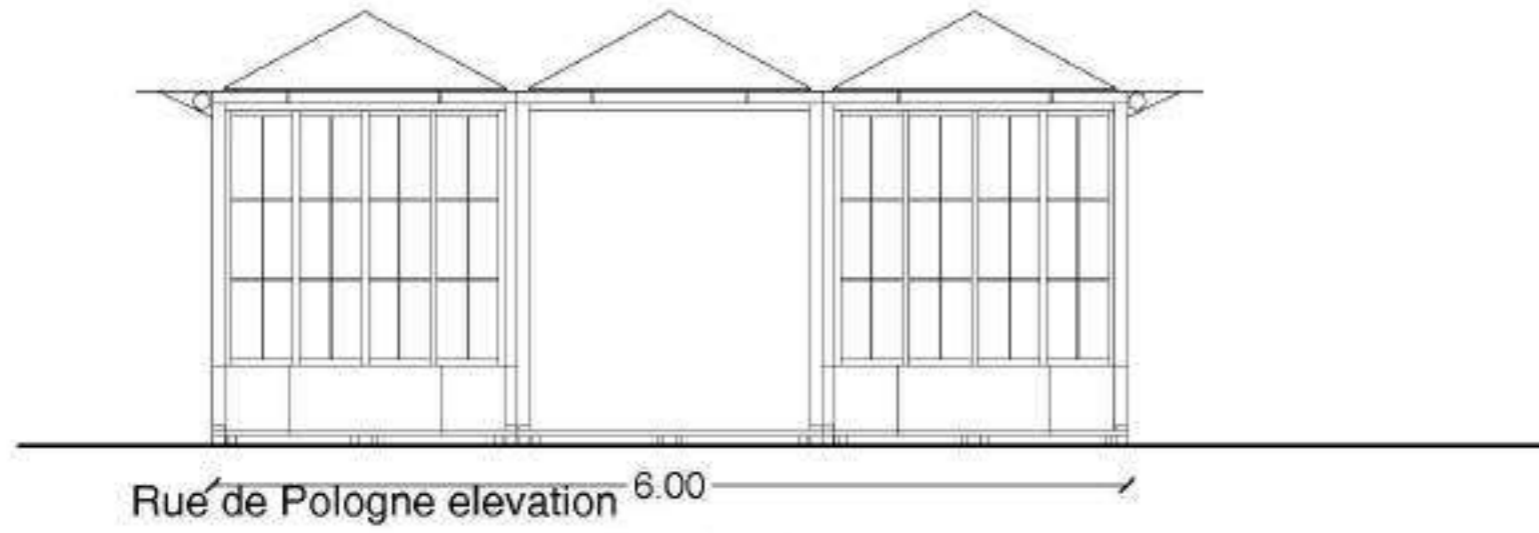


3 x sash and fixed panels



6 x cantilever trapezoidal modules

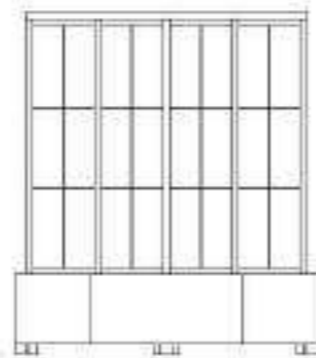
TERRASSE RESTAURANT LE REVEIL MATIN



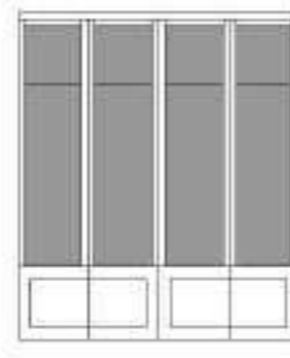
Modules employed



6 x canopy modules (roof structure + square platforms)



4 x flowerpot + trellis for climbers panels



4 x sliding and folding panels



10 x cantilever trapezoidal modules



Detail drawings of the canopy (final solution)

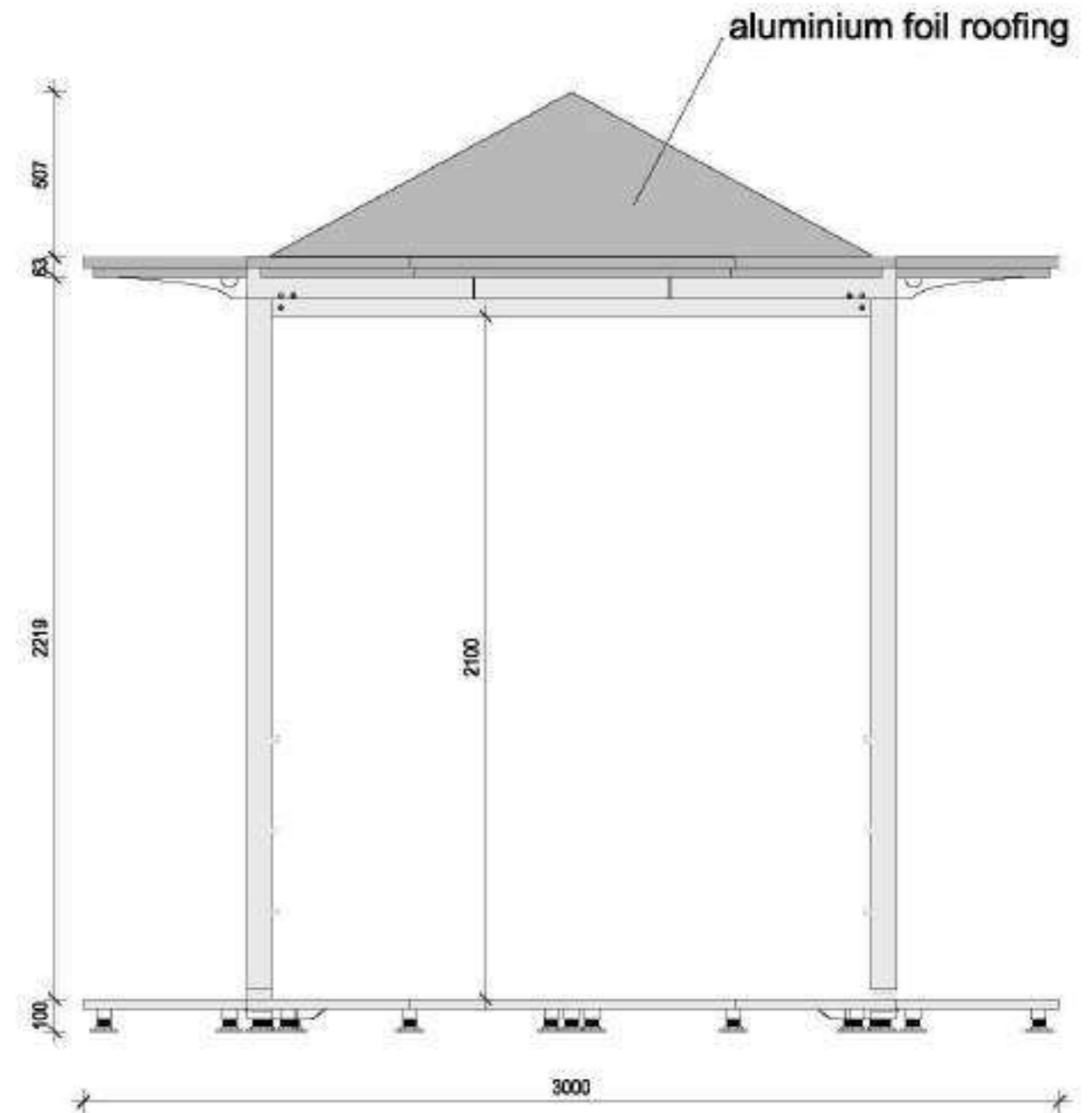


EIT Urban Mobility is supported by the EIT,
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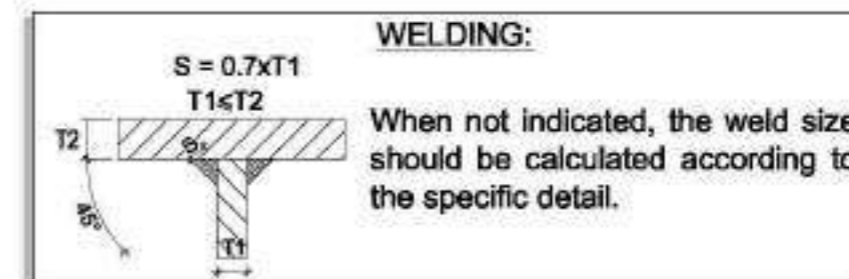
CANOPY MODEL 3D



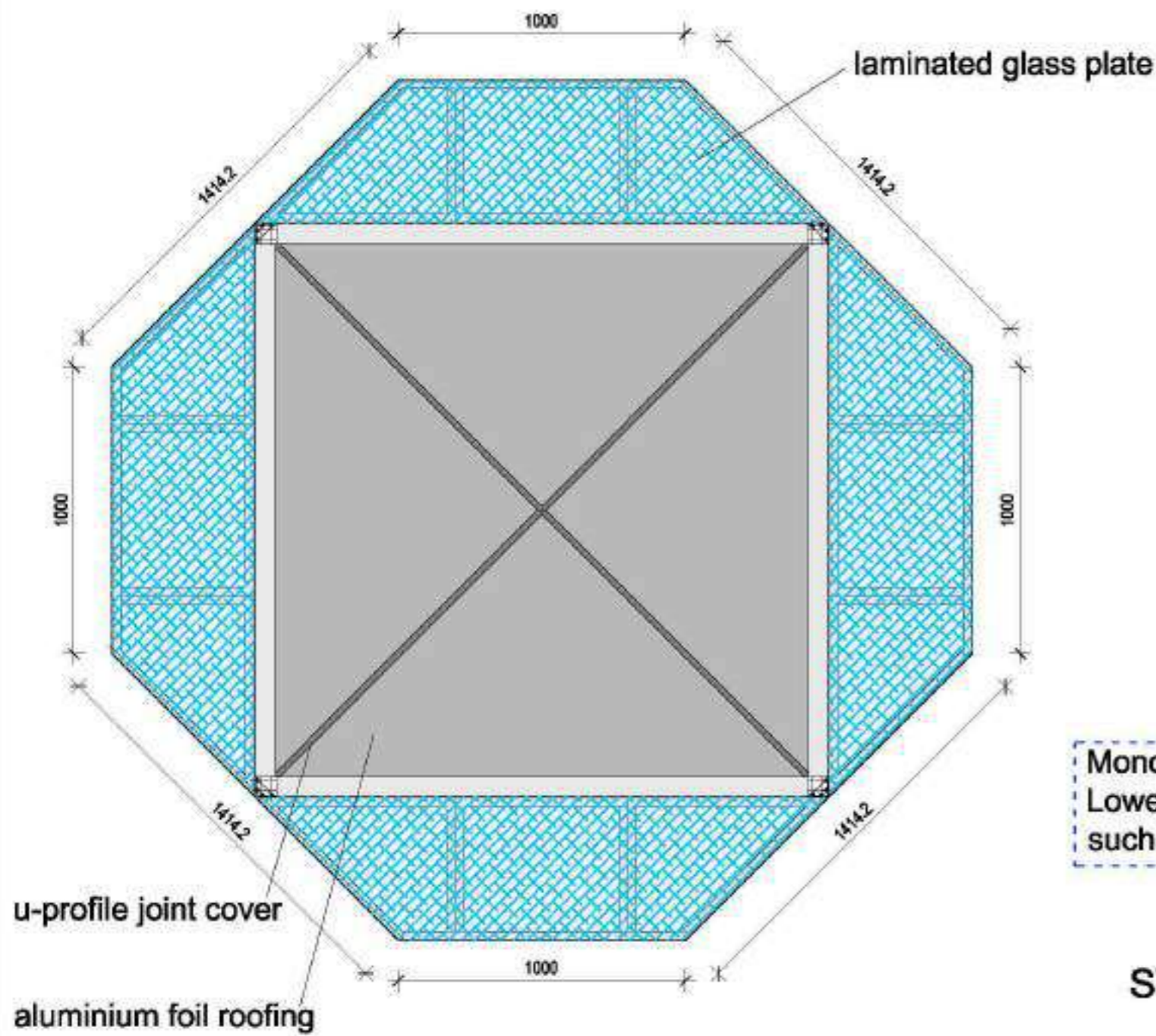
CANOPY ELEVATION scale 1:20



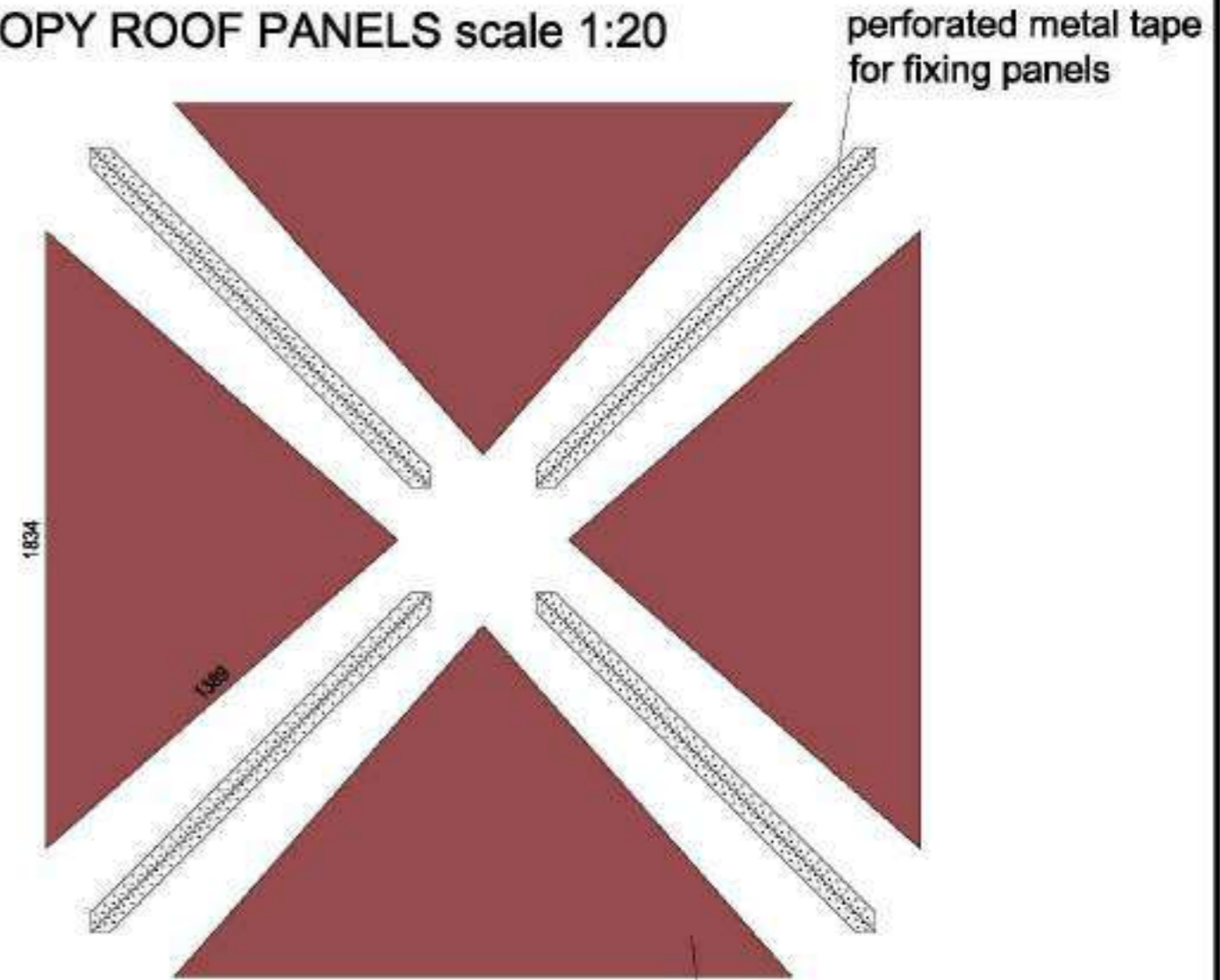
STEEL FOR METAL CARPENTRY	Steel S275JR Screws UNI EN ISO 898-1:2001 - CL 8.8 Nuts UNI EN ISO 898-1:2001 - CL 8 Rosettes UNI EN ISO 898-1:2001 - Steel C50
<p>N.B. All steel supplies, for which the CE marking is not required, must be accompanied by a copy of the qualification certificate of the Central Technical Service and of the internal control certificate type 3.1 (cf. UNI EN 10204) of the specific batch of material supplied.</p> <p>All steel supplies, for which the CE marking is mandatory, must be accompanied by the "Declaration of performance" according to EU Regulation 305/2011, by the required CE marking as well as by the internal control certificate type 3.1 (cf. UNI EN 10204) of the specific batch of material supplied.</p> <p>The reference to the certificates proving the qualification of the product must be reported on the transport document.</p> <p>Supplies made by a distributor must be accompanied by a copy of the documents issued by the manufacturer and completed with the reference to the distributor's transport document.</p>	



CANOPY ROOF PLAN scale 1:20

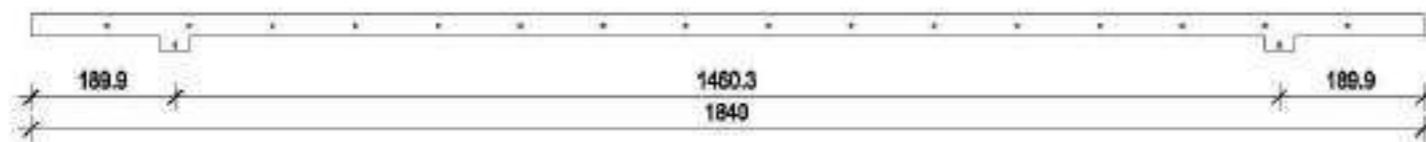


CANOPY ROOF PANELS scale 1:20

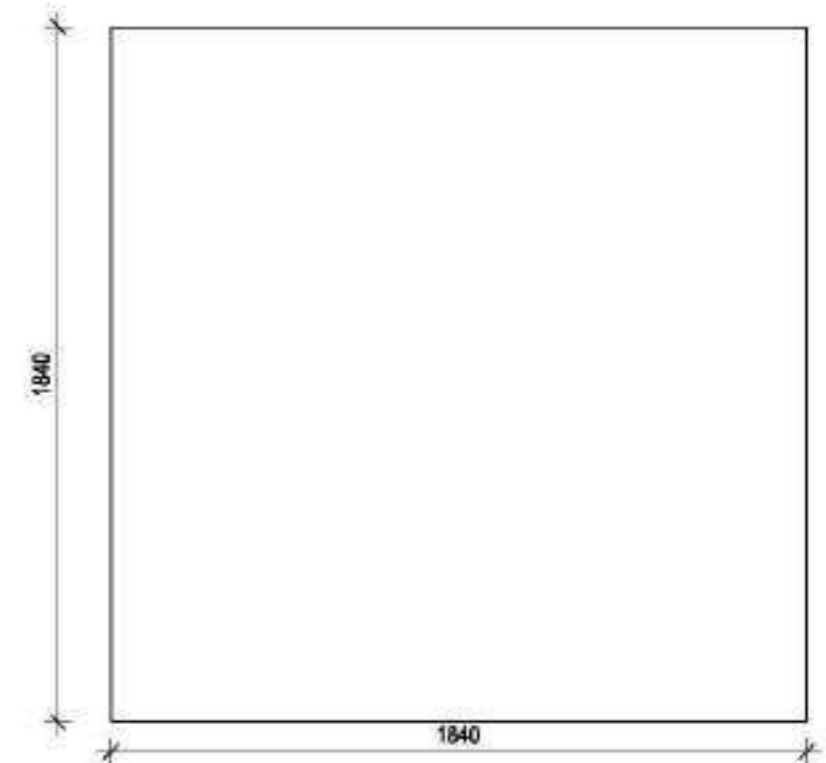


Monolithic composite panel with slatted wood soffit finish
 Lower covering surface treated with Airlite or nanostructured anticatalytic paints such as Polysil by Nanoprom with anticovid-19 effect

STEEL CLOSED FRAME FOR THE PANELS ASSEMBLY (elevation) scale 1:10

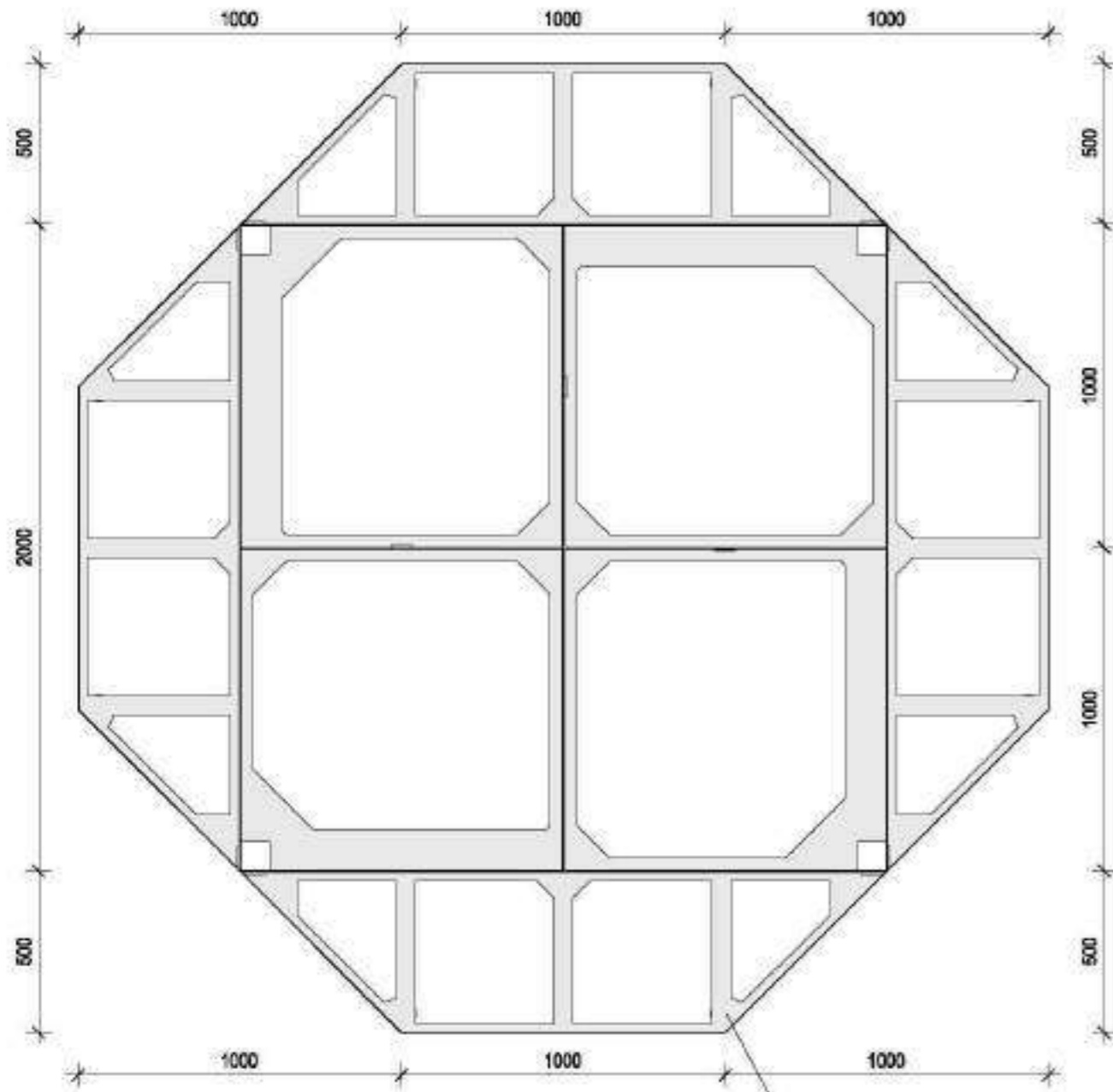


STEEL CLOSED FRAME FOR THE PANELS ASSEMBLY (plan) scale 1:20



CANOPY BASE PLAN - STEEL CARPENTRY OF THE ASSEMBLED PLATFORMS

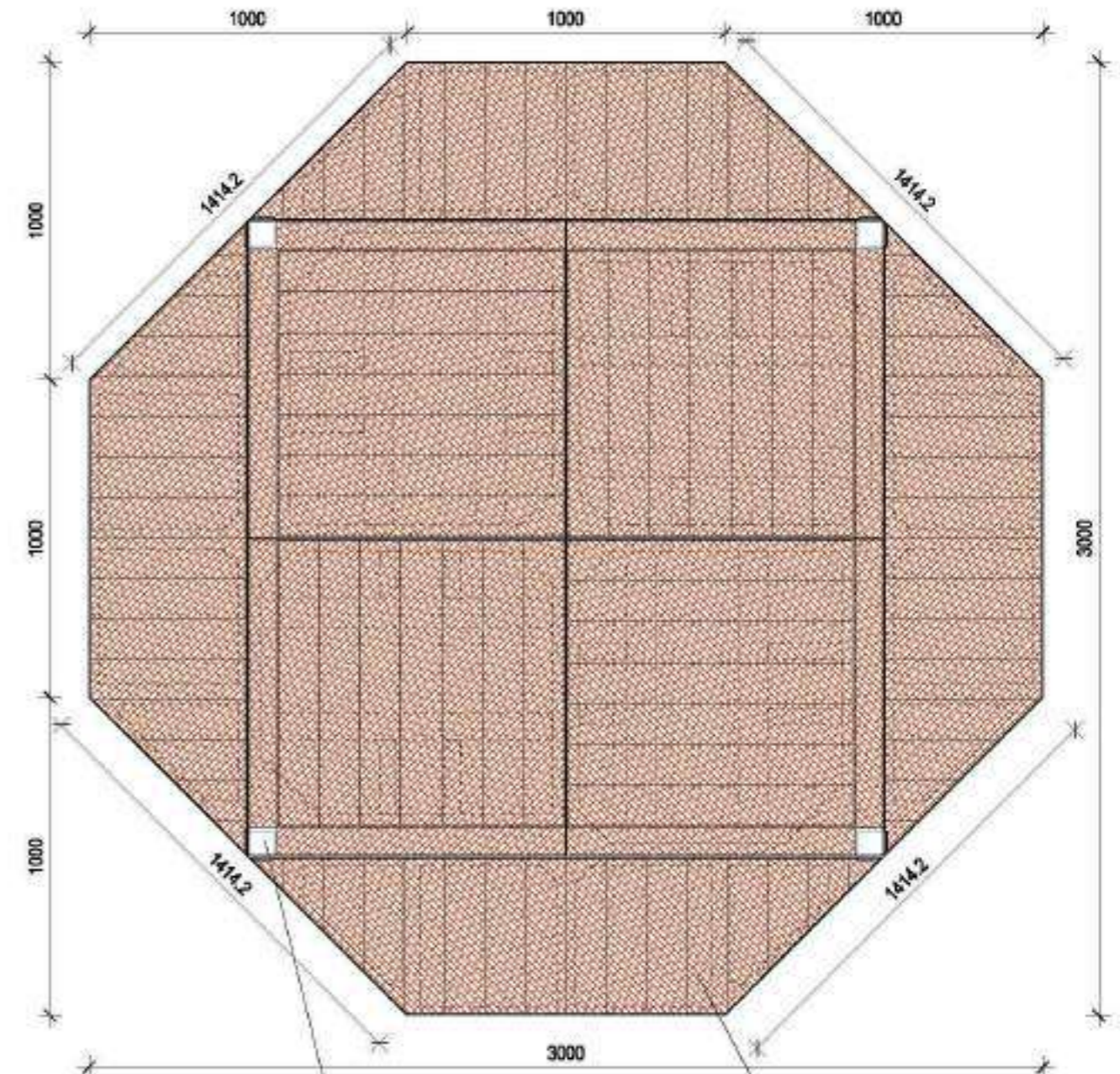
scale 1:20



steel profiles, ral 7016
micaceous iron oxide finish

CANOPY BASE PLAN - PLAN OF THE PLATFORMS' DECKING

scale 1:20



slot spacing for column
positioning

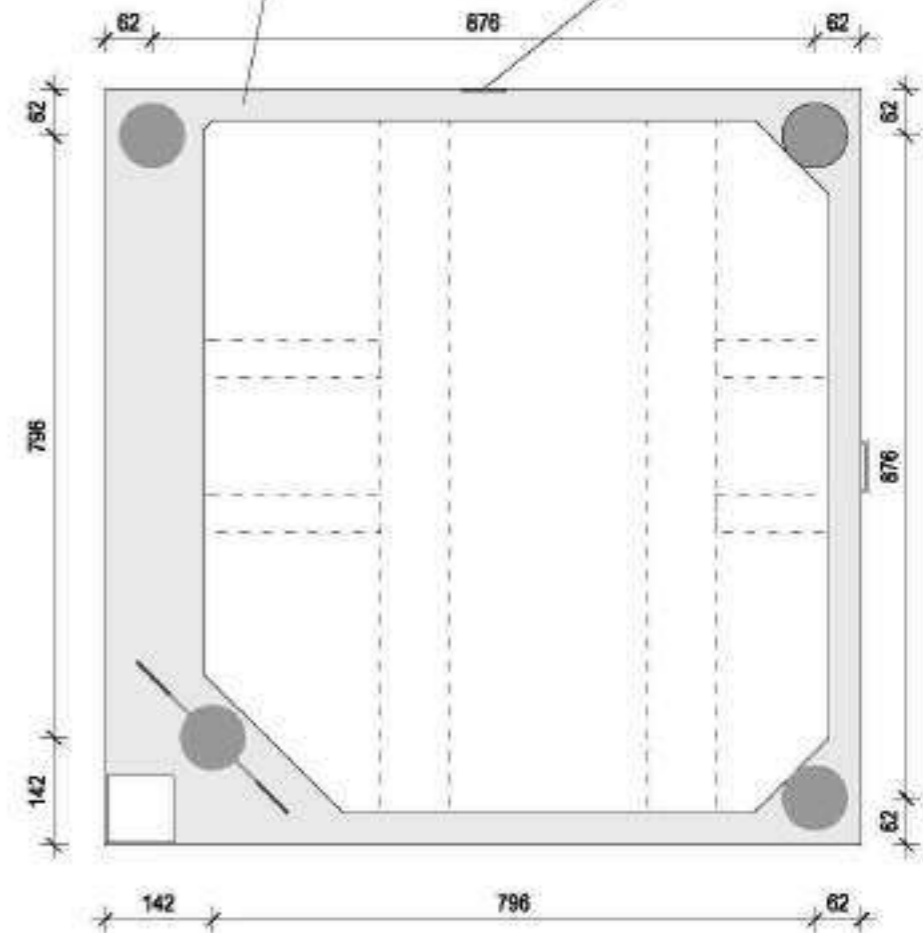
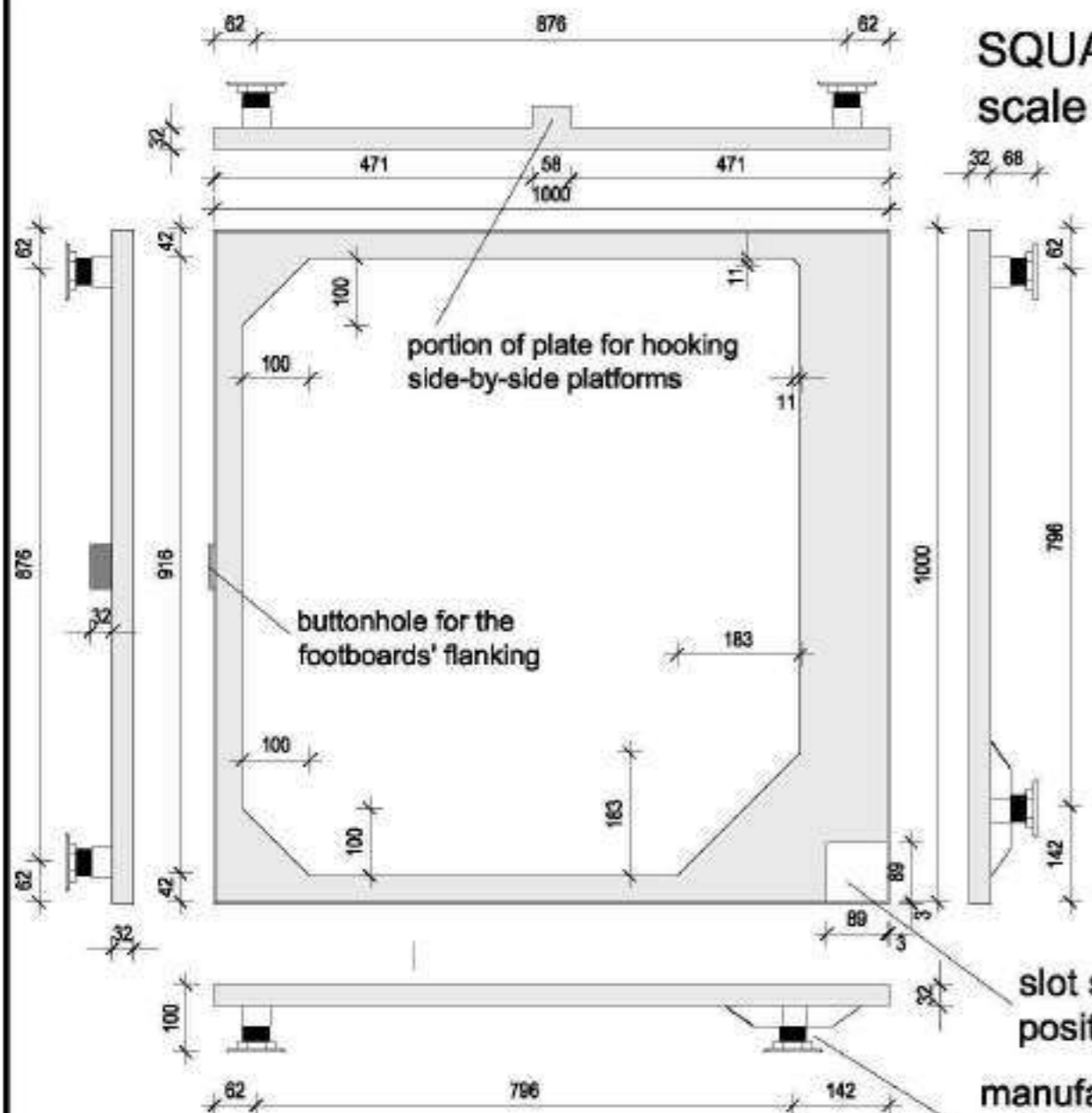
wood planks for outdoor
decking in tropical woods
(ipè/teak/iroko)

SQUARE PLATFORM

scale 1:10

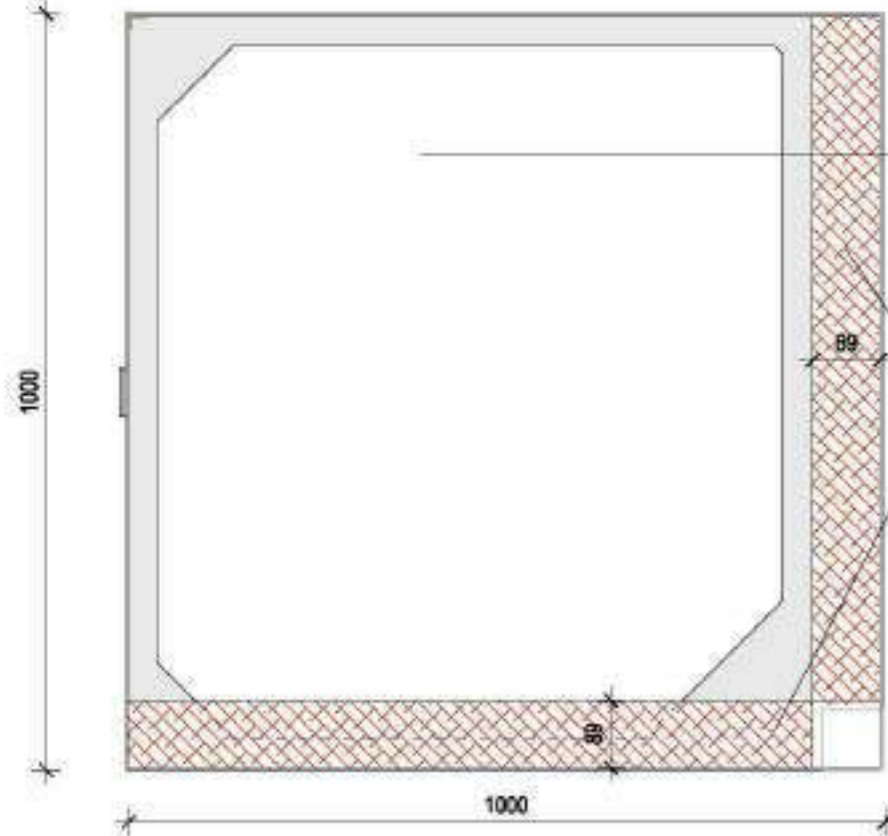
SQUARE PLATFORM
steel profiles, ral 7016 micaceous
iron oxide finish

steel profiles, ral 7016
micaceous iron oxide finish
portion of plate for hooking
side-by-side platforms



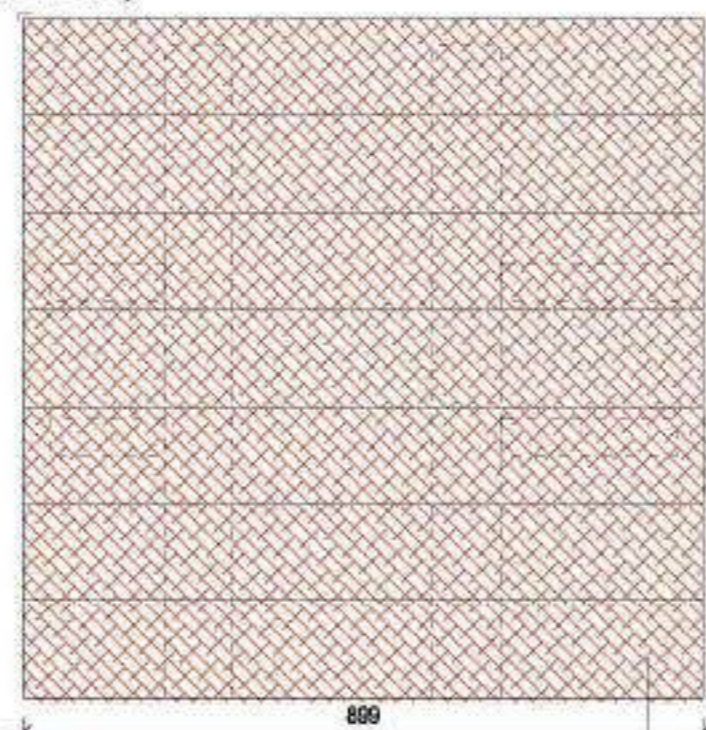
slot spacing for column
positioning

manufactured adjustable support
pad (stainless steel/abs/..)

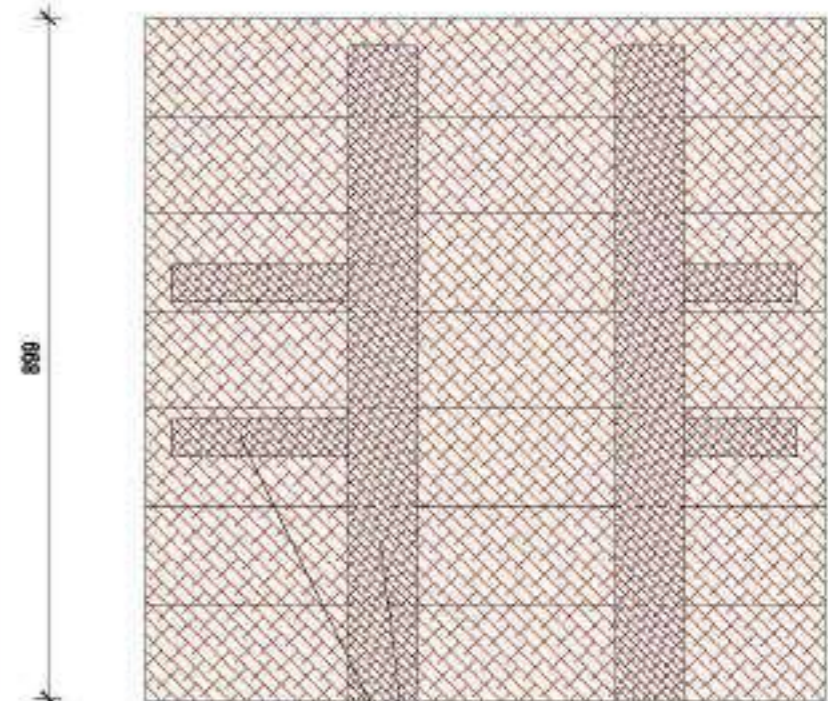


fixed upper
wooden planks

removable wood planks for outdoor decking in tropical
woods (ipè/teak/iroko) 28 mm thickness

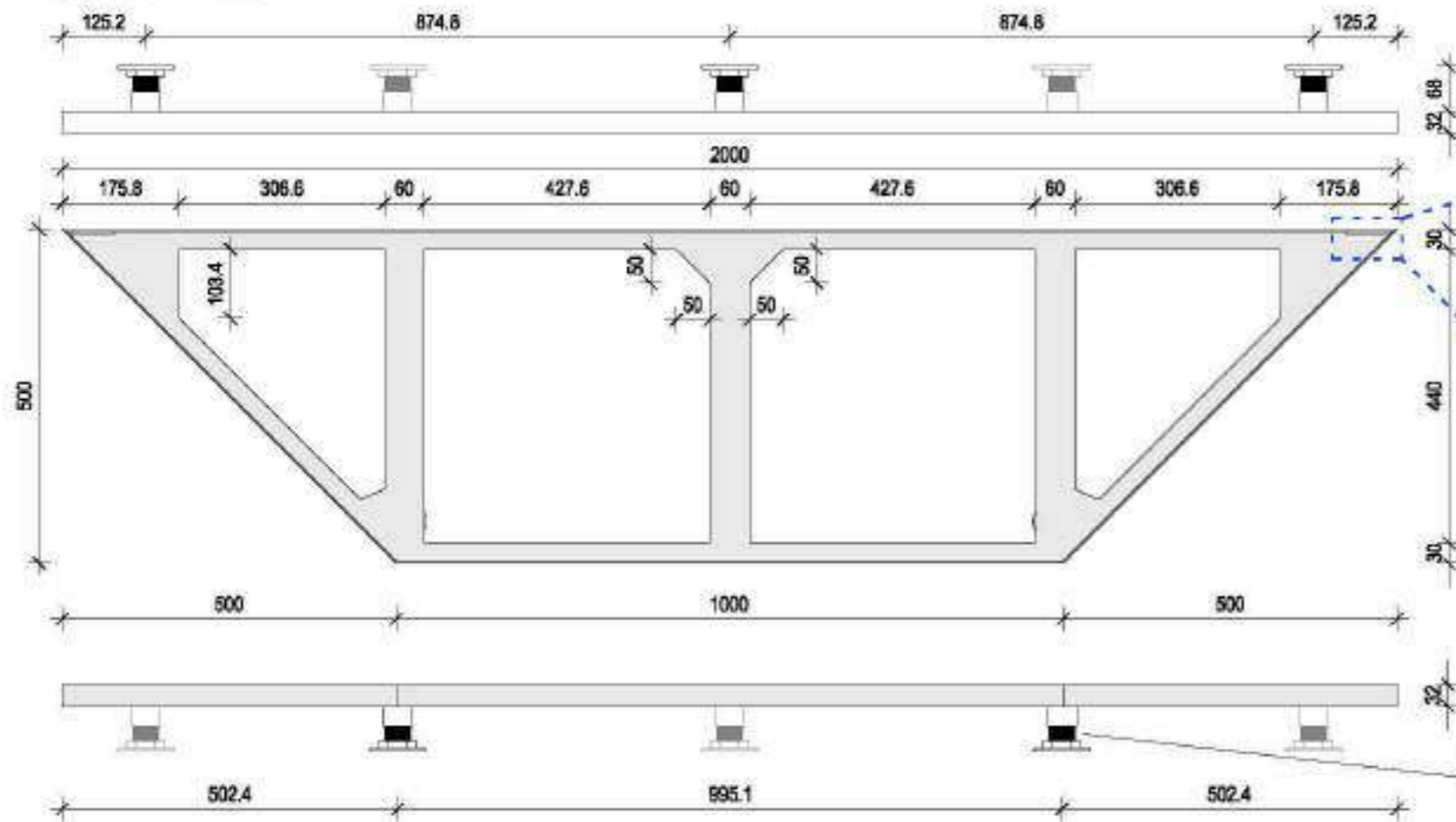


lower wooden planks for
locking outdoor decking

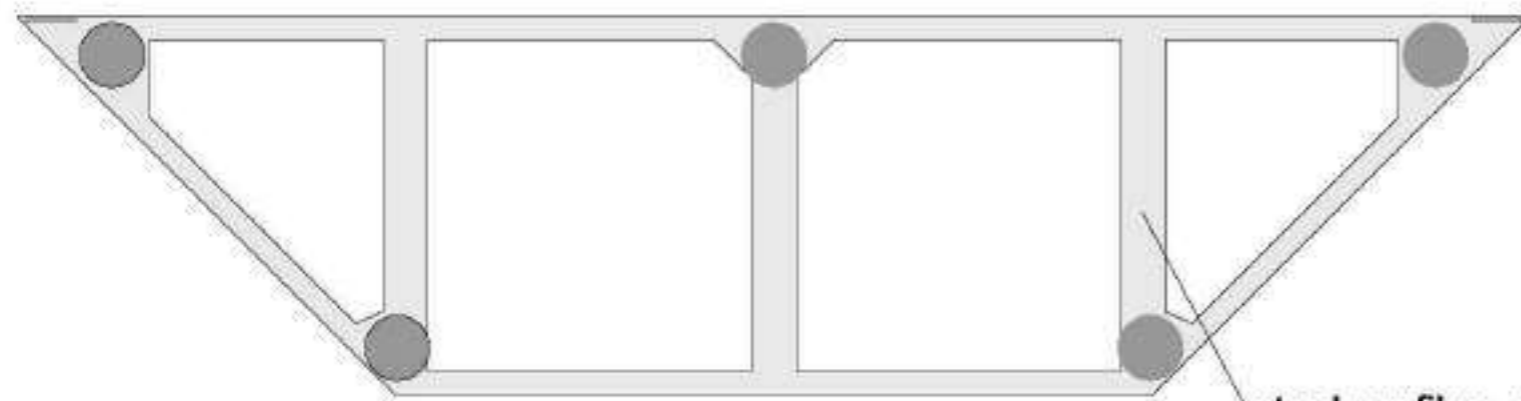
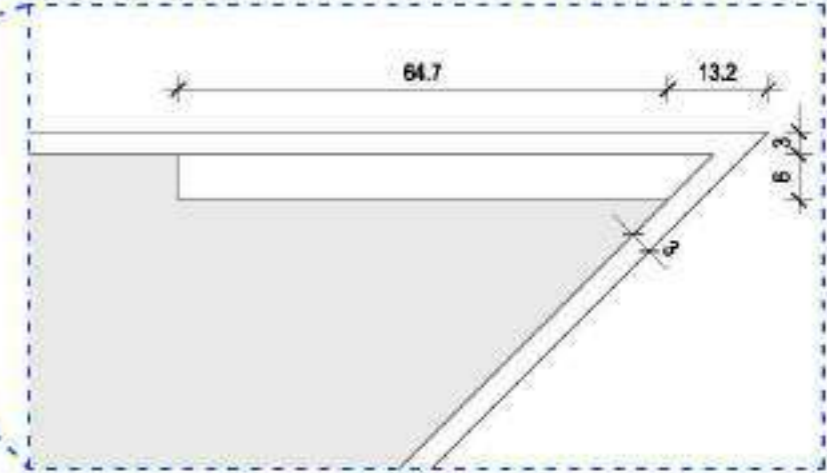


PLATFORM - TRAPEZOIDAL MODULE

scale 1:10



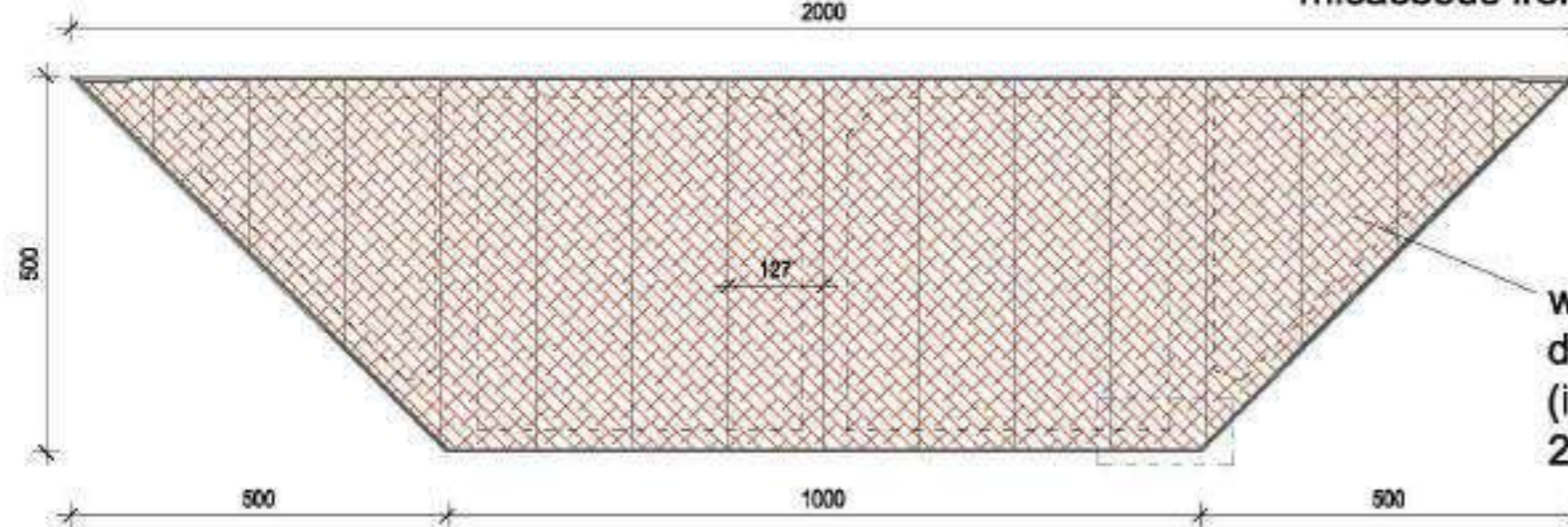
DETAIL OF THE SLOT
OPENING FOR THE JOINT
WITH THE COLUMN
scale 1:1



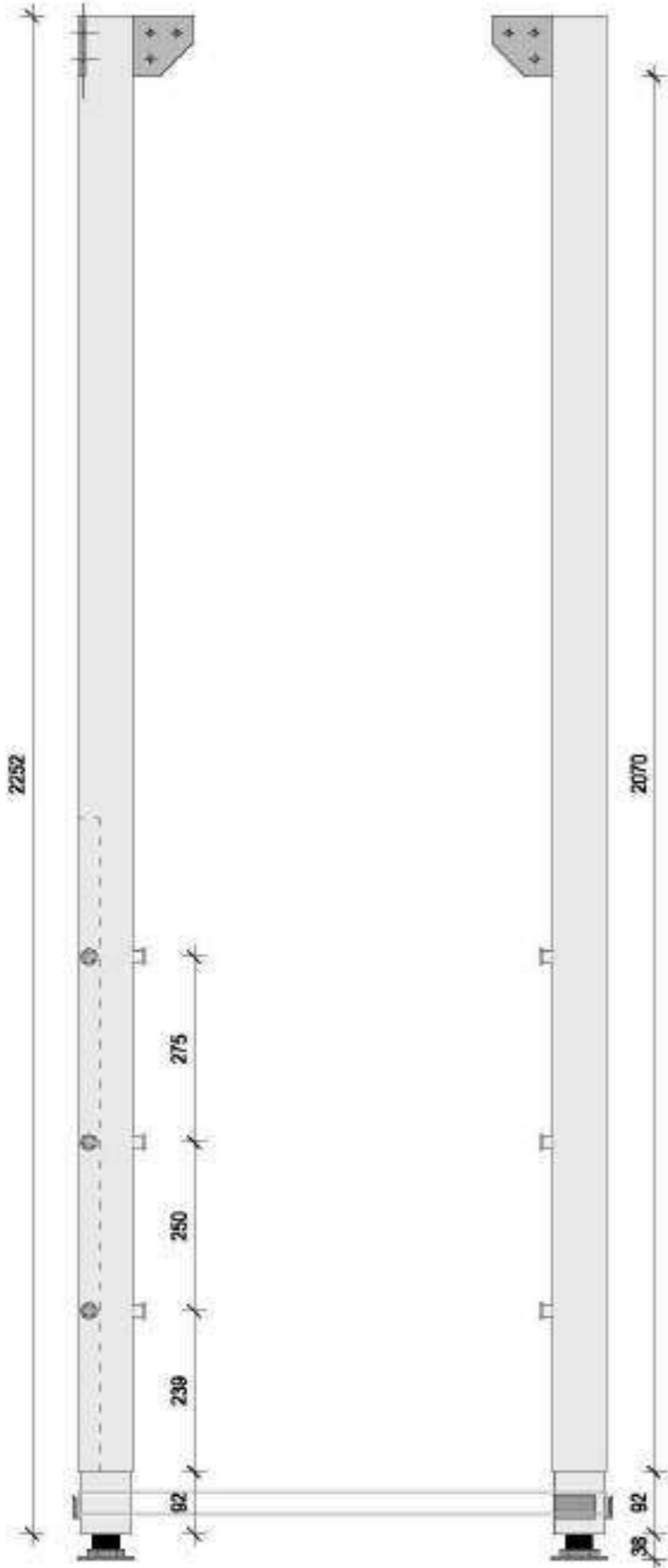
steel profiles, ral 7016
micaceous iron oxide finish



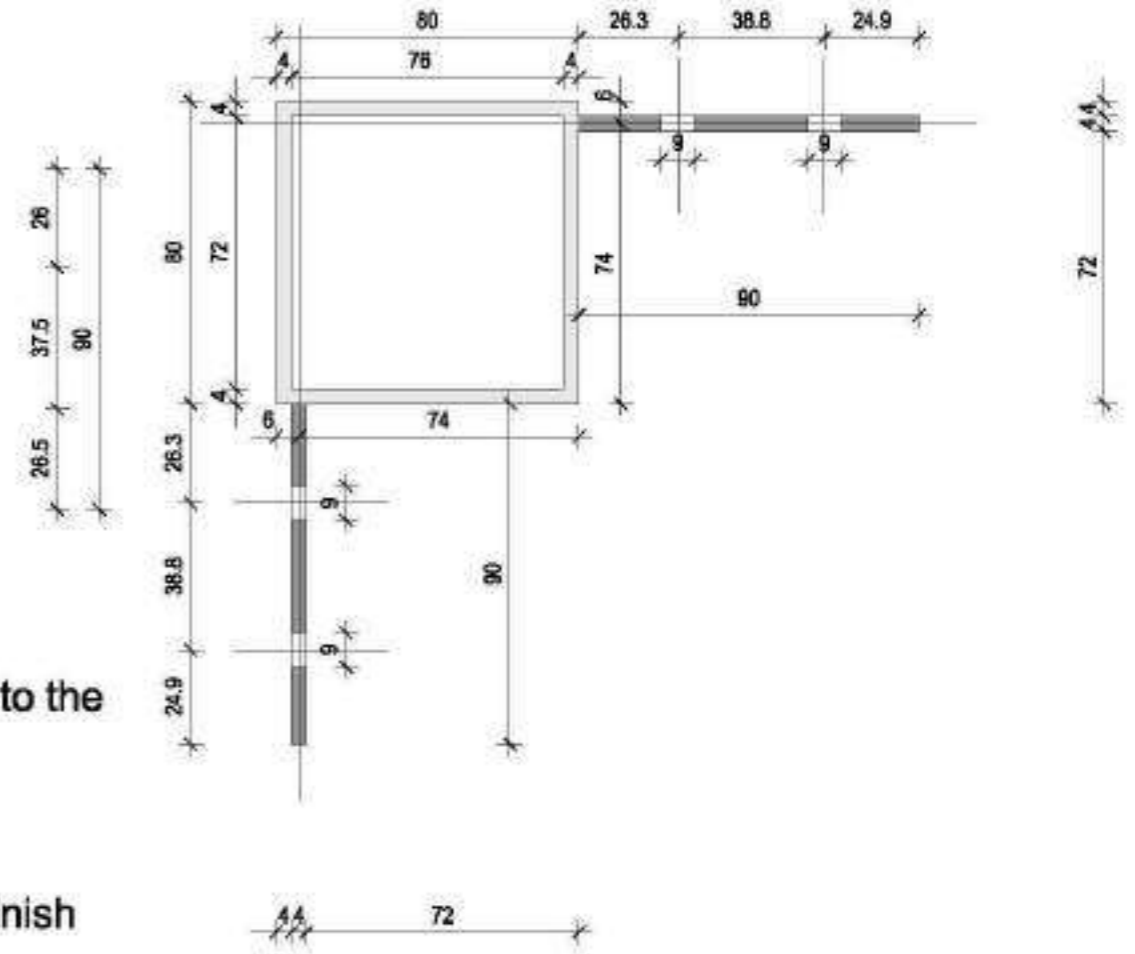
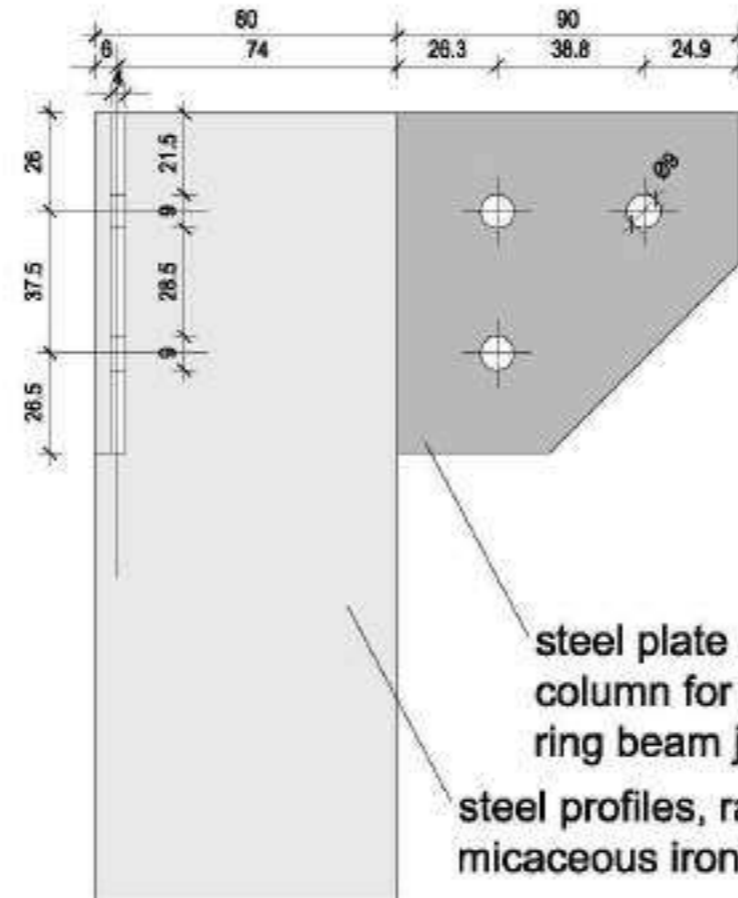
wood planks for outdoor
decking in tropical woods
(ipè/teak/iroko)
28 mm thickness



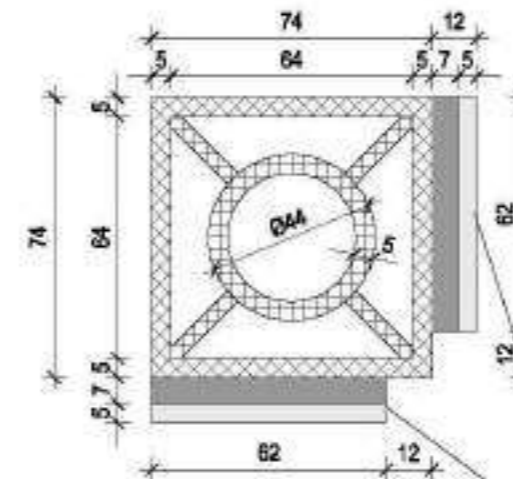
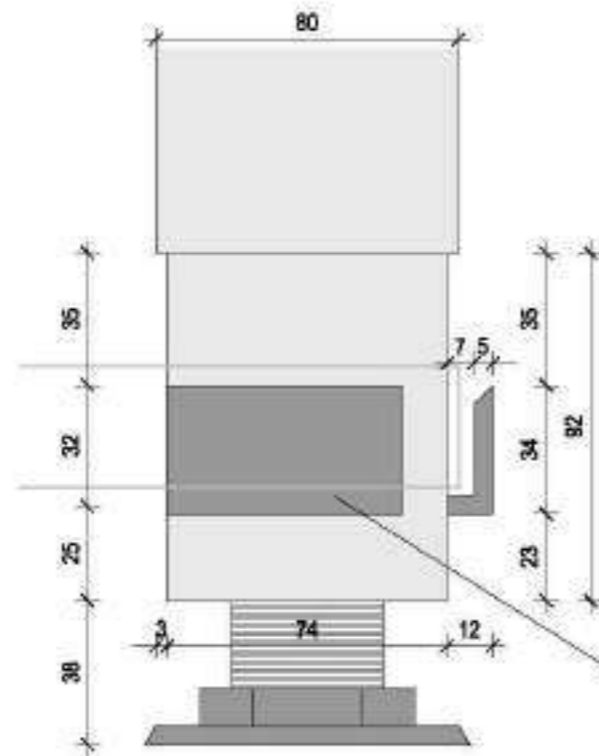
COLUMNS
scale 1:10



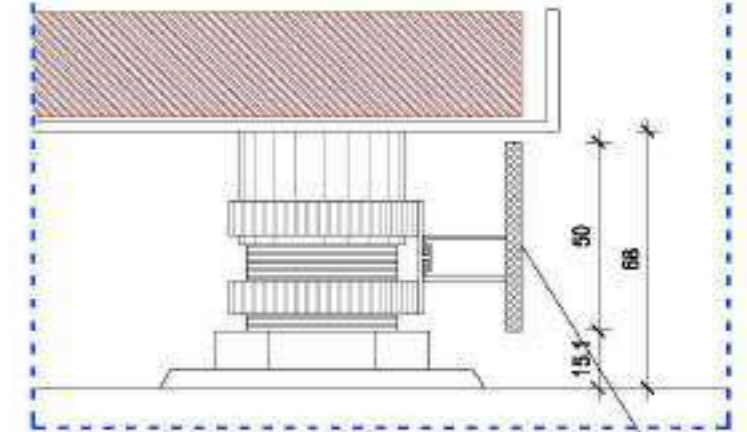
DETAIL OF THE COLUMN TOP
scale 1:2



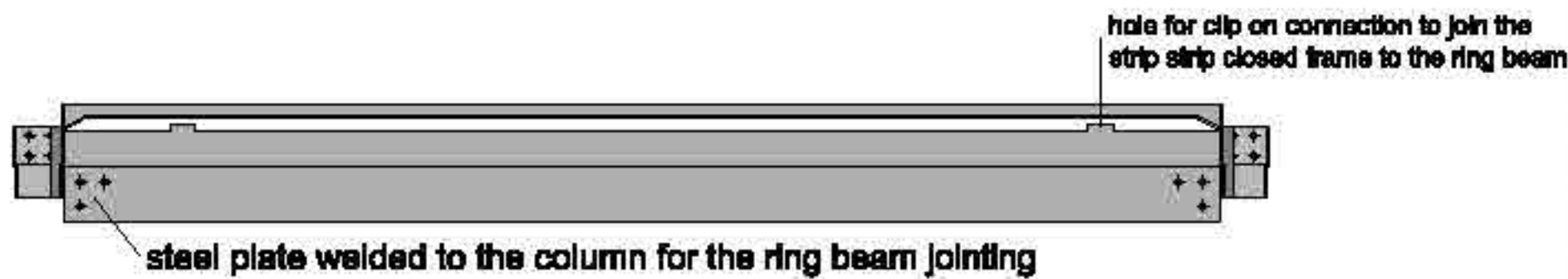
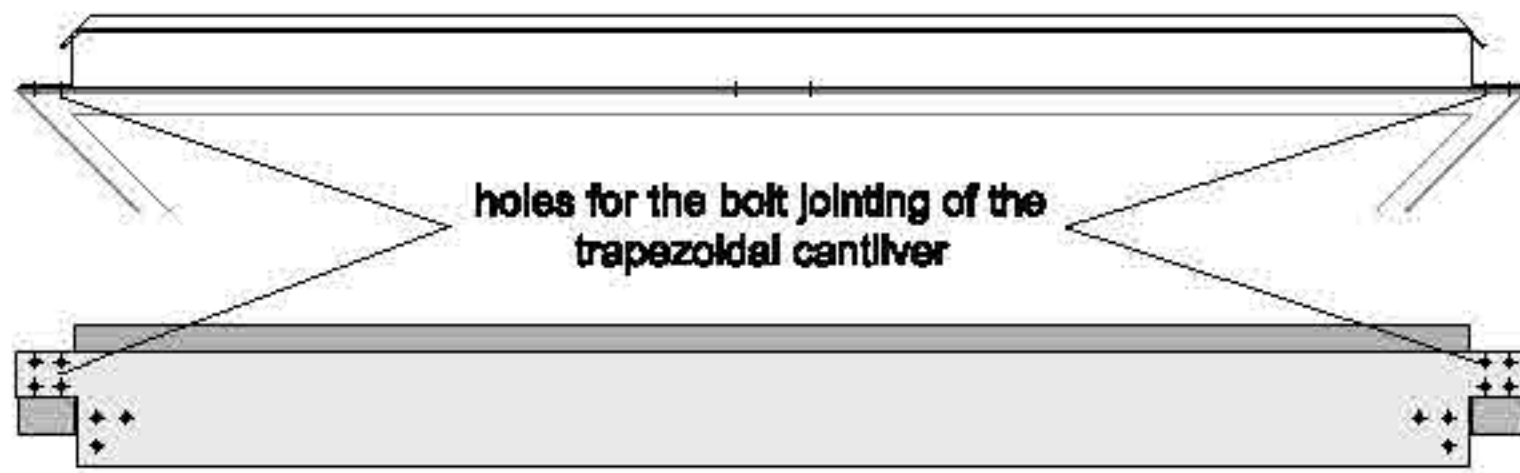
DETAIL OF THE COLUMN BASE
scale 1:2



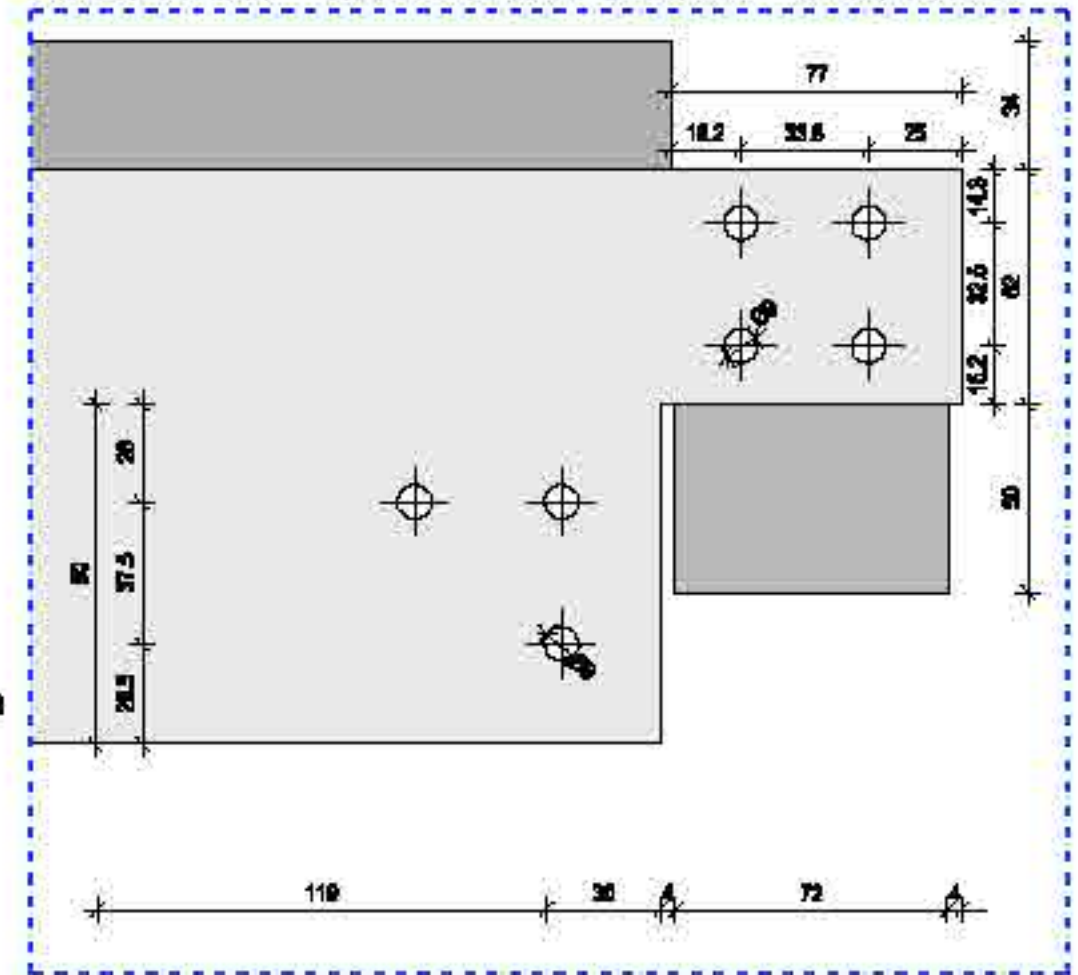
DETAIL OF BASE
scale 1:2



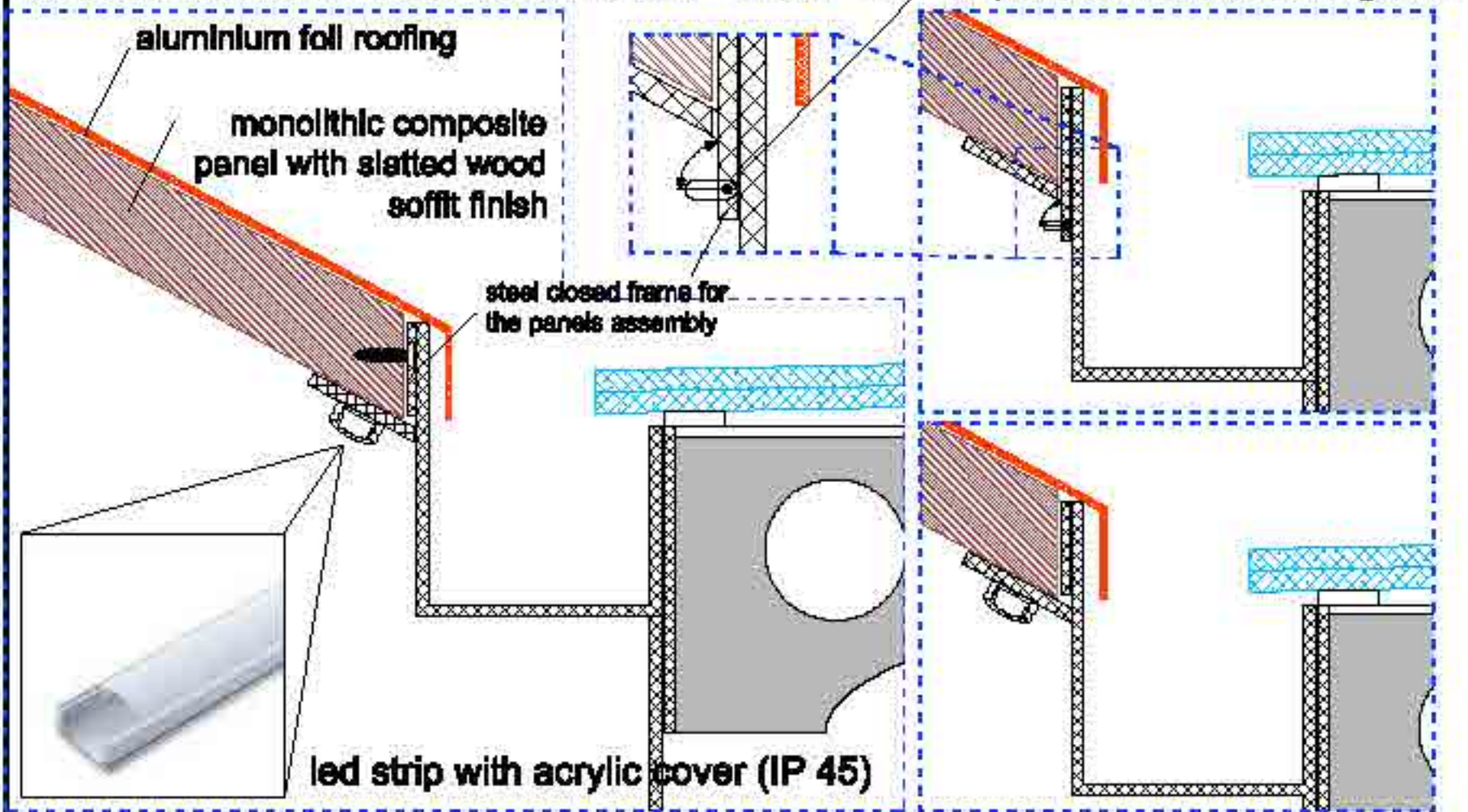
RING BEAM/GUTTER - scale 1:10



DETAIL OF THE BEAM HEAD - scale 1:2



RING BEAM/GUTTER - SECTIONS - scale 1:2



RING BEAM/GUTTER - 3D VIEWS

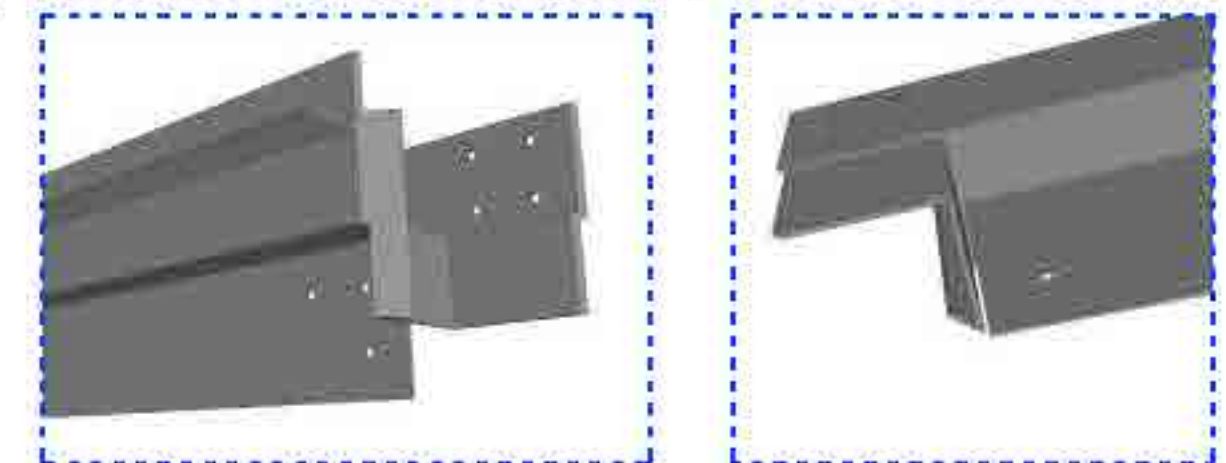
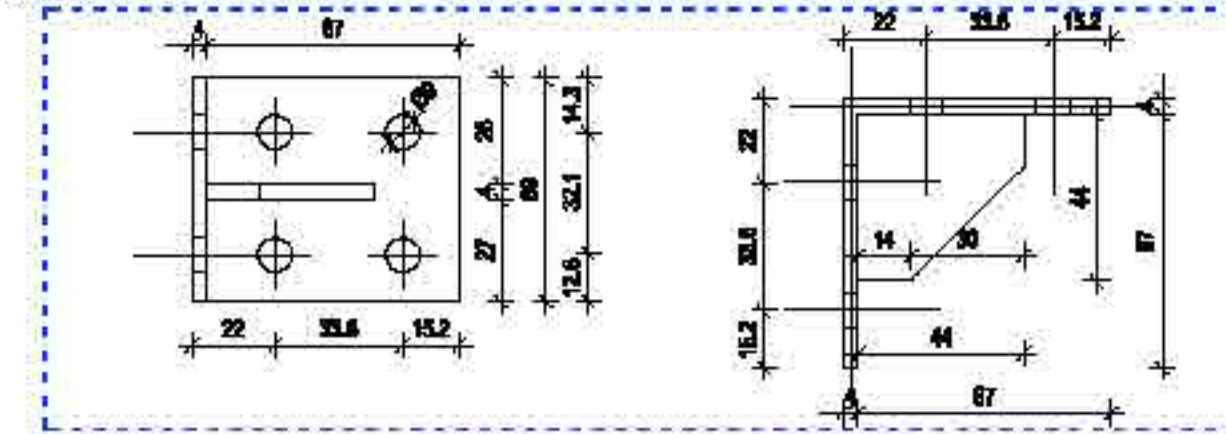
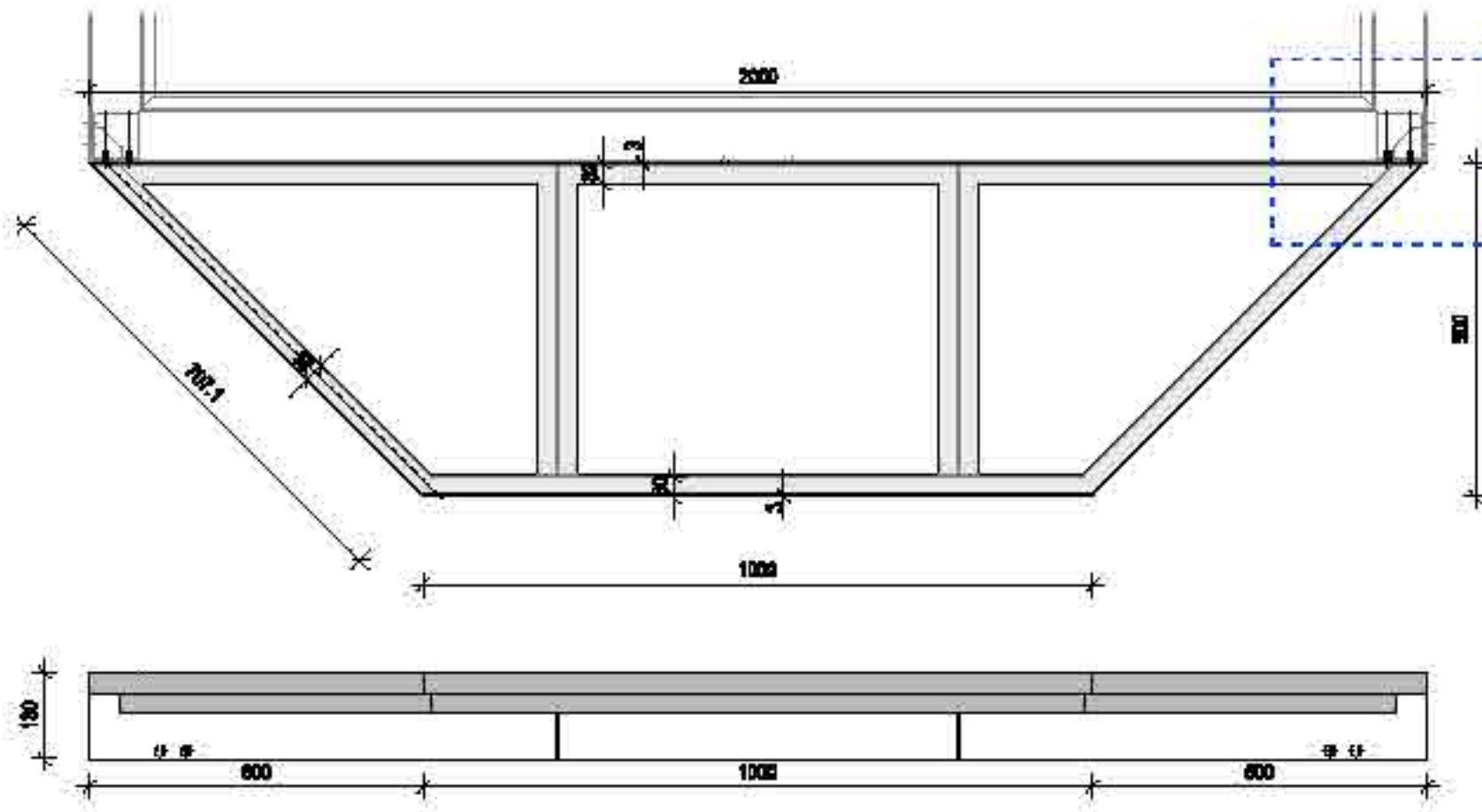


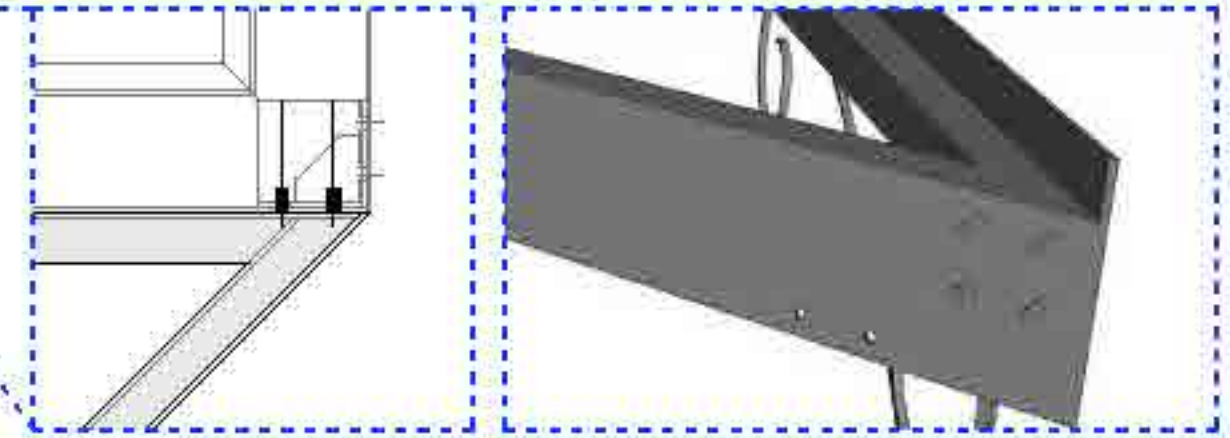
PLATE CONNECTING THE 4 RING BEAM PROFILES scale 1:2



TRAPEZOIDAL ROOF CANTILEVERS scale 1:10



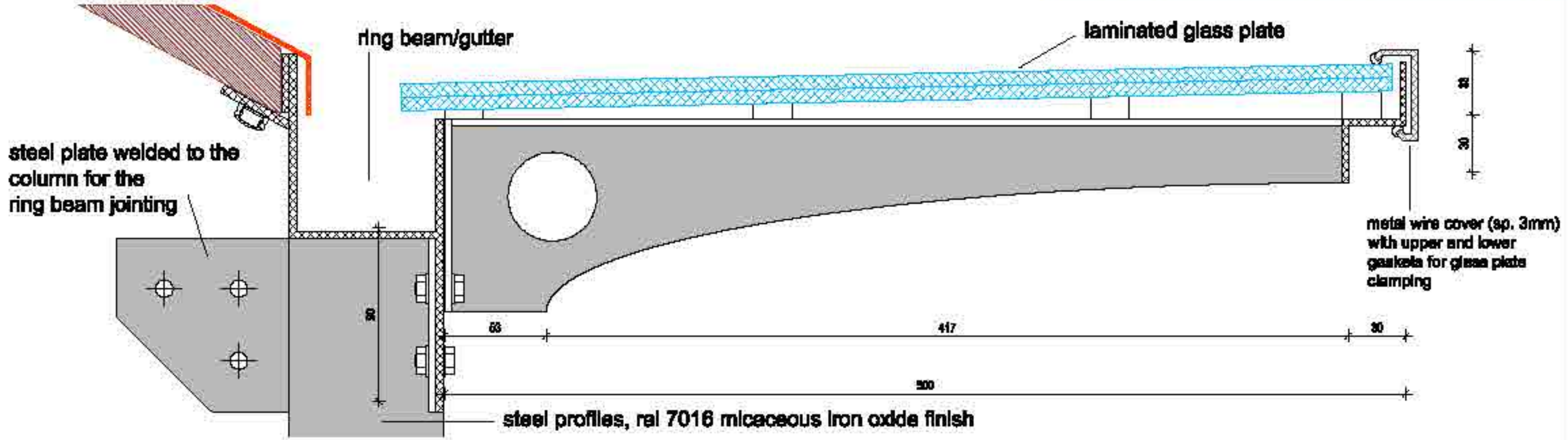
DETAIL OF THE END BOLTED CONNECTION TO THE RING BEAM - scale 1:5



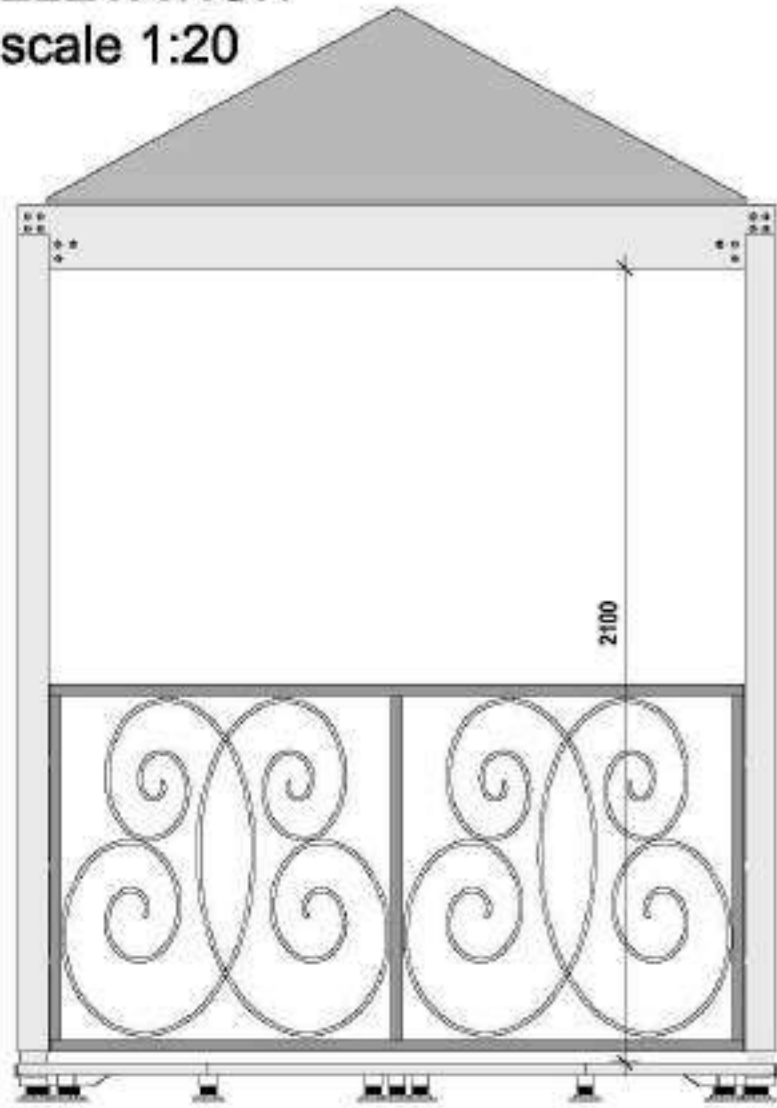
TRAPEZOIDAL ROOF CANTILEVERS 3D VIEWS



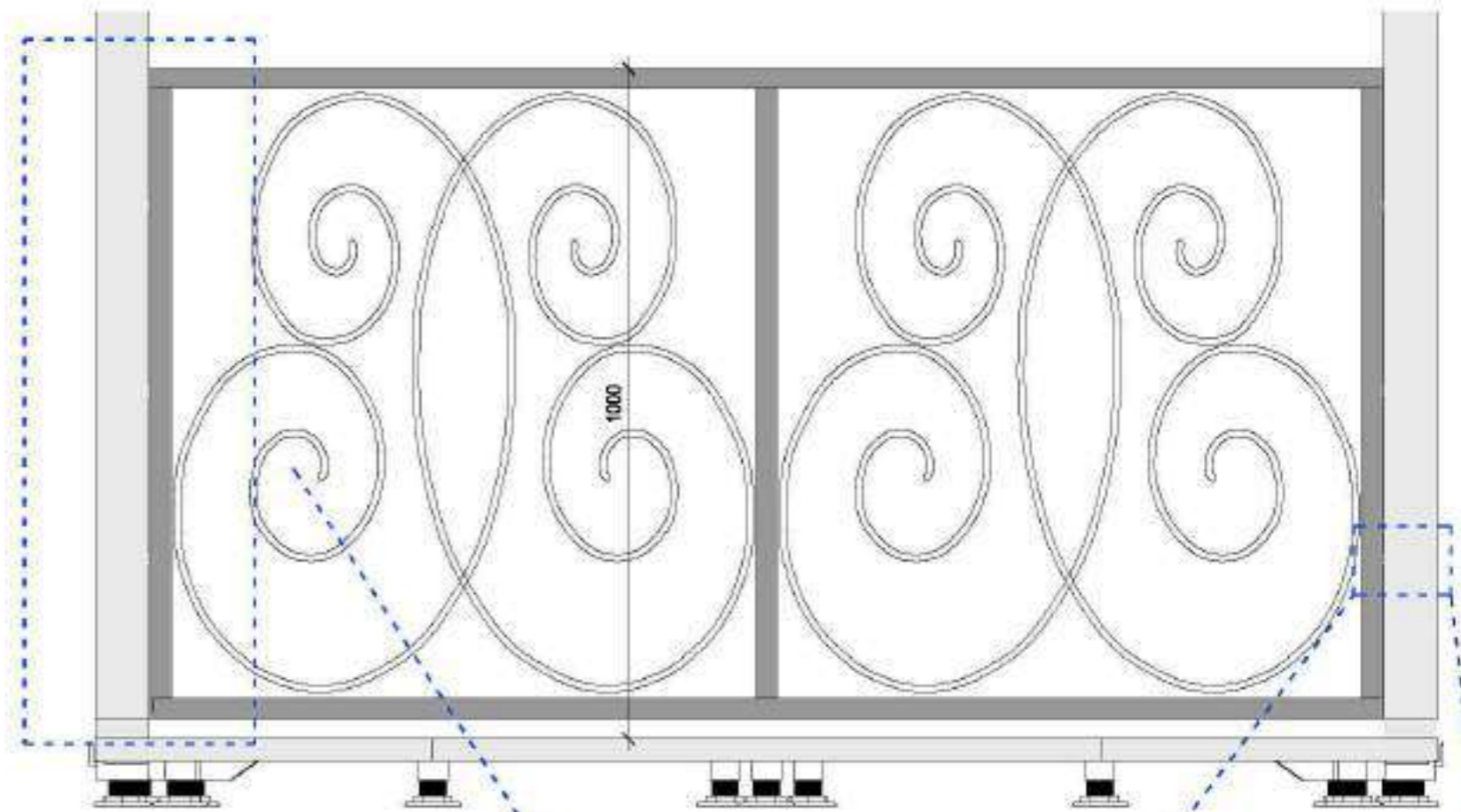
TRAPEZOIDAL ROOF CANTILEVERS SECTIONS - scale 1:2



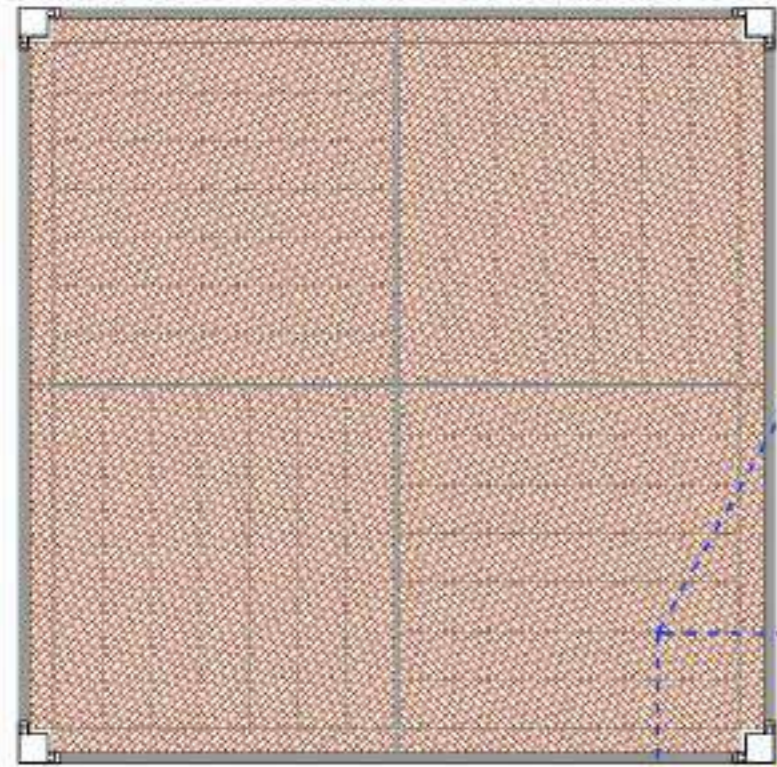
CANOPY
ELEVATION
scale 1:20



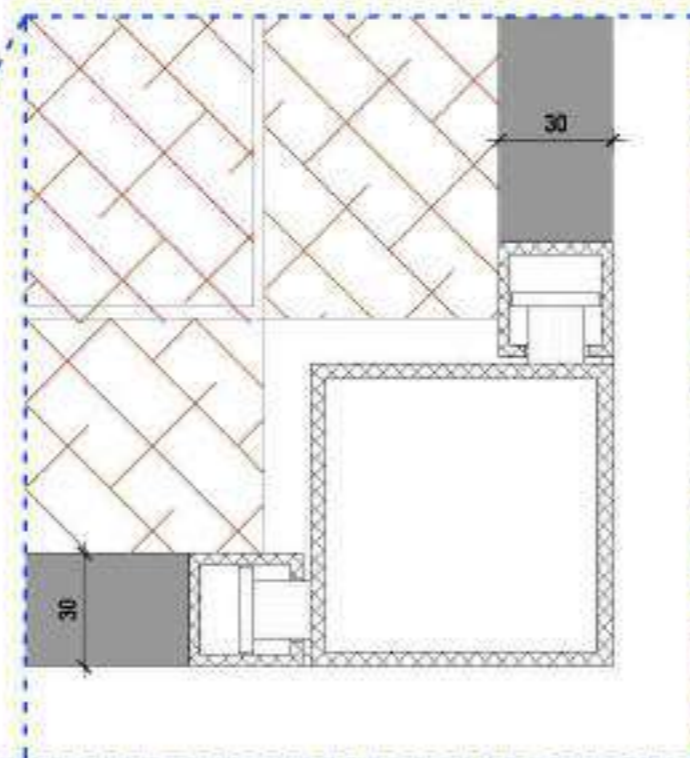
PARAPET ELEVATION
scale 1:10



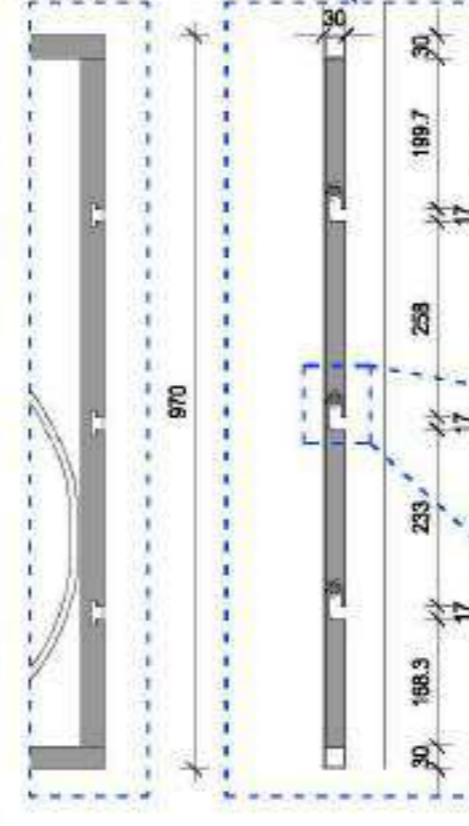
CANOPY BASE PLAN
SQUARED CONFIGURATION
scale 1:20



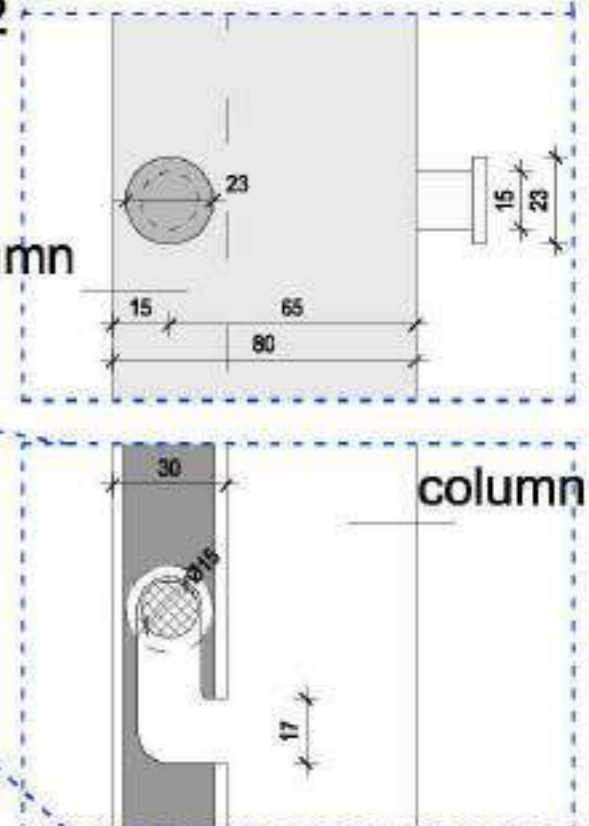
DETAIL JOINTING
COLUMN-PARAPET
scale 1:2



PARAPET
ELEVATION - SECTION
scale 1:10



DETAIL PARAPET
HOOKING SYSTEM
scale 1:2



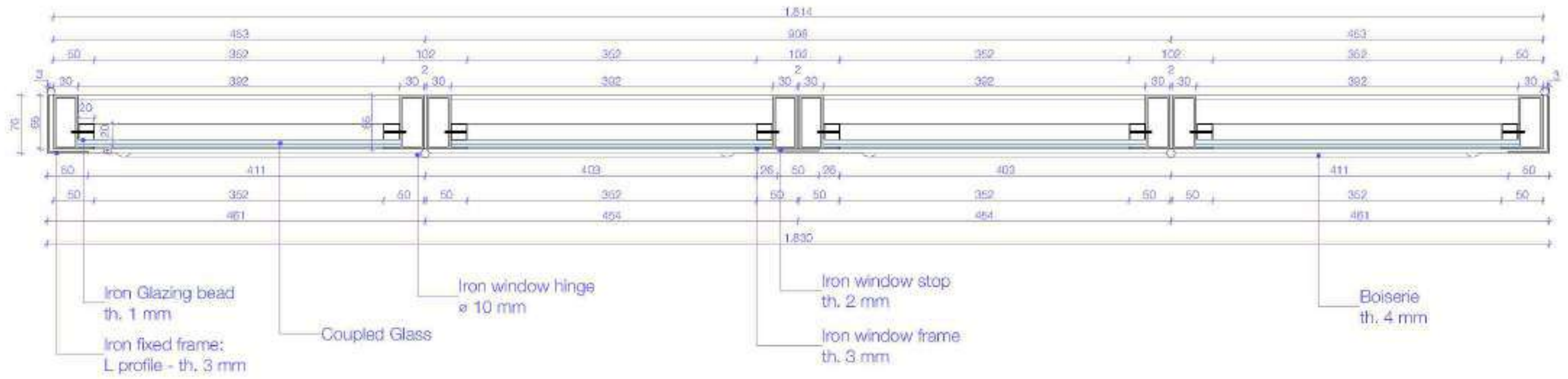


Detail drawings of the external
and internal panels
(final solution)

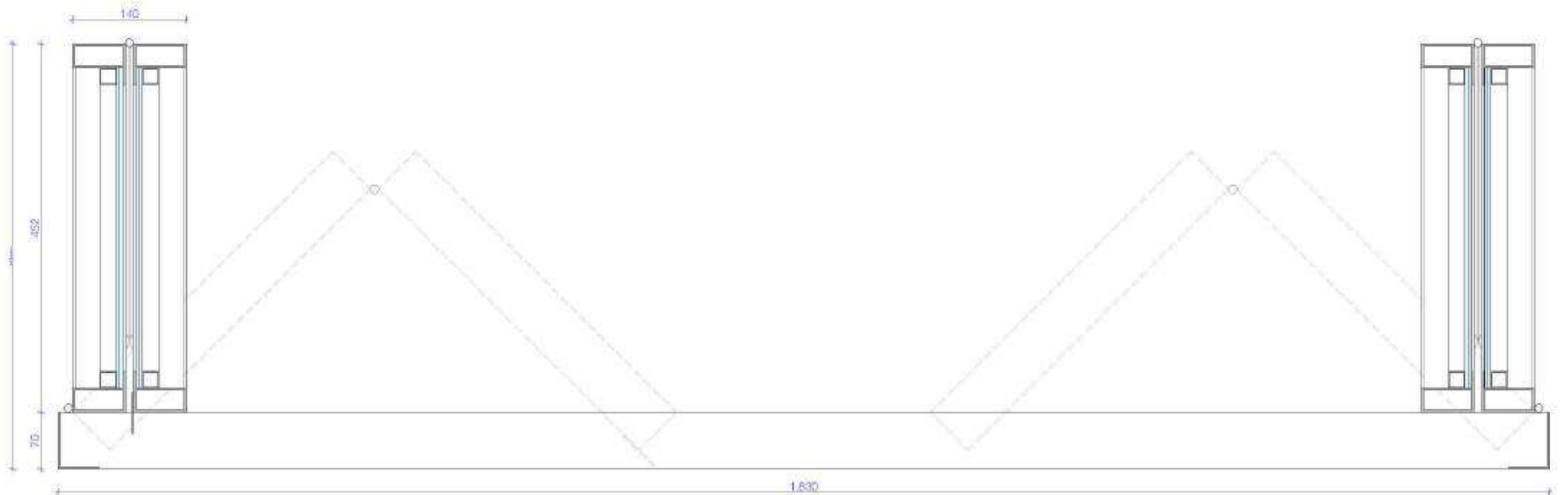


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Detail of the closed panel 1:5



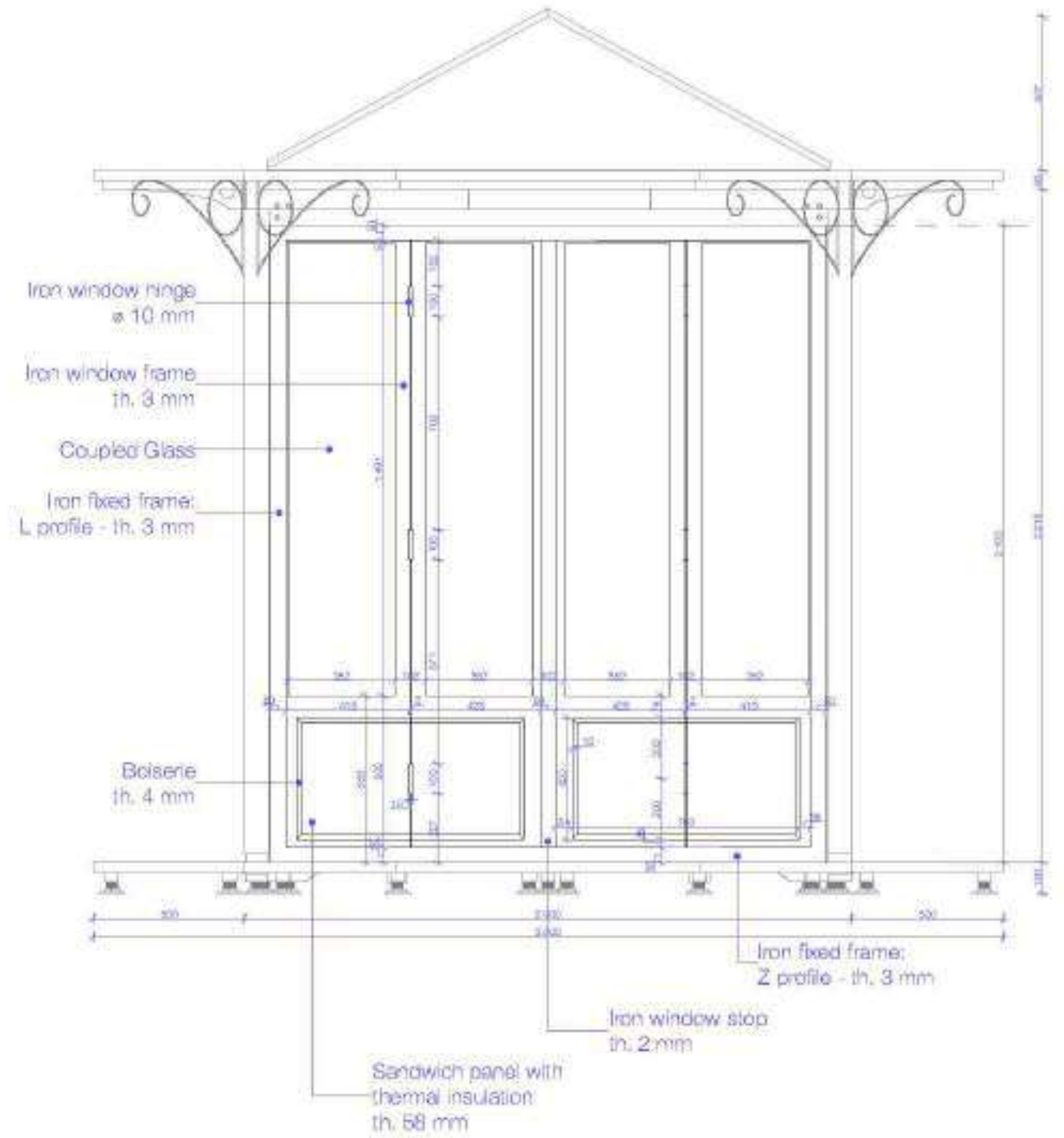
Detail of the closed panel 1:5 - Opened version



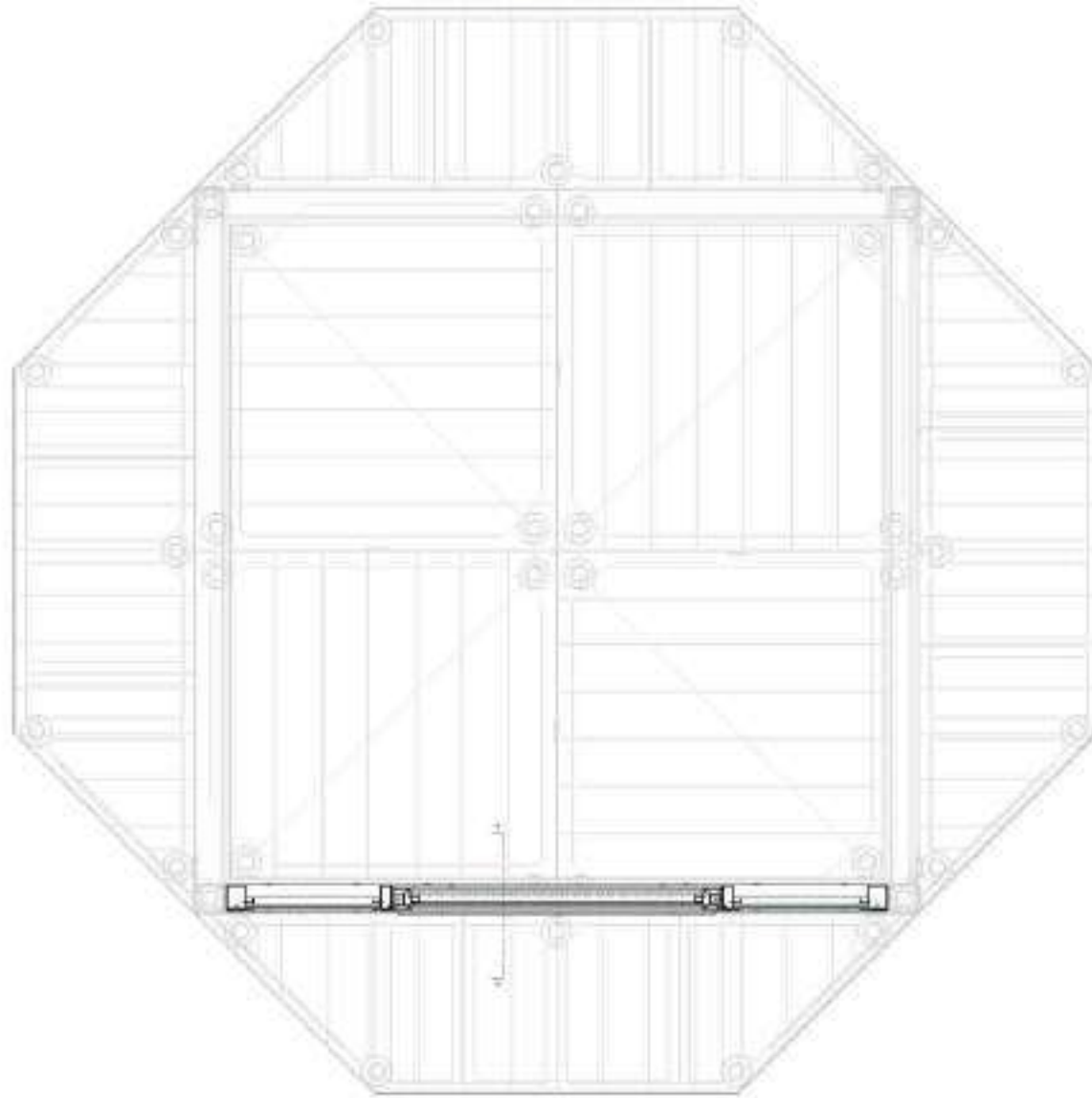
Canopy model 3D:
Solution A - closed Panel



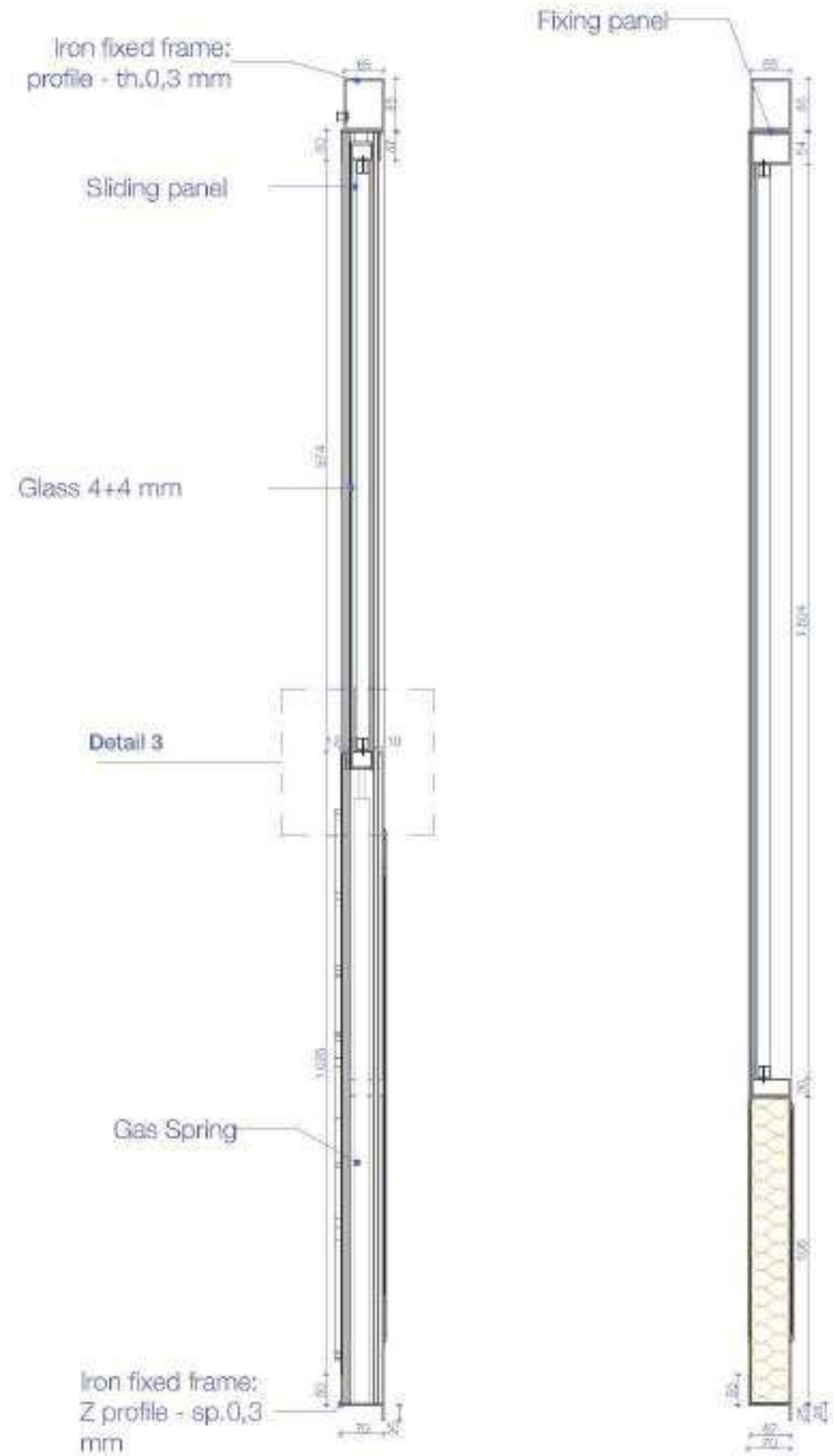
Canopy elevation:
Solution A - closed Panel 1:20



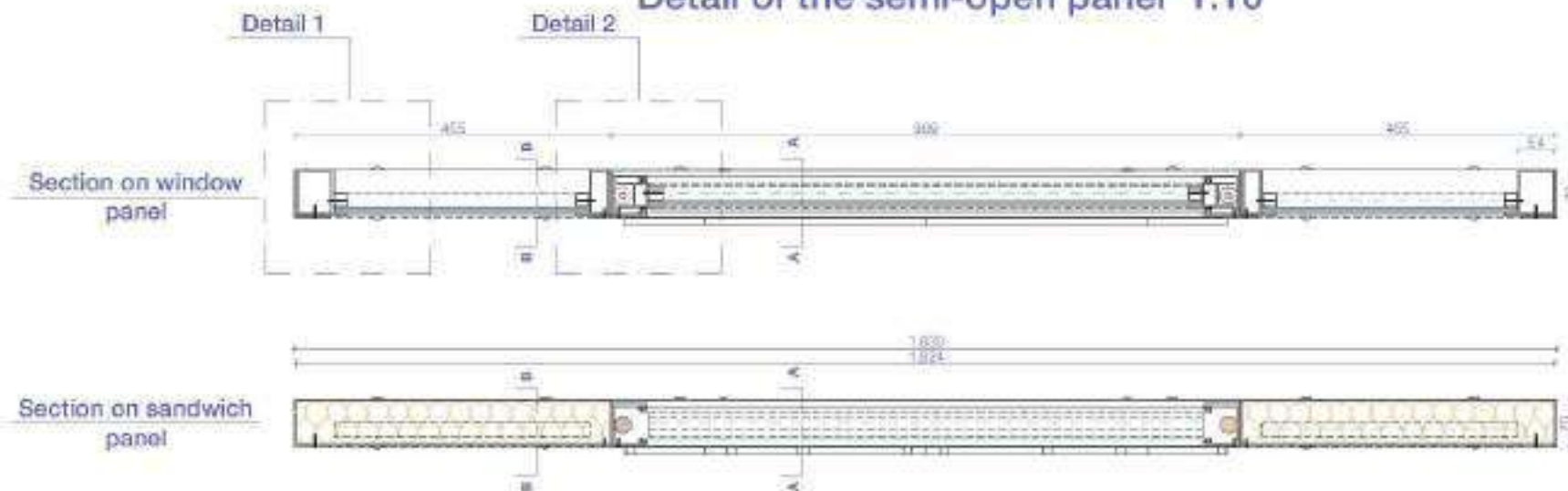
Canopy planimetry:
solution B semi-open panel 1:20



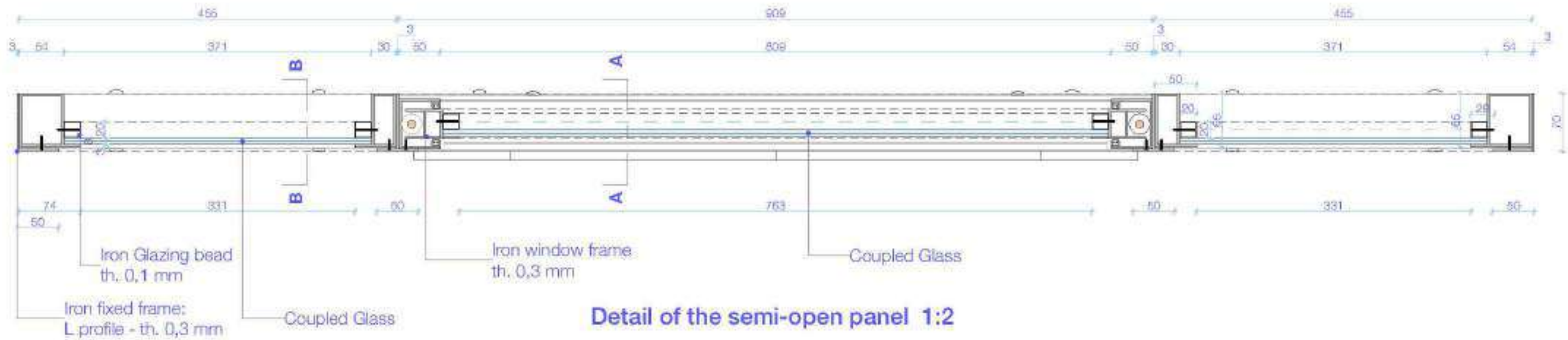
Detail of the semi-open panel 1:10
Section AA:
Section BB:



Detail of the semi-open panel 1:10

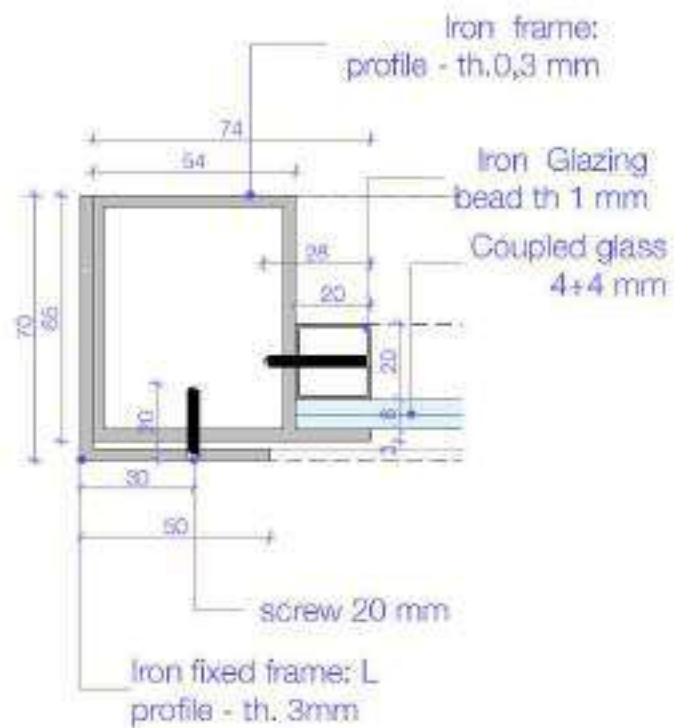


Detail of the semi-open panel 1:5

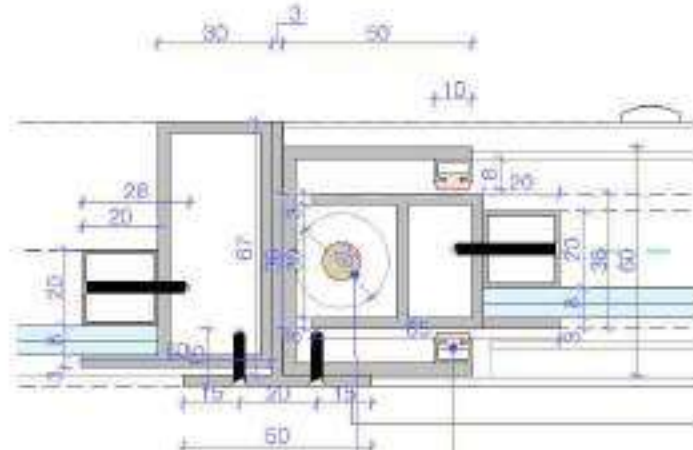


Detail of the semi-open panel 1:2

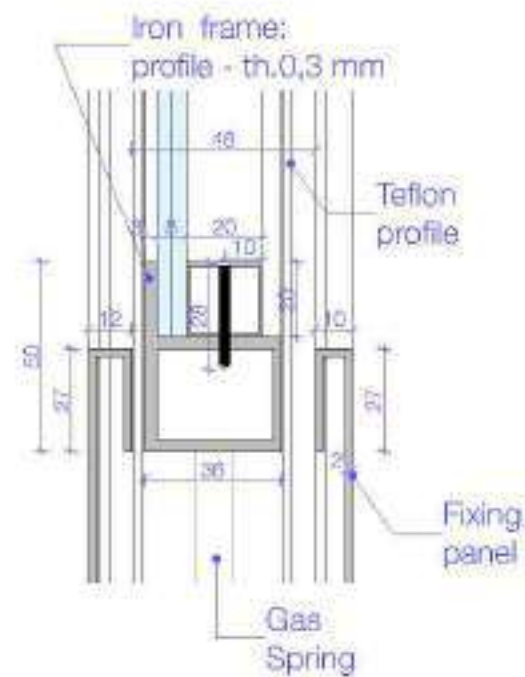
Detail 1



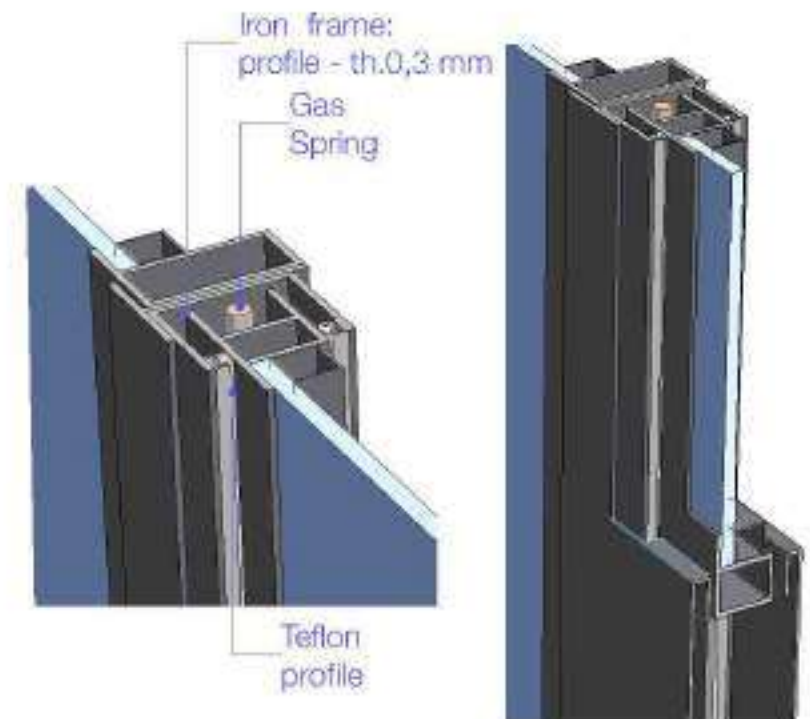
Detail 2



Detail 3

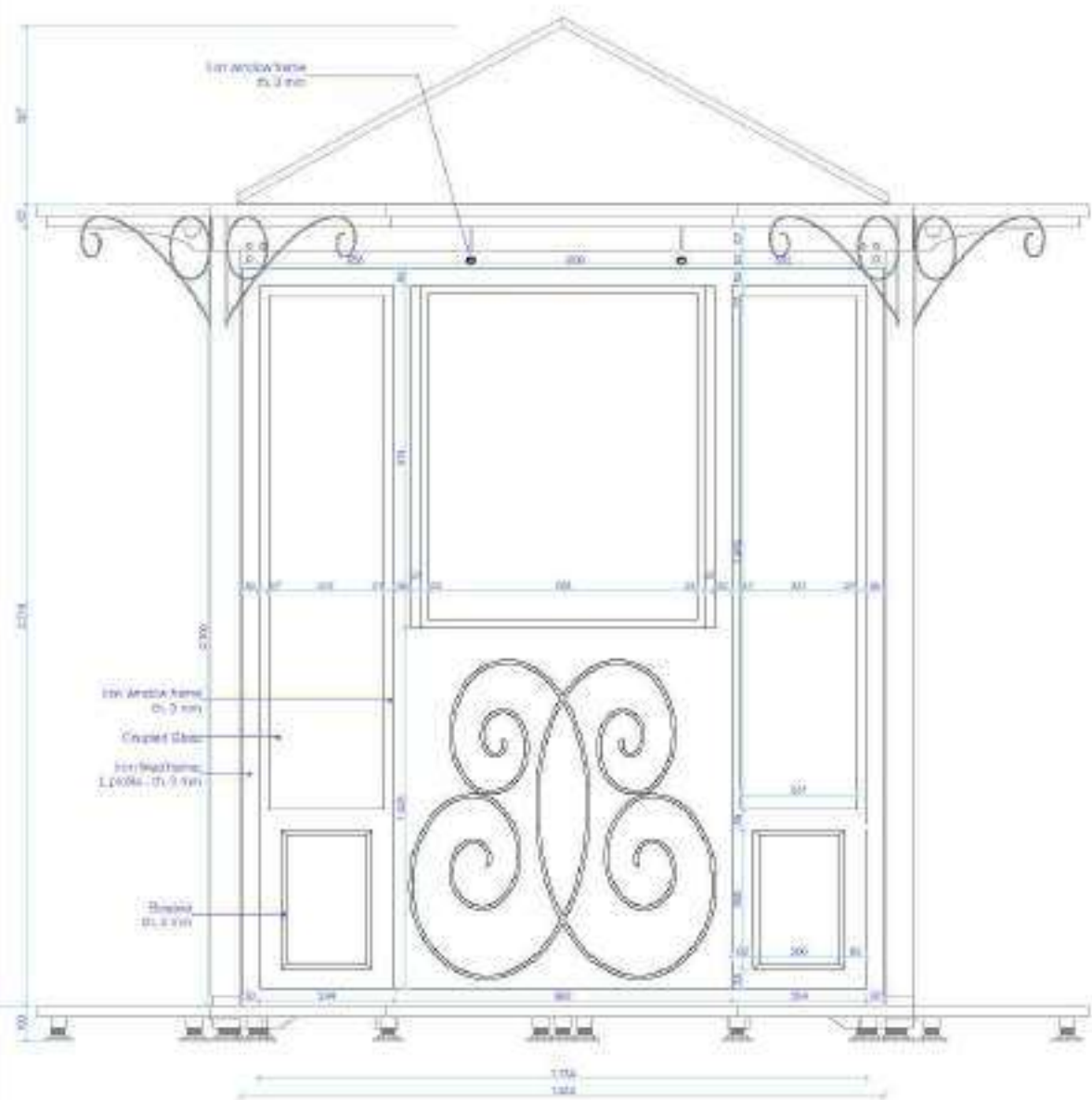


Exploded view

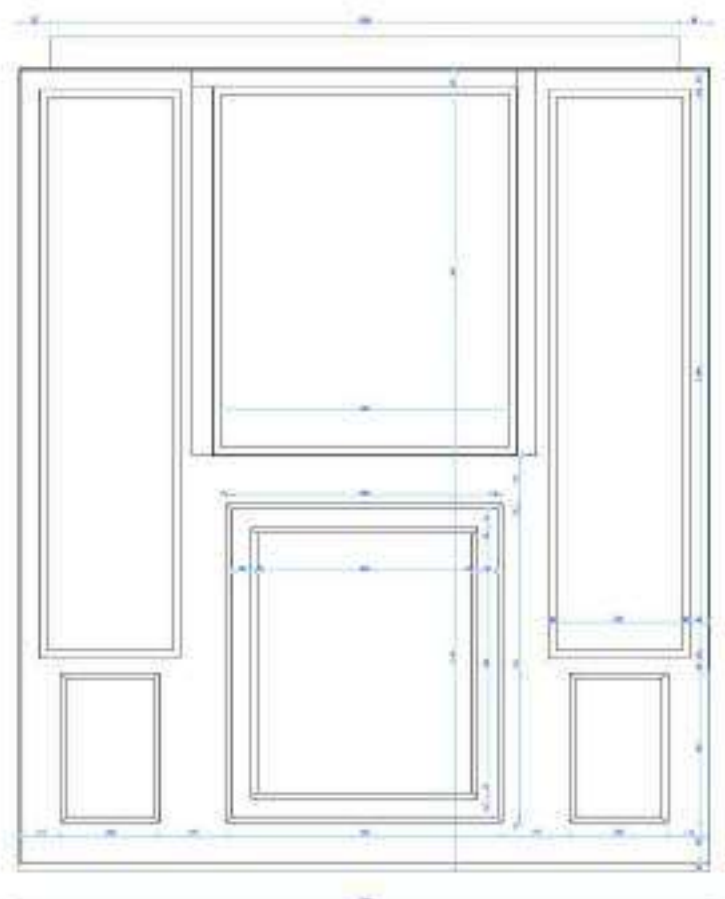


Canopy planimetry:
solution B semi-open panel 1:20

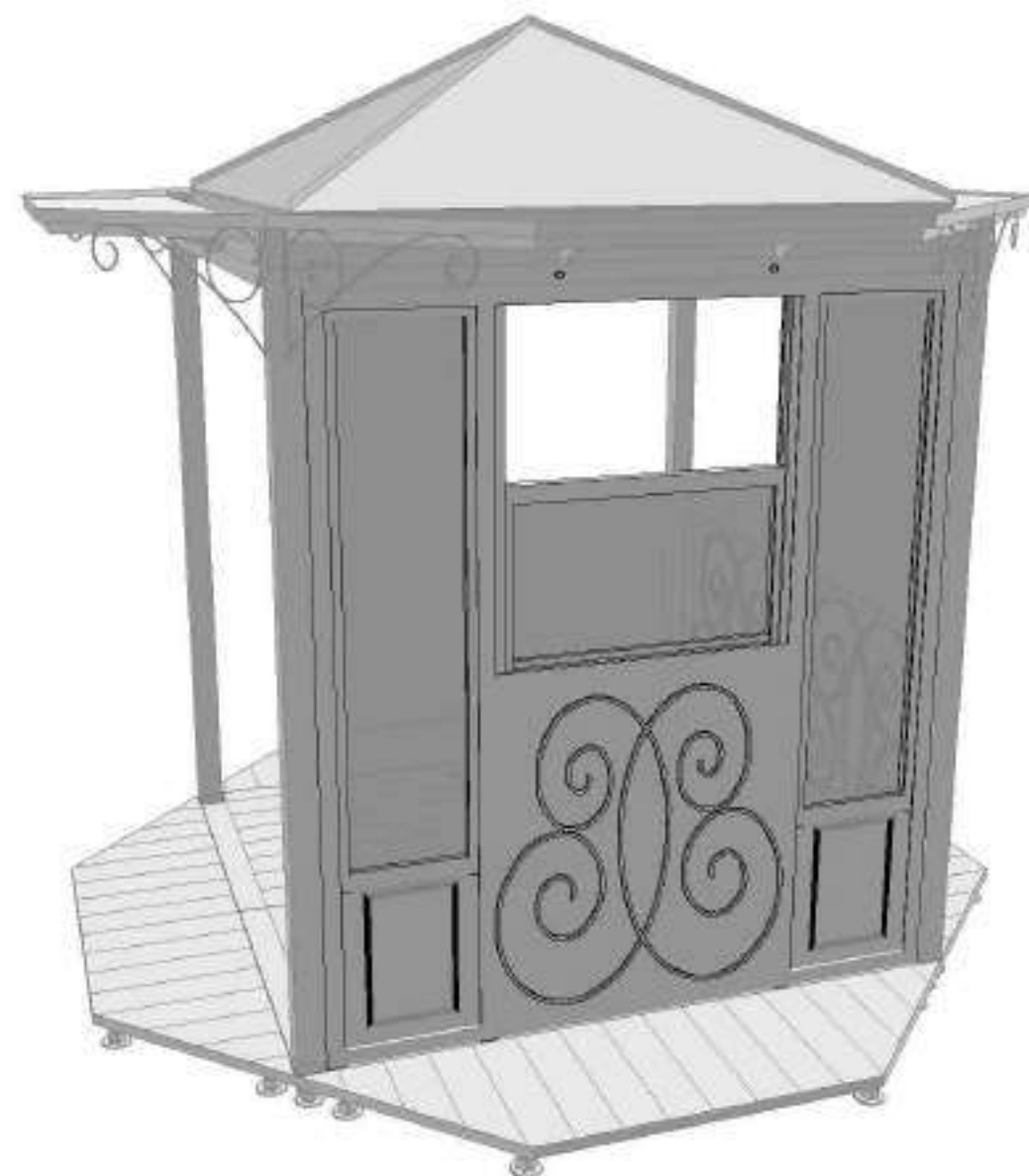
External panel



Internal panel



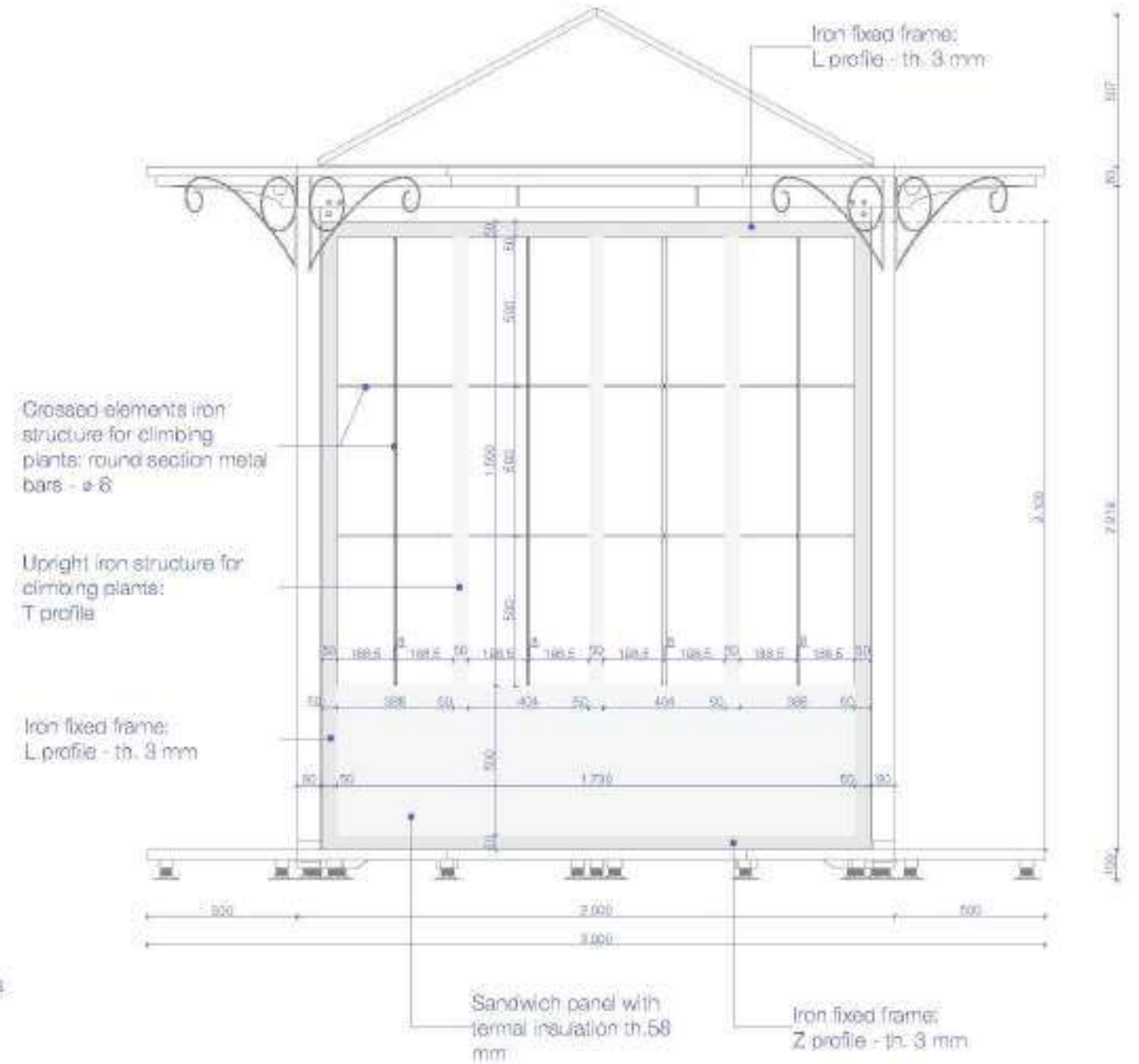
solution B semi-open panel



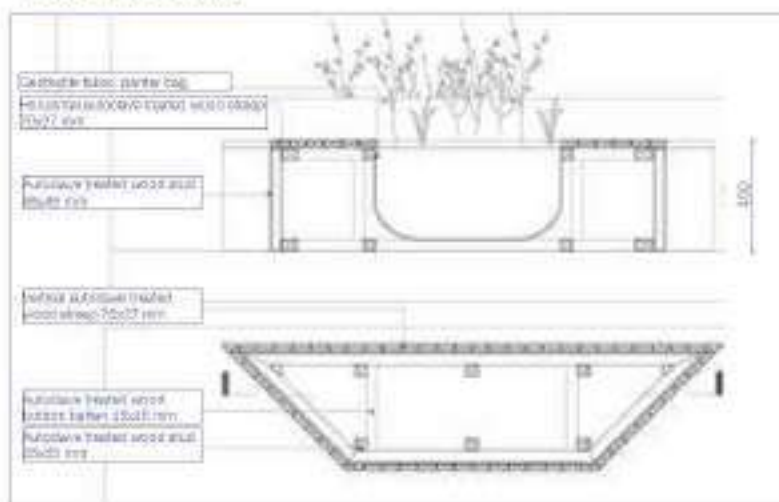
Canopy model 3D:
Solution C - open panel with greenery



Canopy elevation:
Solution C - open panel with greenery 1:20



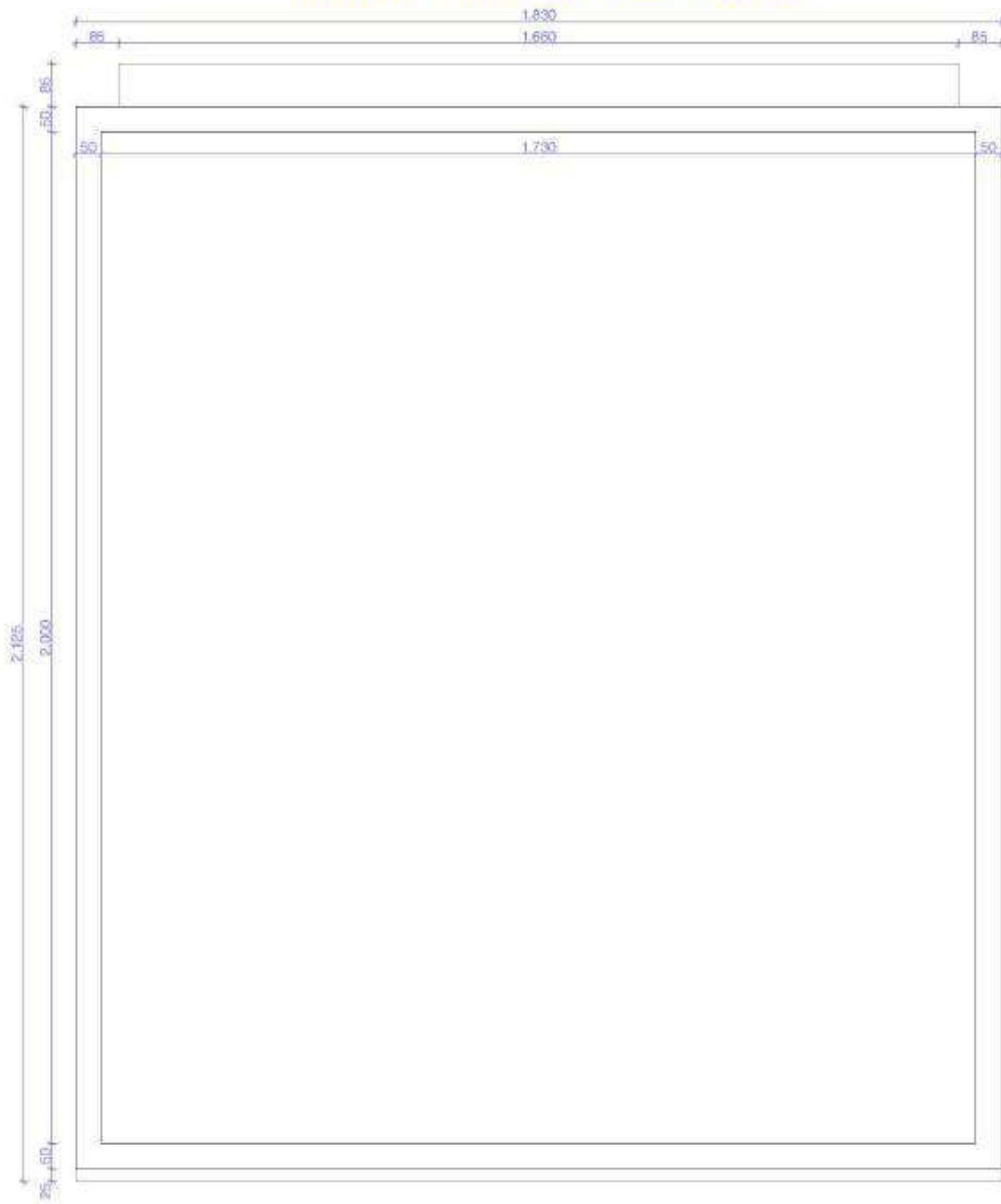
Flower pots Detail



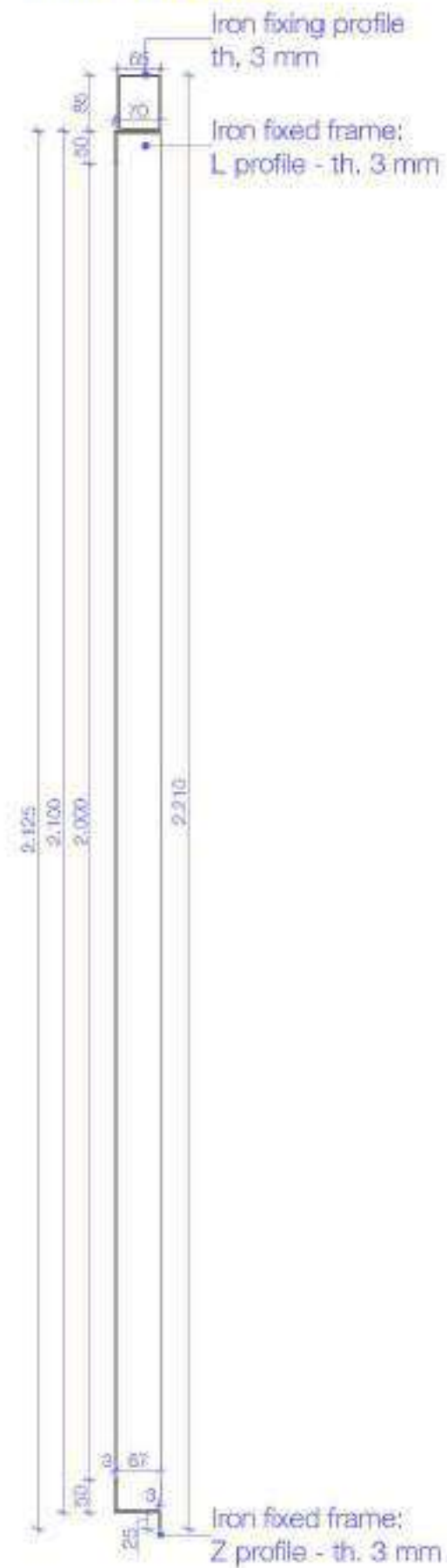
Colocation flower pots



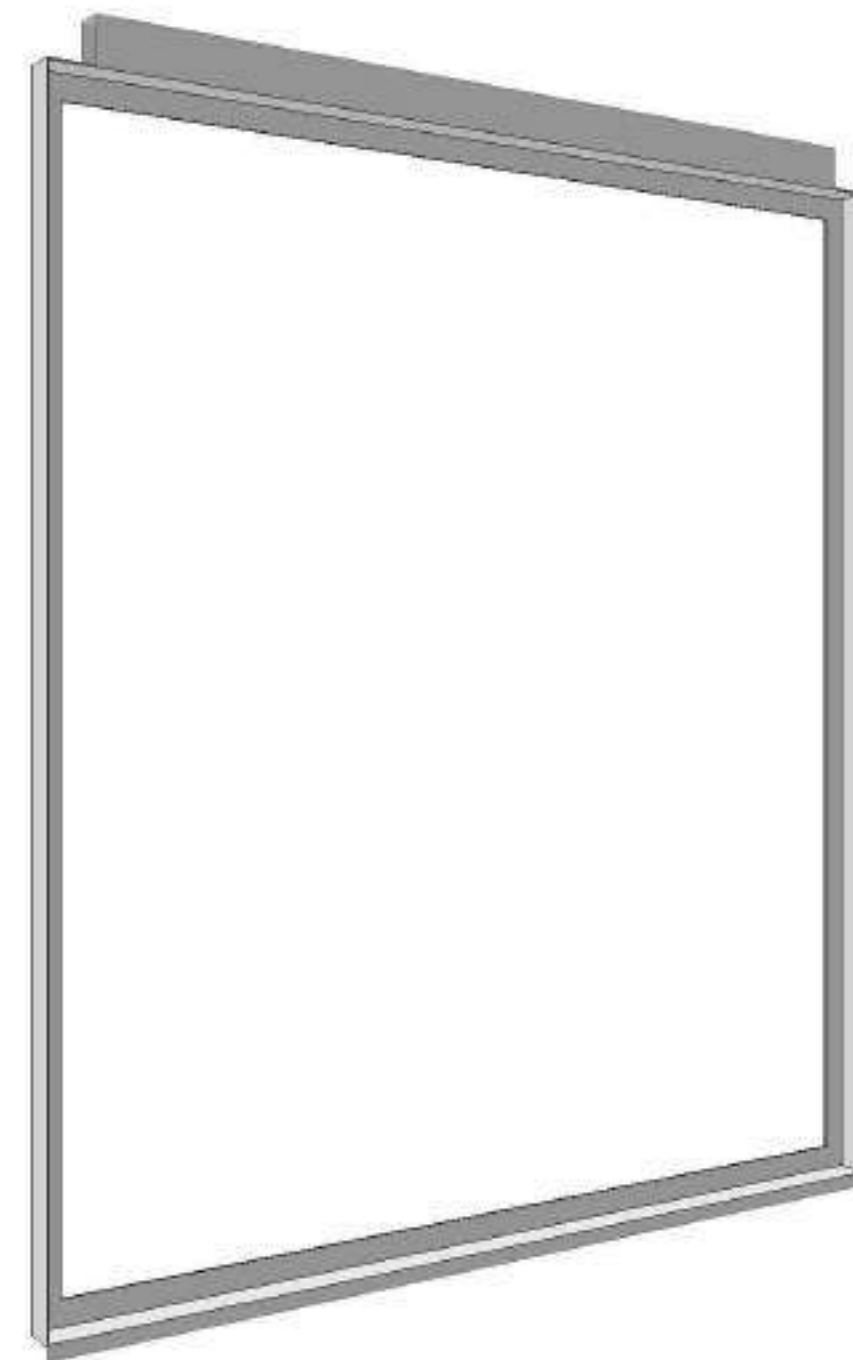
Iron fixed frame Profile - elevation 1:20



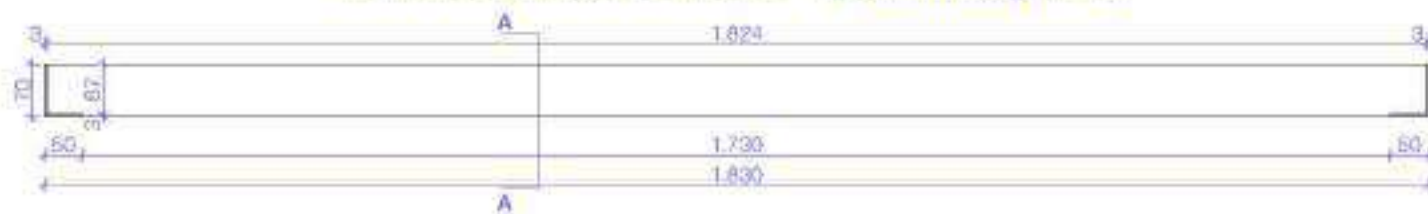
Section AA - 1:20



Iron fixed frame Profile model 3D



Iron fixed frame Profile - planimetry 1:20



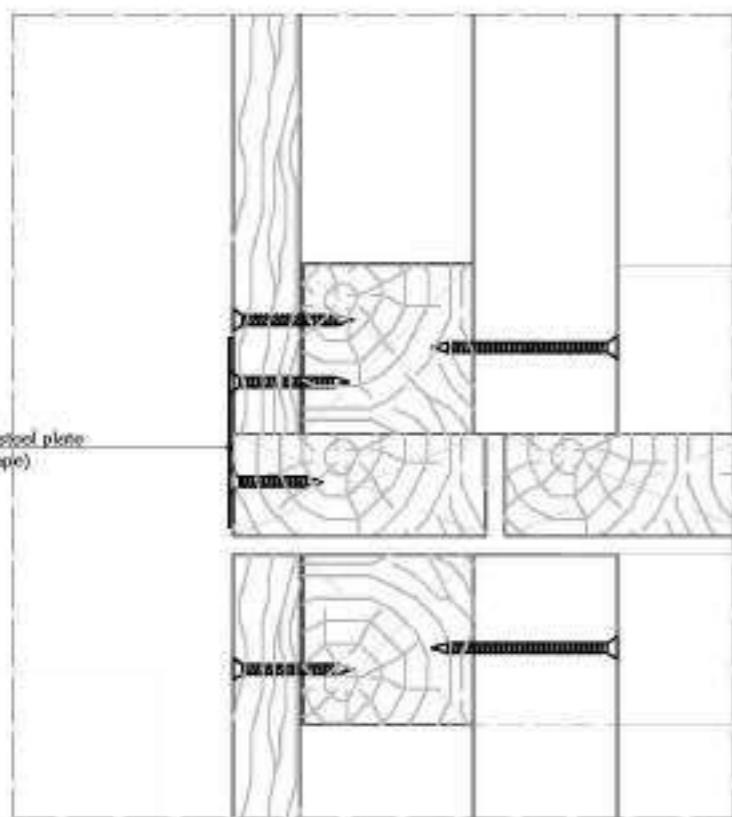


Detail drawings of the playground (final solution)

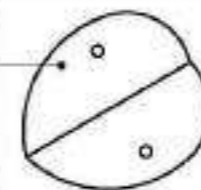
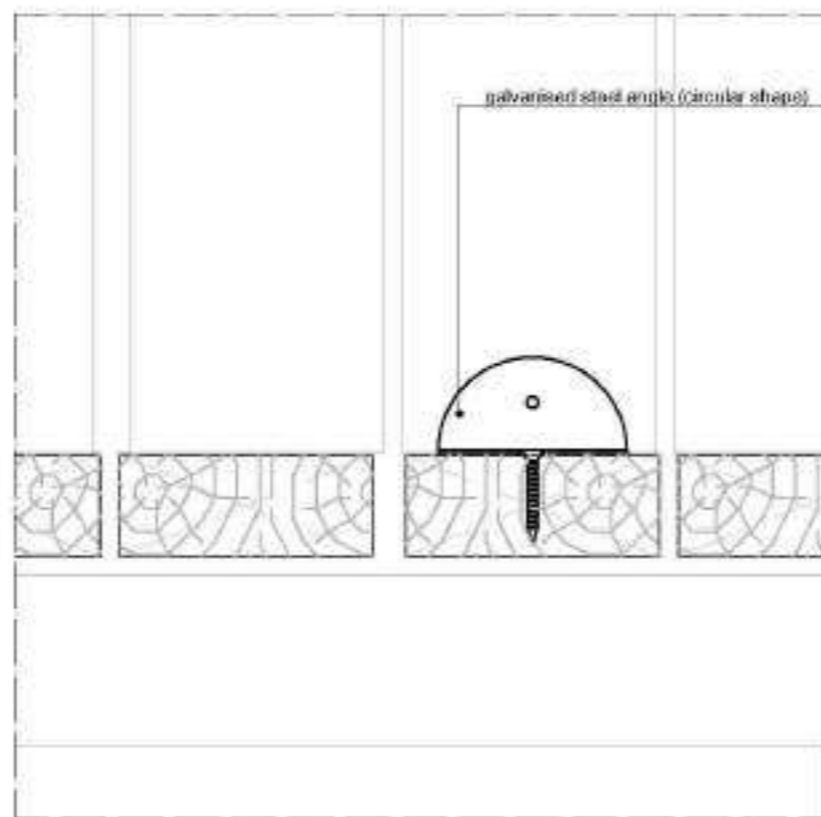


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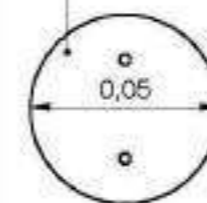
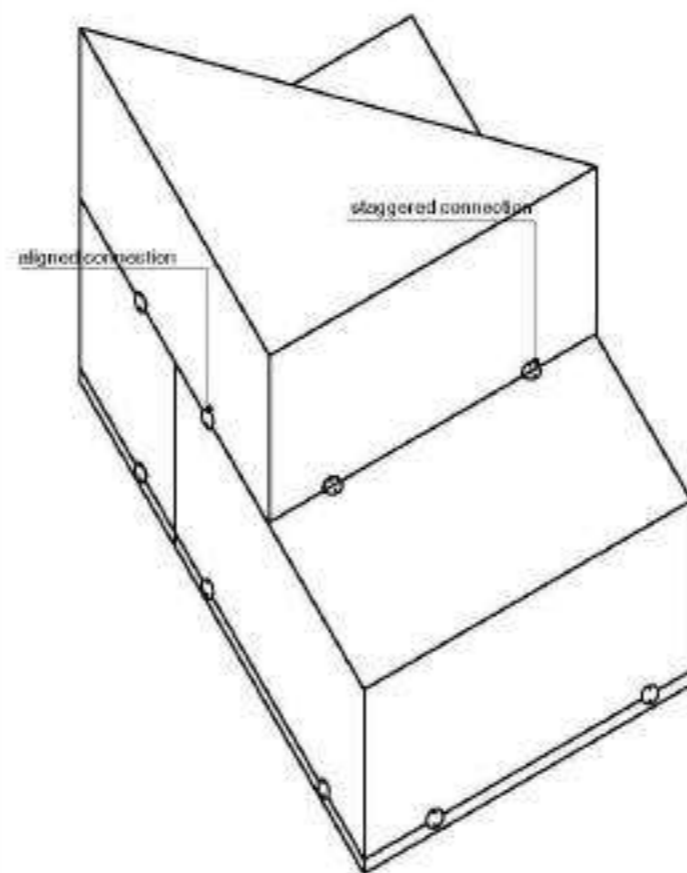
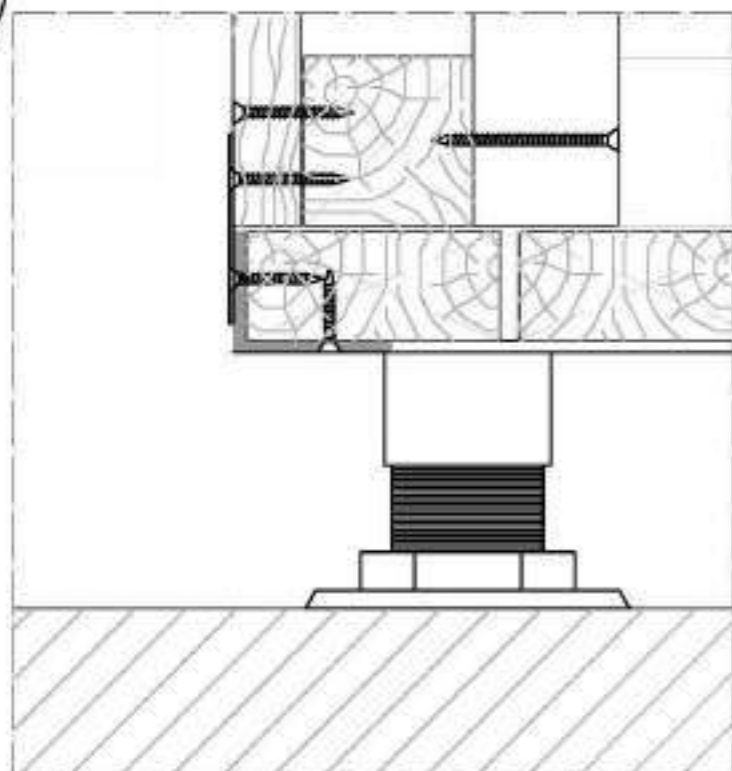
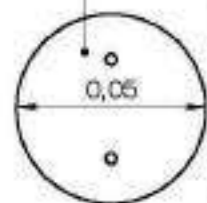
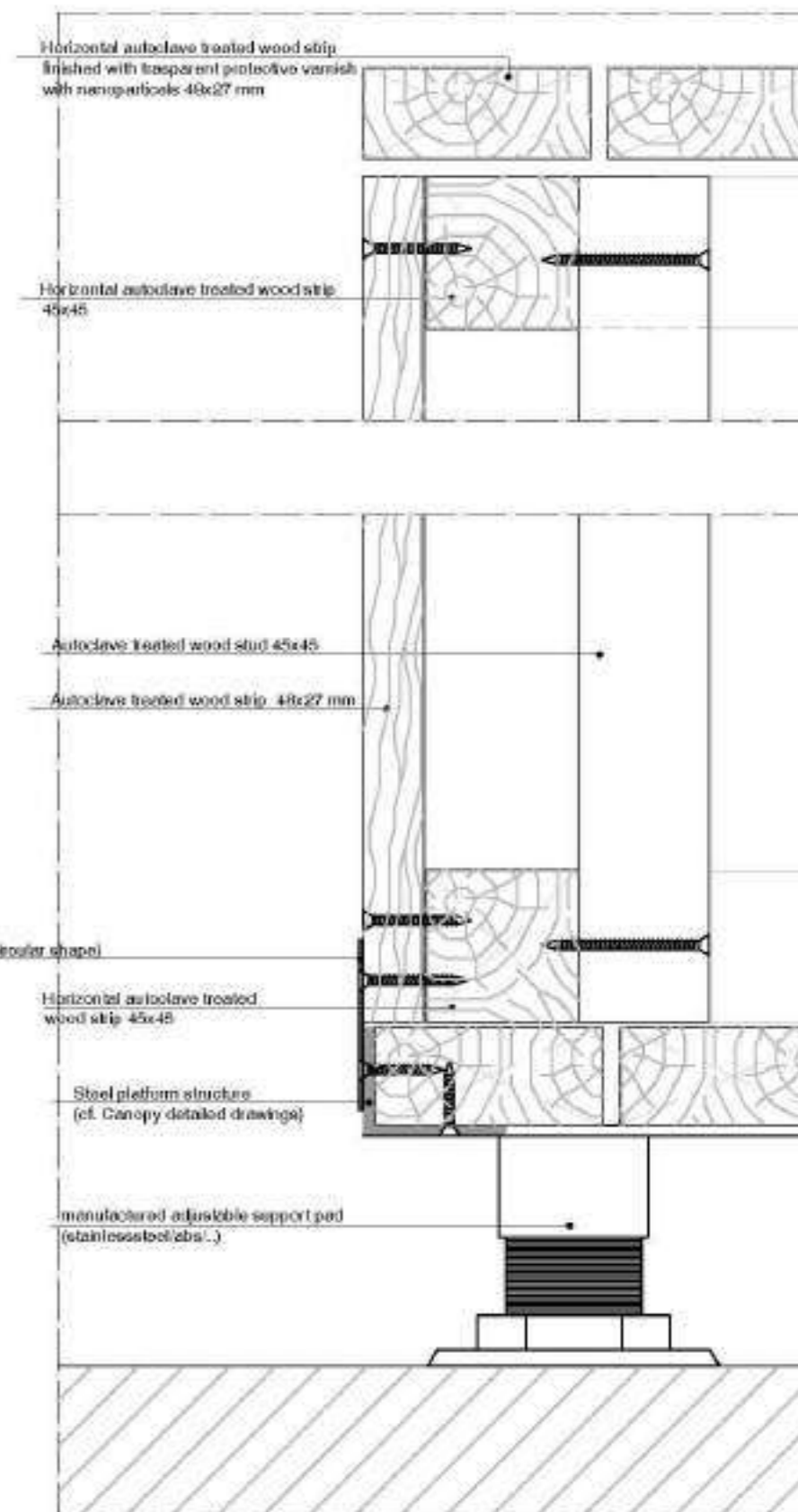
Module to Module Connection (aligned)



Module to Module Connection (staggered)

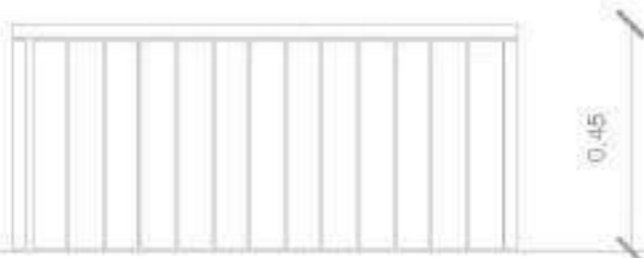


Modules to Platform Connection



Saint Germain en Laye
A - Square (bench and flowerpots)
 2020/11/04

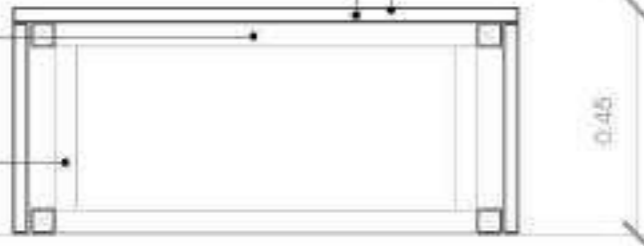
A.2



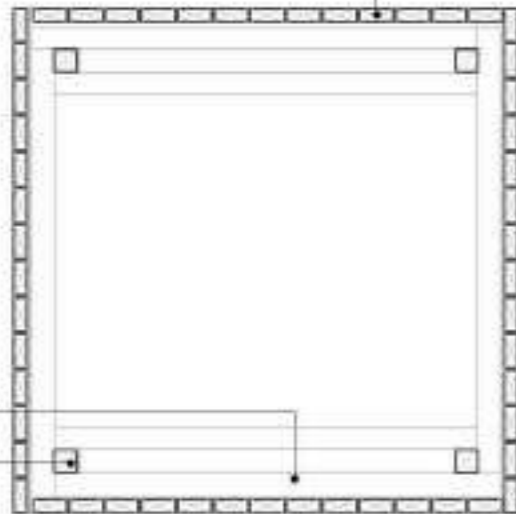
Horizontal autoclave treated wood strip finished with transparent protective varnish with nanoparticles 70x27 mm

Autoclave treated wood top batten 45x45 mm

Autoclave treated wood stud 45x45 mm



Vertical autoclave treated wood strip 70x27 mm



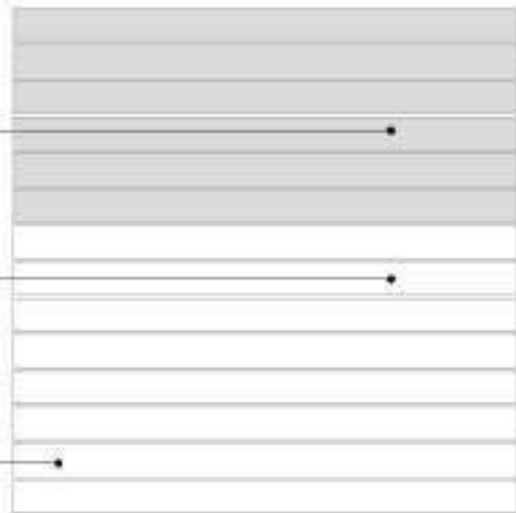
Autoclave treated wood bottom batten 45x45 mm

Autoclave treated wood stud 45x45 mm

strips in different wood species to mark the seating area

Top horizontal surfaces treated with transparent protective varnish with nanoparticles

Autoclave treated wood strips 70x27 mm



A.3



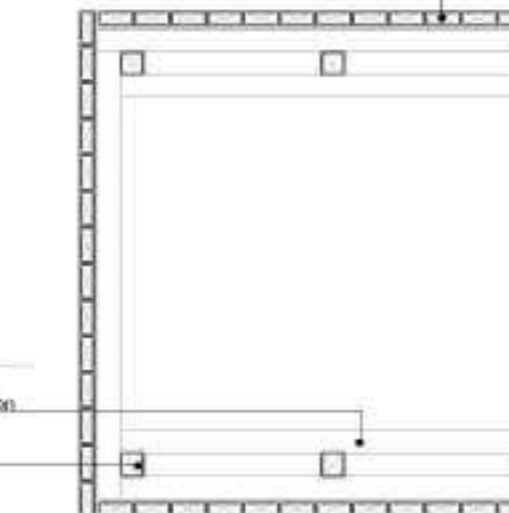
Autoclave treated wood top batten 45x45 mm

Horizontal autoclave treated wood strip 70x27 mm

Geotextile fabric planter bag



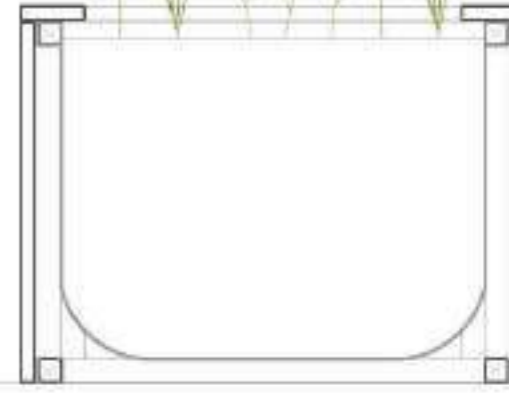
Vertical autoclave treated wood strip 70x27 mm



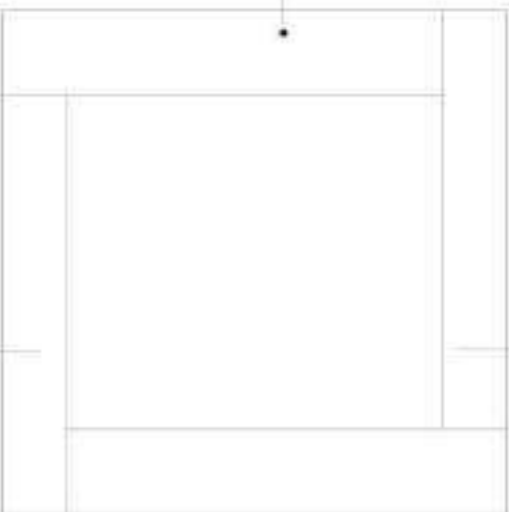
Autoclave treated wood bottom batten 45x45 mm

Autoclave treated wood stud 45x45 mm

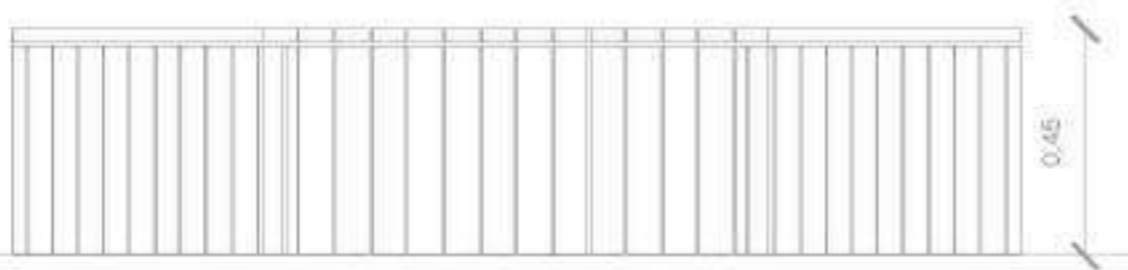
A.4



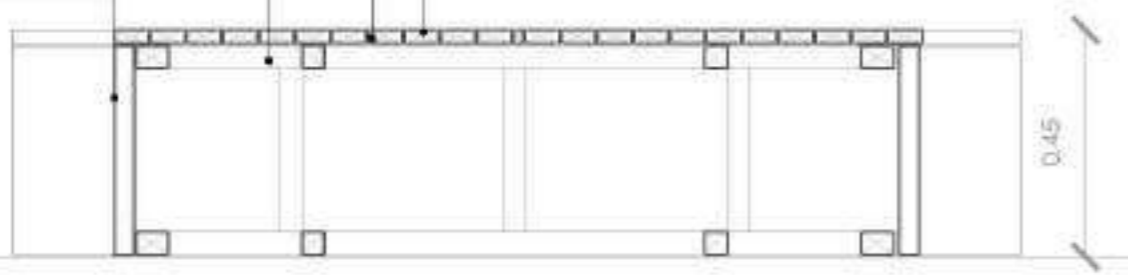
Horizontal autoclave treated wood strip 890x125x27 mm



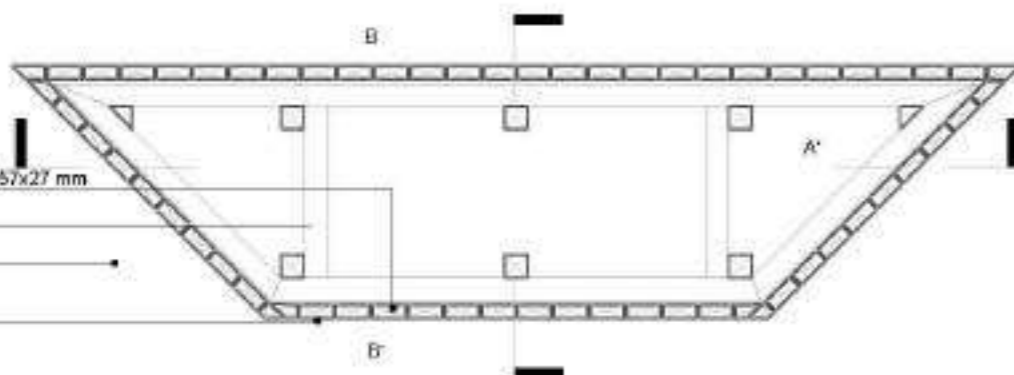
C.2



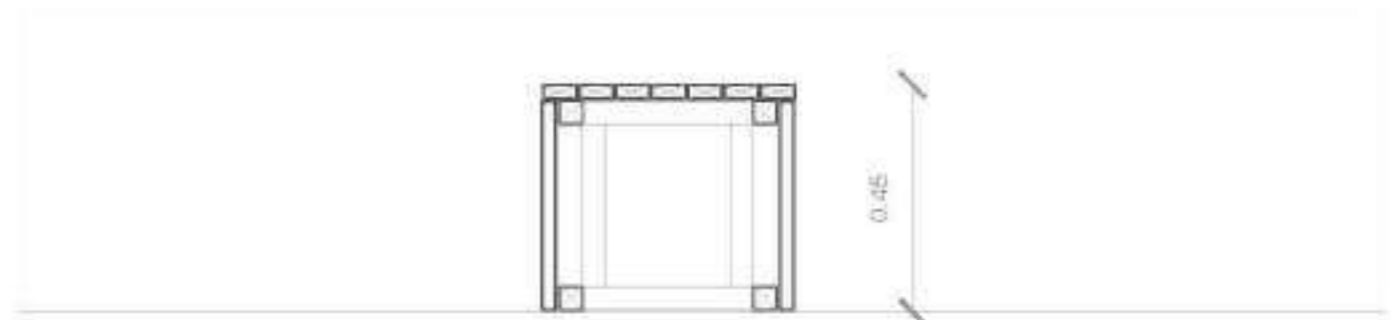
- Surface treated with transparent protective varnish with nanoparticles
- Horizontal wood strip (pe, teak, iroko, ...) 48x27 mm
- Top plate 45x45, Fir, brushed
- Stud 45x45, Fir, brushed



SECTION AA'



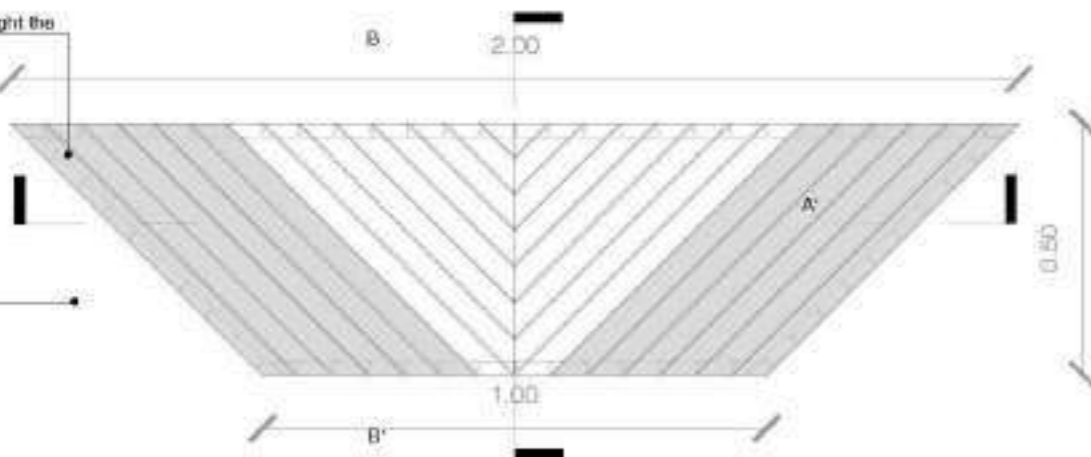
- Vertical wood strip (pe, teak, iroko, ...) 57x27 mm
- Bottom plate 45x45, Fir, brushed
- Stud 45x45, Fir, brushed
- Surface treated with transparent protective varnish with nanoparticles



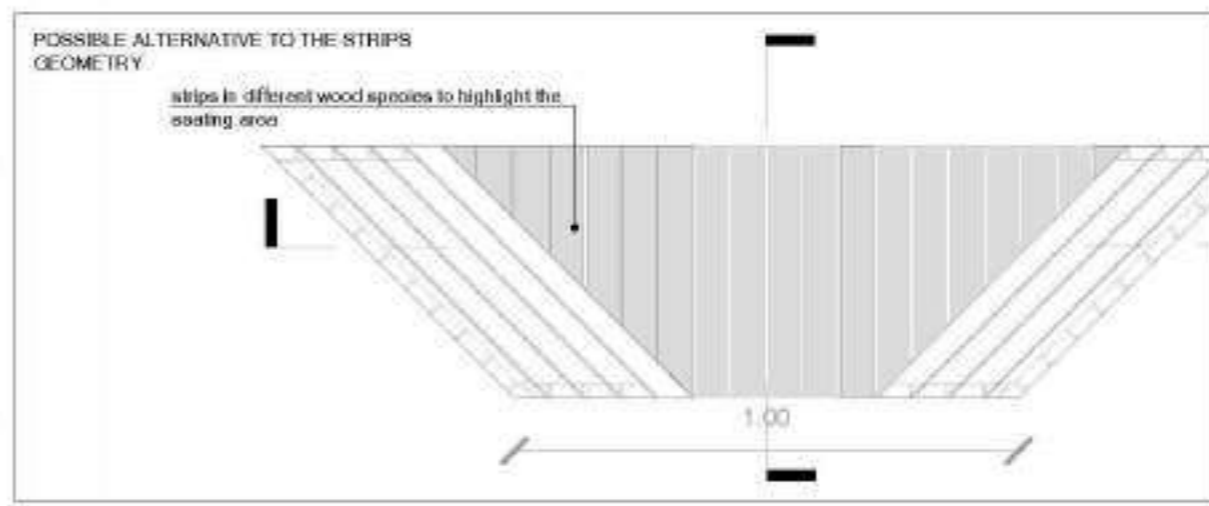
SECTION BB'



strips in different wood species to highlight the seating area



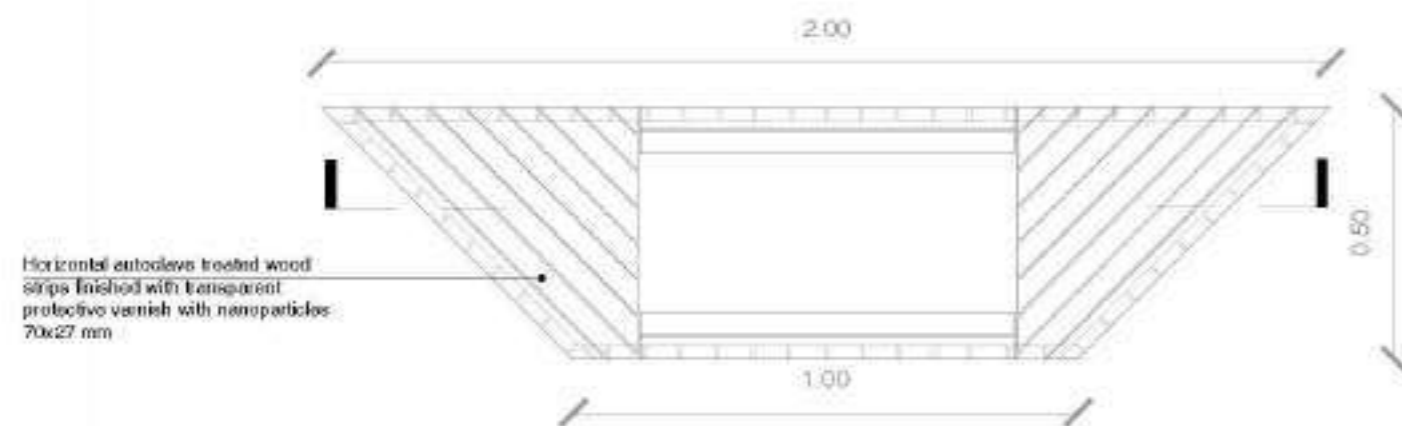
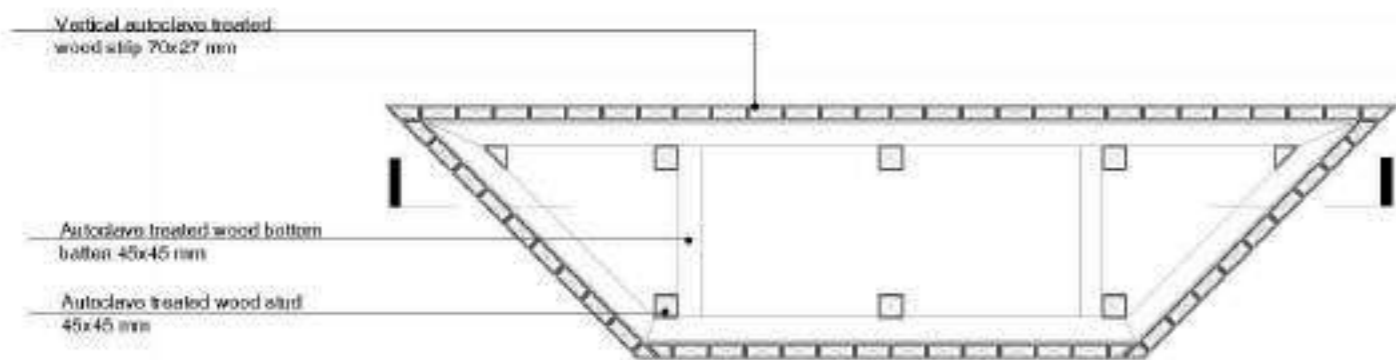
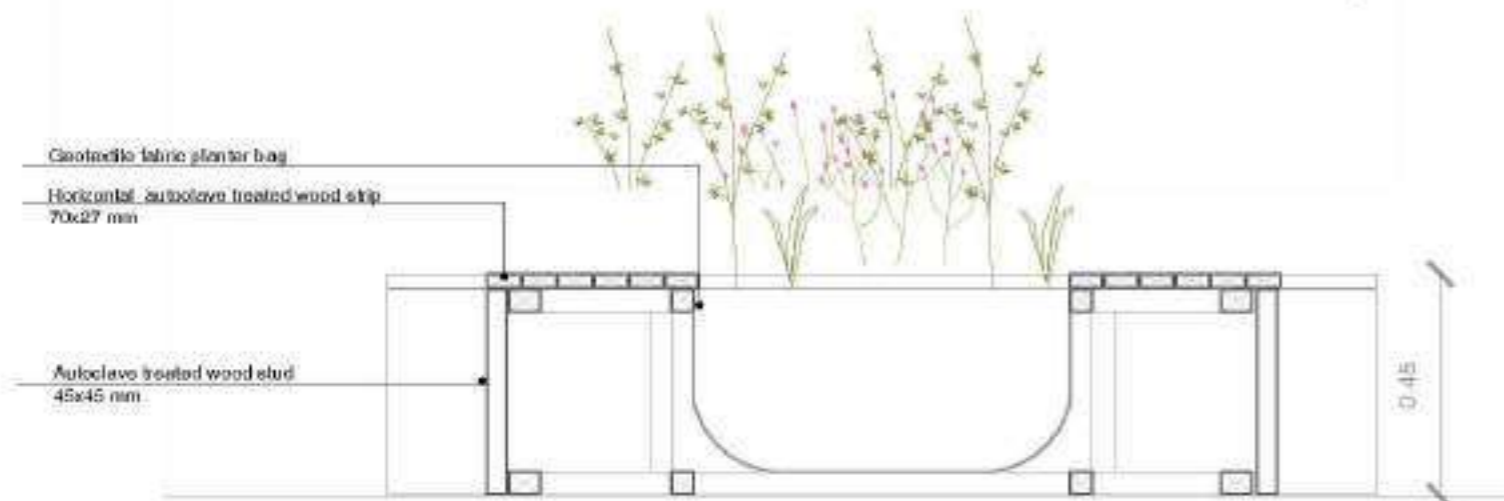
- Horizontal wood strip (pe, teak, iroko, ...) treated with transparent protective varnish with nanoparticles 48x27 mm



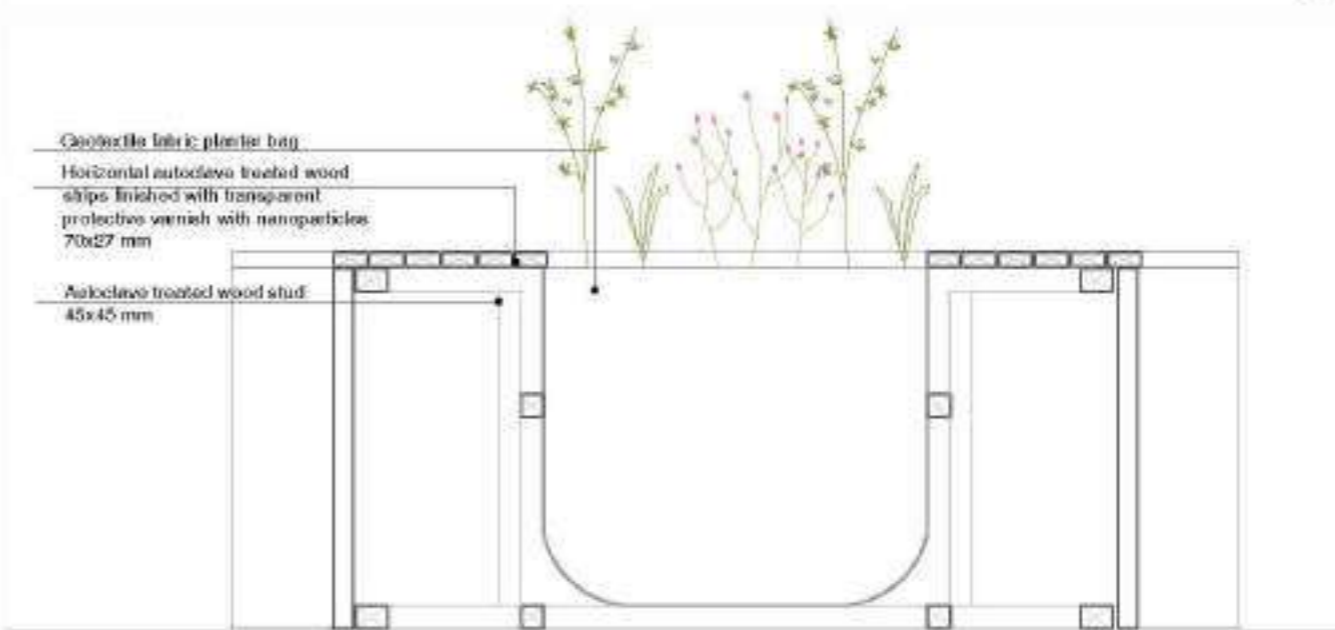
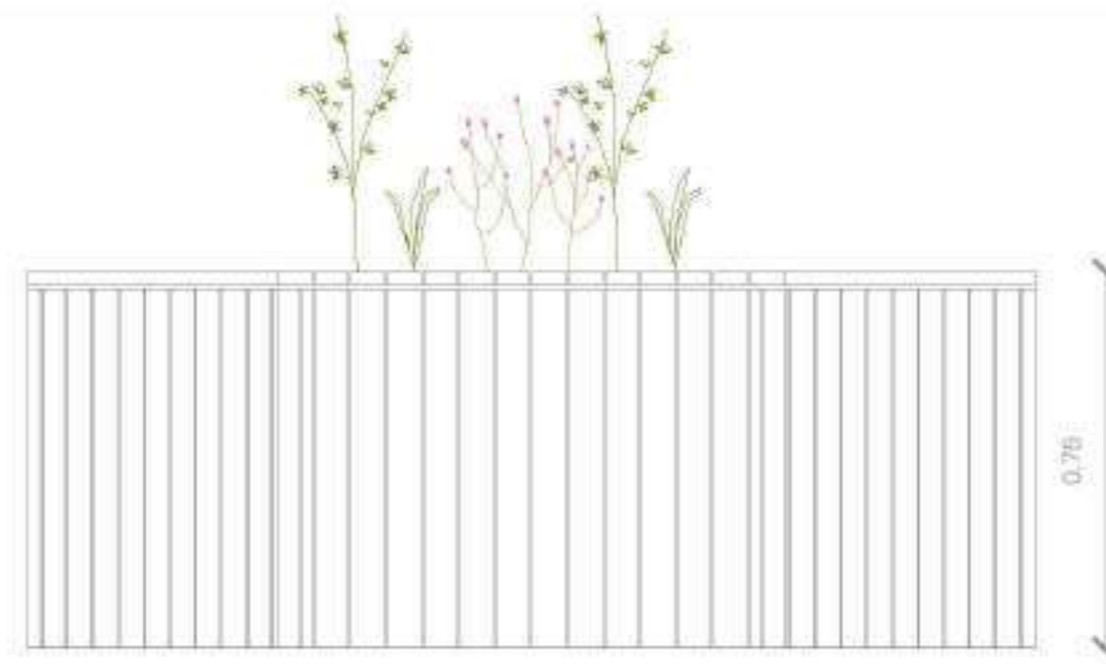
POSSIBLE ALTERNATIVE TO THE STRIPS GEOMETRY

strips in different wood species to highlight the seating area

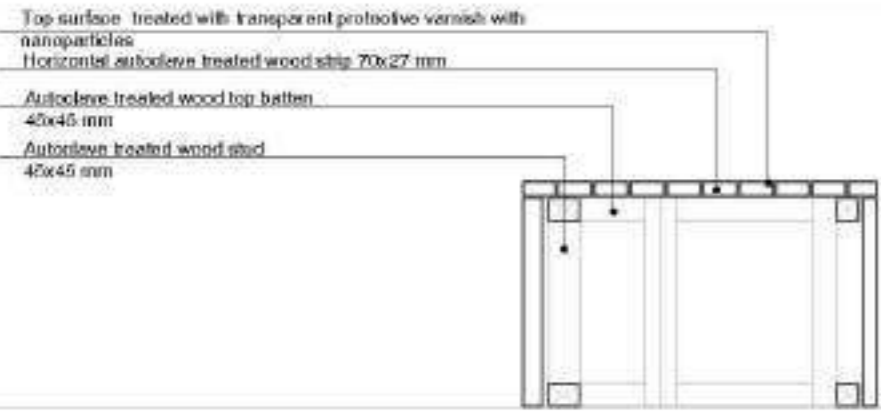
C.3



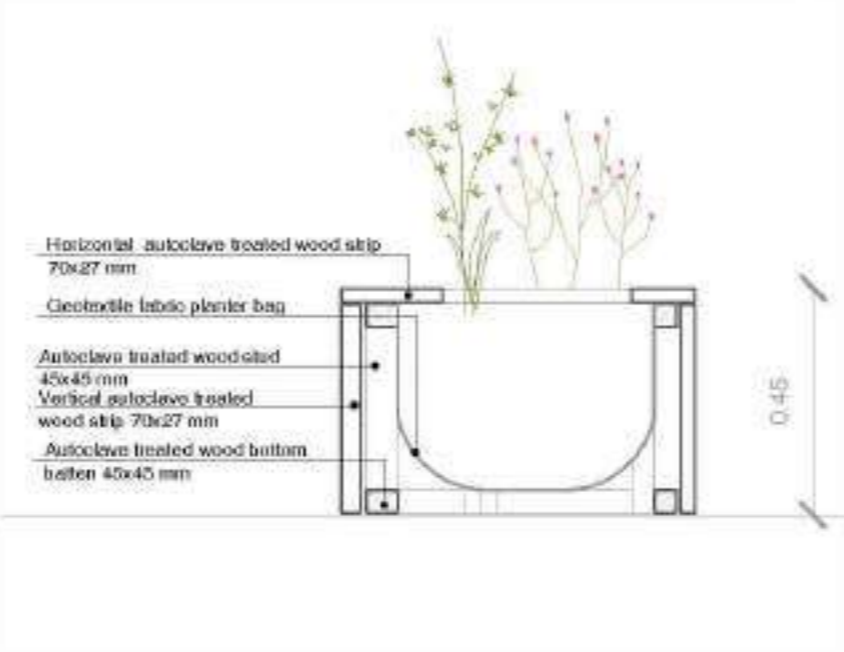
C.4



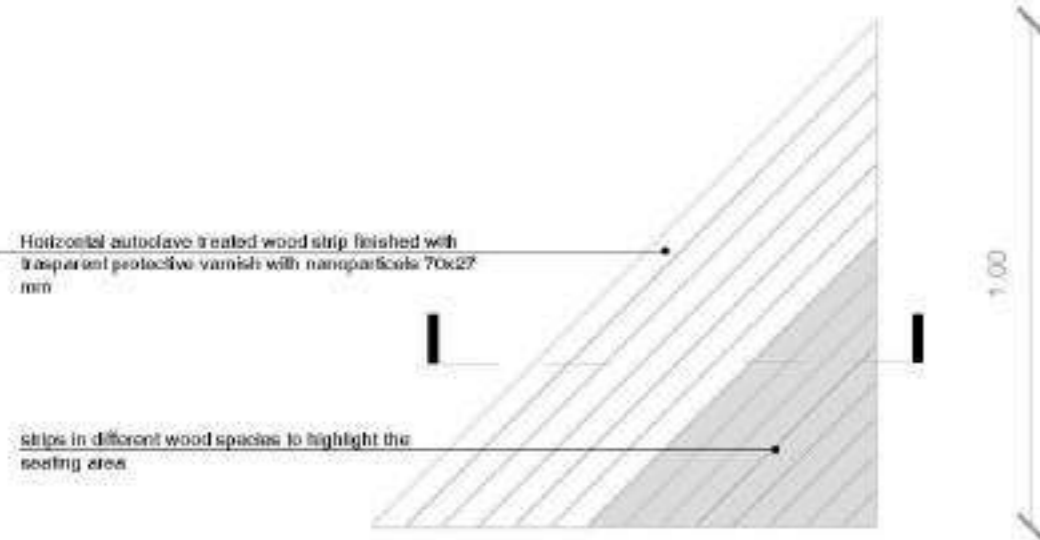
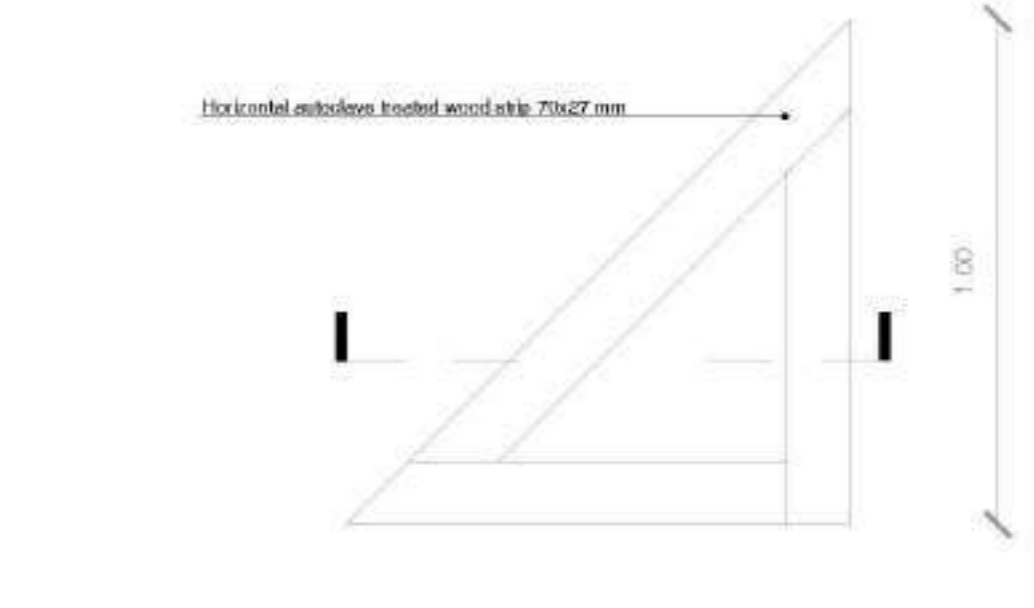
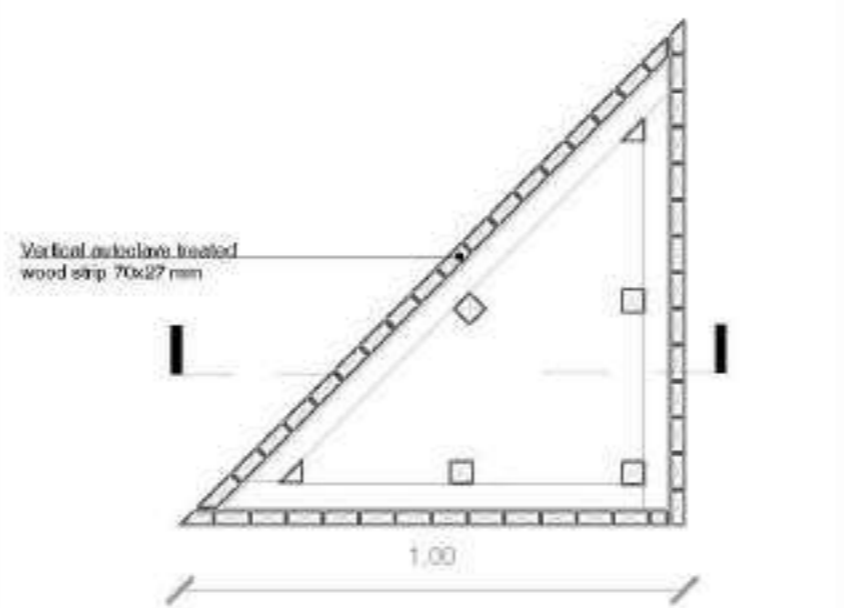
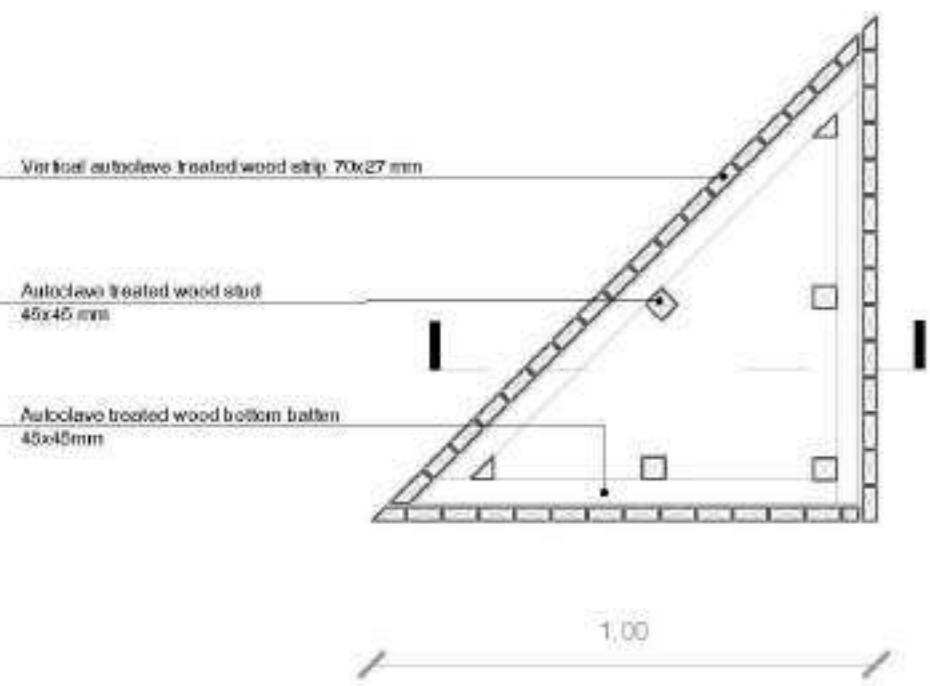
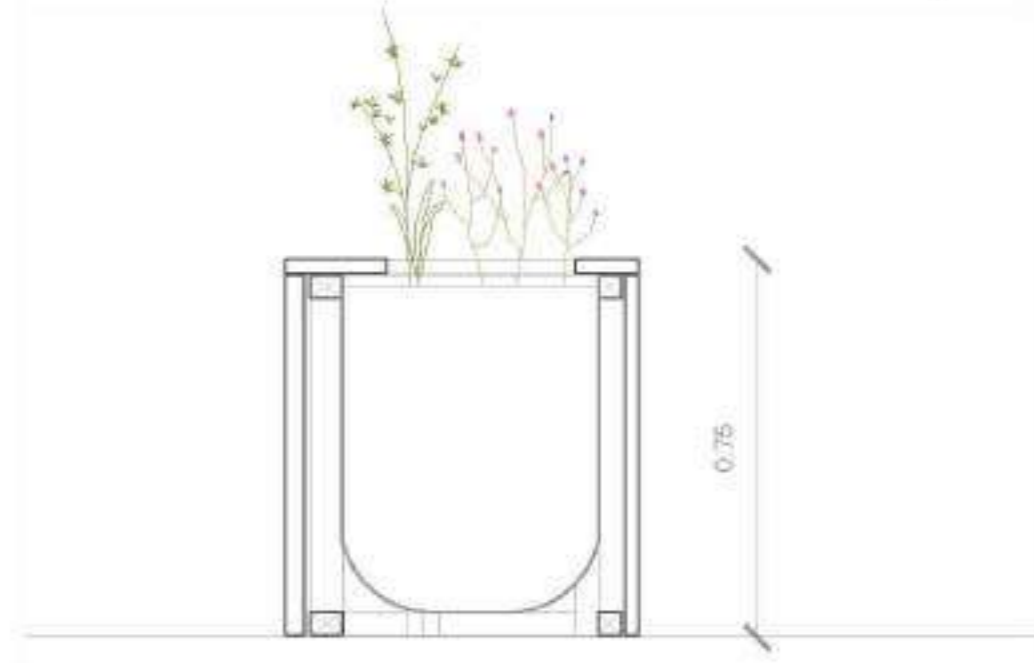
B.2

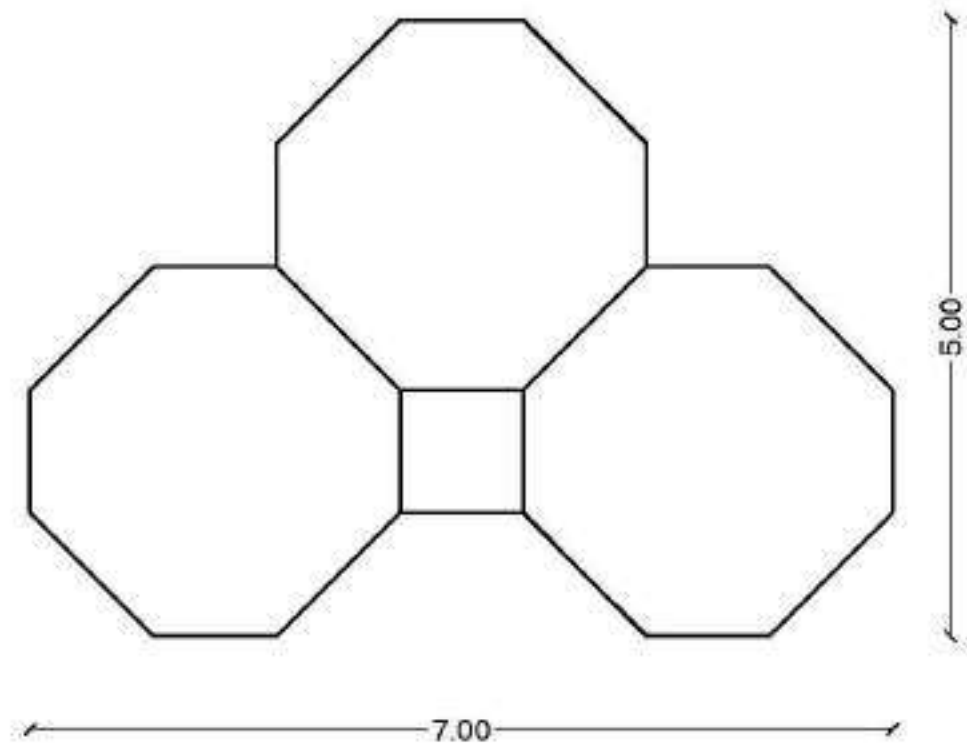
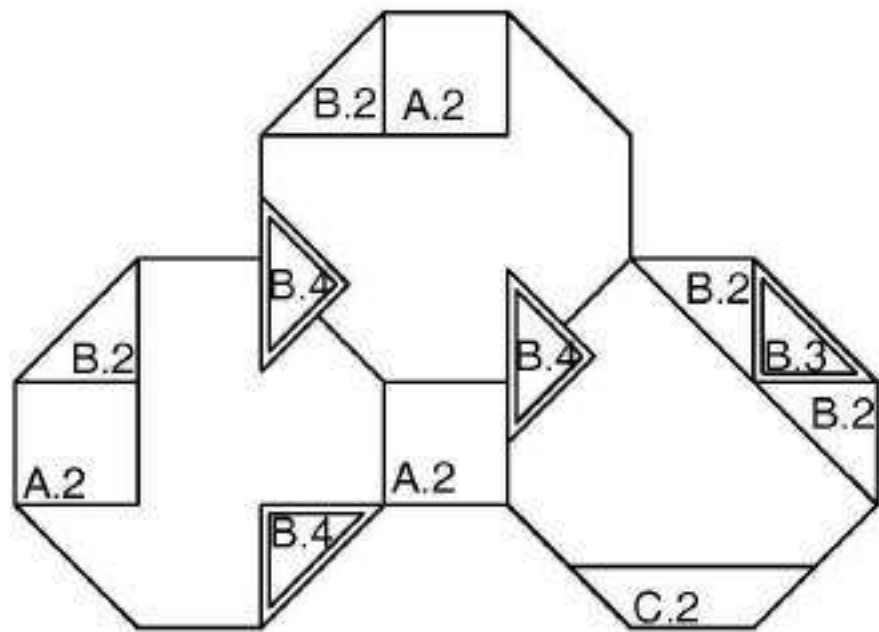


B.3



B.4





20269 - Safely Connected: Sustainable Common Accessibility of Lively City Centres for Healthy People Activity Deliverable
[\[ANNEX V - DEL03\]](#)

[Panels of the new public space design
for SGL]

[This ANNEX is available in HQ at the following \[Link\] in order to respect the dimension of the overall file. All the panels are also inserted in the text of chapter 6.](#)

EIT Urban Mobility - Mobility for more liveable urban spaces

EIT Urban Mobility

Milan, December, 31st - 2020



EIT Urban Mobility is supported by the EIT,
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20269 - Safely Connected: Sustainable Common Accessibility of Lively City Centres for Healthy People Activity Deliverable
[ANNEX VI - DEL03]

[Survey on the new pedestrian areas of SGL for citizens engagement]

Annex also available in HQ at the following [LINK](#)

EIT Urban Mobility - Mobility for more liveable urban spaces

EIT Urban Mobility

Milan, December, 31st - 2020

eiturbanmobility.eu



EIT Urban Mobility is supported by the EIT,
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LA PIÉTONNISATION DU CENTRE- VILLE DE SAINT-GERMAIN-EN-LAYE

Novembre 2020

“opinionway

15 place de la République 75003 Paris



ESOMAR
member



Bruno Jeanbart

Directeur général adjoint

Tel: 01 81 81 83 00

bjeanbart@opinion-way.com



LA MÉTHODOLOGIE

“opinionway



La méthodologie



Un échantillon de **501 personnes** représentatif de la population résidant à Saint-Germain-en-Laye âgée de 18 ans et plus.



Un échantillon de **202 personnes** représentatif de la population résidant dans les communes environnantes âgée de 18 ans et plus.

Les échantillons ont été constitué selon **la méthode des quotas**, au regard des critères de sexe, d'âge, de catégorie socioprofessionnelle, de quartier (Saint Germain en Laye) et de commune de résidence (autres communes).



L'échantillon a été interrogé par **téléphone sur système CATI** (Computer Assisted Telephone Interview).



Les interviews ont été réalisées **du 20 au 24 novembre 2020**.



OpinionWay a réalisé cette enquête en appliquant les procédures et règles de la **norme ISO 20252**.



Les résultats de ce sondage doivent être lus en tenant compte des marges d'incertitude : 1,9 à 4,4 points pour un échantillon de 500 répondants ; et de 3 à 6,9 points pour un échantillon de 200 répondants.

Toute publication totale ou partielle doit impérativement utiliser la mention complète suivante :

**« Sondage OpinionWay pour Saint-Germain-en-Laye »
et aucune reprise de l'enquête ne pourra être dissociée de cet intitulé.**



Le profil des personnes interrogées à Saint-Germain-en Laye



Résidents de Saint-Germain-en-Laye âgés de 18 ans et plus.

Source : **INSEE**



	Sexe	%
	Hommes	47%
	Femmes	53%



	Age	%
	18-24 ans	10%
	25-34 ans	16%
	35-49 ans	28%
	50-64 ans	24%
	65 ans et plus	22%



	Activité professionnelle	%
	Catégories socioprofessionnelles supérieures	45%
	Artisans / Commerçants / Chefs d'entreprise	3%
	Professions libérales / Cadres	25%
	Professions intermédiaires	17%
	Catégories populaires	18%
	Employés	14%
	Ouvriers	5%
	Inactifs	37%
	Retraités	23%
	Autres inactifs	14%



	Zone de résidence	%
	Centre	21%
	Est	27%
	Nord	25%
	Sud	28%



Le profil des personnes interrogées dans les communes environnantes



Résidents de communes environnantes de Saint-Germain-en-Laye âgés de 18 ans et plus.

Source : **INSEE**



	Sexe	%
	Hommes	46%
	Femmes	54%



	Activité professionnelle	%
	Catégories socioprofessionnelles supérieures	46%
	Artisans / Commerçants / Chefs d'entreprise	4%
	Professions libérales / Cadres	28%
	Professions intermédiaires	14%
	Catégories populaires	13%
	Employés	10%
	Ouvriers	3%
	Inactifs	41%
	Retraités	28%
	Autres inactifs	13%



	Age	%
	18-24 ans	9%
	25-34 ans	11%
	35-49 ans	27%
	50-64 ans	25%
	65 ans et plus	27%



	Commune de résidence	%
	Aigremont	2%
	Chambourcy	13%
	Le Pecq	37%
	Le Vésinet	36%
	Saint-Nom-la-Bretèche	11%



LES RÉSULTATS

01



**La perception de la ville de
Saint-Germain-en-Laye**

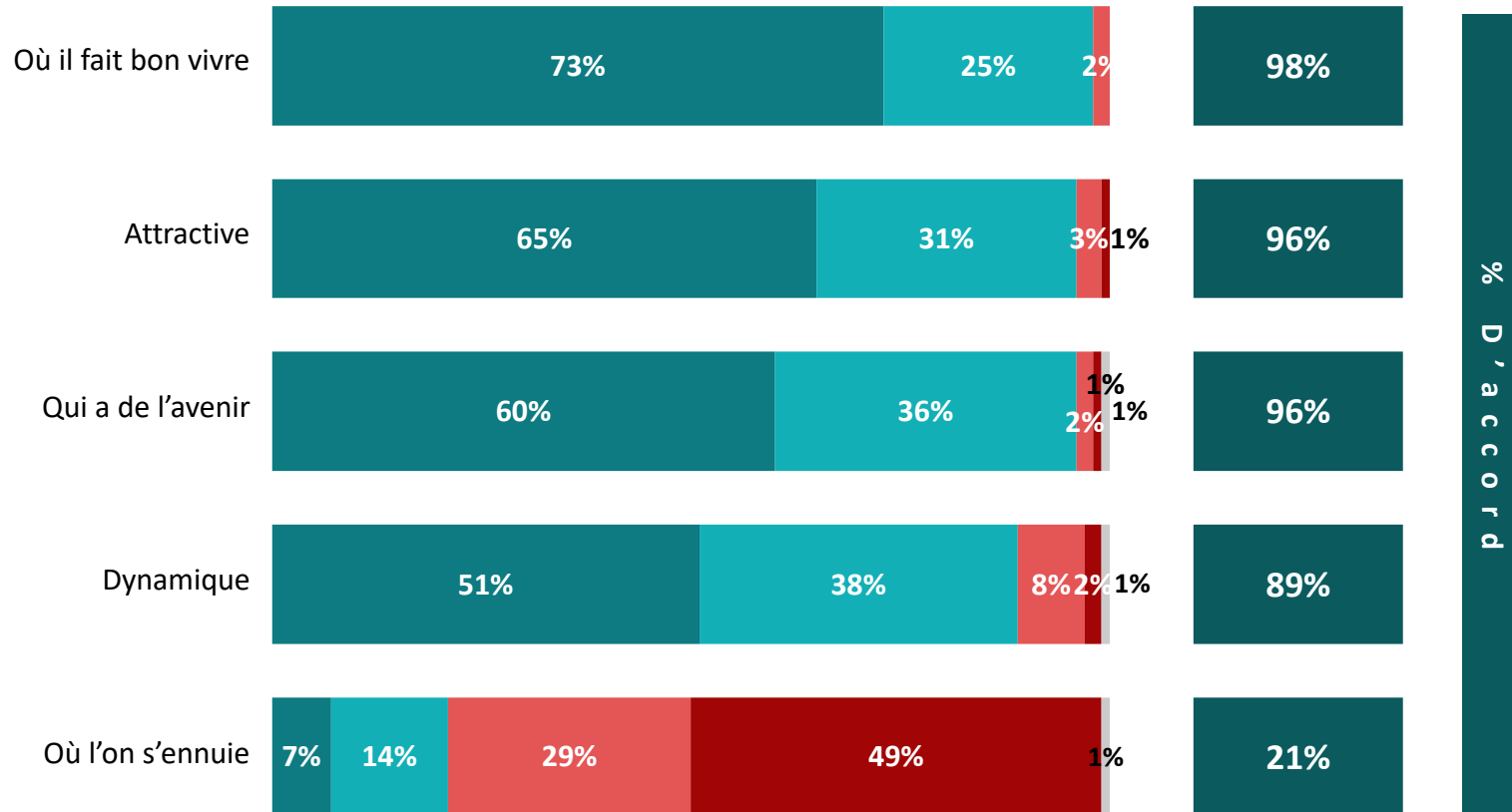


La perception de Saint-Germain-en-Laye

Q. Diriez-vous que Saint-Germain-en-Laye est une ville... ?



501 personnes



Tout à fait d'accord
 Plutôt d'accord
 Plutôt pas d'accord
 Pas du tout d'accord
 NSP



La perception de Saint-Germain-en-Laye

Q. Diriez-vous que Saint-Germain-en-Laye est une ville... ?



502 personnes

	% D'accord	Sexe		Âge					Statut			Zone de résidence			
		Homme	Femme	18-24 ans	25-34 ans	35-49 ans	50-64 ans	65 ans et plus	CSP+	CSP-	Inactifs	Centre	Est	Nord	Sud
Où il fait bon vivre	98%	97%	98%	93%	98%	98%	100%	98%	99%	97%	97%	97%	99%	98%	96%
Attractive	96%	96%	97%	90%	98%	95%	98%	98%	97%	95%	98%	99%	97%	96%	96%
Qui a de l'avenir	96%	97%	96%	88%	99%	95%	99%	95%	98%	96%	94%	97%	95%	96%	95%
Dynamique	89%	89%	89%	82%	91%	95%	82%	90%	89%	95%	86%	90%	91%	91%	88%
Où l'on s'ennuie	21%	24%	20%	39%	22%	16%	24%	19%	18%	24%	25%	26%	17%	21%	20%



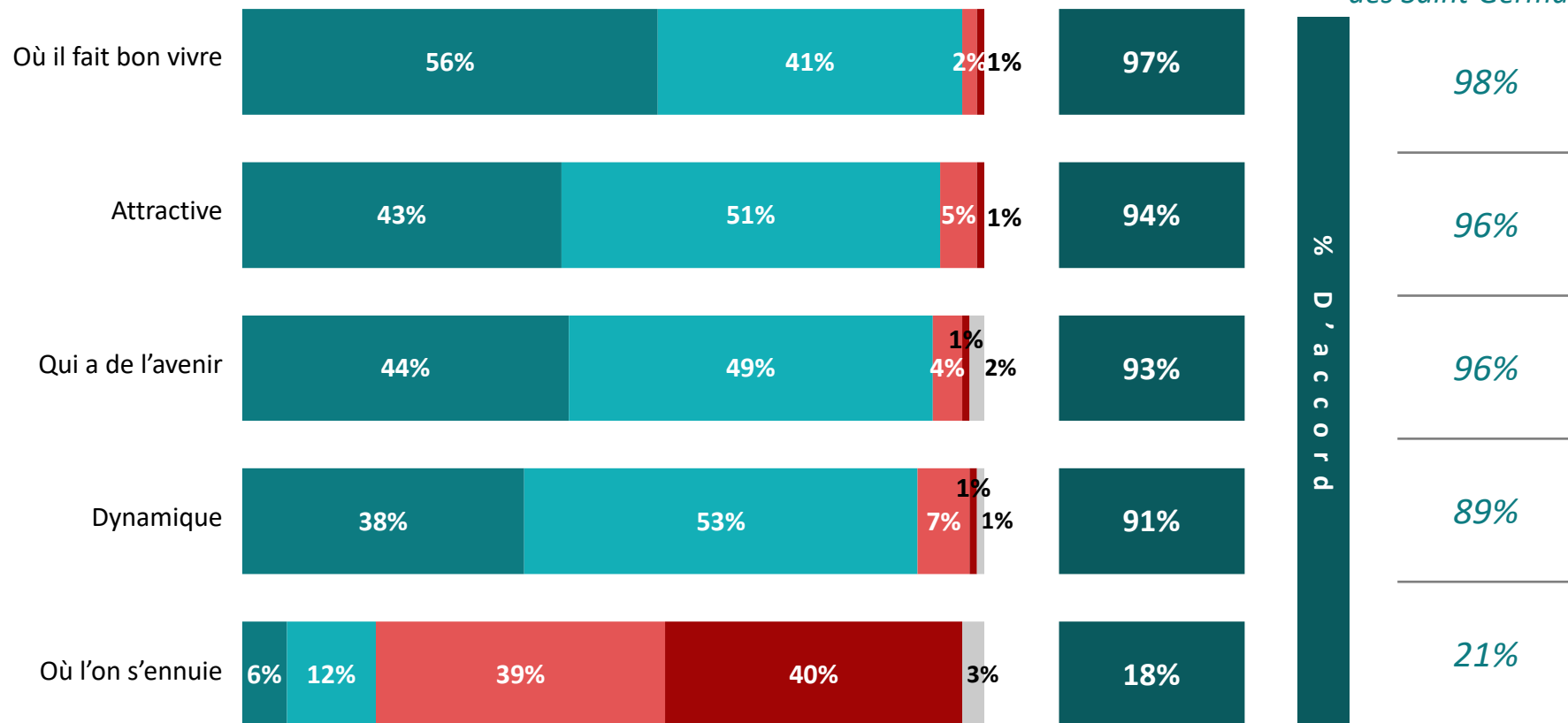
La perception de Saint-Germain-en-Laye

Q. Diriez-vous que Saint-Germain-en-Laye est une ville... ?



202 personnes

Rappel % auprès des Saint-Germainois



Tout à fait d'accord
 Plutôt d'accord
 Plutôt pas d'accord
 Pas du tout d'accord
 NSP



La perception de Saint-Germain-en-Laye

Q. Diriez-vous que Saint-Germain-en-Laye est une ville... ?



202
personnes

	% D'accord	Fréquentation de la ville		
		Souvent	De temps en temps	Rarement ou jamais*
Où il fait bon vivre	97%	98%	96%	98%
Attractive	94%	95%	96%	89%
Qui a de l'avenir	93%	95%	92%	91%
Dynamique	91%	95%	90%	85%
Où l'on s'ennuie	18%	12%	17%	33%

*Base de répondants faible, résultats à interpréter avec précaution

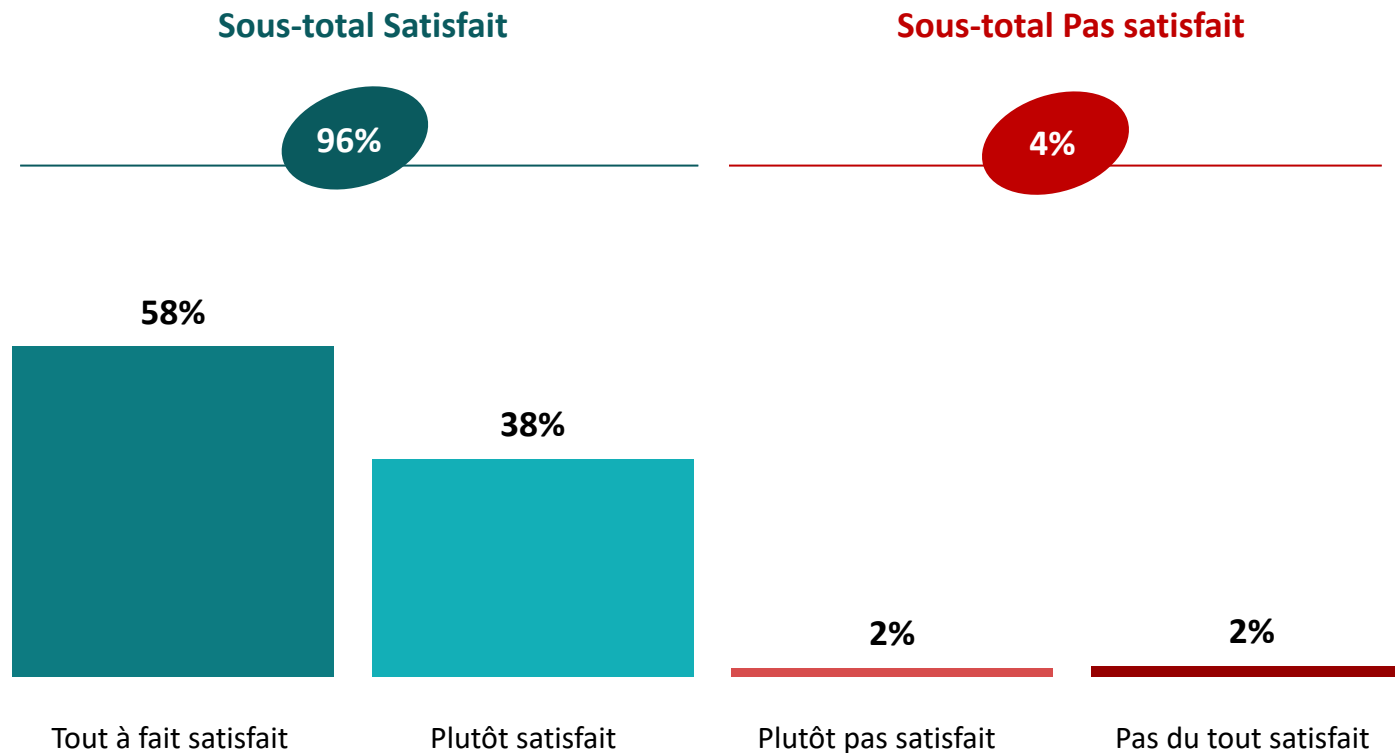


La satisfaction de vivre à Saint-Germain-en-Laye

Q. Vous personnellement, êtes-vous tout à fait satisfait, plutôt, plutôt pas ou pas du tout satisfait du fait de vivre à Saint-Germain-en-Laye ?



501
personnes





La satisfaction de vivre à Saint-Germain-en-Laye



Q. Vous personnellement, êtes-vous tout à fait satisfait, plutôt, plutôt pas ou pas du tout satisfait du fait de vivre à Saint-Germain-en-Laye ?

	% Total	Sexe		Âge					Statut			Zone de résidence			
		Homme	Femme	18-24 ans	25-34 ans	35-49 ans	50-64 ans	65 ans et plus	CSP+	CSP-	Inactifs	Centre	Est	Nord	Sud
Sous-total Satisfait	96%	95%	98%	96%	96%	95%	98%	97%	96%	94%	98%	96%	97%	97%	97%
Tout à fait satisfait	58%	57%	59%	37%	52%	62%	63%	61%	61%	54%	56%	59%	59%	56%	59%
Plutôt satisfait	38%	38%	39%	59%	44%	33%	35%	36%	35%	40%	42%	37%	38%	41%	38%
Sous-total Pas satisfait	4%	5%	2%	4%	4%	5%	2%	3%	4%	6%	2%	4%	3%	3%	3%
Plutôt pas satisfait	2%	2%	1%	-	2%	2%	1%	3%	2%	1%	1%	2%	2%	-	2%
Pas du tout satisfait	2%	3%	1%	4%	2%	3%	1%	-	2%	5%	1%	2%	1%	3%	1%

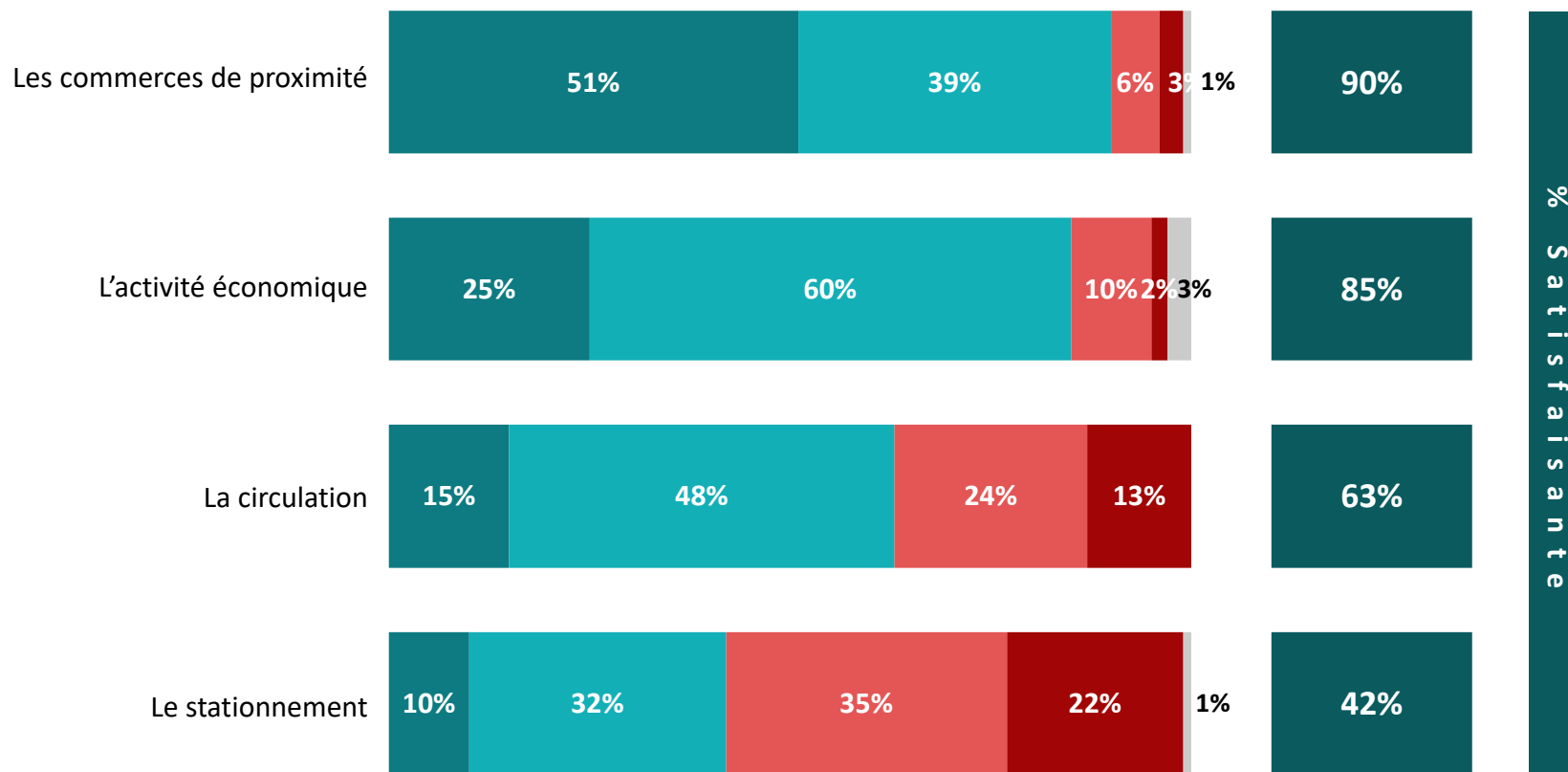


La satisfaction vis-à-vis de la situation à Saint-Germain-en-Laye



501 personnes

Q. Diriez-vous qu'à Saint-Germain-en-Laye la situation actuelle est tout à fait satisfaisante, plutôt, plutôt pas ou pas du tout satisfaisante dans chacun des domaines suivants ?



Tout à fait satisfaisante
 Plutôt satisfaisante
 Plutôt pas satisfaisante
 Pas du tout satisfaisante
 NSP



La satisfaction vis-à-vis de la situation à Saint-Germain-en-Laye



Q. Diriez-vous qu'à Saint-Germain-en-Laye la situation actuelle est tout à fait satisfaisante, plutôt, plutôt pas ou pas du tout satisfaisante dans chacun des domaines suivants ?

	% Satisfaisante	Sexe		Âge					Statut			Zone de résidence			
		Homme	Femme	18-24 ans	25-34 ans	35-49 ans	50-64 ans	65 ans et plus	CSP+	CSP-	Inactifs	Centre	Est	Nord	Sud
Les commerces de proximité	90%	92%	89%	90%	97%	89%	92%	86%	95%	86%	87%	90%	93%	91%	89%
L'activité économique	85%	85%	84%	88%	89%	85%	84%	78%	90%	82%	79%	89%	86%	84%	82%
La circulation	63%	66%	61%	57%	70%	66%	57%	64%	63%	72%	59%	62%	64%	52%	71%
Le stationnement	42%	46%	39%	41%	42%	49%	35%	42%	42%	50%	38%	38%	37%	40%	50%

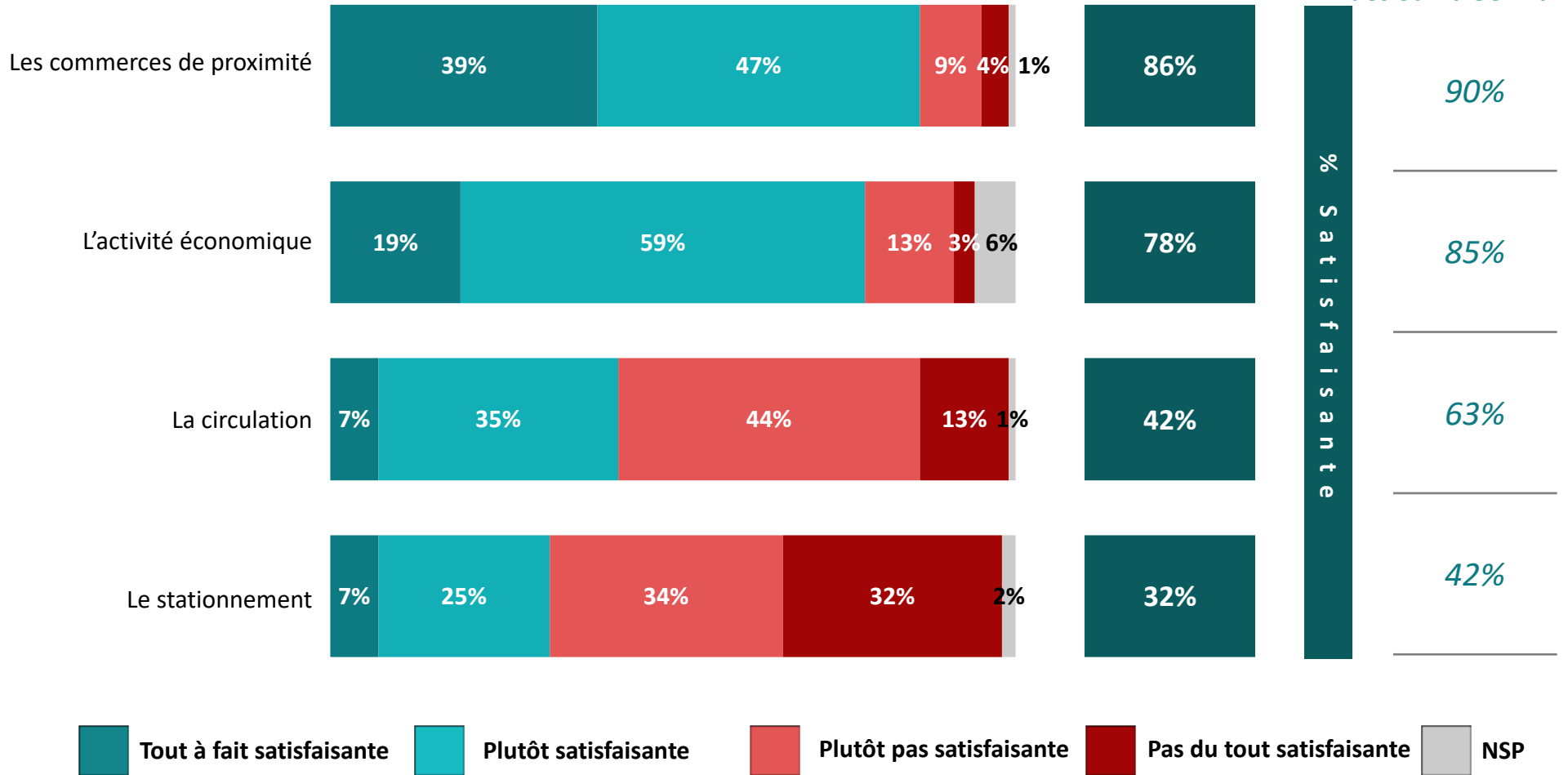


La satisfaction vis-à-vis de la situation à Saint-Germain-en-Laye

Q. Diriez-vous qu'à Saint-Germain-en-Laye la situation actuelle est tout à fait satisfaisante, plutôt satisfaisante, plutôt pas satisfaisante ou pas du tout satisfaisante dans chacun des domaines suivants ?



Rappel % auprès des Saint-Germanoises





La satisfaction vis-à-vis de la situation à Saint-Germain-en-Laye

Q. Diriez-vous qu'à Saint-Germain-en-Laye la situation actuelle est tout à fait satisfaisante, plutôt, plutôt pas ou pas du tout satisfaisante dans chacun des domaines suivants ?



	% Satisfaisante	Fréquentation de la ville		
		Souvent	De temps en temps	Rarement ou jamais*
Les commerces de proximité	86%	83%	92%	80%
L'activité économique	78%	74%	88%	65%
La circulation	42%	46%	42%	35%
Le stationnement	32%	39%	31%	20%

*Base de répondants faible, résultats à interpréter avec précaution

02



La piétonnisation du centre-ville



La satisfaction vis-à-vis de la piétonnisation d'une partie du centre-ville

Q. Depuis le mois de mai une partie du centre-ville est piétonnisée du vendredi au dimanche. Diriez-vous que vous êtes tout à fait satisfait, plutôt, plutôt pas ou pas du tout satisfait de cette piétonnisation partielle du centre-ville ?



501 Habitants de Saint-Germain-en-Laye



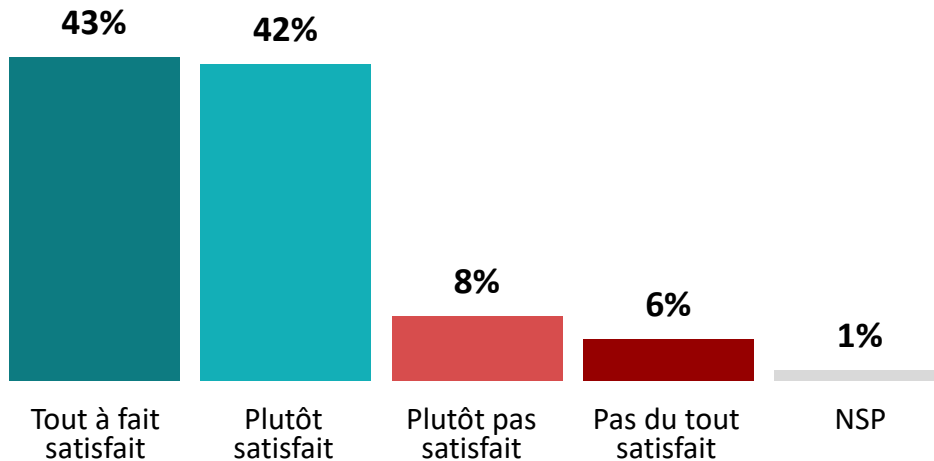
202 Habitants des communes environnantes

Sous-total Satisfait

85%

Sous-total Pas satisfait

14%

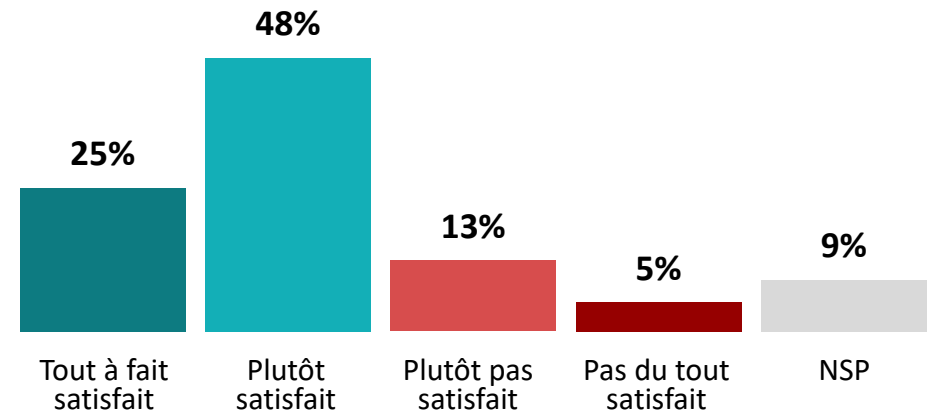


Sous-total Satisfait

73%

Sous-total Pas satisfait

18%





La satisfaction vis-à-vis de la piétonnisation d'une partie du centre-ville

Q. Depuis le mois de mai une partie du centre-ville est piétonnisée du vendredi au dimanche. Diriez-vous que vous êtes tout à fait satisfait, plutôt, plutôt pas ou pas du tout satisfait de cette piétonnisation partielle du centre-ville ?



	% Total	Sexe		Âge					Statut			Zone de résidence			
		Homme	Femme	18-24 ans	25-34 ans	35-49 ans	50-64 ans	65 ans et plus	CSP+	CSP-	Inactifs	Centre	Est	Nord	Sud
Sous-total Satisfait	85%	87%	82%	85%	88%	87%	82%	82%	86%	89%	80%	84%	85%	91%	82%
Tout à fait satisfait	43%	39%	46%	35%	45%	50%	45%	33%	48%	45%	35%	45%	44%	46%	39%
Plutôt satisfait	42%	48%	36%	50%	43%	37%	37%	49%	38%	44%	45%	39%	41%	45%	43%
Sous-total Pas satisfait	14%	12%	16%	15%	11%	12%	18%	14%	13%	11%	17%	14%	15%	7%	18%
Plutôt pas satisfait	8%	8%	9%	8%	7%	7%	11%	9%	8%	5%	11%	11%	10%	4%	9%
Pas du tout satisfait	6%	4%	7%	7%	4%	5%	7%	5%	5%	6%	6%	3%	5%	3%	9%



La satisfaction vis-à-vis de la piétonnisation d'une partie du centre-ville

Q. Depuis le mois de mai une partie du centre-ville est piétonnisée du vendredi au dimanche. Diriez-vous que vous êtes tout à fait satisfait, plutôt, plutôt pas ou pas du tout satisfait de cette piétonnisation partielle du centre-ville ?



	% Total	Fréquentation de la ville		
		Souvent	De temps en temps	Rarement ou jamais*
Sous-total Satisfait	73%	75%	79%	60%
Tout à fait satisfait	25%	25%	29%	18%
Plutôt satisfait	48%	50%	50%	42%
Sous-total Pas satisfait	18%	21%	13%	18%
Plutôt pas satisfait	13%	16%	9%	11%
Pas du tout satisfait	5%	5%	4%	7%

*Base de répondants faible, résultats à interpréter avec précaution



Notoriété du projet de nouveaux espaces de piétonnisation

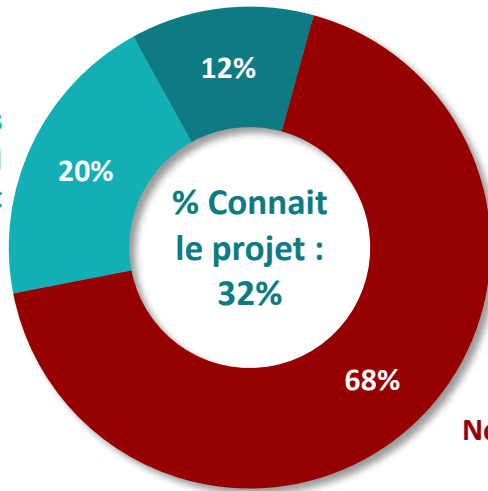
Q. Avez-vous déjà entendu parler du projet de nouveaux espaces de piétonnisation du centre de Saint-Germain-en-Laye ?



501 Habitants de Saint-Germain-en-Laye

Oui, et vous savez précisément de quoi il s'agit

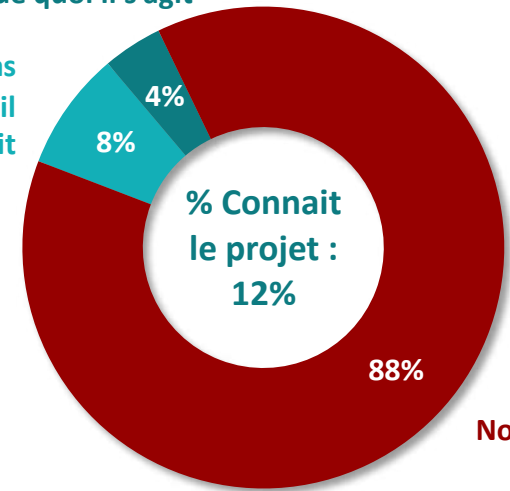
Oui, mais vous ne savez pas précisément de quoi il s'agit



202 Habitants des communes environnantes

Oui, et vous savez précisément de quoi il s'agit

Oui, mais vous ne savez pas précisément de quoi il s'agit





Notoriété du projet de nouveaux espaces de piétonnisation

Q. Avez-vous déjà entendu parler du projet de nouveaux espaces de piétonnisation du centre-ville de Saint-Germain-en-Laye ?



	Sexe		Âge					Statut			Zone de résidence				
	% Total	Homme	Femme	18-24 ans	25-34 ans	35-49 ans	50-64 ans	65 ans et plus	CSP+	CSP-	Inactifs	Centre	Est	Nord	Sud
Sous-total Oui	32%	31%	33%	22%	28%	33%	36%	35%	33%	30%	32%	31%	30%	37%	31%
Oui, et vous savez précisément de quoi il s'agit	12%	11%	13%	8%	9%	13%	12%	16%	12%	9%	14%	16%	12%	9%	14%
Oui, mais vous ne savez pas précisément de quoi il s'agit	20%	20%	20%	14%	19%	20%	24%	19%	21%	21%	18%	15%	18%	28%	17%
Non, jamais	68%	69%	67%	78%	72%	67%	64%	65%	67%	70%	68%	69%	70%	63%	69%



Notoriété du projet de nouveaux espaces de piétonnisation

Q. Avez-vous déjà entendu parler du projet de nouveaux espaces de piétonnisation du centre-ville de Saint-Germain-en-Laye ?



	Fréquentation de la ville			
	% Total	Souvent	De temps en temps	Rarement ou jamais*
Sous-total Oui	12%	13%	11%	12%
Oui, et vous savez précisément de quoi il s'agit	4%	7%	1%	5%
Oui, mais vous ne savez pas précisément de quoi il s'agit	8%	6%	10%	7%
Non, jamais	88%	87%	89%	88%

*Base de répondants faible, résultats à interpréter avec précaution



Opinion concernant le projet de nouveaux espaces de piétonnisation

Q. Diriez-vous que vous êtes tout à fait favorable, plutôt favorable, plutôt pas favorable ou pas du tout favorable à de nouveaux espaces de piétonnisation du centre-ville de Saint-Germain-en-Laye ?



501 Habitants de Saint-Germain-en-Laye



202 Habitants des communes environnantes

Sous-total Favorable

75%

Sous-total Pas Favorable

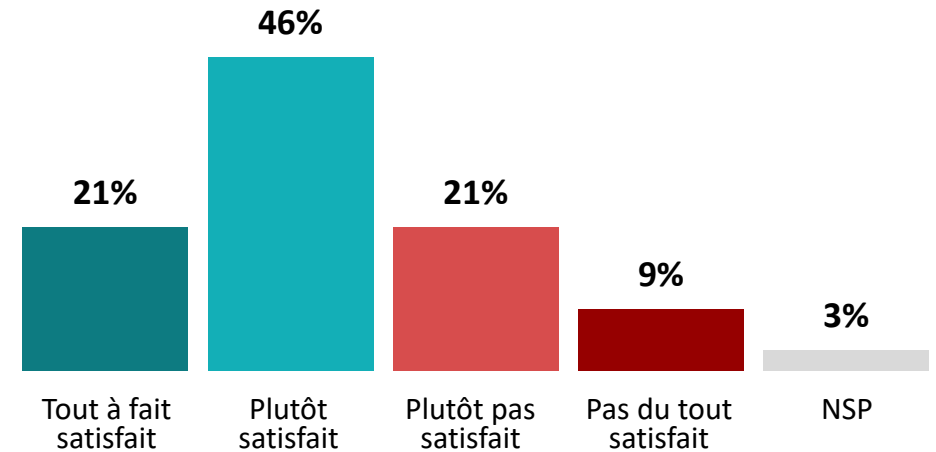
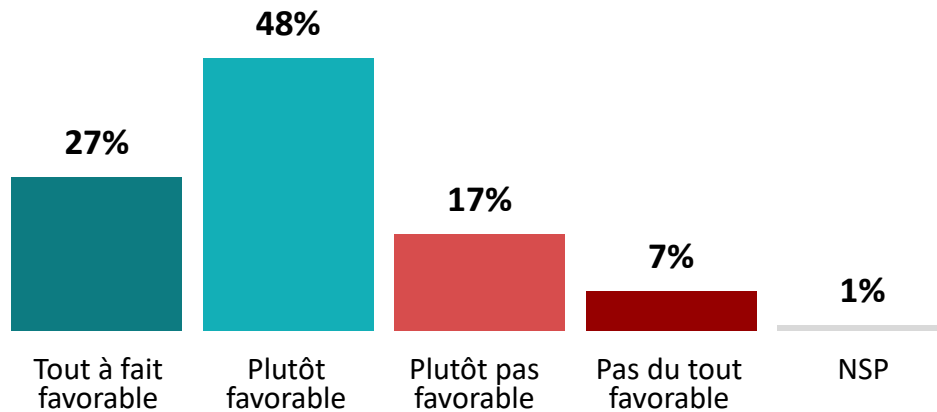
24%

Sous-total Favorable

67%

Sous-total Pas Favorable

30%





Opinion concernant le projet de nouveaux espaces de piétonnisation

Q. Diriez-vous que vous êtes tout à fait favorable, plutôt favorable, plutôt pas favorable ou pas du tout favorable à de nouveaux espaces de piétonnisation du centre-ville de Saint-Germain-en-Laye ?



	% Total	Sexe		Âge					Statut			Zone de résidence			
		Homme	Femme	18-24 ans	25-34 ans	35-49 ans	50-64 ans	65 ans et plus	CSP+	CSP-	Inactifs	Centre	Est	Nord	Sud
Sous-total favorable	75%	78%	73%	82%	83%	76%	74%	67%	75%	78%	74%	77%	75%	74%	75%
Tout à fait favorable	27%	29%	26%	37%	31%	32%	25%	16%	30%	28%	23%	28%	29%	24%	27%
Plutôt favorable	48%	49%	47%	45%	52%	44%	49%	51%	45%	50%	51%	49%	46%	50%	48%
Sous-total Pas favorable	24%	22%	25%	18%	17%	23%	26%	30%	24%	21%	24%	21%	23%	24%	25%
Plutôt pas favorable	17%	15%	19%	15%	10%	18%	19%	21%	16%	17%	18%	16%	17%	18%	18%
Pas du tout favorable	7%	7%	6%	3%	7%	5%	7%	9%	8%	4%	6%	5%	6%	6%	7%



Opinion concernant le projet de nouveaux espaces de piétonnisation

Q. Diriez-vous que vous êtes tout à fait favorable, plutôt favorable, plutôt pas favorable ou pas du tout favorable à de nouveaux espaces de piétonnisation du centre-ville de Saint-Germain-en-Laye ?



	% Total	Fréquentation de la ville		
		Souvent	De temps en temps	Rarement ou jamais*
Sous-total favorable	67%	66%	69%	63%
Tout à fait favorable	21%	20%	27%	10%
Plutôt favorable	46%	46%	42%	53%
Sous-total Pas favorable	30%	33%	30%	26%
Plutôt pas favorable	21%	18%	24%	21%
Pas du tout favorable	9%	15%	6%	5%

*Base de répondants faible, résultats à interpréter avec précaution



Les raisons qui motivent le soutien au projet de piétonnisation

Q. Pourquoi êtes-vous favorable à ce projet ?

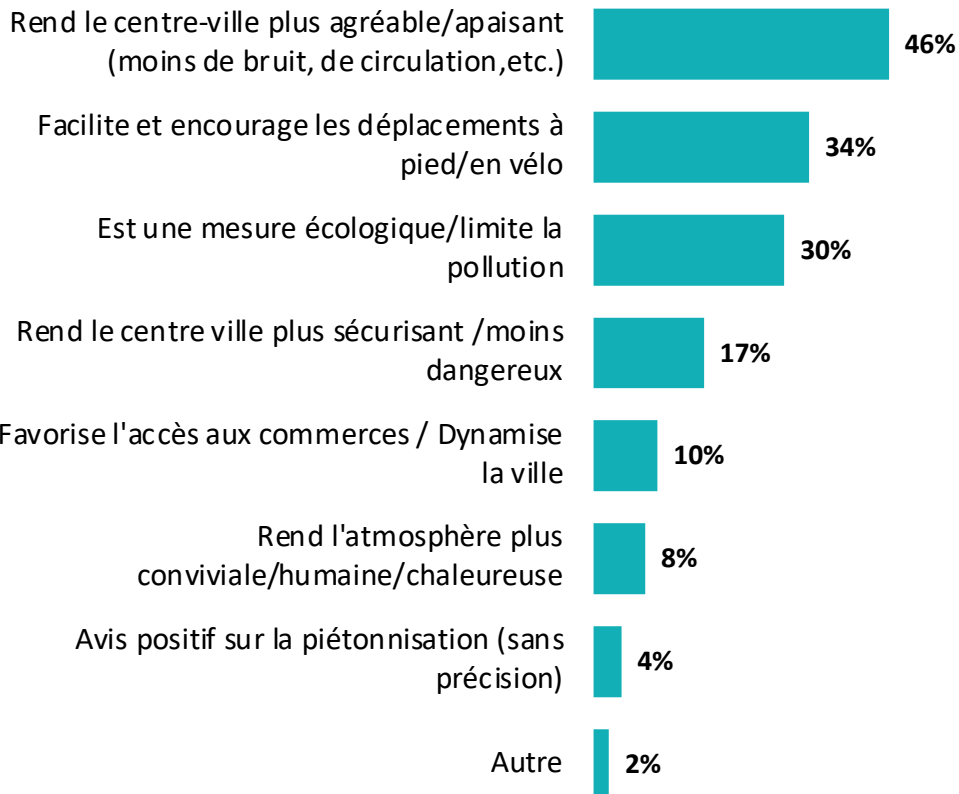
Question uniquement posée aux personnes ayant déclaré être favorables au projet.

Question ouverte – réponses spontanées – total supérieur à 100%



376 Habitants de Saint-Germain-en-Laye

La piétonnisation des espaces...



135 Habitants des communes environnantes

La piétonnisation des espaces...





Les raisons qui motivent l'opposition au projet de piétonnisation

Q. Pourquoi êtes-vous défavorable à ce projet ?

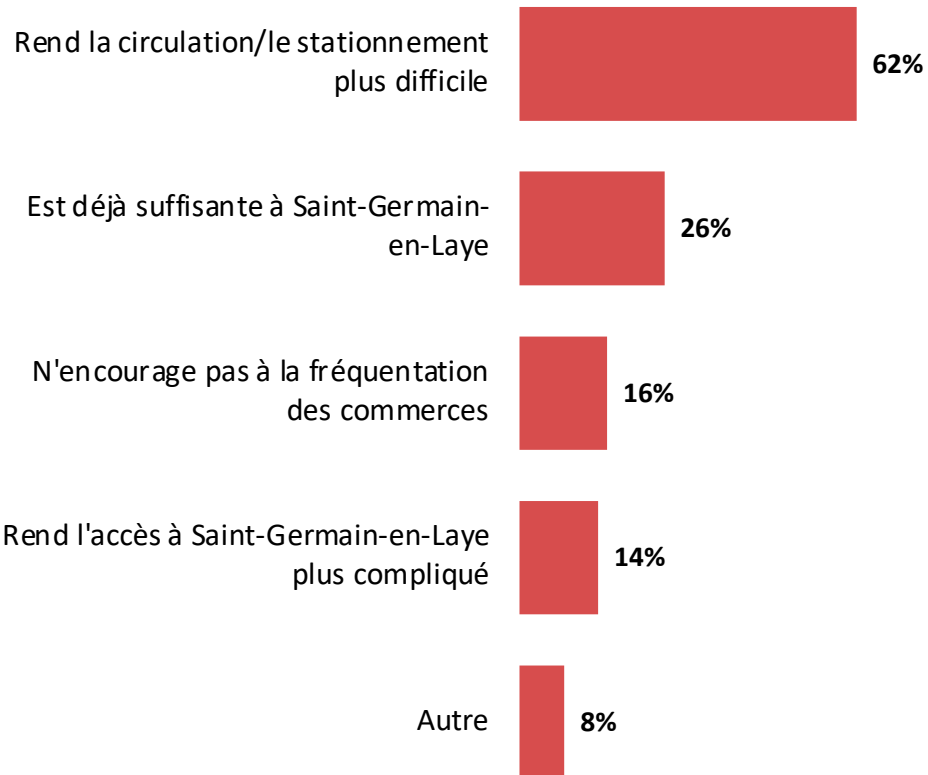
Question uniquement posée aux personnes ayant déclaré être défavorables au projet.

Question ouverte – réponses spontanées – total supérieur à 100%



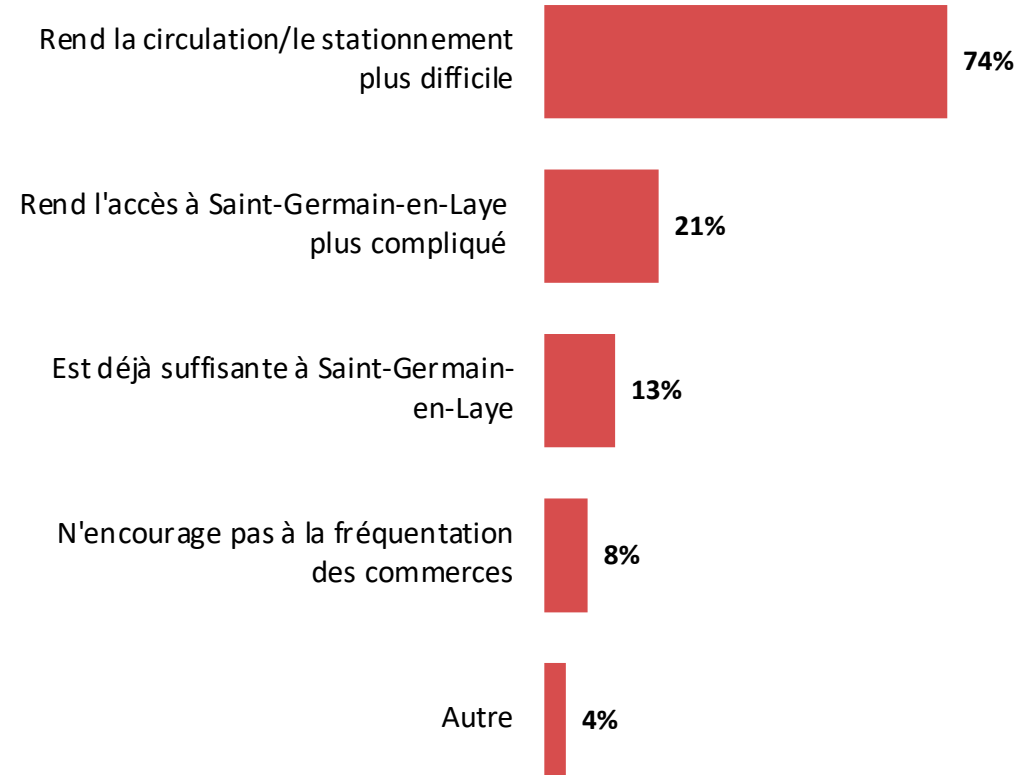
119 Habitants de Saint-Germain-en-Laye

La piétonnisation des espaces...



62 Habitants des communes environnantes

La piétonnisation des espaces...



03



**La mise en place de la
piétonnisation du centre-ville**



Les rues à piétonniser en priorité en cas de concrétisation du projet

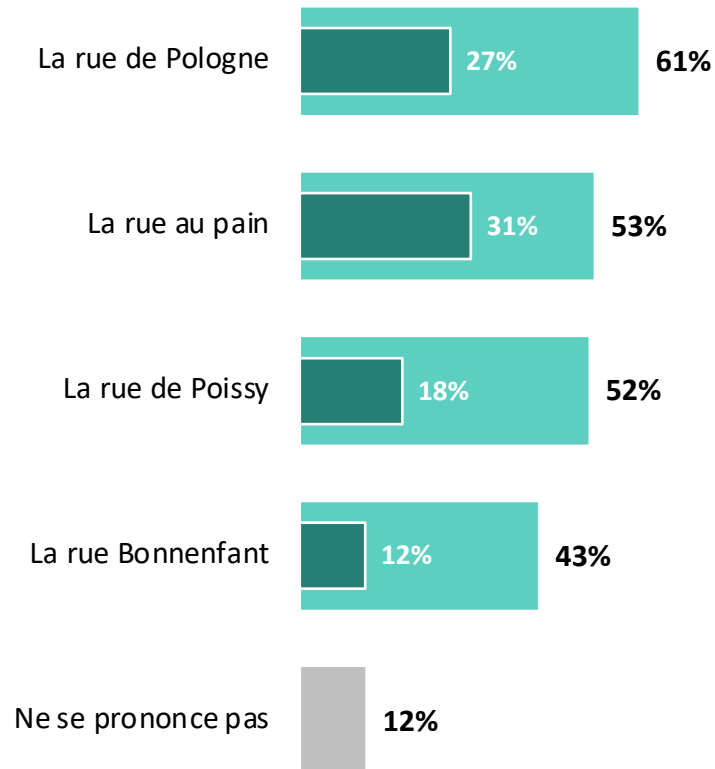
Q. En cas de création de nouveaux espaces de piétonnisation du centre-ville, quelle rue devrait être concernée en priorité ? En premier ? Et ensuite ?

Question uniquement posée aux personnes ayant déclaré être favorables au projet.



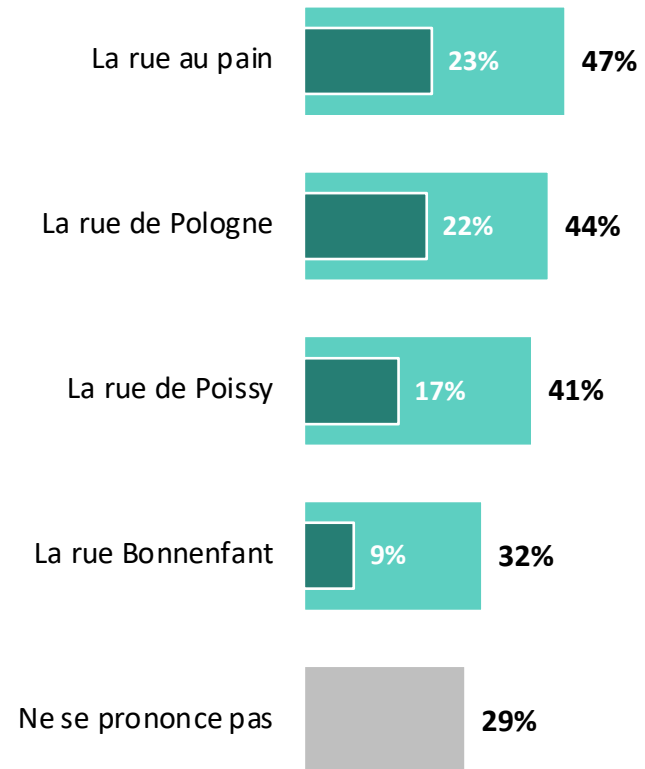
376 Habitants de Saint-Germain-en-Laye

■ En premier ■ Au total



135 Habitants des communes environnantes

■ En premier ■ Au total





Les rues à piétonniser en priorité en cas de concrétisation du projet

Q. En cas de création de nouveaux espaces de piétonnisation du centre-ville, quelle rue devrait être concernée en priorité ? En premier ? Et ensuite ?



Question uniquement posée aux personnes ayant déclaré être favorables au projet.

	% Au total	Sexe		Âge					Statut			Zone de résidence			
		Homme	Femme	18-24 ans	25-34 ans	35-49 ans	50-64 ans	65 ans et plus	CSP+	CSP-	Inactifs	Centre	Est	Nord	Sud
La rue de Pologne	61%	59%	62%	60%	55%	68%	59%	57%	63%	63%	57%	47%	59%	76%	60%
La rue au pain	53%	50%	55%	49%	34%	48%	59%	69%	49%	45%	61%	51%	59%	57%	43%
La rue de Poissy	52%	50%	55%	50%	43%	54%	57%	54%	55%	45%	53%	52%	54%	58%	50%
La rue Bonenfant	43%	45%	41%	55%	37%	47%	38%	43%	42%	43%	44%	43%	63%	36%	33%



Préférences concernant les jours de piétonnisation des nouveaux espaces

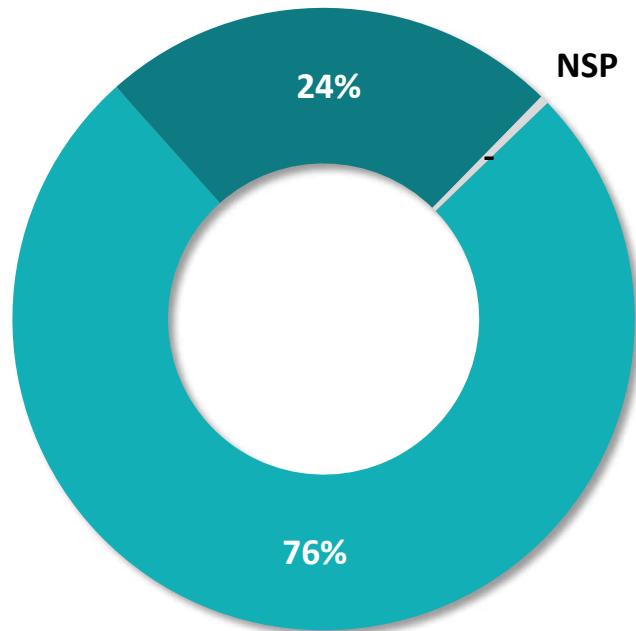
Q. Et vous préféreriez de nouveaux espaces de piétonnisation du centre ville... ?

Question uniquement posée aux personnes ayant déclaré être favorables au projet.



376 Habitants de Saint-Germain-en-Laye

Tous les jours de la semaine

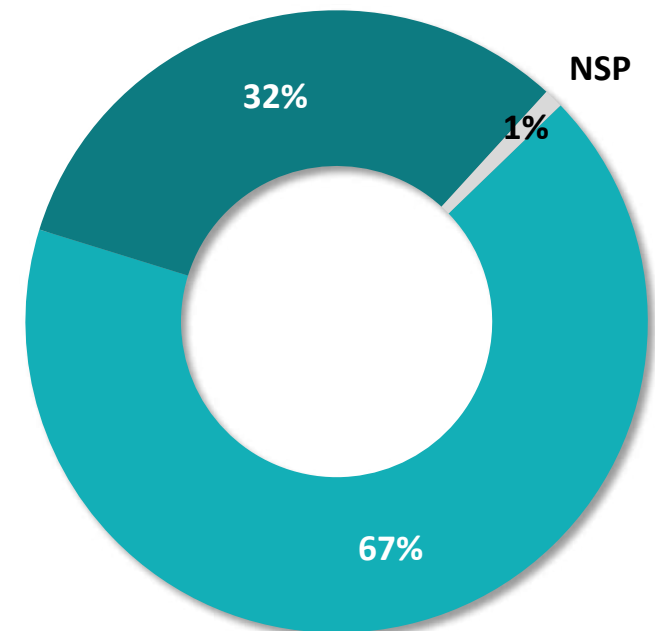


Uniquement les vendredis, samedis et dimanches



135 Habitants des communes environnantes

Tous les jours de la semaine



Uniquement les vendredis, samedis et dimanches



Préférences concernant les jours de piétonnisation des nouveaux espaces

Q. Et vous préféreriez de nouveaux espaces de piétonnisation du centre ville... ?

Question uniquement posée aux personnes ayant déclaré être favorables au projet.



	% Total	Sexe		Âge					Statut			Zone de résidence			
		Homme	Femme	18-24 ans	25-34 ans	35-49 ans	50-64 ans	65 ans et plus	CSP+	CSP-	Inactifs	Centre	Est	Nord	Sud
Uniquement les vendredis, samedis et dimanches	76%	72%	79%	70%	80%	74%	74%	79%	76%	77%	75%	72%	75%	83%	74%
Tous les jours de la semaine	24%	28%	20%	30%	20%	26%	26%	19%	24%	23%	24%	27%	25%	17%	26%

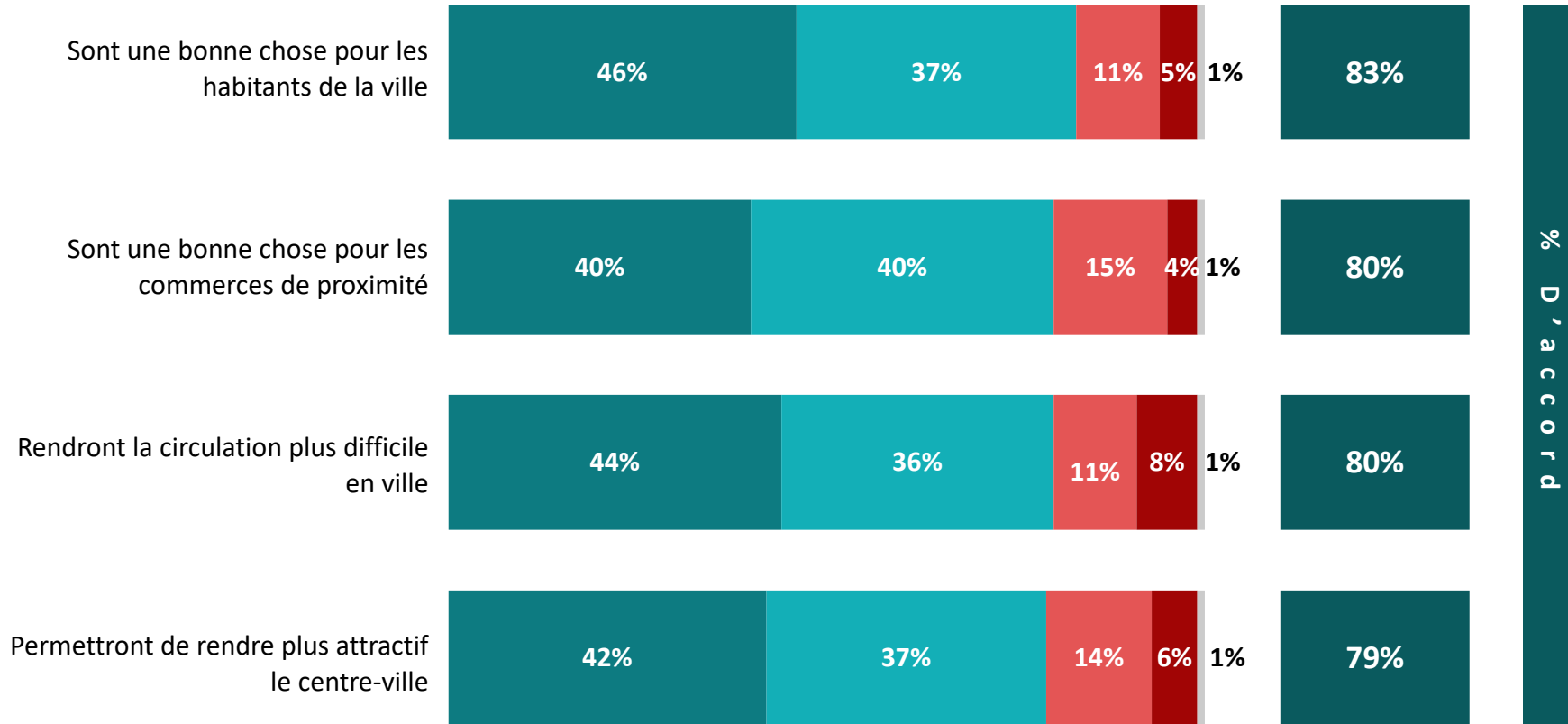


La perception des nouveaux espaces de piétonnisation

Q. Pour chacune des affirmations suivantes, indiquez si vous êtes tout à fait d'accord, plutôt, plutôt pas ou pas du tout d'accord. De nouveaux espaces de piétonnisation du centre-ville de Saint-Germain-en-Laye...



501 personnes



Tout à fait d'accord
 Plutôt d'accord
 Plutôt pas d'accord
 Pas du tout d'accord
 NSP



La perception des nouveaux espaces de piétonnisation

Q. Pour chacune des affirmations suivantes, indiquez si vous êtes tout à fait d'accord, plutôt, plutôt pas ou pas du tout d'accord. De nouveaux espaces de piétonnisation du centre-ville de Saint-Germain-en-Laye...



	% D'accord	Sexe		Âge					Statut			Zone de résidence			
		Homme	Femme	18-24 ans	25-34 ans	35-49 ans	50-64 ans	65 ans et plus	CSP+	CSP-	Inactifs	Centre	Est	Nord	Sud
Sont une bonne chose pour les habitants de la ville	83%	83%	83%	90%	85%	88%	78%	77%	81%	88%	82%	89%	82%	81%	81%
Sont une bonne chose pour les commerces de proximité	80%	80%	79%	91%	90%	77%	67%	83%	77%	78%	83%	77%	79%	82%	81%
Rendront la circulation plus difficile en ville	80%	81%	79%	79%	76%	83%	85%	76%	84%	77%	78%	77%	83%	77%	83%
Permettront de rendre plus attractif le centre-ville	79%	83%	76%	89%	81%	80%	76%	75%	77%	82%	80%	82%	78%	82%	77%

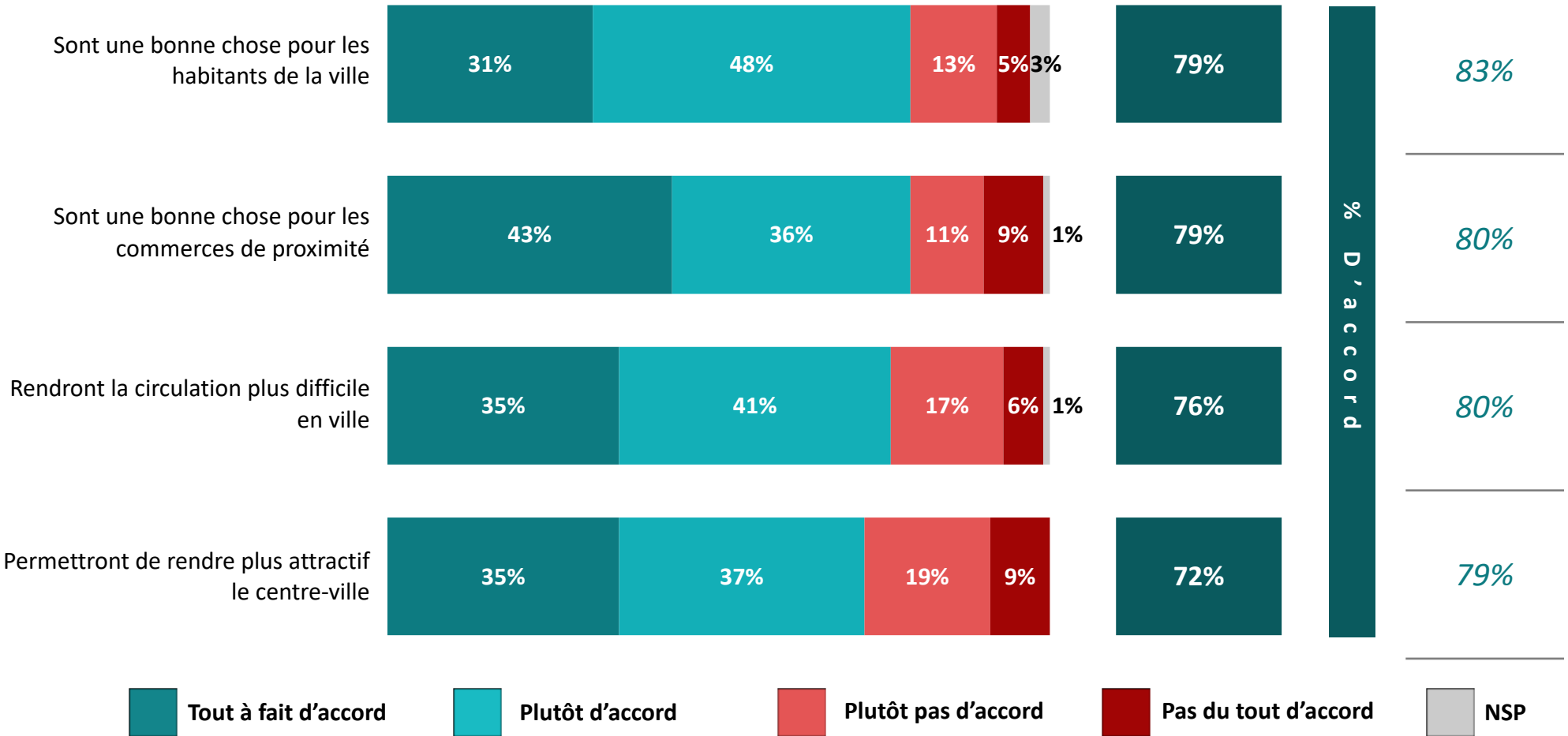


La perception des nouveaux espaces de piétonnisation

Q. Pour chacune des affirmations suivantes, indiquez si vous êtes tout à fait d'accord, plutôt, plutôt pas ou pas du tout d'accord. De nouveaux espaces de piétonnisation du centre-ville de Saint-Germain-en-Laye...



Rappel % auprès des Saint-Germanoises



% D'accord



La perception des nouveaux espaces de piétonnisation

Q. Pour chacune des affirmations suivantes, indiquez si vous êtes tout à fait d'accord, plutôt, plutôt pas ou pas du tout d'accord. De nouveaux espaces de piétonnisation du centre-ville de Saint-Germain-en-Laye...



	Fréquentation de la ville			
	% D'accord	Souvent	De temps en temps	Rarement ou jamais*
Sont une bonne chose pour les habitants de la ville	79%	77%	82%	76%
Sont une bonne chose pour les commerces de proximité	79%	79%	84%	73%
Rendront la circulation plus difficile en ville	76%	68%	82%	82%
Permettront de rendre plus attractif le centre-ville	72%	69%	71%	76%

*Base de répondants faible, résultats à interpréter avec précaution



ANNEXES

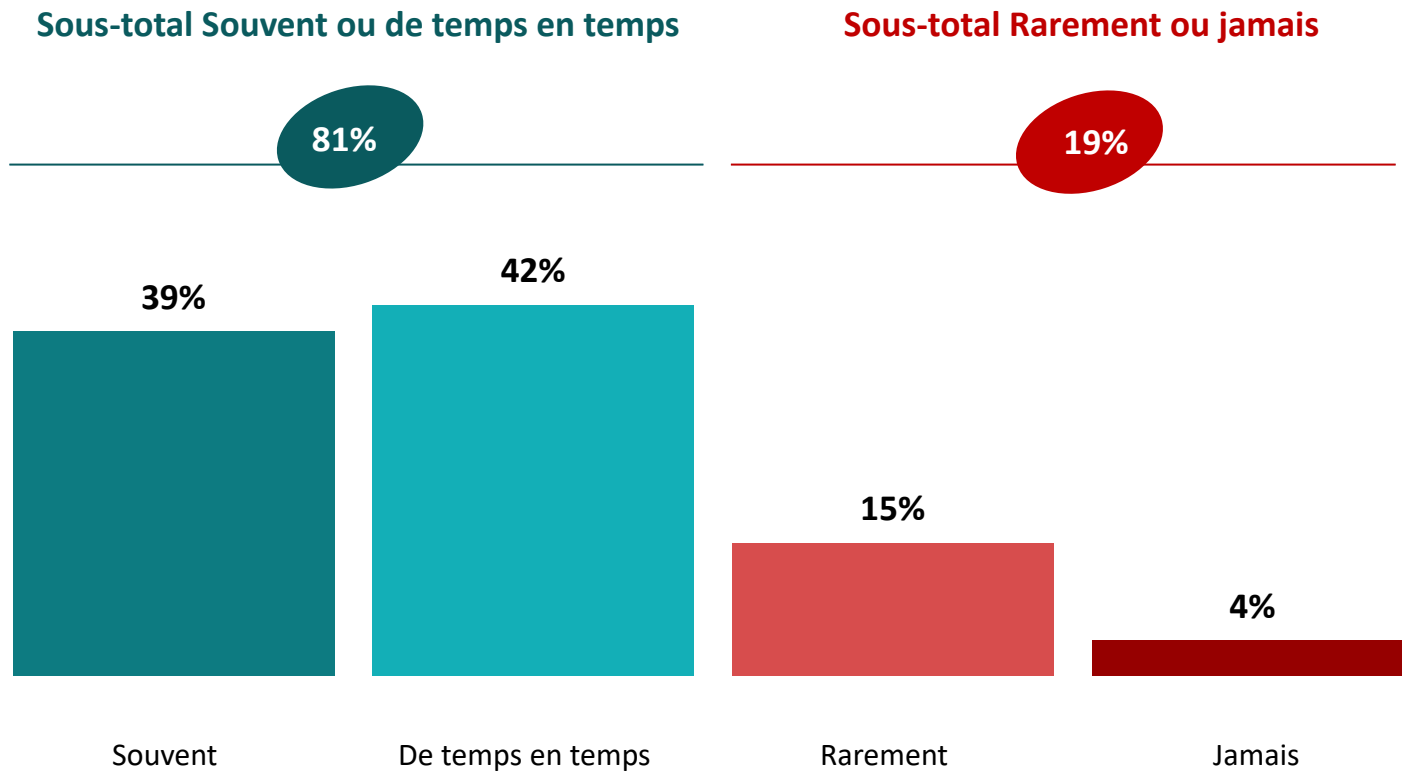


La fréquentation de Saint-Germain-en-Laye

Q. A quelle fréquence vous rendez-vous à Saint-Germain-en-Laye ?



202
personnes





“opinionway

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20269 - Safely Connected: Sustainable Common Accessibility of Lively City Centres for Healthy People Activity Deliverable
[ANNEX VII - DEL03]

[Survey - Virtual Validation of the urban furniture of SGL]

Annex also available in HQ at the following [LINK](#)

EIT Urban Mobility - Mobility for more liveable urban spaces

EIT Urban Mobility

Milan, December, 31st - 2020

eiturbanmobility.eu



EIT Urban Mobility is supported by the EIT,
a body of the European Union

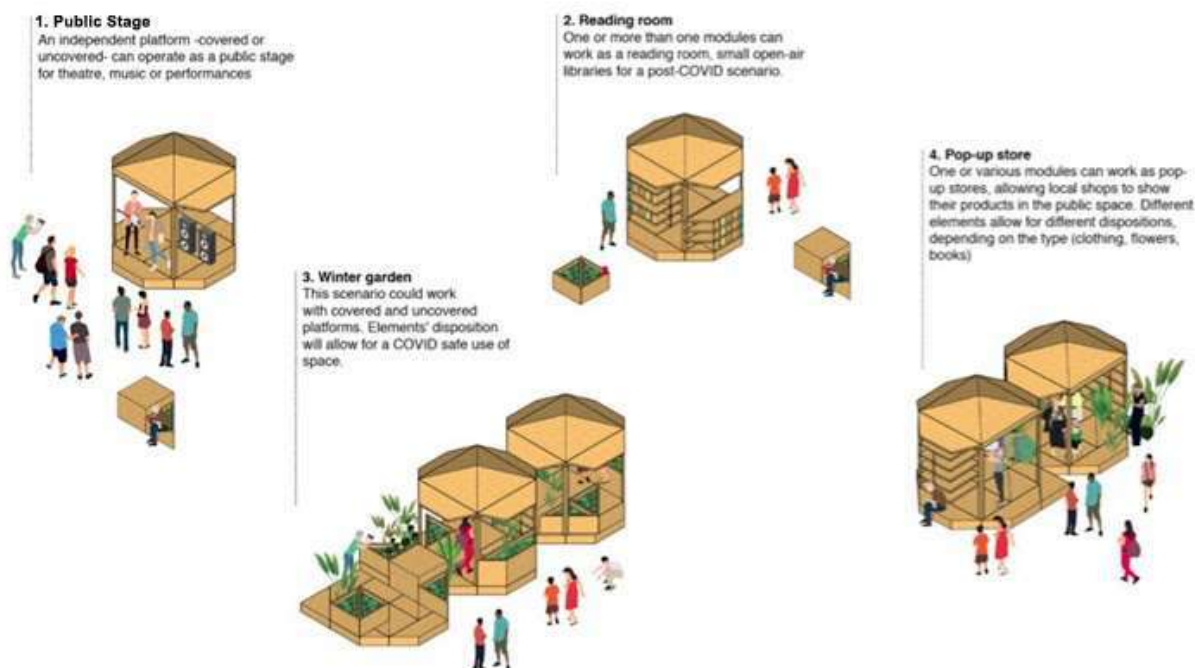
Evaluation of public space for the city of Saint-Germain-en-Laye

This short survey is part of the "Safely Connected" EIT project of Politecnico di Milano. The objective is to collect feedback on the qualities of urban space transformed to meet the needs highlighted by the COVID-19 pandemic. You will be asked to evaluate two alternatives of public space in the city of Saint-Germain-en-Laye before and after the installation of a street furniture element and the pedestrianization of some areas as described in the following two diagrams. For each of the 7 statements we ask you to give a score from 1 (if you absolutely DISAGREE) to 5 (if you absolutely AGREE). The questionnaire is anonymous and the results will be used for research purposes only. Thank you for your time and cooperation.

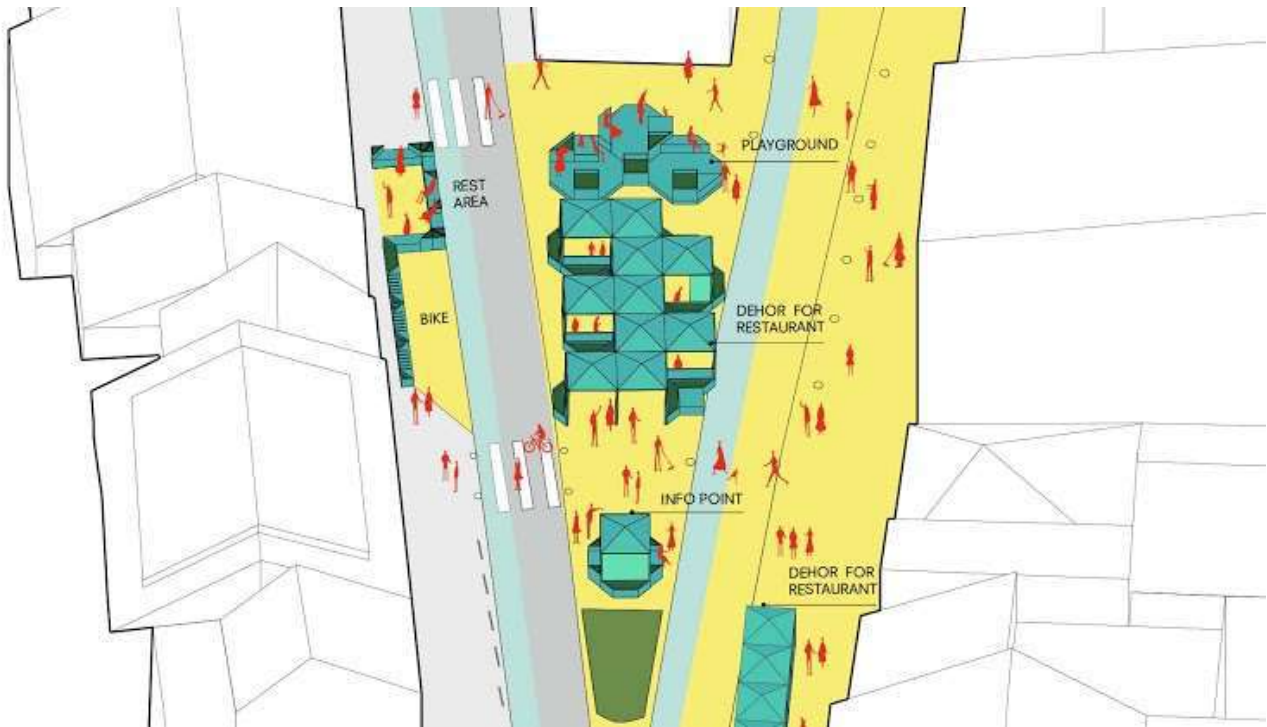
Department ABC | Design & Health Lab | Politecnico di Milano

*Campo obbligatorio

Exemplification diagram of the element of street furniture that will be installed in the city of Saint-Germain-en-Laye. The questionnaire concerns the characteristics of the public space pre (Solution A) and post installation (Solution B).



Exemplification diagram of the pedestrianization and urban redesign intervention in the city of Saint-Germain-en-Laye. The questionnaire concerns the characteristics of the public space pre (Solution A) and post intervention (Solution B).



Evaluation of alternatives

1. 1) The public space offers the possibility to stay out of the sun or rain. *



Contrassegna solo un ovale per riga.

	1 - Absolutely disagree	2 - Disagree	3 - Neither agree nor disagree	4 - Agree	5 - Absolutely agree
Alternative A (without urban furniture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alternative B (with urban furniture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. 2) The public space offers the possibility to sit, rest, chat, work on the PC. *



Contrassegna solo un ovale per riga.

	1 - Absolutely disagree	2 - Disagree	3 - Neither agree nor disagree	4 - Agree	5 - Absolutely agree
Alternative A (without urban furniture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alternative B (with urban furniture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. 3) Public space has iconic and recognizable elements that can be easily identified *



Contrassegna solo un ovale per riga.

	1 - Absolutely disagree	2 - Disagree	3 - Neither agree nor disagree	4 - Agree	5 - Absolutely agree
Alternative A (without urban furniture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alternative B (with urban furniture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. 4) The public space is safe and bright, even during evening and night hours *



Contrassegna solo un ovale per riga.

	1 - Absolutely disagree	2 - Disagree	3 - Neither agree nor disagree	4 - Agree	5 - Absolutely agree
Alternative A (without urban furniture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alternative B (with urban furniture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. 5) The public space is suitable for use by multiple different users (i.e. seniors, families, young people with disabilities, etc.) *



Contrassegna solo un ovale per riga.

	1 - Absolutely disagree	2 - Disagree	3 - Neither agree nor disagree	4 - Agree	5 - Absolutely agree
Alternative A (without urban furniture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alternative B (with urban furniture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. 6) Public space is comfortable even in situations of social distancing or restrictions due to the COVID-19 pandemic. *



Contrassegna solo un ovale per riga.

	1 - Absolutely disagree	2 - Disagree	3 - Neither agree nor disagree	4 - Agree	5 - Absolutel agree
Alternative A (without urban furniture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alternative B (with urban furniture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. 7) The design and elements of urban furniture encourage people to stay and use public spaces also through slow and sustainable mobility (walking, use of bicycles or scooters) *



Contrassegna solo un ovale per riga.

	1 - Absolutely disagree	2 - Disagree	3 - Neither agree nor disagree	4 - Agree	5 - Absolutely agree
Alternative A (without urban furniture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alternative B (with urban furniture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Demographic information for statistical purposes

8. Gender *

Contrassegna solo un ovale.

- Male
- Female
- I prefer not to answer

9. Age *

Contrassegna solo un ovale.

- <25
- 25-45
- 46-65
- >65
- I prefer not to answer

Thanks for your
participation

For more information and to remain up-to-date on the project visit
<https://www.fondazionepolitecnico.it/progetti/visionary-cities/safely-connected/>

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