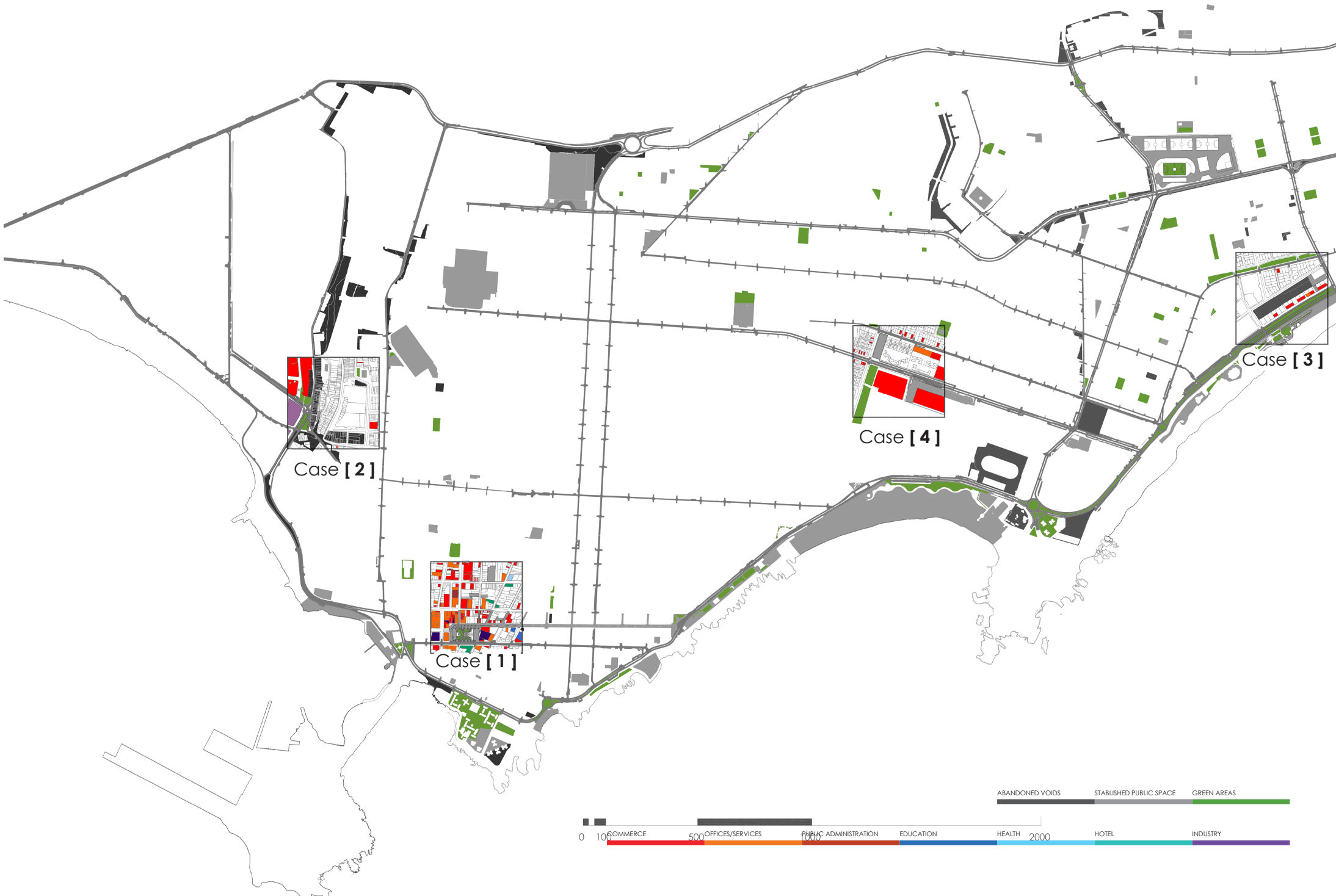
RE_VALUE and LINKAGE of REGENERATING URBAN VOIDS

Design and Planning strategies to counteract local socio-spatial fragmentation, in the Iquique urban system.

POTENTIAL SPATIAL PROGRAMMING
Application Manual

MONTSERRAT A. PANTOJA NAVARRO


Case [1]
Case [2]
Case [3]
Case [4]
ABANDONED VOIDS
STABLISHED PUBLIC SPACE
GREEN AREAS
0
100
500
1000
2000
COMMERCE
OFFICES/SERVICES
PUBLIC ADMINISTRATION
EDUCATION
HEALTH
HOTEL
INDUSTRY

This booklet looks to showcase the application of the proposed strategy in two study case patches addressed in the thesis project ''RE_VALUE and LINKAGE of REGENERATING URBAN VOIDS in the city of Iquique'', at the same time it exemplifies the intervention scope this proposal could have as a void dealing and planning tool.

LANDUSE in CASE STUDIES MAP
Source: Created by author

1. POTENTIAL SPATIAL PROGRAMMING

According to this study's approach, public space is lost and underused at the study case area. In order to revitalize and activate these fragments we propose a strategy (process of reading) under the folowing parameters:

VISION

The call is to develop an agreement on a development vision. So to reach an urban structure that allows and facilitates the implementation of locally demanded uses towards the public space structure, recognizing as well the dynamic condition of the new ongoing economic development drivers demands, regarding new actors, development and logistics across the diverse scales that define the whole public space network within the urban structure.

STRATEGIC GOALS

- Re_Link (Connect). Strength the multi_scale interactions to define a cohesive public space network.

- Mix (Complement). Encourage mobility and safety by adding complementary urban tissue (urban functions).

- Activate (Involve). Activate voids use, meaning and place making (community involvement).

The general idea is to enable the permeability of urban multi purpose spaces through the public space network of the city.

DIAGNOSE MATRIX

To redevelop the void area is needed to perform a first step of general diagnose and classification of the typology of the path wich we are going to analyze. Within this step, and by the hand of a diagnose matrix, we emphasize the observation of the following points:

- Scale identification. To identify what is the impact scope from the analyzed patch, within the public space network where they belong, and how the void spaces appear within its extension classified by their size (scale), Urban, neighbourhood and Local.

- Structural Spatial Attractor. Once the urban, neighbourhood and plot elements participating in the patch are located, we proceed to underpin which is the 'Structural Spatial Relation' that will organize the space in the mentioned scale. This part of the analysis is highly important due to the need of an integral analysis of the morphological, socio-economic and cultural values in the location, by the planner (or the decision maker), and will empower the concept of Identity' embedded in situ. This point will make possible to underpin socio-cultural values that will validate the intervention at the same time it represents the transferability values of the intervention.

As an application example we will analyse one patch from the 5 study cases.

DIAGNOSE MATRIX

	APPLICATION SCALE		
	URBAN **BROWNFIELD**	NEIGHBOURHOOD **BLOCK**	LOCAL **PLOT**
CURRENT SITUATION (Appropiation expression)			
STRUCTURAL ATTRACTOR			
STAKEHOLDERS			
INTERVENTION CONDITIONS			
LEGALTOOLS (Locally recognized)			

DIAGNOSE MATRIX : Case [2]

	APPLICATION SCALE		
	URBAN **BROWNFIELD**	NEIGHBOURHOOD **BLOCK**	LOCAL **PLOT**
CURRENT SITUATION (Appropiation expression)	Open air storage Criminality Platform Abandonment / Underuse Truck Parking	Spontaneous Parking Open Air Storage	Enclosed Storage Garbage storage space Burglars meeting place
STRUCTURAL ATTRACTOR	Regional Mobility : Arturo Prat Av. Regional Economic centre : ZOFRI	Historical Meaning : Coast View	Use and Access of the first floor : Direct relation with the inmediate public space
STAKEHOLDERS (Demand on the space)	Municipality, Tax Free zone (ZOFRI), Private investors, Housing, Cultural activities, Regional Mobility	Municipality, Owners, Housing, Private Investors, Public Space, Cultural expression	Owners, Housing, Private Investors, Public Space
INTERVENTION CONDITIONS	Protection/non_intervention stripe Apply of a 60• angle guideline for development Right to view Maximum recomended height Extension towards public space Free first floor	Protection/non_intervention stripe Apply of a 60• angle guideline for development Right to view Maximum recomended height Extension towards public space Free first floor	Apply of a 60• angle guideline in back of the plot Right to view Extension towards public space Free first floor
LEGALTOOLS (Locally recognized)	Restrict Land Use Developing Transfer rights Implement legal P.S. responsability for developers Implementation of intervention conditions	Recognize the role of the directly related mobility, and protect it Shared visual domain of the coastal area Recover / Recognize internal passage use	Densification towards the back (Inverted application of 60• angle) Maximum height : 3 floor / Settlement of medium height Recognize interactive plints

OPERATIONAL PRINCIPLES

The application method is composed by two main parts: A first one referred to the analytical approach that corresponds with 'common knowledge' rules that should be addressed in every case of implementation in order to set the ground for a quality intervention or eventually protect the existing qualities in case of no intervention (Qualification Rules), and a second one subdivided in two, which in order to implement this strategy addresses two kinds of operational principles that are complementary: The definition of which local legal tools are meant to be reinterpret to perform the re_linkage process, as an invariable element that will be applied in every intervention (Basic principles); and the definition of the so called operational principles that will allow the inhabitants to decide and shape their immediate public space as a platform for time adaptative interventions (Mix Use principles).

The main difference between basic and mix use principles is the fact that the first ones are strict and support the current law about building, the fulfilling of these requirements is and obligation. Meanwhile the mix principles represent a new proposal that creates space from the basic legal platform set by the first principles, meaning the mix use principles will set the parameters for transformation and change in case the owner decides to negotiate with the government.

The definition of the invariable part of the intervention parameters, responds to look for a medium point in the ongoing discussion between 'Densify' and/or 'Qualify' the urban voids. The topic of this thesis does not look to decide about a fixed final outcome of this decision, but to offer a framework that will allow the locality to 'Use' the public space in the way that fulfils the best the current socio-spatial aims.

QUALIFICATION RULES

This proposed rules respond to the space management towards the interventions and consider the aspects that should be considered in the implementation of any of the voids so to improve its quality.

a. Time use programme:
- Include daily uses.
- Consider seasonal functions.

b. Safety:
- Preserve visual control and permeability.
- Maintain public lightning.

c. Weather / Landscape:
- Use to provide comfort in pedestrian areas.
- Use of local flora for green interventions.

d. Densification / Land_Use :
- Maintain the density of the vicinity of 400 meters range.
- Encourage first floor public/mix usage.
- Land_use should complement with the surrounding 500 meters radius area.
- Land_uses must be demanded by the community.
- Non densification of recognized social Interaction spaces.

e. Accessibility:
- Provide at least two circulation methods.
- Define visible accesses, emphasize intersection spaces.
- Determine the parking areas parallel to the main mobility routes, not in leftover spaces.

f. Maintenance:
- Municipal control and maintenance of open spaces.
- Legal responsibility on maintenance to the owner.
- Community involvement in shared spaces care.

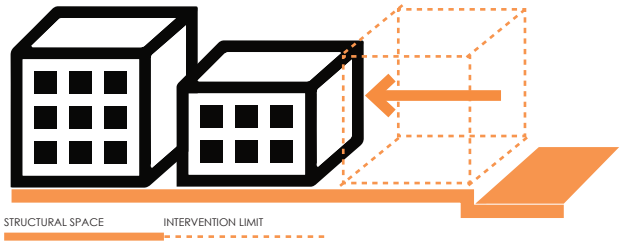
g. Housing / Mix Use:

This point is addressed as a precondition for void revitalization. Due to the always present developing interest over any piece of available land, it is unreal to think that the owner will not evaluate the opportunity of making profit of its own land. Is this how the inclusion of housing and mixed use infrastructure is considered as a relevant parameter to consider in a very early stage of intervention, as a tool for establishing a sufficient platform.

BASIC PRINCIPLES
PLATFORM SETTING

PROTECTION/NON_INTERVENTION STRIPE

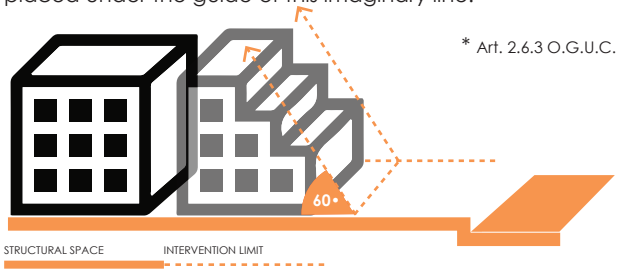
Space contiguous to the main structural space protected from densification. The width of this stripe corresponds to 6.00 meters (the rule is : Two times the medium height of a first floor in the area)



APPLY OF A 60• ANGLE GUIDELINE FOR DEVELOPMENT

Use of the established shadow regulation angle (*) to regulate growth and distance of the future development of the void space. The official plot limits will perform as application line, thus if there's a terrain gradient, the intervention volume will be placed under the guide of this imaginary line.

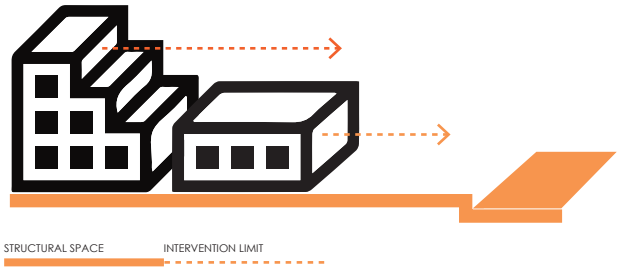
* Art. 2.6.3 O.G.U.C. -Chile



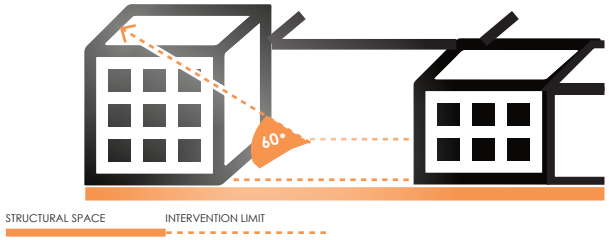
RIGHT TO VIEW (M.Errázuriz)

Every intervention, or change in the volume of the built plot should respect the visual continuity of the building with the structural space, in order to create a neighbourhood visual control and unification of sights.

* 'Servitude of View', as seen in the Civil Code-Chile

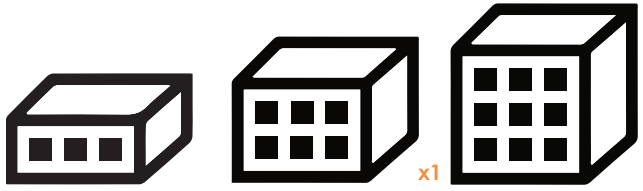


In the case of interior void spaces, the rule is applied the same, protecting the interior block space from enclosure.



*** MAXIMUM RECOMENDED HEIGHT** [New Rule]

The maximun height that will be recommended for future developments in the voids are going to be defined by the media in the proximity of 400 meters in the neighbourhood and the mixed application of the previous mentioned rules.

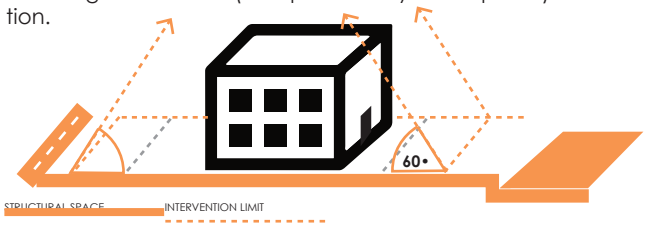


Example: For the patch of 'El Colorado-ZOFRI', the recomended height is three floors, due to the general low density qualityof the neighbourhood.

MIX USE PRINCIPLES
TRANSFORMATION SETTING

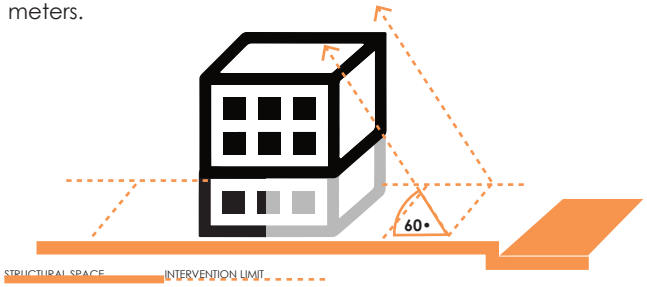
EXTENSION TOWARDS PUBLIC SPACE [New Rule]

The buildings placed in direct relation with a recognized mobility network and/or structural element space, will be able to extend 3.00 meters (medium height of the first floor in the neighbourhood) of their intervention volume towards the public space only in the circumstance it is adding a mixed use (complementary to the place) function.



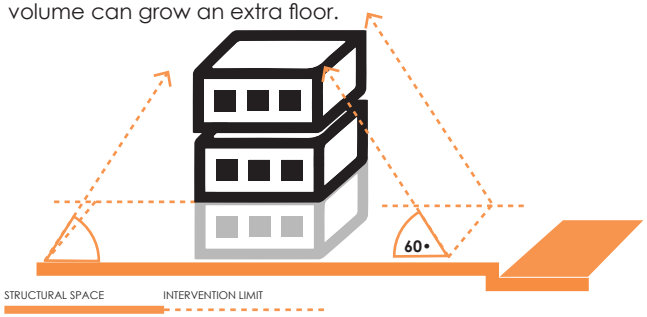
MIX USE FOR 50% OF GROUND FLOOR [New Rule]

Related to the previous point. If 50% or more of the surface on the first floor (or direct relation with the pedestrian route) is destinated to a mix used (non housing) function, the intervention space can be extended 3.00 meters.



FREE FIRST FLOOR [New Rule]

This concept refers to the liberation of the first (pedestrian) floor in order to add a semi_public space to the general public space network. This intervention can improve the permeability (and porosity) of the analyzed patch. At the same time, If this option is taken, the housing volume can grow an extra floor.



2. TOOLBOX

How to build a public space capable of variations in time and intensity?

In order to diagram a practical way of intervention and answer the question, a set of tools meant to apply in every analysed void is drawn. The public space elements that we will use for the following interventions are defined in 9 options, which can be implemented together, single used and in some cases re-shaped to multiple scales.

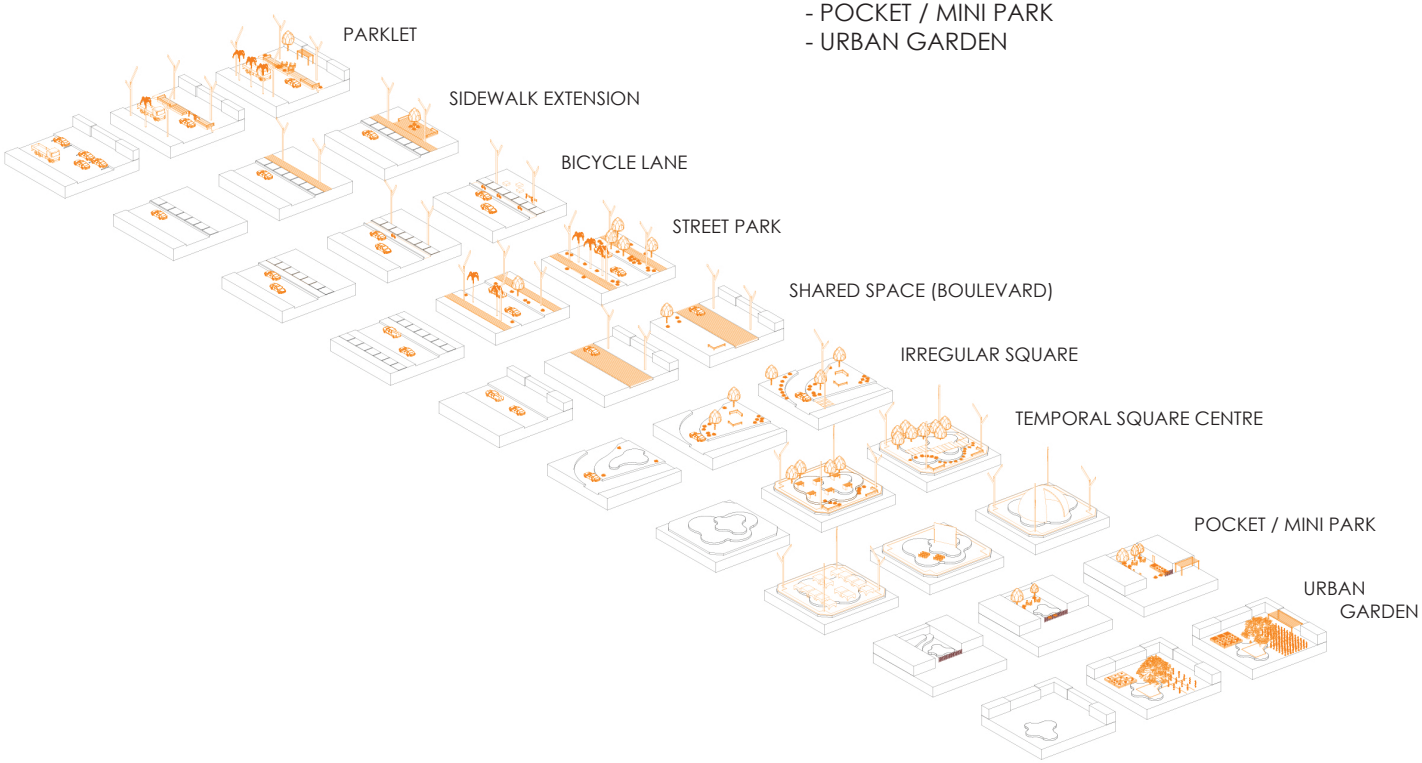
The idea behind setting a toolbox on service of the decision makers is to give the individuals (professionals and non_professionals in the field) the power to observe, analyse and participate of the formative process that will stimulate the re_use of the urban voids. To seduce the people to design by themselves and being responsible of their environment.

The definition of the intervention prototypes are the result of the comparative analysis of multiple strategies that address the qualification and improvement of public space (J. Gehl public space practice, Pocket Park NY movement) and a critical observation of the local needs.

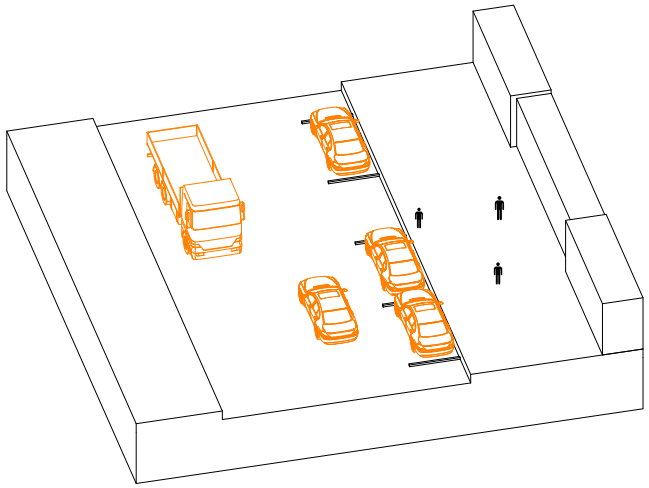
The tools are considered to be implemented in a short time that will variate from tool to tool without exceeding the maximum of four years for the initial implementation (this time frame corresponds to the extend of a legal government period), when after monitoring can be improved, removed or maintained for a next period of upgrade, which will vary in every specific case. The following showcase will exemplify the state of the prototype tools in three scenarios: No intervention (current situation), implementation of priority interventions in a start period, and improvement of the intervention.

In total we diagram 30 options to deal with voids, organized in 9 starting points:

- PARKLET
- SIDEWALK EXTENSION
- BICYCLE LANE
- STREET PARK
- SHARED SPACE (BOULEVARD)
- IRREGULAR SQUARE
- TEMPORAL SQUARE CENTRE
- POCKET / MINI PARK
- URBAN GARDEN

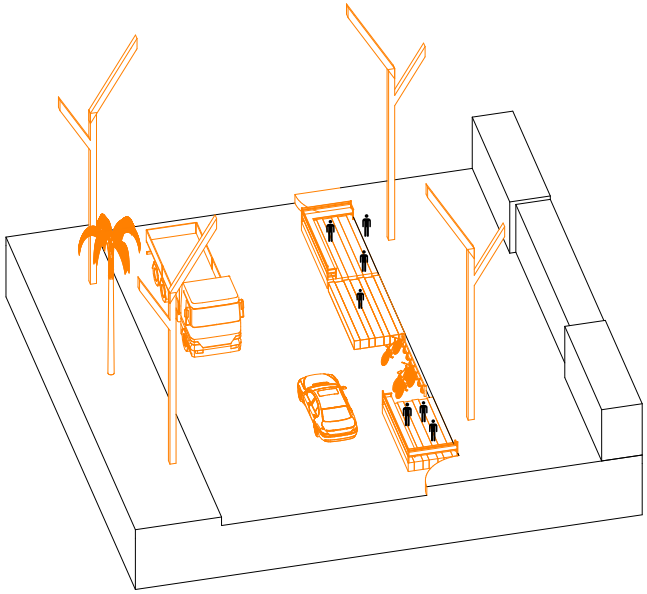


This tool is inspired in the alternative use of parking spaces during working hours as complementary meeting spaces. In the situation this intervention becomes permanent, can work as a support extension for mixed activities happening in the vicinity.



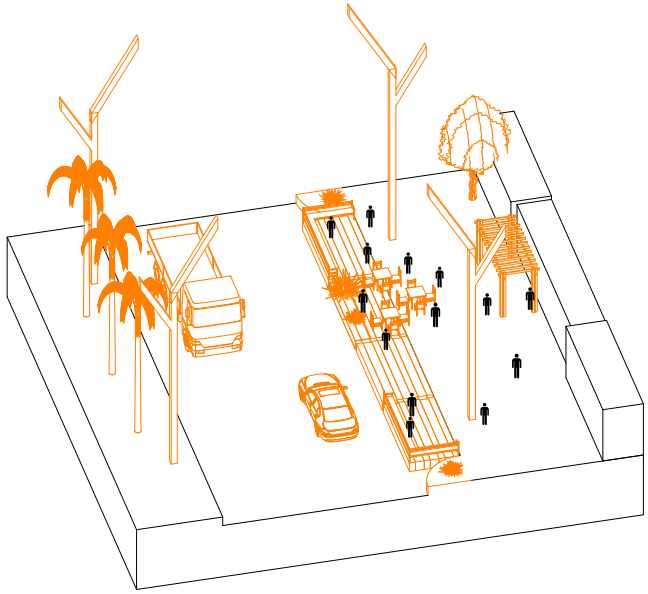
CURRENT SITUATION
Year 0

PUBLIC SPACE DAILY USE



PRIORITY INTERVENTION and REVIEW
Year 1

PUBLIC SPACE DAILY USE

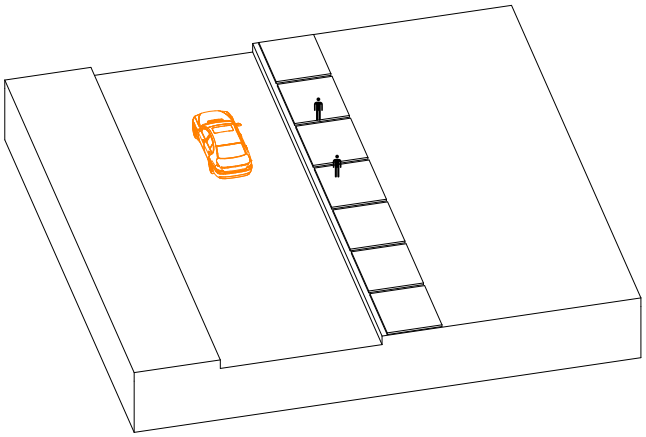


IMPROVEMENT
Year 3

PARKLET Type
Source: Created by author

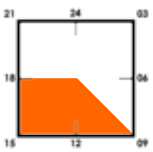
CURRENT SITUATION FUTURE/TEMPORAL SITUATION

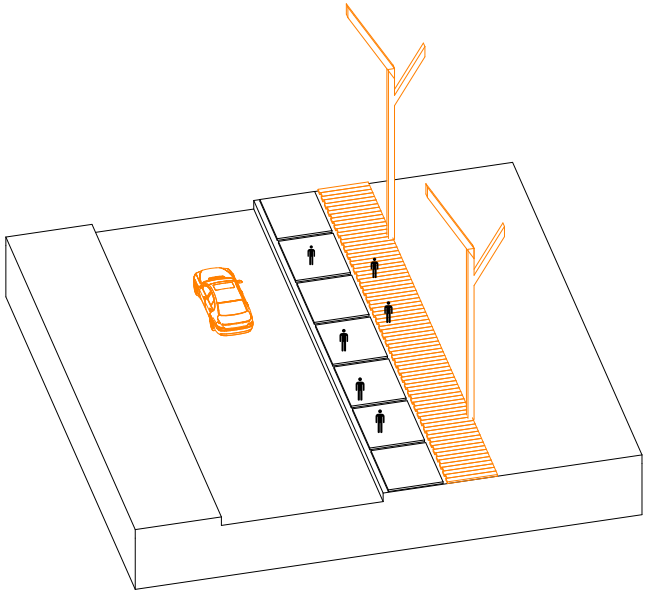
As the previous case, this is a short_term implementation tool, where in an improvement stage, the wide circulation space can be complemented with some quiet stops with diverse contemplative activities.



CURRENT SITUATION
Year 0

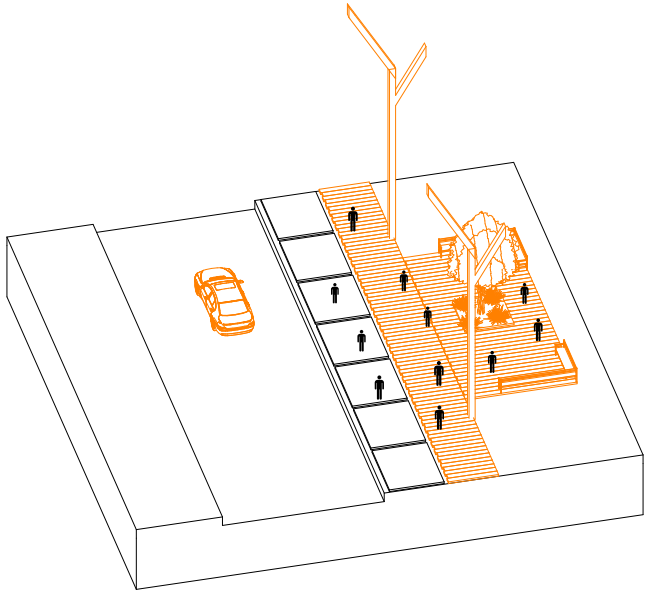
PUBLIC SPACE DAILY USE





PRIORITY INTERVENTION and REVIEW
Year 1

PUBLIC SPACE DAILY USE

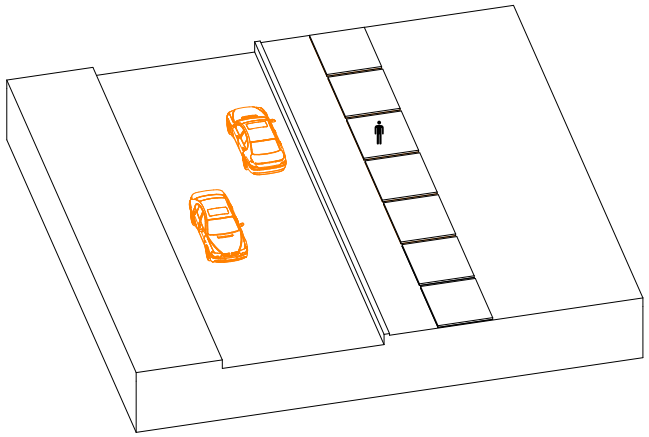


IMPROVEMENT
Year 3

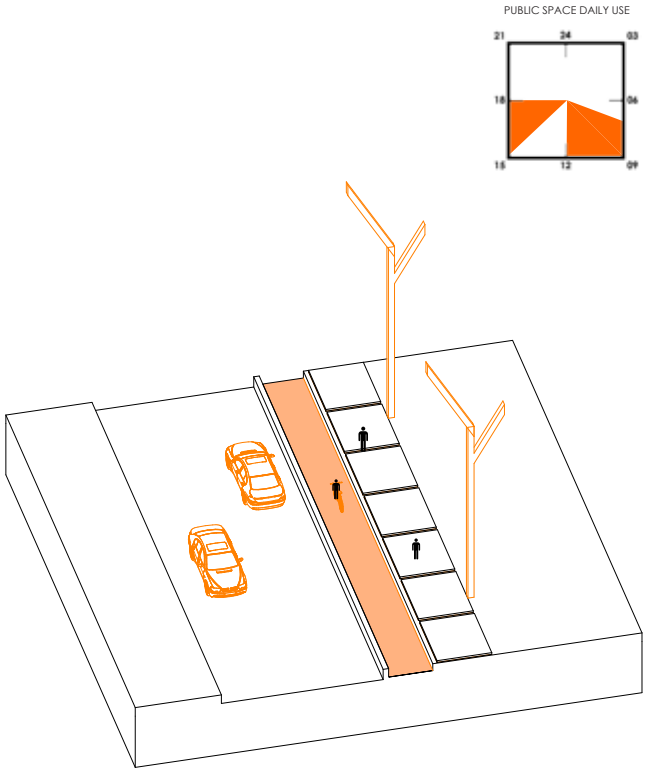
SIDEWALK EXTENSION Type
Source: Created by author

CURRENT SITUATION FUTURE/TEMPORAL SITUATION

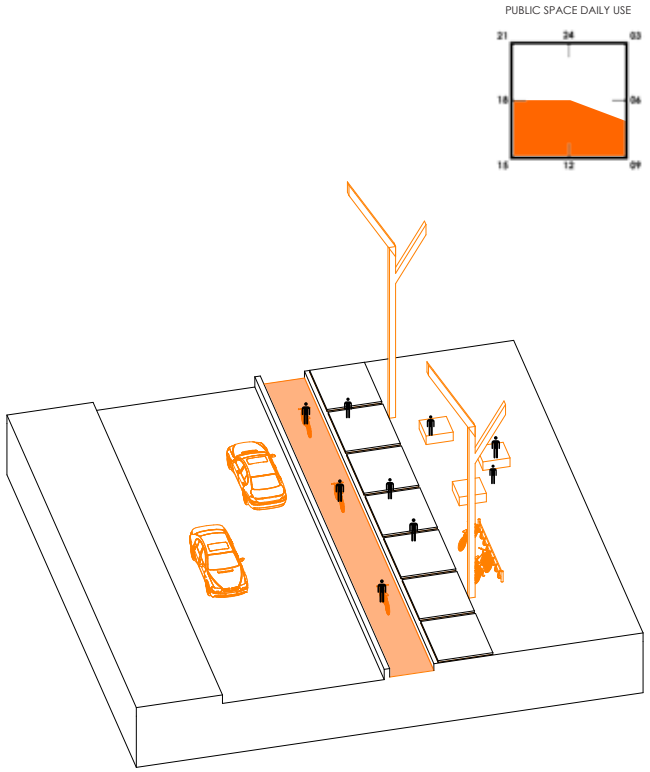
Currently there is a growing interest about healthy living an mobility through bicycle (specially in small towns), by including bicycle paths next to the vehicle mobility, we provide an option for those who want to experience their daily city life (e.g. going to work) in a different way, or just include healthy habits to their routine. This test lane can eventually be exported to other parts of the city that enjoy the initiative.



CURRENT SITUATION
Year 0



PRIORITY INTERVENTION and REVIEW
Year 2

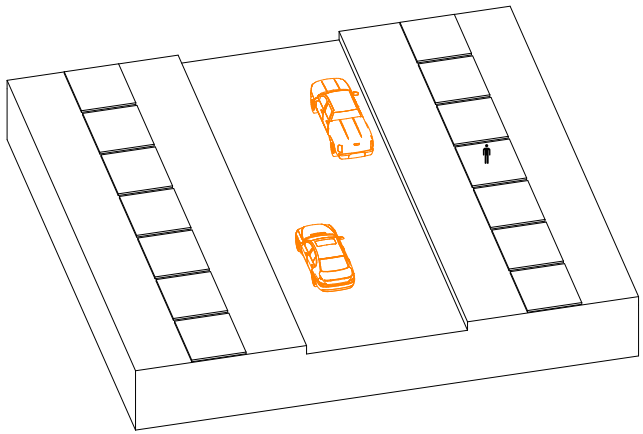


IMPROVEMENT
Year 4

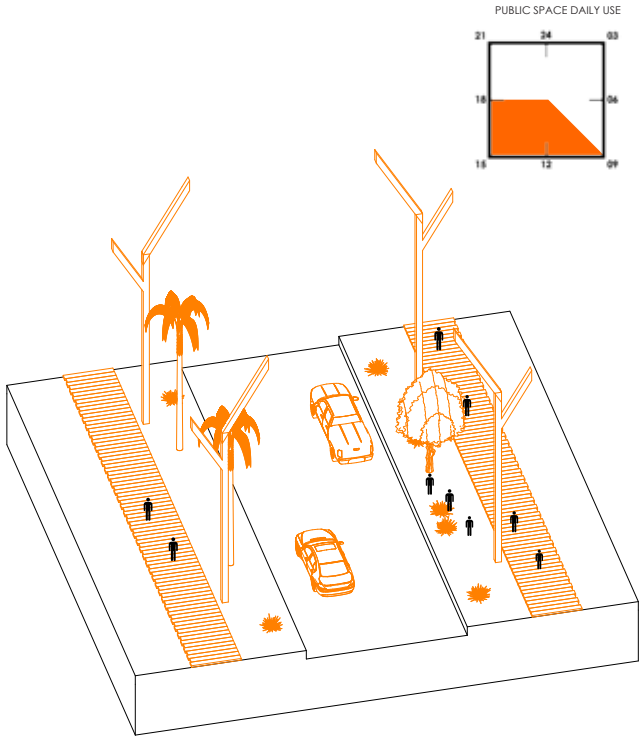
BICYCLE LANE Type
Source: Created by author

CURRENT SITUATION FUTURE/TEMPORAL SITUATION

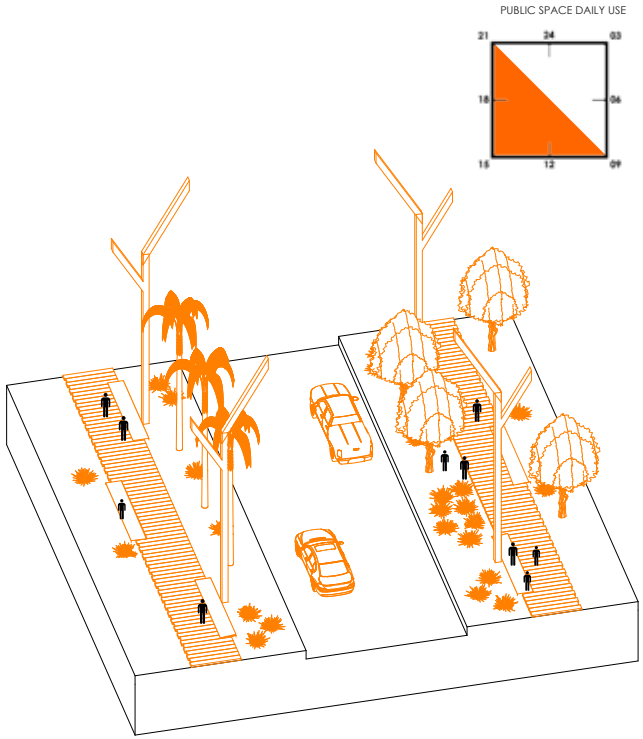
This tool is the most used in terms of making public space attractive, gathers demands about urban mobility and at the same time recreative aims. It is related to the beautification of the public space, however has an important function reuniting multiple urban demands in one multifunction public space.



CURRENT SITUATION
Year 0



PRIORITY INTERVENTION and REVIEW
Year 4

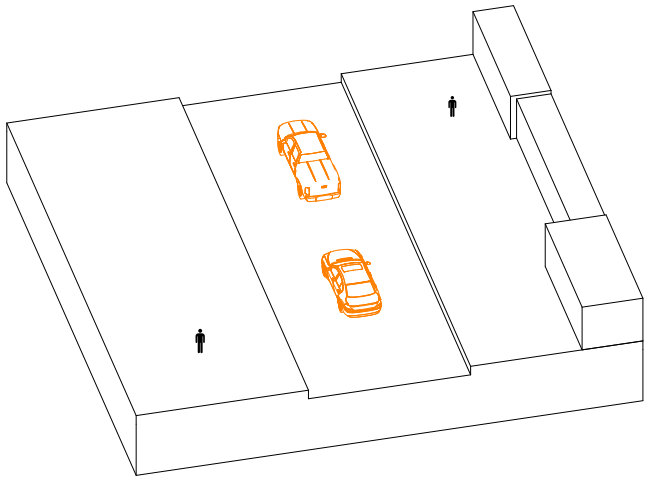


IMPROVEMENT
Year 10

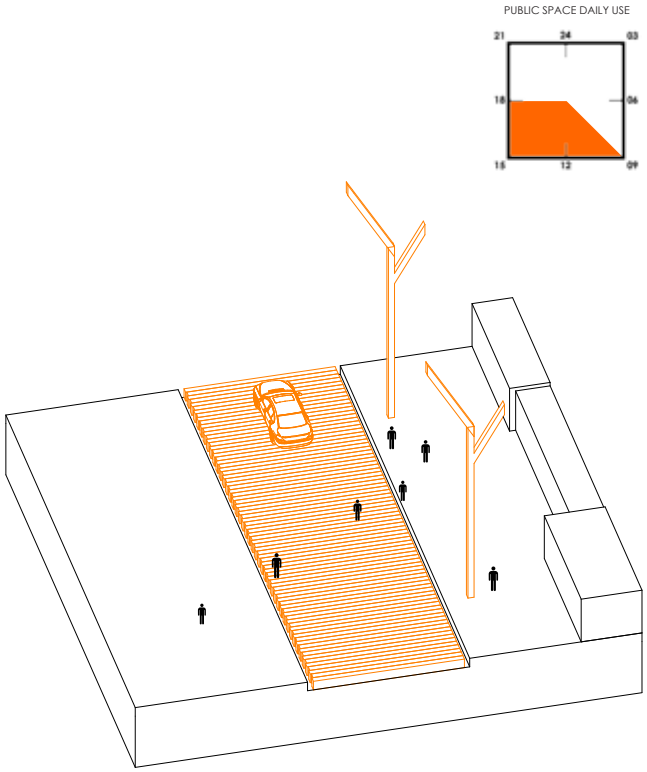
STREET PARK Type
Source: Created by author

CURRENT SITUATION FUTURE/TEMPORAL SITUATION

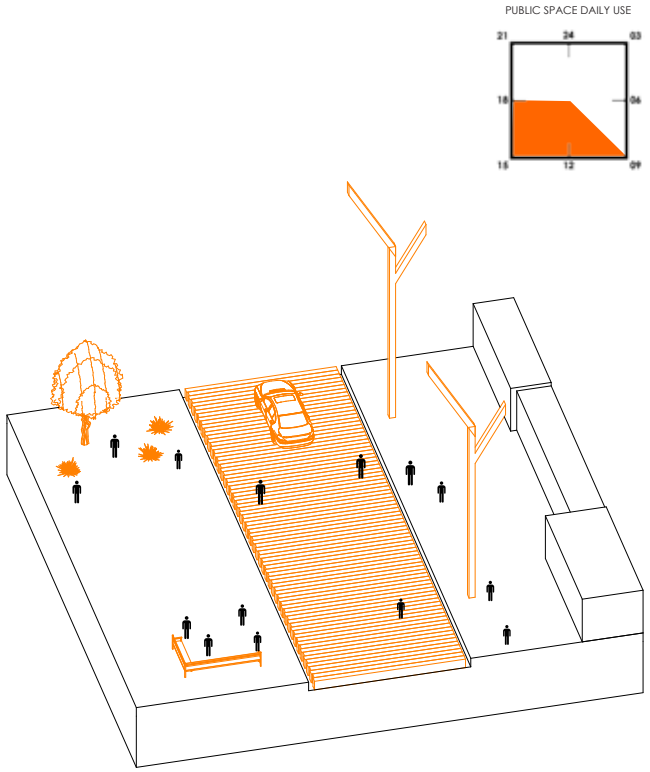
In some cases, the monofunction of a street in a street without dense traffic represents a borderline for public living. By addressing a critic review of the need of time usage from these platforms, its possible to propose a single extended public space platform, where a sidewalk can improve its functions towards a square meeting space platform.



CURRENT SITUATION
Year 0



PRIORITY INTERVENTION and REVIEW
Year 1

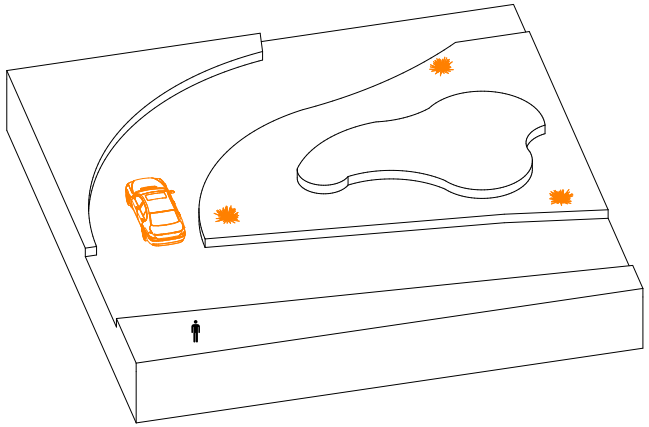


IMPROVEMENT
Year 4

SHARED SPACE (BOULEVARD) Type
Source: Created by author

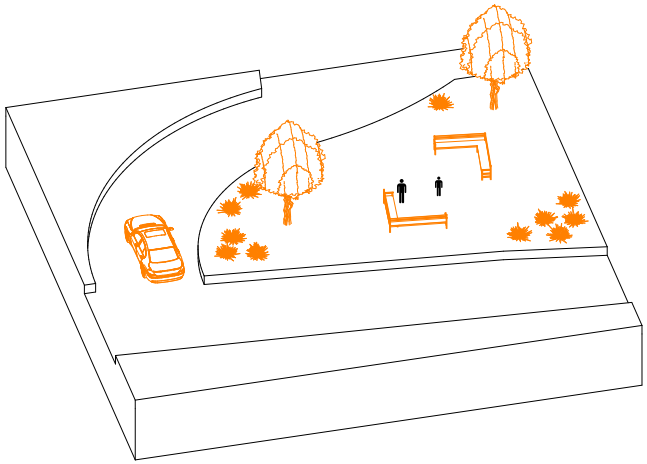
CURRENT SITUATION FUTURE/TEMPORAL SITUATION

When the road network is traced and the plot divisions are made, usually leave pieces of open space with irregular forms that become hard to reintegrate to the general network. By applying qualification rules and adding attractive elements, these spaces can begin to be used. Improving the accessibility is highly relevant in terms of reducing the disconnection and the easy use of the space (e.g. placement of pedestrian paths to cross the streets)



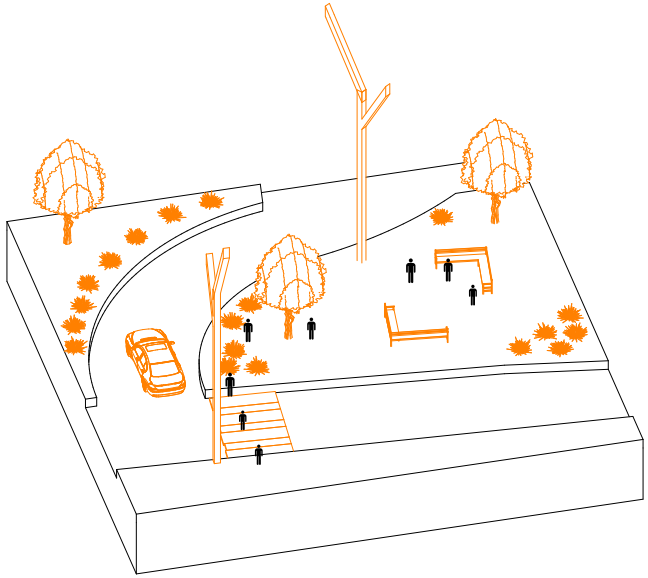
CURRENT SITUATION
Year 0

PUBLIC SPACE DAILY USE



PRIORITY INTERVENTION and REVIEW
Year 1

PUBLIC SPACE DAILY USE

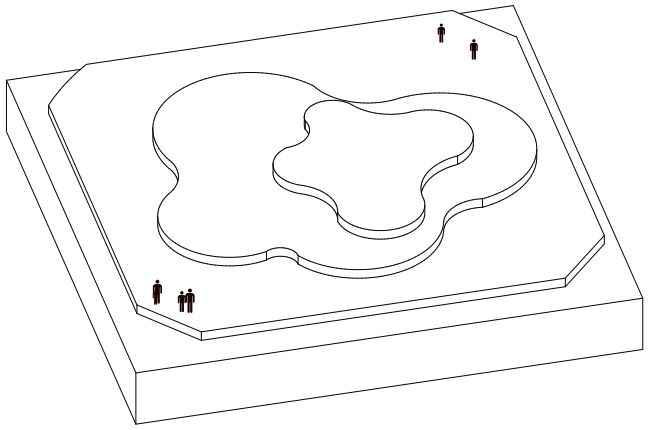


IMPROVEMENT
Year 4

IRREGULAR SQUARE Type
Source: Created by author

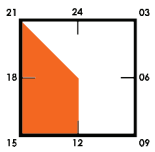
CURRENT SITUATION FUTURE/TEMPORAL SITUATION

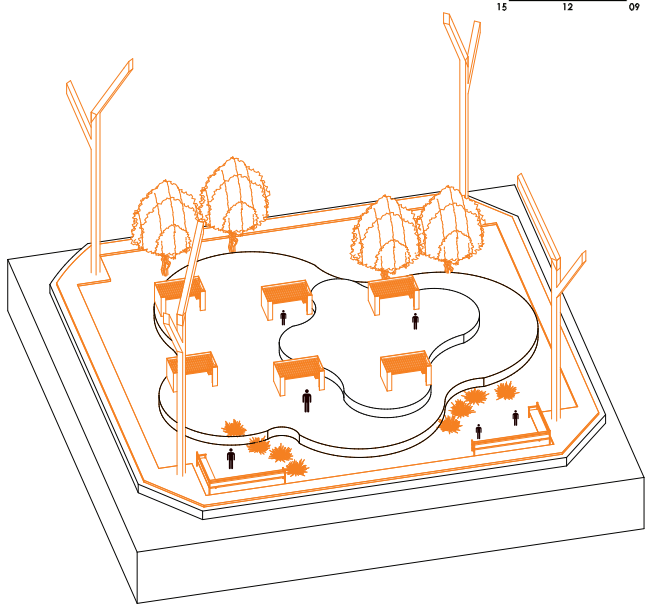
This tool patch is different from the others in terms it is based in the principle of a big available field that can host temporal, big sized functions. In this case, the evolution of the intervention varies from activity to activity, but the ones suggested here represent an starting point for quality improvement.



CURRENT SITUATION
Year 0

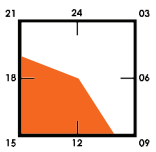
PUBLIC SPACE DAILY USE

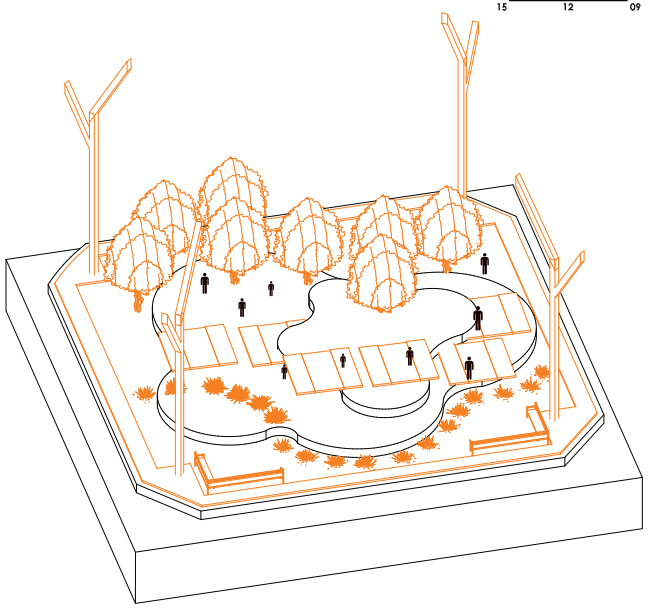




TEMPORAL INTERVENTION for REVIEW
Picnic & Barbeque Area
Year 1

PUBLIC SPACE DAILY USE

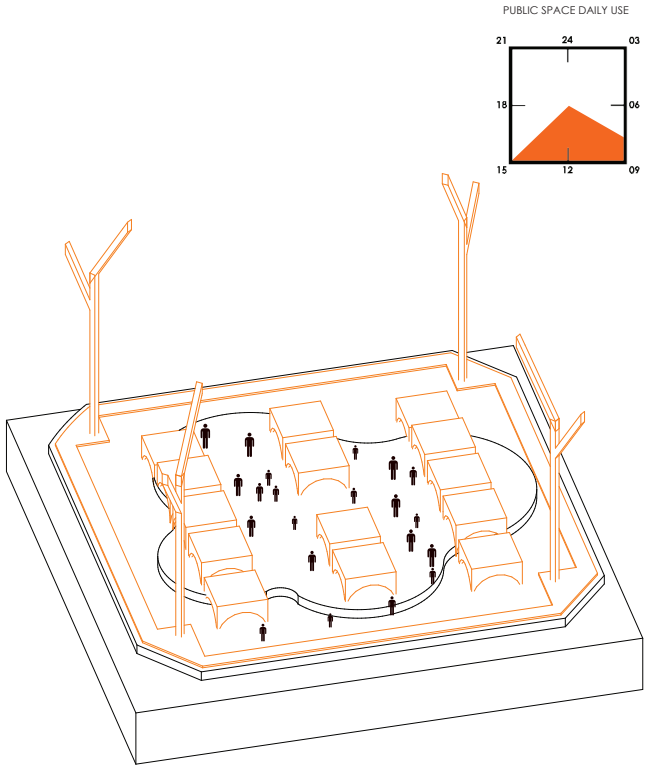




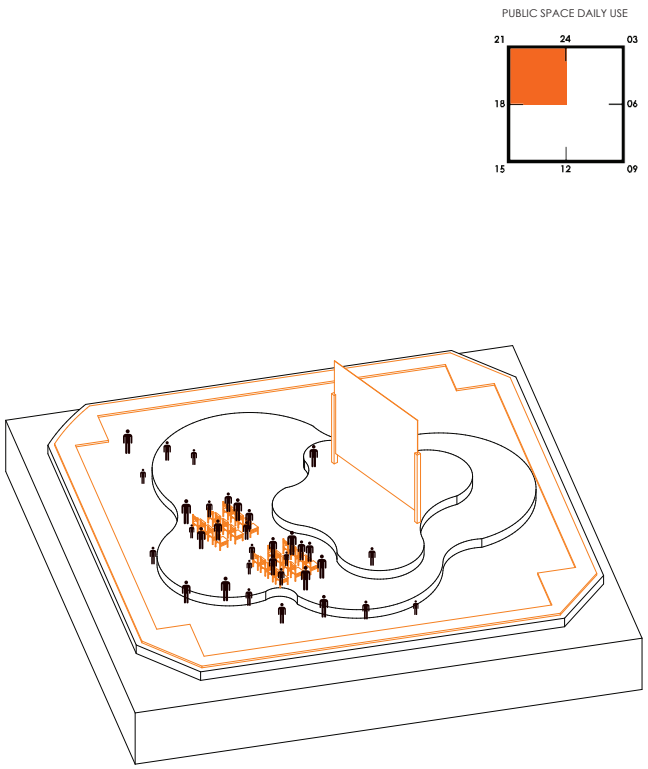
TEMPORAL INTERVENTION for REVIEW
Park
Year 3

SQUARE CENTRE Type
Source: Created by author

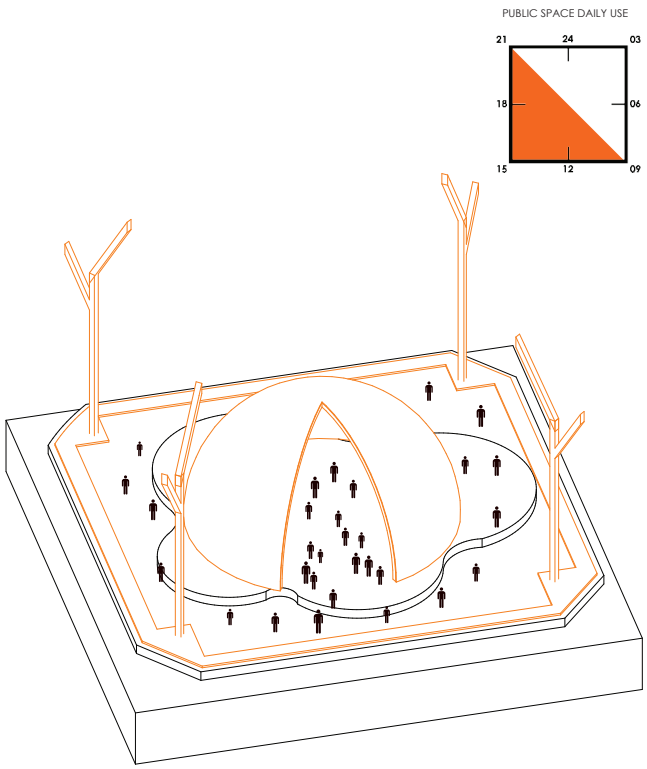
CURRENT SITUATION FUTURE/TEMPORAL SITUATION



TEMPORAL INTERVENTION for REVIEW
Local Market, Street Fair
Weekly



TEMPORAL INTERVENTION for REVIEW
Open Air Cinema, Cultural Festivities, Sports
Season or Unique event

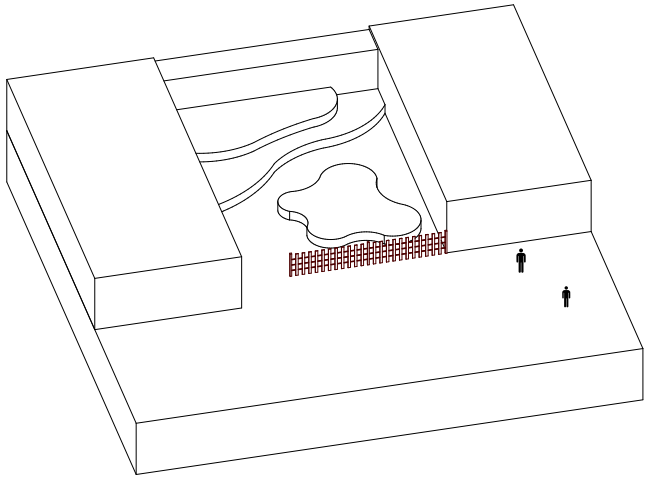


TEMPORAL INTERVENTION for REVIEW
Public Exhibitions, Circus, Art Performances
Season or Unique event

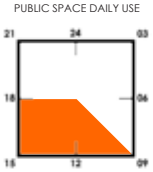
SQUARE CENTRE Type
Source: Created by author

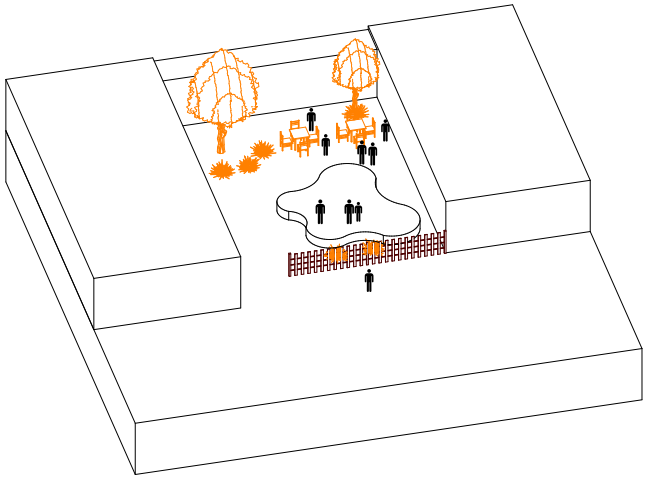
CURRENT SITUATION FUTURE/TEMPORAL SITUATION

This tool represents a way of recovering plot size voids into a meaningful community space with some neighbourhood privacy. The concept of this patch is inspired in the reinvention of these small spaces as complement for some semi-public internal activities in the contiguous spaces, such as cafés, small parks, etc., and finally a possible boost up for commercial activities.

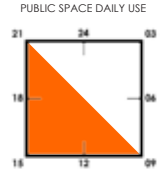


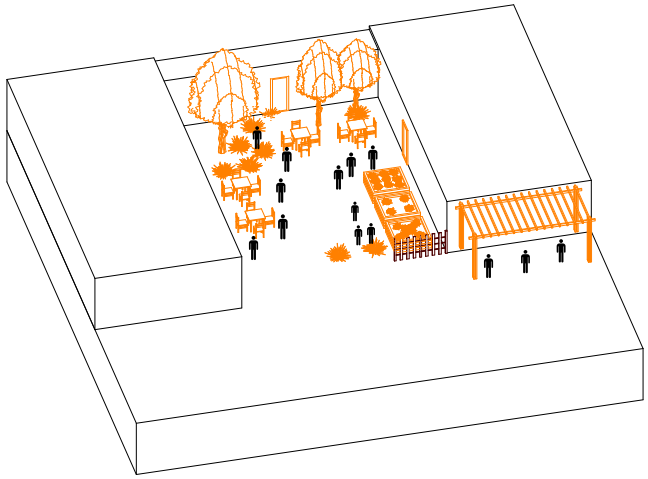
CURRENT SITUATION
Year 0





PRIORITY INTERVENTION and REVIEW
Year 2



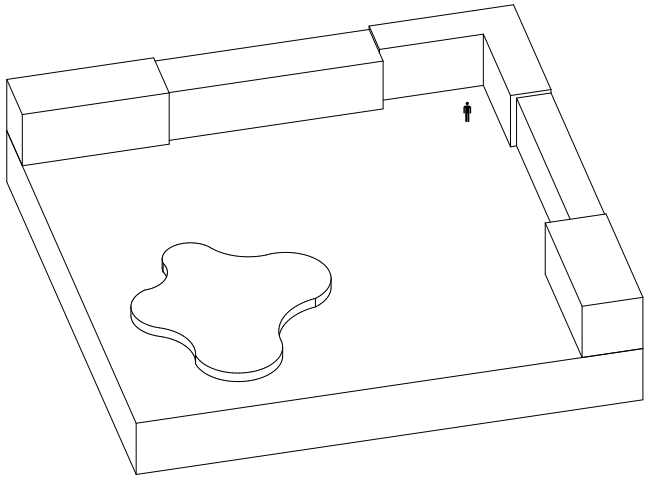


IMPROVEMENT
Year 4

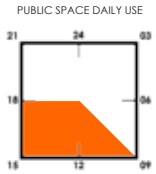
POCKET / MINI PARK Type
Source: Created by author

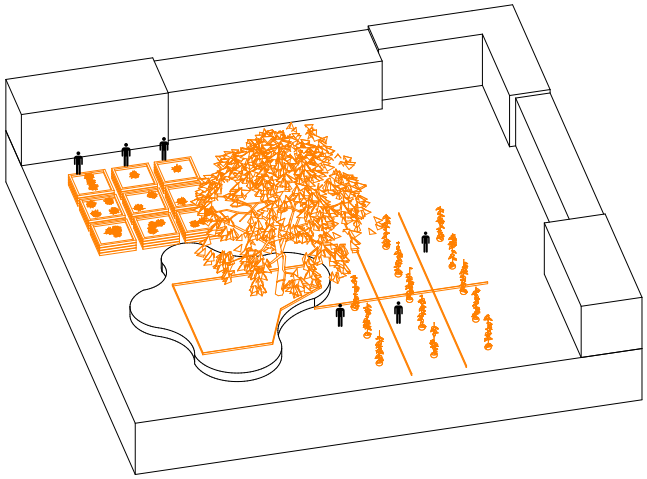
CURRENT SITUATION FUTURE/TEMPORAL SITUATION

The placement of urban gardens or planterns in strategical places for citizens to cultivate the land is expected to become a meeting place for a part of the neighbourhood community, at the same time it will support the daily living needs for some inhabitants and recreation aims for some others. In a very much improved version of this intervention, the local gardens can communicate with the weekly market for a complete mix use system.

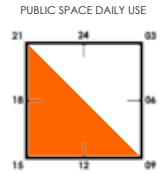


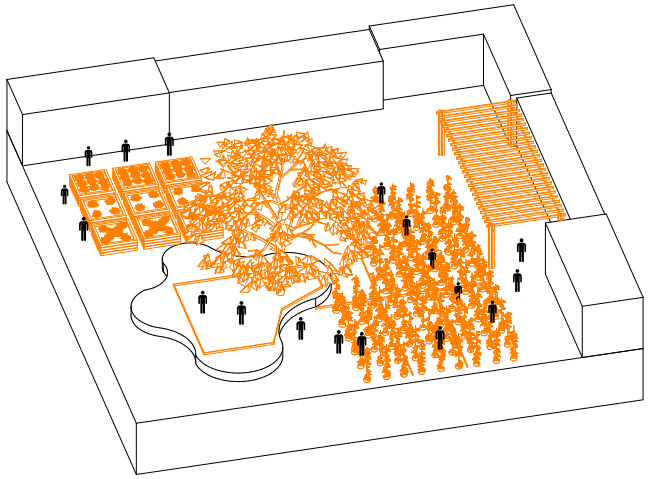
CURRENT SITUATION
Year 0





PRIORITY INTERVENTION and REVIEW
Year 2





IMPROVEMENT
Year 6

URBAN GARDEN Type
Source: Created by author

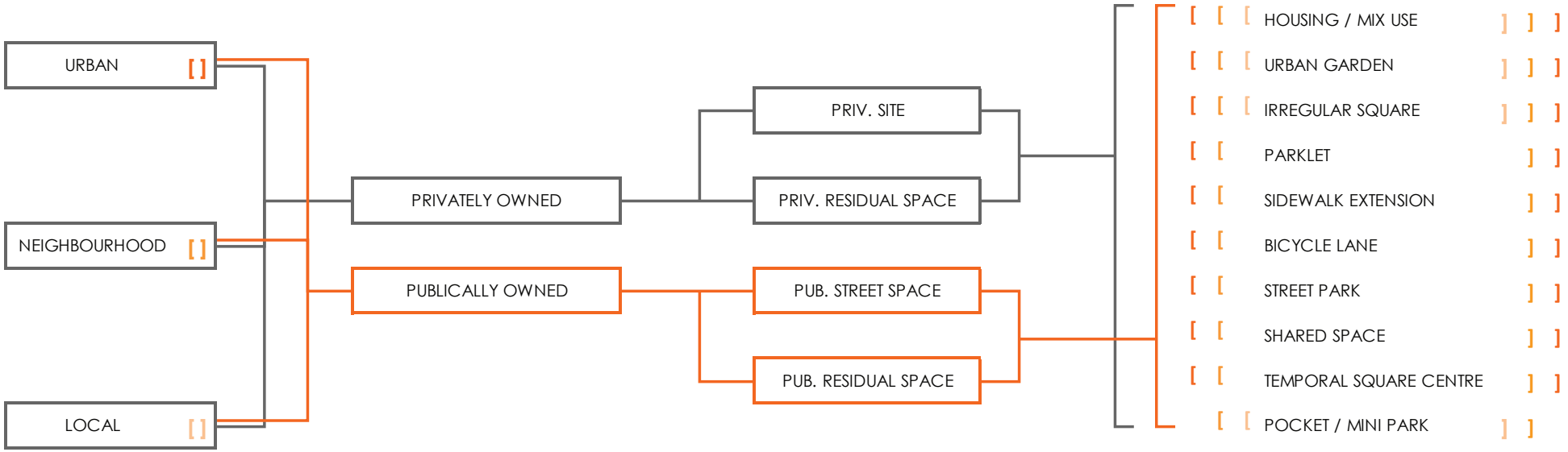
CURRENT SITUATION FUTURE/TEMPORAL SITUATION

How do we use this tools? By joining the so considered most important concepts in terms of formative powers towards the voids : Stakeholders, in terms of ownership; and Scale in terms of priority and influence; we diagram an Adaptation/Implementation matrix, that can be applied in every analysed void patch to activate.

The process of evaluation and placement of the previous tools within the void public space network refers to the following scheme, where the void space is first evaluated in terms of scale (potential to activate within the urban network), which will represent the priority of the intervention meaning the wider scope of void re_linkage oportunities with different networks and the main urban public spaces will be developed in first place (Urban interventions have the first priority, followed by the neighbourhood scale ones and finally the interventions in scale of a plot). After this classification has been made, we proceed to a second stage of classification in terms of ownership (this advices on who will perform and maintain the intervention):

a. Privately Owned Void Space: Private sites and Residual (development leftover) sites.

b. Publicly Owned Void Space : Street space and Residual space.



* This matrix represents the summary of what this project has achieved, thus the most important tool provided by this thesis project.
In an ideal scenario, the print of this page performs as a 'pocket guide' to be used in_situ when a void space is candidate for intervention.

		OWNERSHIP CLASSIFICATION OPORTUNITIES OF INTERVENTION			
		PRIVATELY OWNED		PUBLICALLY OWNED	
		PRIV. SITE	**PRIV. RESIDUAL SPACE**	**PUB. STREET SPACE**	**PUB. RESIDUAL SPACE**
SCALE CLASSIFICATION INTERVENTION PRIORITY	**URBAN** BROWNFIELD	SIDEWALK EXTENSION BICYCLE LANE STREET PARK TEMPORAL SQUARE CENTRE URBAN GARDEN HOUSING / MIX USE	SIDEWALK EXTENSION BYCICLE LANE STREET PARK IRREGULAR SQUARE TEMPORAL SQUARE CENTRE URBAN GARDEN HOUSING / MIX USE	PARKLET SIDEWALK EXTENSION BICYCLE LANE STREET PARK SHARED SPACE (BOULEVARD)	SIDEWALK EXTENSION IRREGULAR SQUARE TEMPORAL SQUARE CENTRE URBAN GARDEN HOUSING / MIX USE
	NEIGHBOURHOOD BLOCK	SIDEWALK EXTENSION BICYCLE LANE SHARED SPACE (BOULEVARD) TEMPORAL SQUARE CENTRE POCKET / MINI PARK URBAN GARDEN HOUSING / MIX USE	STREET PARK IRREGULAR SQUARE TEMPORAL SQUARE CENTRE POCKET / MINI PARK URBAN GARDEN HOUSING / MIX USE	PARKLET SIDEWALK EXTENSION BICYCLE LANE STREET PARK SHARED SPACE (BOULEVARD) POCKET / MINI PARK	SIDEWALK EXTENSION IRREGULAR SQUARE TEMPORAL SQUARE CENTRE POCKET / MINI PARK URBAN GARDEN HOUSING / MIX USE
	LOCAL PLOT	POCKET / MINI PARK URBAN GARDEN HOUSING / MIX USE	IRREGULAR SQUARE POCKET / MINI PARK URBAN GARDEN HOUSING / MIX USE	POCKET / MINI PARK [URBAN SERVICES / EQUIPMENT]	IRREGULAR SQUARE POCKET / MINI PARK URBAN GARDEN HOUSING / MIX USE

INTERVENTION TOOL SET

- PARKLET (San Francisco, 2009)
- SIDEWALK EXTENSION
- BICYCLE LANE
- STREET PARK
- SHARED SPACE (BOULEVARD)
- IRREGULAR SQUARE
- TEMPORAL SQUARE CENTRE
- POCKET / MINI PARK (New York)
- URBAN GARDEN
- HOUSING / MIX USE (Under Conditions)

3. ANALYSIS CASE TESTING

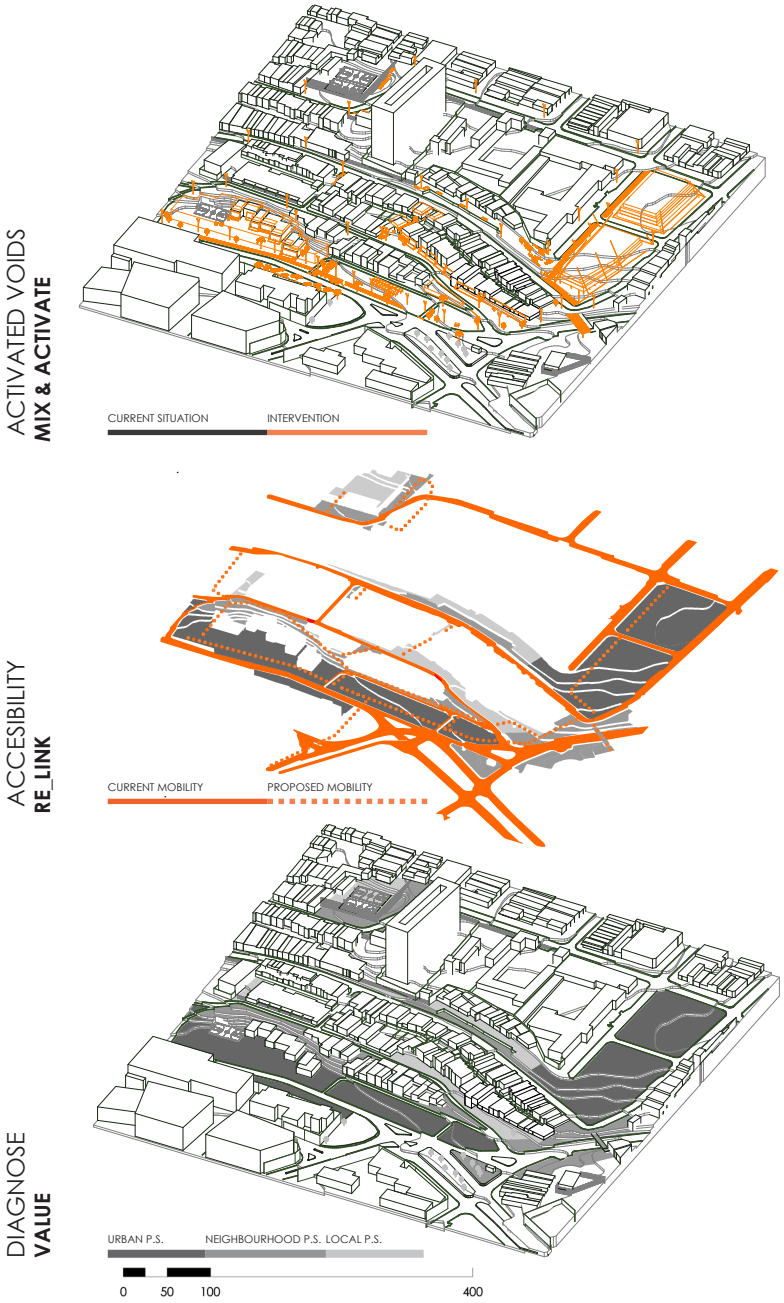
3.1 ANALYSIS CASE TEST [2]

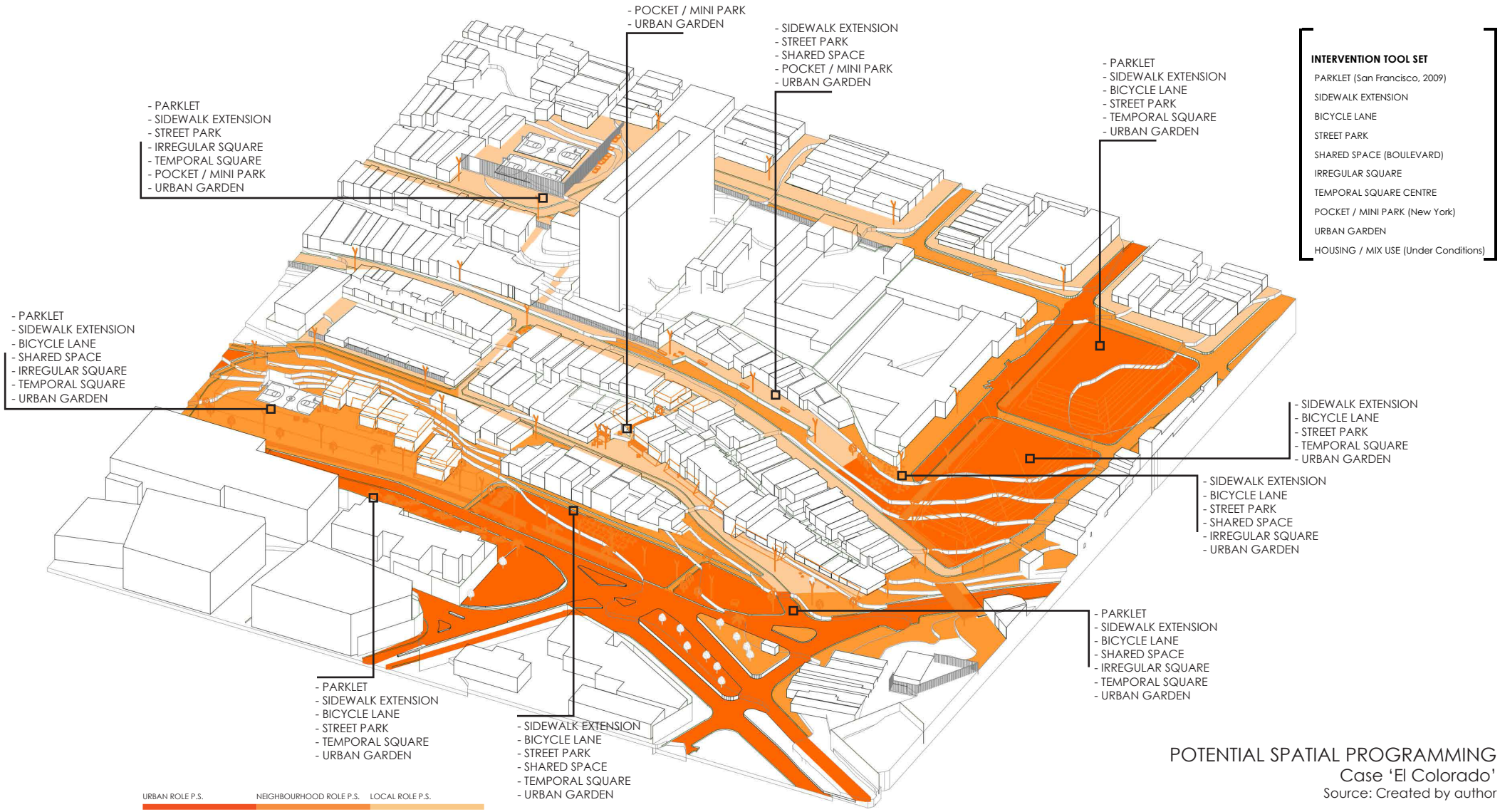
By underpinning the values embedded in the patch, It is possible to identify the intervention points with higher potential to trigger the re_connection of the void space: Catalyzer Voids; and place where it corresponds the most accurate tools in order to respond to the local demands.

As an example of the application of this method, we will use one of the patches selected previously as case study to fill in the matrix : El Colorado-ZOFRI patch.

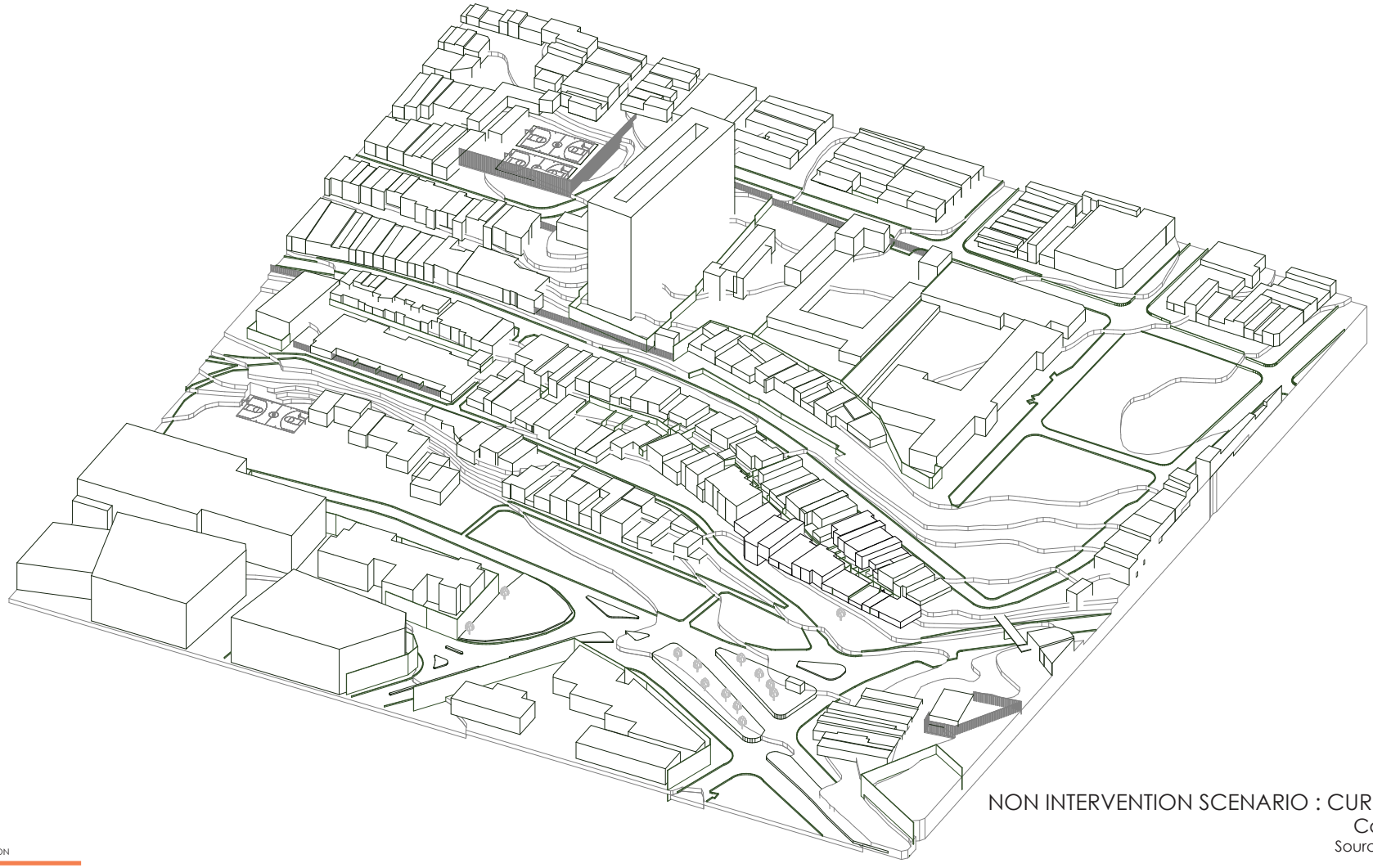
In this graph it is roughly described the process of diagnose, linkage, mixicity and activation of the patch: The influence scale of every available space is shown, the recognition of the main mobility and accessibility networks with the proposed improvements in the pedestrian circuits within the patch and finally the re_diagram of the patch including the possible intervention platforms.

The diagram in the next page amplifies the intensity of the public space potentials embedded in the study patch. This classification is based in the urban functions these spaces perform, relating the maximum intensity to the spaces that represent an urban relevance, a medium intensity to those spaces regarded with neighbourhood (inside and for exchange) value for the community, and a lower intensity for the places that represent a local interior identity value for the community. This lower intensity places at the same time represent the strongest intervention points in order to achieve social re_qualification of the void. It is about this platform where we define possible locations for the previously defined toolbox.





POTENTIAL SPATIAL PROGRAMMING
Case 'El Colorado'
Source: Created by author

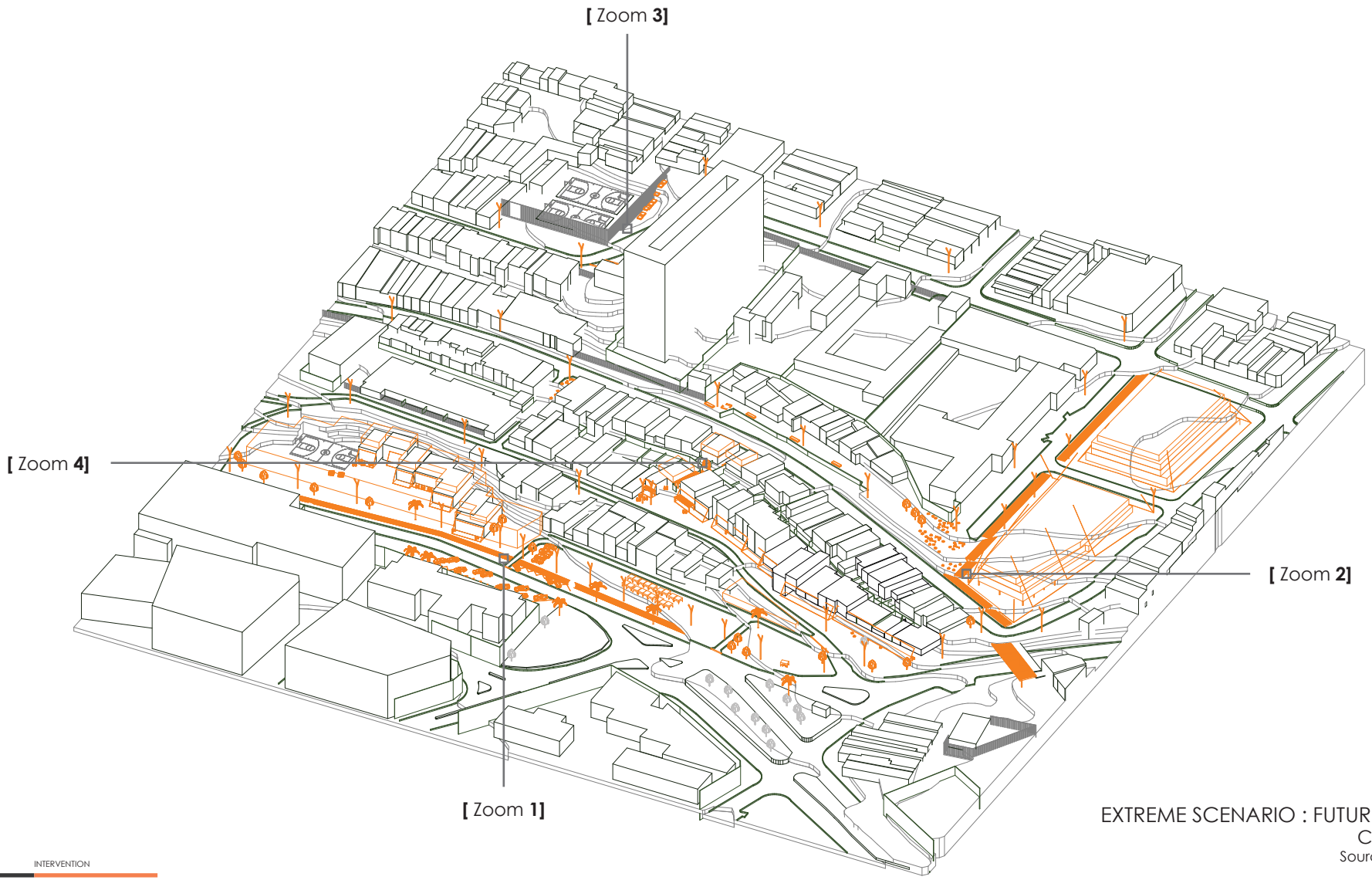


NON INTERVENTION SCENARIO : CURRENT SITUATION

Case 'El Colorado'

Source: Created by author

CURRENT SITUATION INTERVENTION



CURRENT SITUATION INTERVENTION

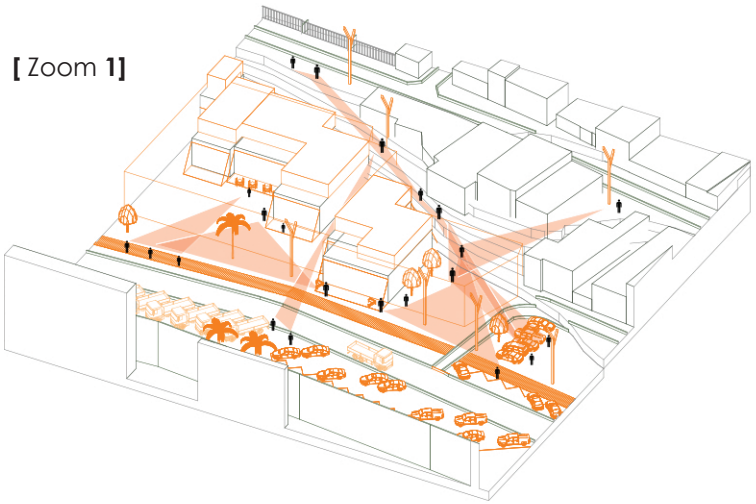
EXTREME SCENARIO : FUTURE INTERVENTION
Case 'El Colorado'
Source: Created by author

The confirmation of the effectiveness of the intervention will be expressed in the use of the spaces. Use will fill the void with significance .

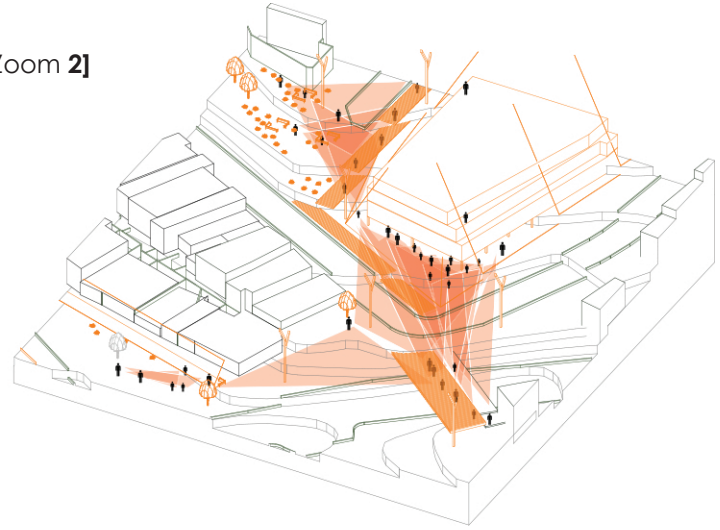
The graph of the visual control achieved by making the fragment spaces accessible reveals a general platform for intervention that shows different intensities (time and space) in the function and meaning of the accomplished public space network, and with it (as mentioned before) the starting point for a social recognition and revalidation of the spaces, drawing circuits and improvement priorities in the places where multiple networks meet.

CURRENT SITUATION INTERVENTION VISUAL CONTROL AREA

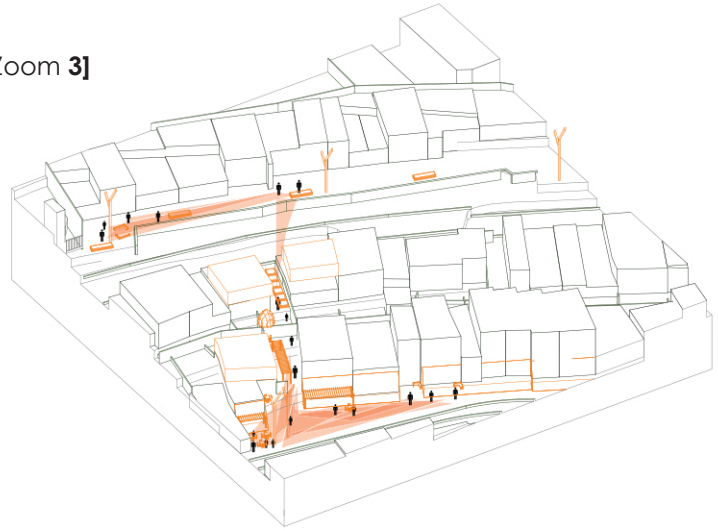
[Zoom **1]**



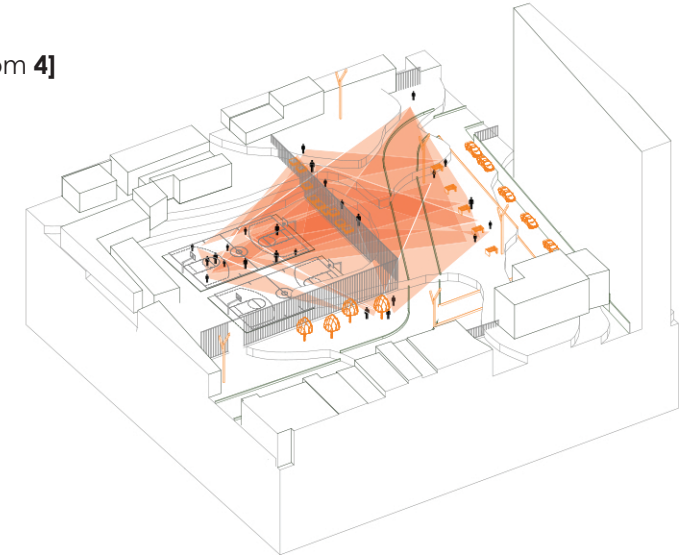
[Zoom **2]**

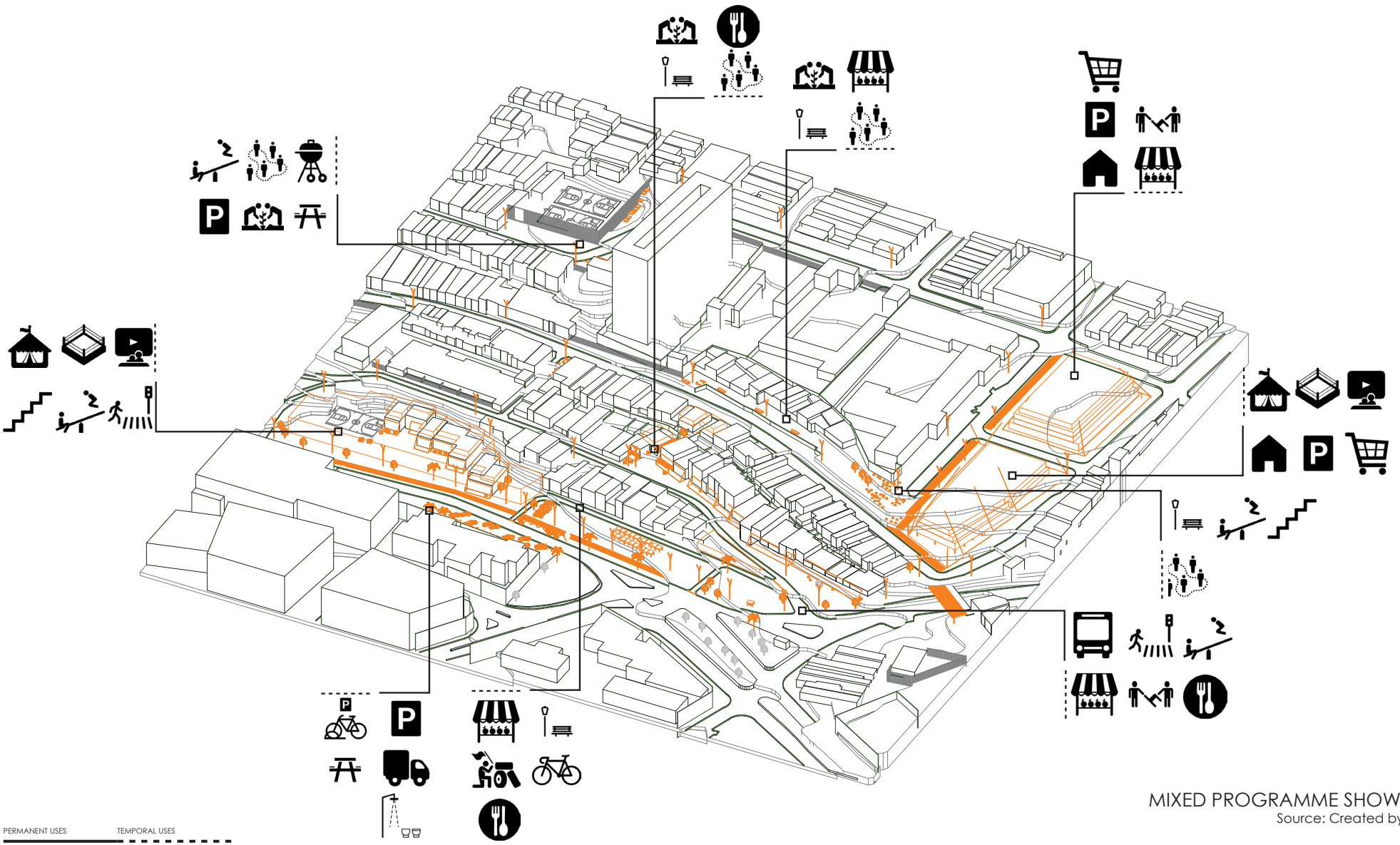


[Zoom **3]**



[Zoom **4]**





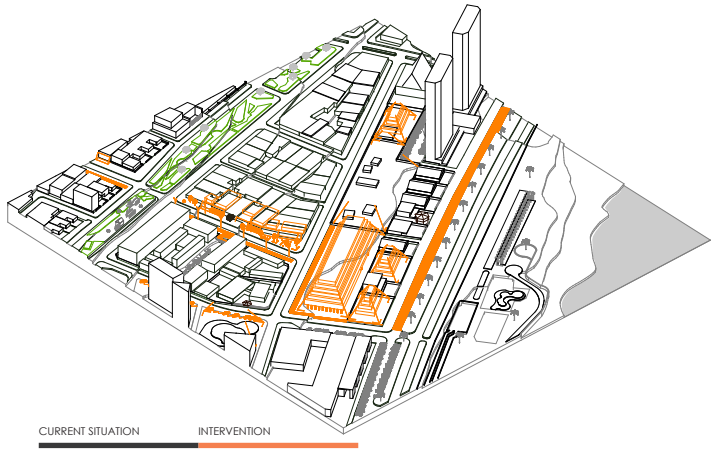
MIXED PROGRAMME SHOWCASE
Source: Created by author

3.2 ANALYSIS CASE TEST [3]

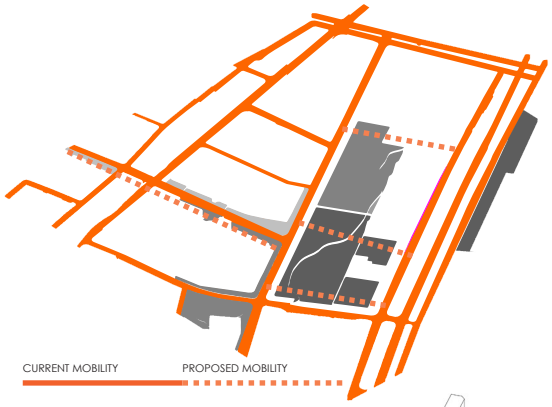
In order to test the strategy in a different patch, we apply the method in the coastal patch, specifically the are facing Playa Brava (beach), because it represents a relevant anomaly in terms of densification, where the first coast line appears as a wall between the neighbourhood behind it and the coastal public space.

Referring to the previous stated rules for development, its important to mention that the medium height for this area is 5 floors, where the average height of a single level is four meters; and to remind that the interventions proposed by this project are focused on the creation of quality public spaces, thus the priority on intervention goes to the not densification of the available urban voids, however due to the high demand on the development of this area for specially turistic activities, the intervention should prioritize the liberation of the ground floor for public use activities.

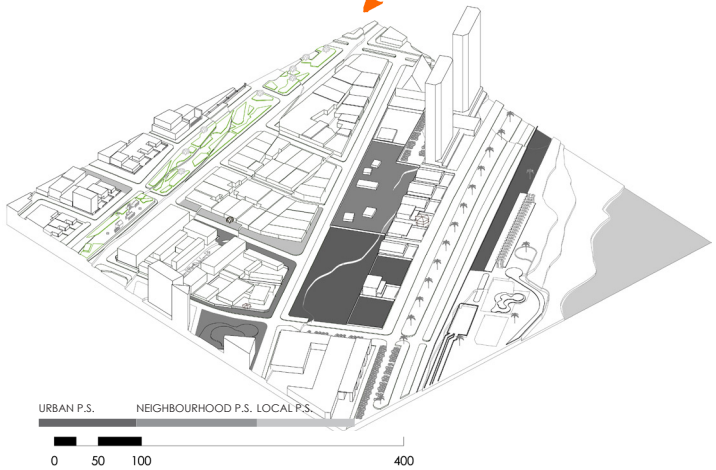
ACTIVATED VOIDS
MIX & ACTIVATE

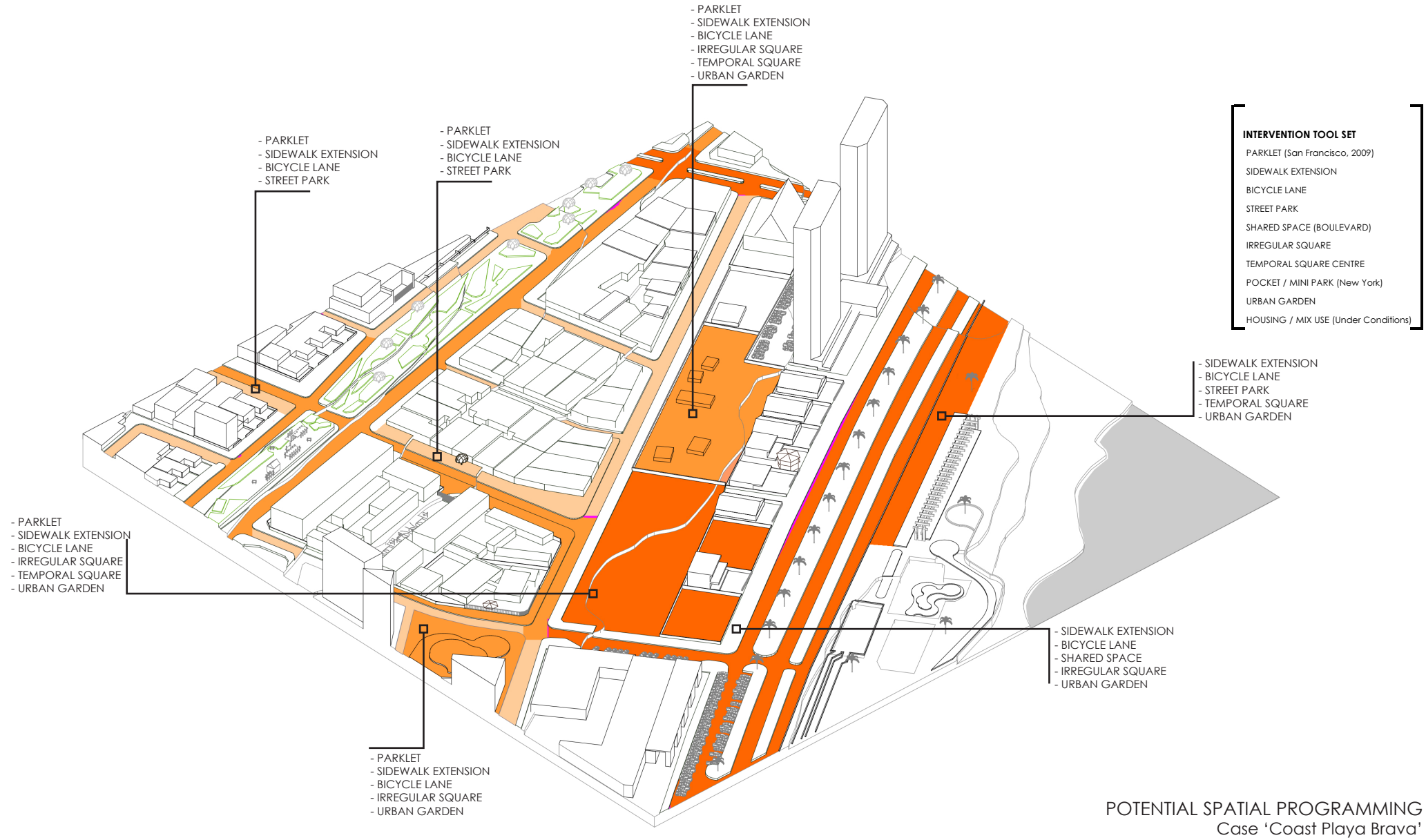


ACCESIBILITY
RE_LINK

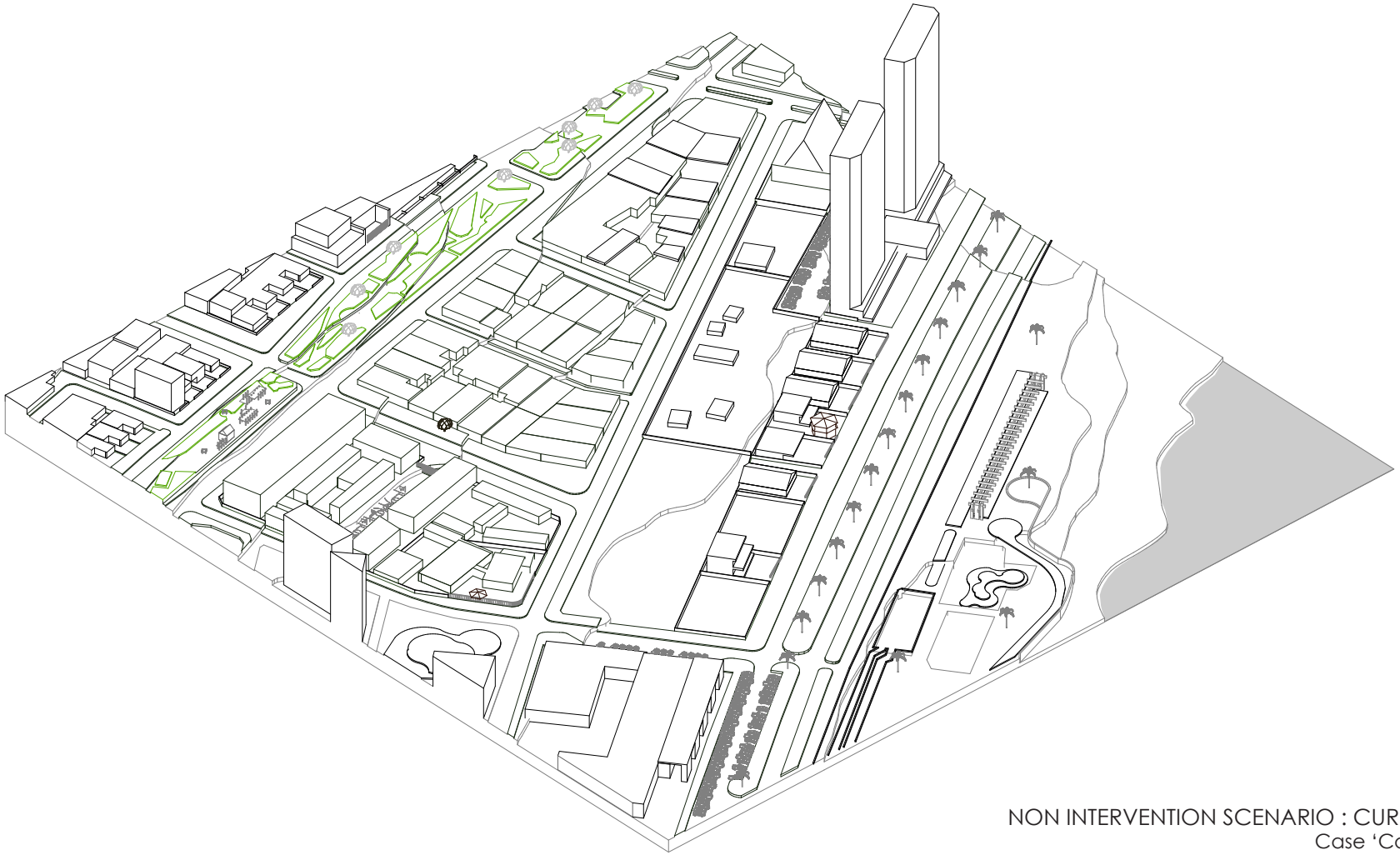


DIAGNOSE
VALUE





POTENTIAL SPATIAL PROGRAMMING
Case 'Coast Playa Brava'
Source: Created by author

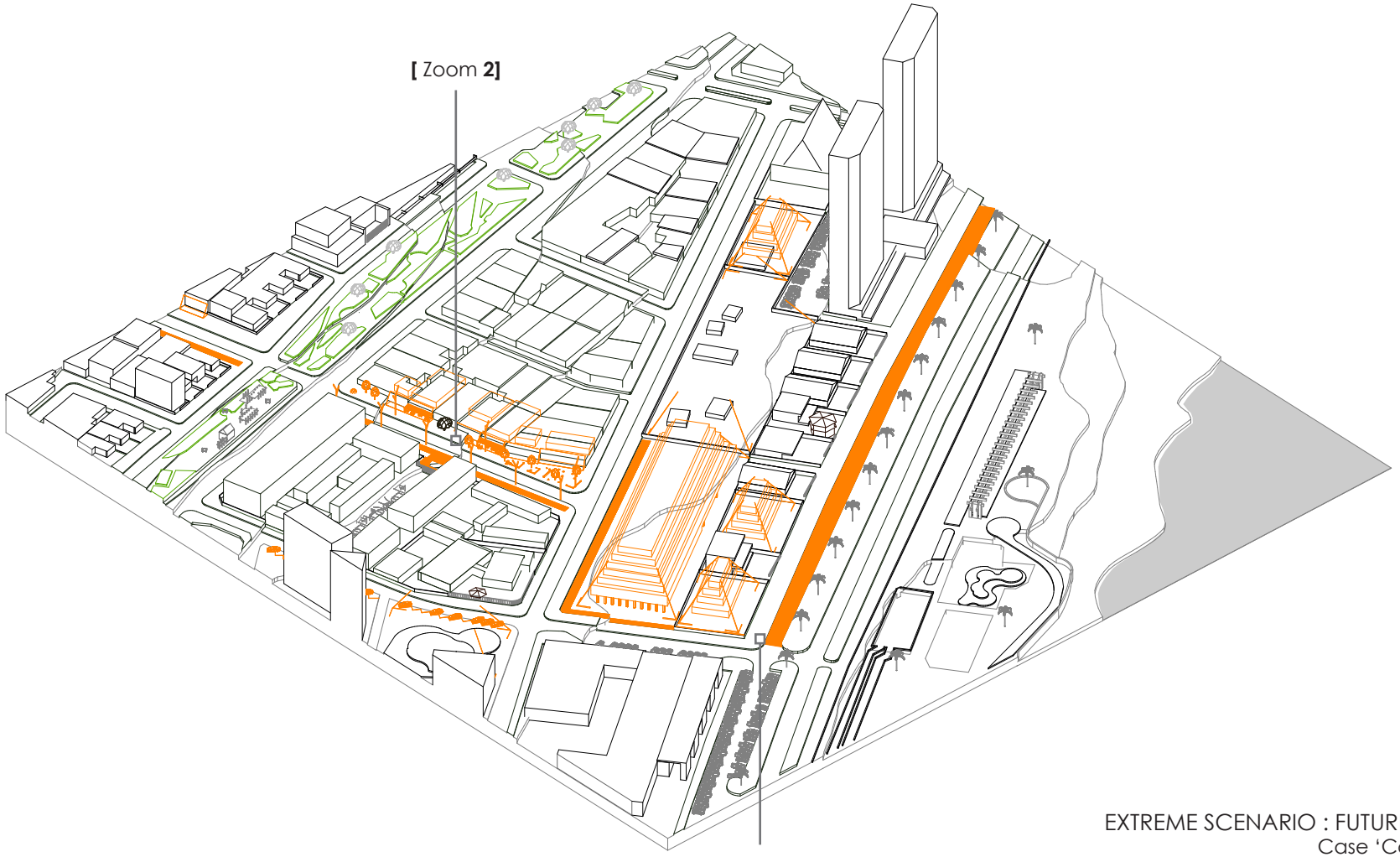


NON INTERVENTION SCENARIO : CURRENT SITUATION

Case 'Coast Playa Brava'

Source: Created by author

CURRENT SITUATION INTERVENTION



CURRENT SITUATION INTERVENTION

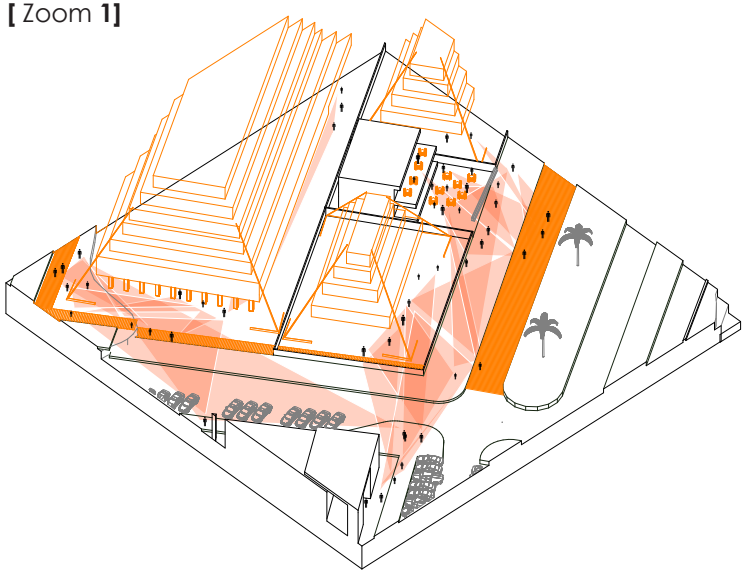
EXTREME SCENARIO : FUTURE INTERVENTION
Case 'Coast Playa Brava'
Source: Created by author

In this case, the graph of the visual control reveals the high intensities on public space use around the mobility networks, which is expected due to the spatial structure the public space presents in this area of the city, with a medium density however the almost complete use of the available groundfloor.

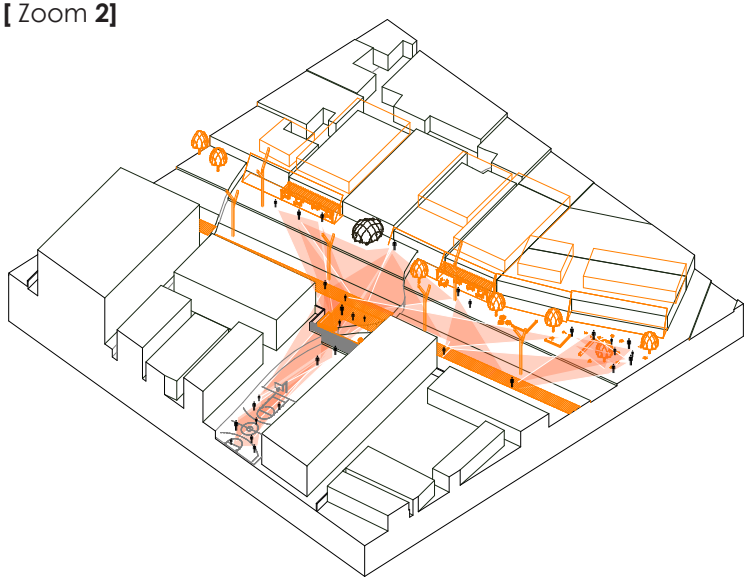
Specially in the Zoom 2, is possible to appreciate the mix of functions related to the significance of the place, considering that the most relevant use concentration appears in the intersection between the neighbourhood pedestrian network and the door or the school.

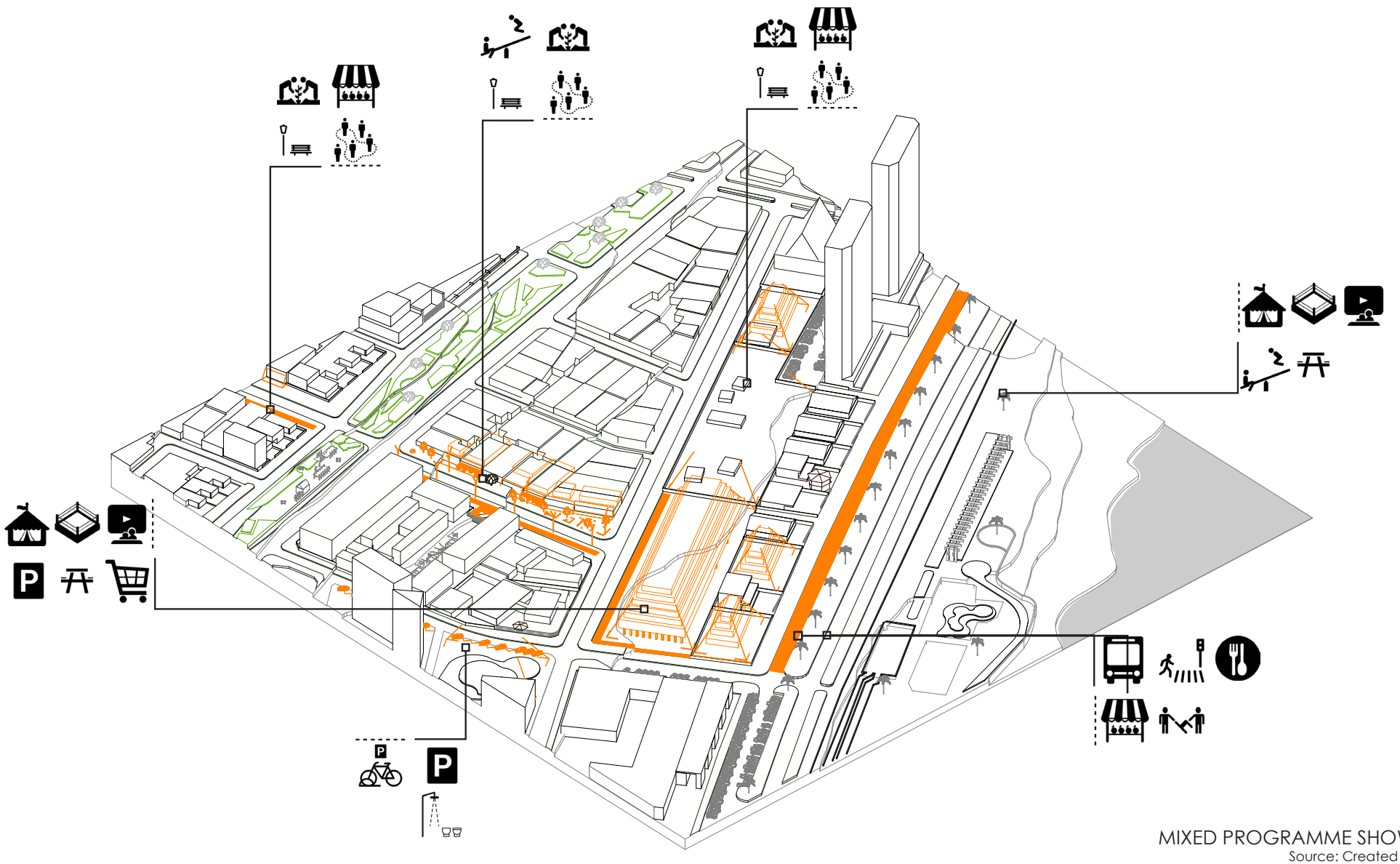
CURRENT SITUATION INTERVENTION VISUAL CONTROL AREA

[Zoom **1**]



[Zoom **2**]





MIXED PROGRAMME SHOWCASE
Source: Created by author