



Politecnico di Milano
Scuola di Architettura e Società
Master of Science in Architecture

The New Porta Genova Metropolitan Park: *A Urban Story Between Connections, Water and Memory*

Thesis Supervisor : Matteo Aimini

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Matricola. 780215
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Academic Period 2012 - 2013

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Abstract: The New Porta Genova Metropolitan Park .

A Urban Story Between Connection, Water and Memory.

Throughout Milanese History Porta Genova area has been highly characterized by the presence of water since the existence of this natural element established a complex way of urbanism that left a mark on the actual urban form as well as being a primary infrastructure for the development of the downtown nucleus .Beginning with the antique existence of a composite hydric system that determined the shape of roads and constructible space, till the development of Naviglio Grande as the main connection between the city and the Lombardia Region. Unfortunately given to the deep transformation this area has been submitted and the dismissal of the Naviglio as the key infrastructure that provided goods and construction materials for the development of Milan core , the city has forgotten about the importance of water as a generative component of public space, at the same time neglecting the capacity of this as a mobility organism that can support the existing transport scenario. In phew words Porta Genova area now a days is a disremembered connection hub that needs to be rethink as it was forecast at the time the Naviglios were planned , in which water infrastructure in junction with the ferrous setup and the vehicular mobility arrangement would make of this place a multimodal and regional connection focal point.

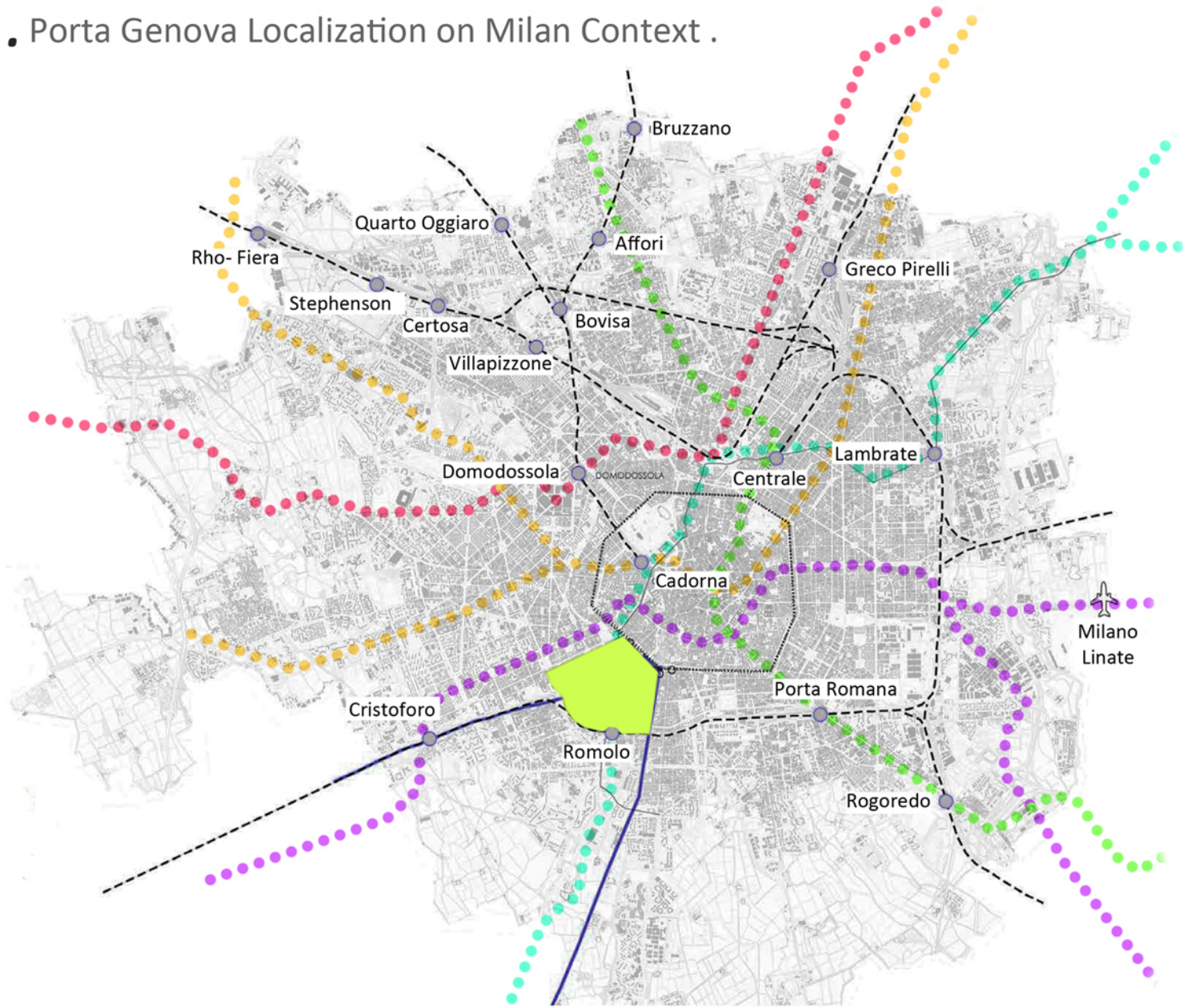
It is important to understand that water presence in Porta Genova Neighborhood has different values, starting with the interconnection aspect as explained before as well as an urban living quality this element can provide to the city of Milan. At the time Naviglio Grande is one of the phew environments in which water and public space are co-related in the Milanese urban life, nevertheless this link is highly damaged given to the presence of Porta Genova Railway Station as metropolitan context block as well as the canals lack of supply for activities that trigger public space functions related with water.

Thanks to the before mentioned scenario over Porta Genova area and its relationship with the water context , this Thesis Project intends to re-think the existing associations between public space , Naviglio Grande and the mobility aspects among a local and regional scale. The main objective of this proposal is to state the importance of water as a public space generator , at the same time being a highly functional machine for communication , throughout the application of different strategies that activate Porta Genova as a new social encounter center. In this case Naviglio Grande and the water approach will be the stratagem for public encounter and urban regeneration. In conclusion this proposal pretends new imaginaries around what water could be in Milan city , suggesting new ideas and groundbreaking initiatives on how Porta Genova can re-plan its main waterfront , respecting the memory of the site but projecting contemporary life on what is considered a “Fato Urbano“ in Milanese culture.

*In Omaggio a tutte le persone che hanno fatto parte di questa
straordinaria Historia di vita ...*

Site Introduction

1. Porta Genova Localization on Milan Context .



Legend.

- *Metropolitana Linea 5*
- *Metropolitana Linea 4*
- *Metropolitana Linea 3*
- *Metropolitana Linea 2*
- *Metropolitana Linea 1*
- *Porta Genova Area*
- *Train System*

2. Porta Genova: Design Hub for New Ideas



INDUSTRIAL DESIGN

Il gruppo manageriale dispone al suo interno di elevate competenze professionali complementari tra loro maturate in precedenti esperienze nei settori:
I servizi:
commerciale
architettura e design
visual merchandising
mercati internazionali



PROMODORO FACTORY

A conferma della capacità di cogliere i segnali di cambiamento e anticipare il trend di mercato, Tortona Locations ha intuito con largo anticipo l'esigenza di aziende e imprenditori di poter disporre di spazi qualificati e attrezzati, per brevi periodi, per esposizione, vendita, lancio di un prodotto.

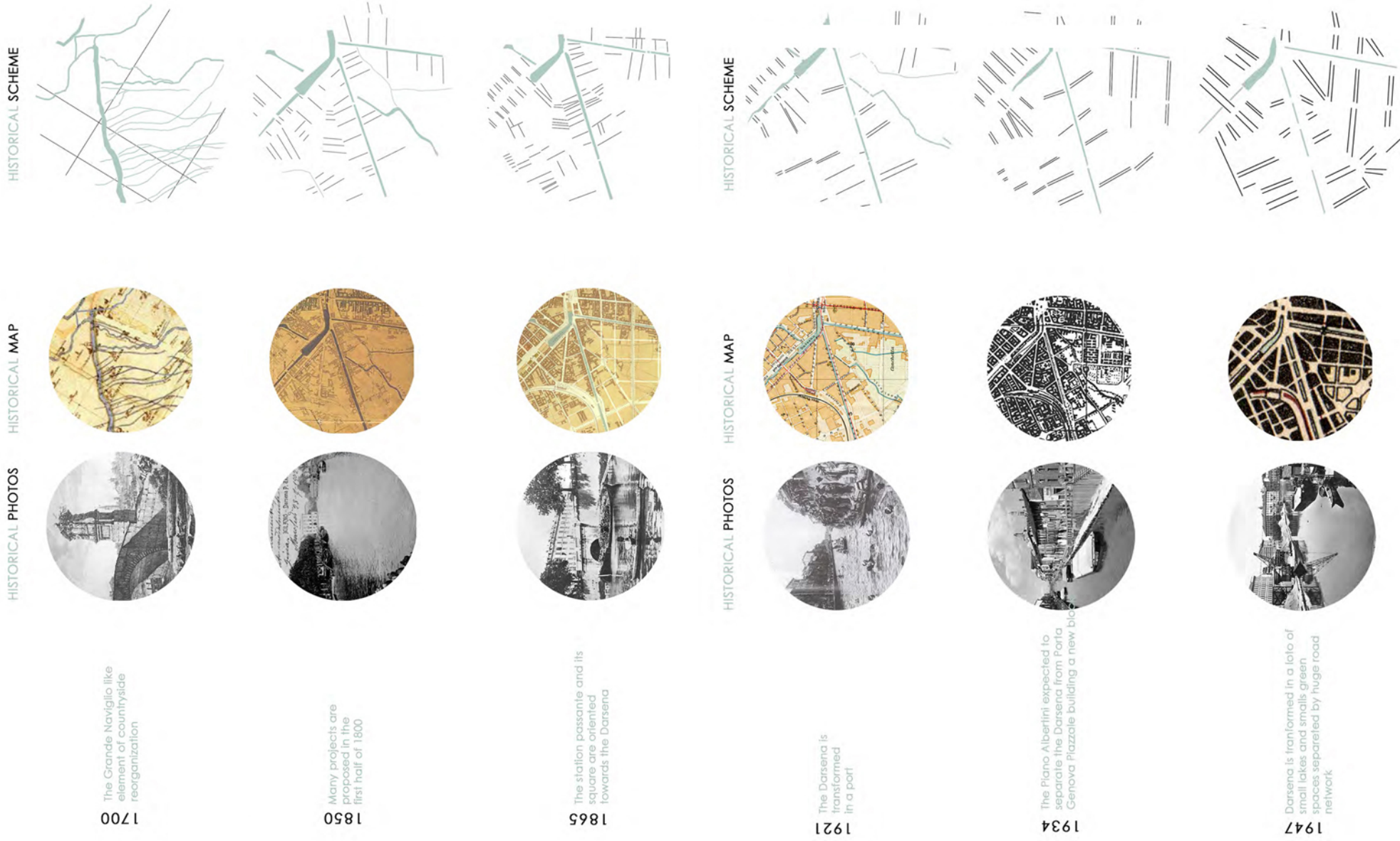


DESIGN WEEK

Diesel, Levis, Estee Lauder, 6267, Twin-set, Carhartt, Celine, Al Fayed, High, Giles, Ferragamo, Colangelo, No.nu, Vivia Ferragamo, Osh Kosh, Jaga, Roberto del Carlo, Luca Valentini, Wega, be different milano, Boz communications, bstripe, c.l.a.s.s., Cellar Door, Clotilde De Barriola, Coragrosso, Crespi 1797, Daniela Delcima, Daniele Di Lorenzo, Juji, Karma of Charme, Keyart, LK Bennet, Momaboma, Lombardini SpA, Mafalda86, Marta Arona, Paolo, Errico, Too Late, Veronica Bettini Mood, Liith, Hannah, MesSoeurs et moi.ab., Elemente

3. History of a Fluvial Presence in Milan

Water presence in Milan, especially on the Porta Genova areas was crucial in the generation of the actual urban texture. The once existing fluvial system was the guiding element for the subdivision of the territory, unfortunately as seen on this diagram the city has disappeared its hydric origins forgetting a component that made part of the naturality of this place.



The Grande Naviglio like element of countryside reorganization

Many projects are proposed in the first half of 1800

The station passante and its square are oriented towards the Darsena

The Darsena is transformed in a port

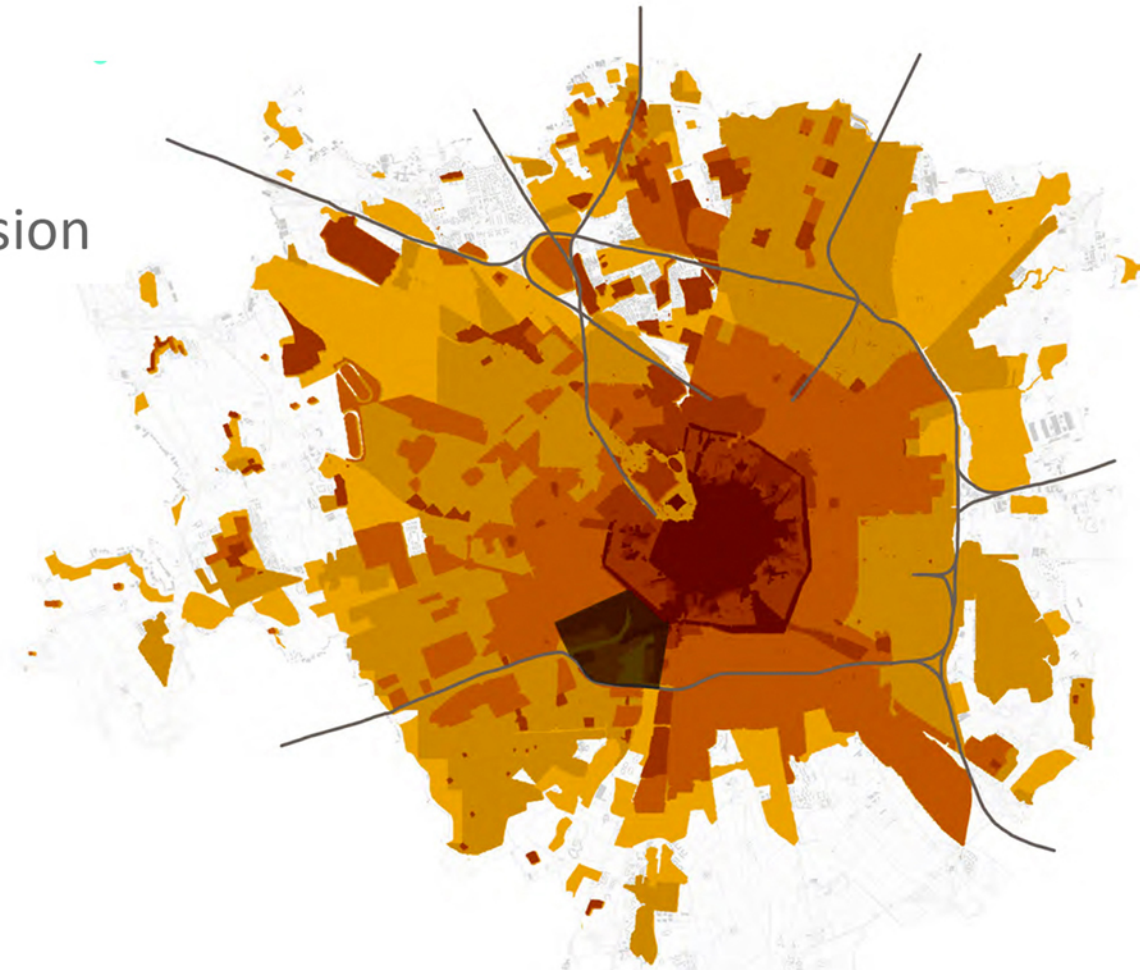
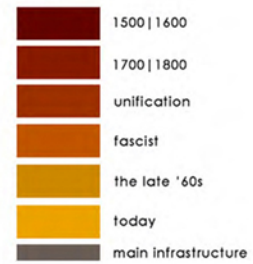
The Piano Albertini expected to separate the Darsena from Porta Genova Piazzale building a new boulevard

Darsena is transformed in a lot of small lakes and small green spaces separated by huge road network

4. Historic Evolution: Diagram of the City Expansion

HISTORIC EVOLUTION city expansion

KEY



1700 | 1800



1700 | 1800



unification



fascist



the late '60s



today



5. Public Space Actual Situation

Parking is totally disorganized on Porta Genova and its surroundings. Vehicles are parking on the sides of streets, boulevards and pedestrian ways. There is no establish, visible and proper infrastructure for cars, thanks to this parking areas are spread in small fractions that create disorder and the invasion of public space.



Parking areas should be concentrated in the periphery of Porta Genova central core, in relation to the main mobility system of Milan. This areas have to be visible and well connected with auxiliary mobility infrastructure to avoid cars from coming to the center of Naviglio and incentivizing the use of pedestrian transport as the main system in the interior of this area.

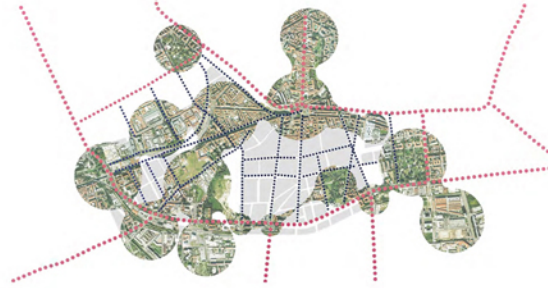


6. Pedestrian, Mobility and Cultural Activities

PEDESTRIAN MOBILITY VS. CAR MOBILITY

The main objective for differentiating between car transportation and pedestrian mobility is to reduce the amount of cars in the inside of Porta Genova and to incentive the use of pedestrian mobility. If main Public transport systems as metro, bus, tram or bicycle are pressed in the core of Porta Genova then the use of the car will reduce and public space will gather its importance on the site.

- Main Car Mobility Systems
- Main Public Mobility Systems
- Public Main Site Destinations "Fast Urbans"



UNIVERSITIES AND THEIR INFLUENCE ON THE SITE

Universities have an important influence over Porta Genova periphery. Thanks to this situation, different types of complementary uses have to be supplied on the surroundings for the needs this educational institutions demand. At the same time Porta Genova must supply these institutions with adequate public spaces in order to maintain organization between students, functions and vehicular transportation.

- Educational institutions influence area
- Educational institutions influence area. This Area must supply functions Universities demand



7. The GREEN

GREEN SPACES AND CONNECTIONS

Green spaces are unconnected between each other. Inhabitants have to walk extended distances to reach a green area. The green space must be understood as a unique system that unites all the Porta Genova context and the rest of the City.

- Fashion and design activities
- Water



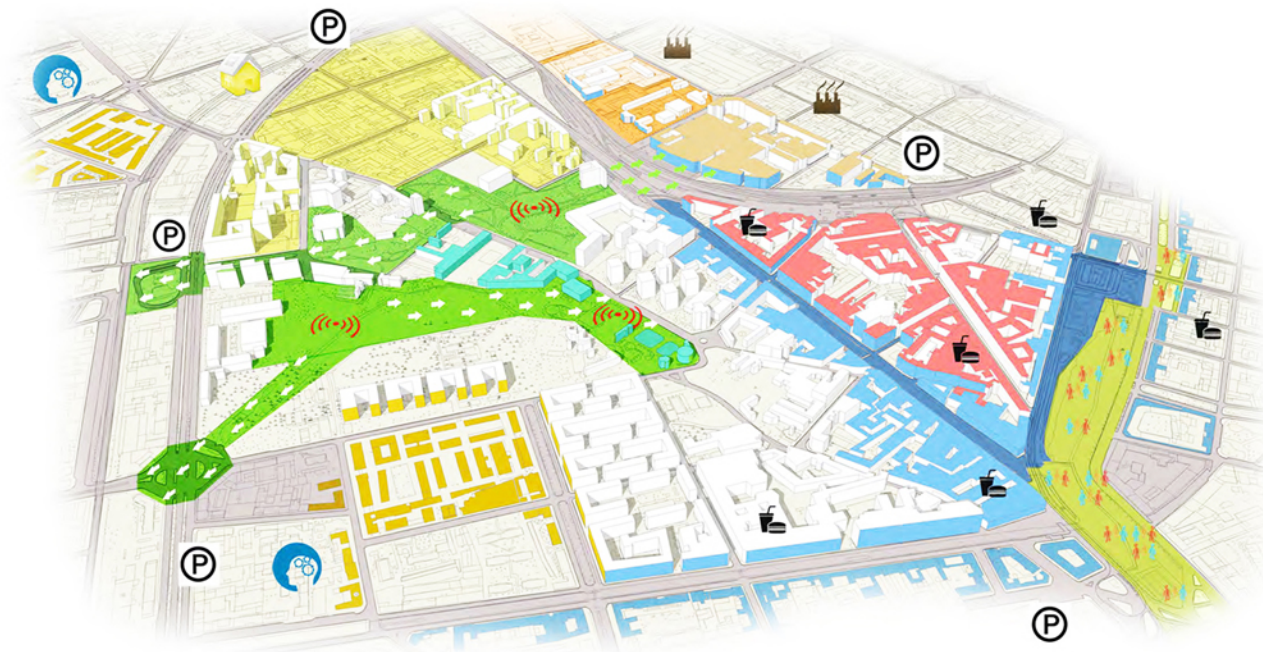
GREEN SPACES AND CONNECTIONS

Porta Genova needs a system of green areas with an arrangement of boulevards and green area to conform an organism that is interconnected and serves as a mobility center for pedestrian communication. This system can connect inhabitants from the center of Naviglio to the periphery where the main metropolitan mobility systems are located.



8. Principal Characteristics of a Poli-Dimensional Context

The High quantity of different activities concentrated in Porta Genova area makes of this an urban pole in all the metropolitan Milano. Part of the solution for this urban hub is to understand all the coexisting presences to make them work as a hole even if they come from so diverse natures.



- 

Urban junctions that solve connectivity demands in the interior of Porta Genova
- 

Urban factory that have to be transformed into Public generators of "design culture" in the area
- 

Metropolitan connections junctions that relate the Urban with the local
- 

Organised housing core must contains all the functions demanded by this kind of use
- 

Darsena function restore, it has to become a metropolitan public space
- 

University's influence over the area
- 

Define public parking and locate it at the periphery of the area, to make free of car the inside area of Porta Genova
- 

Commercial, cultural and recreational functions that respond to the public user's needs
- 

Preservation of historical core
- 

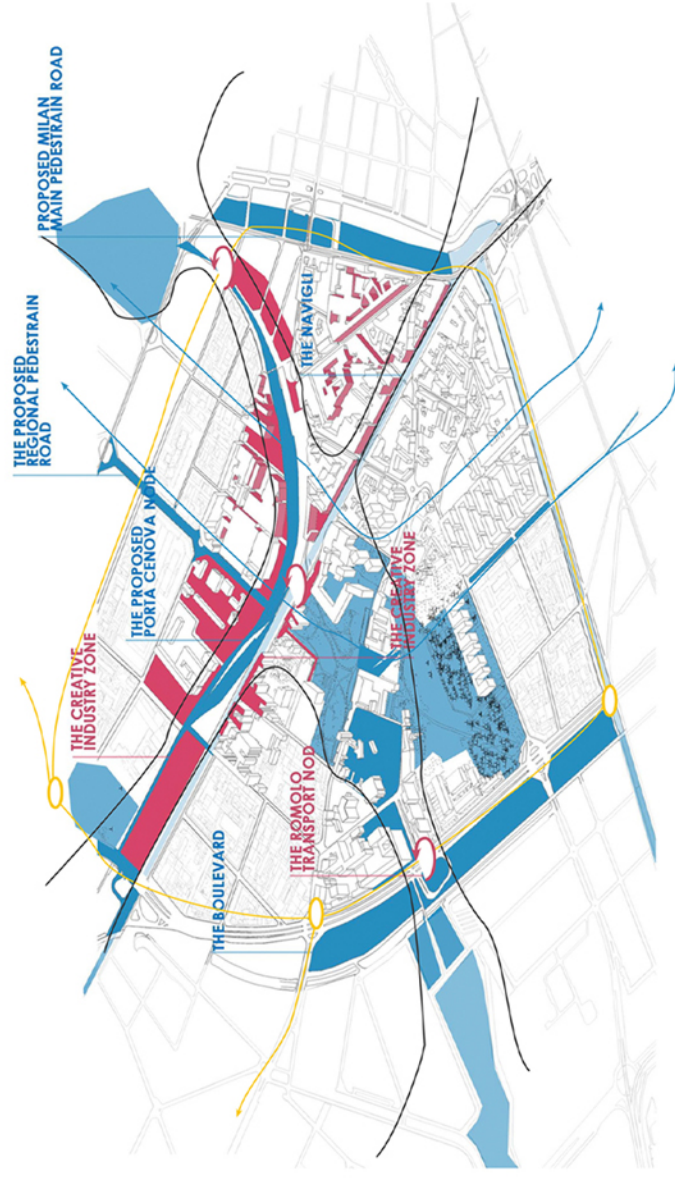
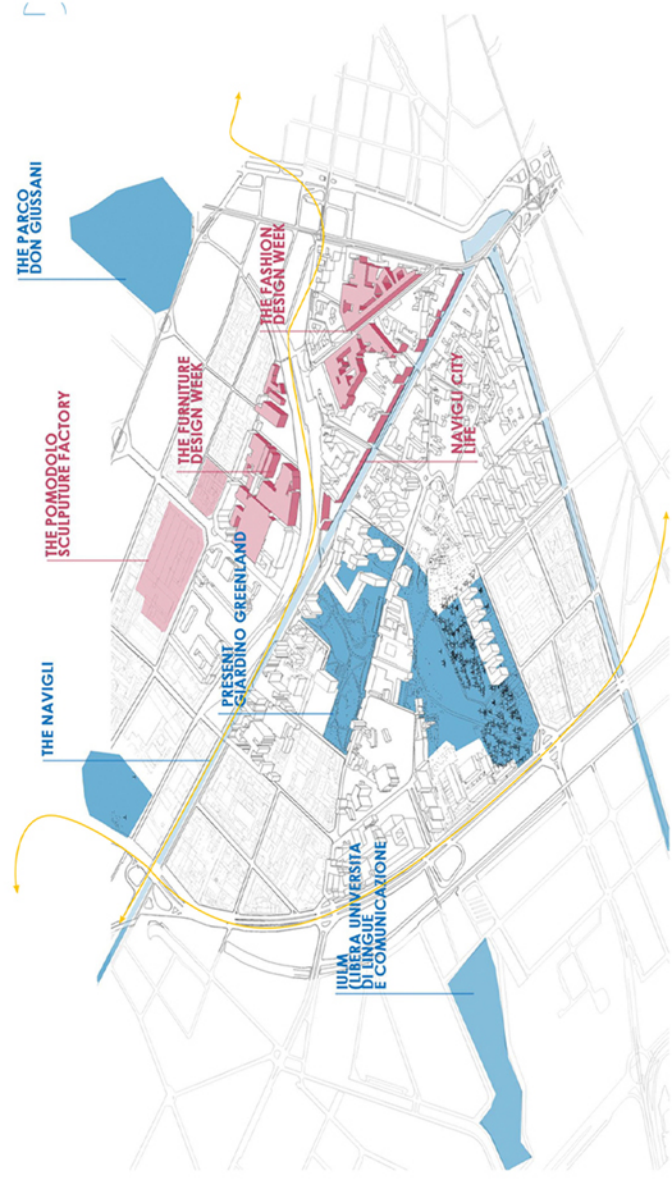
Proposal of Public Space to overcome un'connectivity barriers in Porta Genova
- 

Infrastructure that will supply with services the need of the university
- 

Commercial, cultural and recreational functions that respond to the public user's needs
- 

Open green areas, and public space in relation to proposed infrastructure to keep the public alive

9. Programmatic Strategy



Urban Analysis

1. Porta Genova Localization on Milan Context .

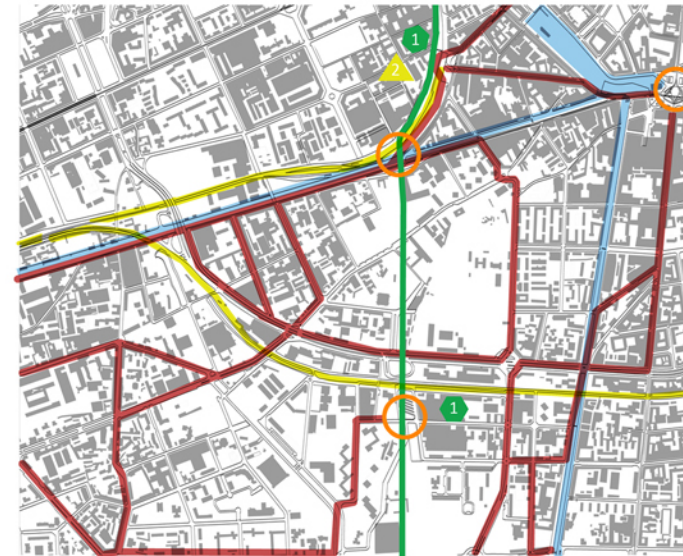


Source Bibliography: PGT Piano Generale del Traffico Urbano

Mesopotamia is a piece of urban area inserted in the middle of Porta Genova's complex metropolitan System. Thanks to the road infrastructure, the different functions that surround it and the particular urban form, this place has to be connected by specific interventions to respond to the multiple needs this area has.

- Legend.
- Mesopotamia Area
 - Naviglio System
 - Porta Ticinese
 - Metro Station
 - FS Station
 - FS Connection
 - Metro connection
 - Circonvallazione

2. Transport Routes for Mesopotamia Area (Porta Genova) .



Source Bibliography: ATM Milano Local Connection System Plan

The different transports Systems that are transiting in the area are not supplying the demand of mobility in the inside of Mesopotamia, what creates a huge disconnection. This is the result of a lack of internal roads and an organize pedestrian scheme. It is important to understand that this area has to remain with a low traffic demand but well connected to the transport structure that surrounds it.

- Legend.
- Bus Lines
 - Train System
 - Metro System
 - Transfer Point
 - Train Station
 - Metro Station

3. Existing and Opportunity Open Spaces



All around the Mesopotamia sector there are opportunity spaces like plazas, small parks, and urban voids that unfortunately have not connection among them. There should be a backbone public pedestrian entity that relates all this activities into one organism that works together.

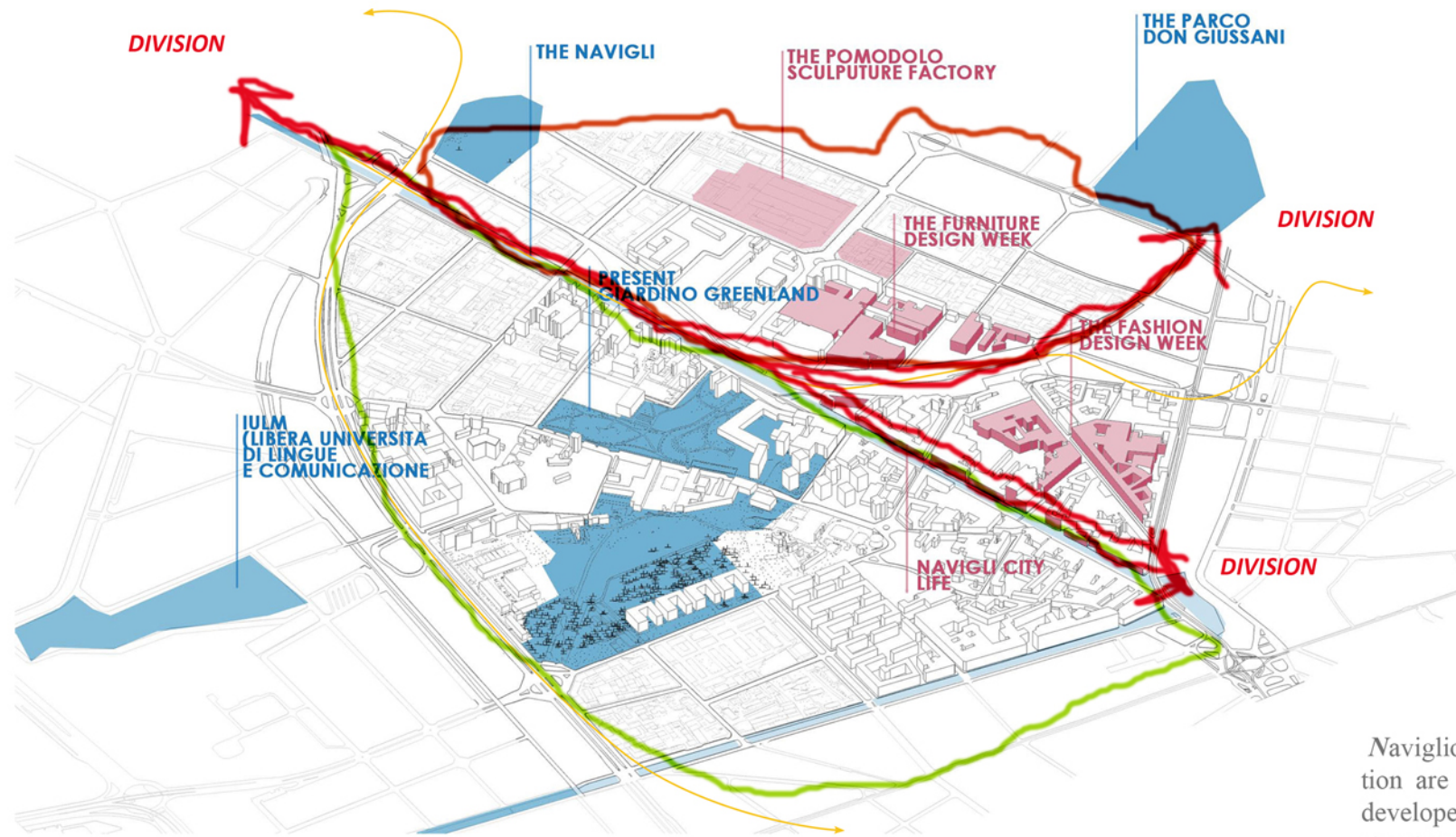
- Existing major open spaces
- Opportunities for Infrastructure spaces
- Existing and proposed water spaces node
- The navigli
- Public social events (creative industry and navigli citylife)
- Existing primary walking routes
- Existing primary walking routes extension
- local walking routes

6. Existing Transport Nodes and Internal Mobility Routes .



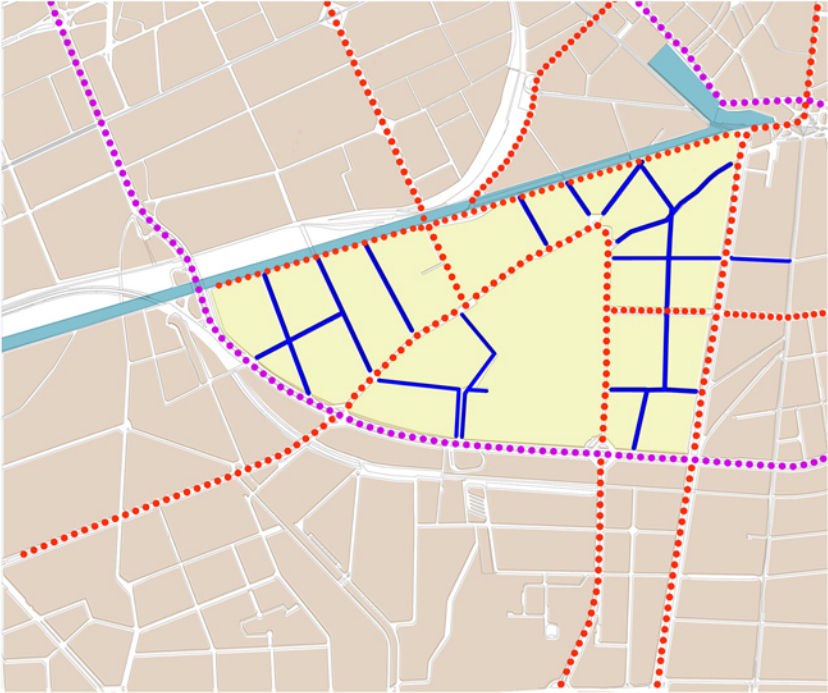
- Connectivity Barrier Infrastructure that is segregating urban mobility
- Porta Genova internal mobility system working into the inside as a local network.
- Mobility system coming from a metropolitan scale contained by Connectivity Barrier

4. Naviglio and Porta genova Sta.: A barrier that divides the city.



Naviglio Grande as Porta Genova train station are important connection and activity developers in the area. No matter, this infrastructures are generation a block of mobility and functions that is isolating Mesopotamia from the important dynamics spread all around Porta Genova.

5. Speed Qualification of Mesopotamia Roads (Porta Genova)



Legend.

- High speed road $f > 3000$
- Medium Speed road $(2000 < f < 3000)$
- Low Speed road $(1000 < f < 2000)$
- Mesopotamia Area

Source Bibliography: PUM Piano Urbano Mobilita (2006)

3. Existing and Opportunity Open Spaces



Thanks to the multiple connection points that relate Mesopotamia with the metropolitan scale, there are a series of urban nodes that receive high quantity of pedestrian and car mobility pressure. This are spaces were mobility conflicts exist since there are many systems colliding at the same time in one only space.

- Existing transport nod
- Improvements & opportunities for transport nod
- ▤ Public social events (creative industry and navigli citylife)
- ↔ Existing primary driveway
- ⋯ Existing primary driveway extension
- Existing major transmit
- - - Existing major transmit proposed extension
- ▤ Existing metro line

Source Bibliography: PGT Piano Generale del Traffico Urbano

7. Parking and Green Spaces.



Green spaces are unconnected between each other. Inhabitants have to walk extended distances to reach a green area. The green space must be understood as a unique system that unifies all the Porta Genova context and the rest of the city.



Porta Genova needs a system of green areas with an arrangement of boulevards and green axes to conform an organism that is interconnected and serves as a mobility corridor for pedestrian communication. This system can connect inhabitants from the center of Naviglio to the periphery where the main metropolitan mobility systems are located.



■ Sprawl, undefined and fractioned Parking Spaces



Parking is totally disorganized on Porta Genova and its surroundings. Vehicles are parking on the sides of streets, boulevards and pedestrian ways. There is no established, visible and proper infrastructure for cars, thanks to this parking areas are spread in small fractions that create disorder and the invasion of public space.

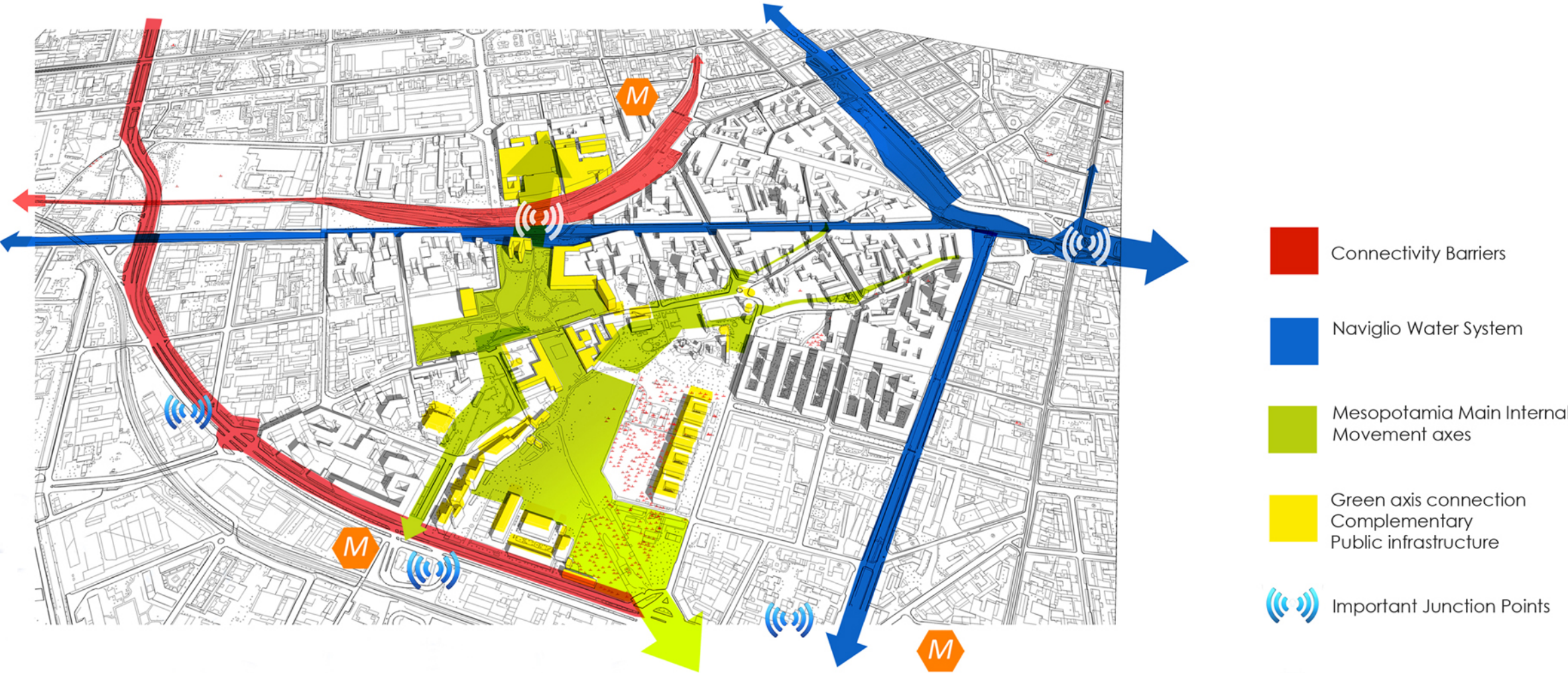


■ Concentrated, defined and connected Parking Spaces



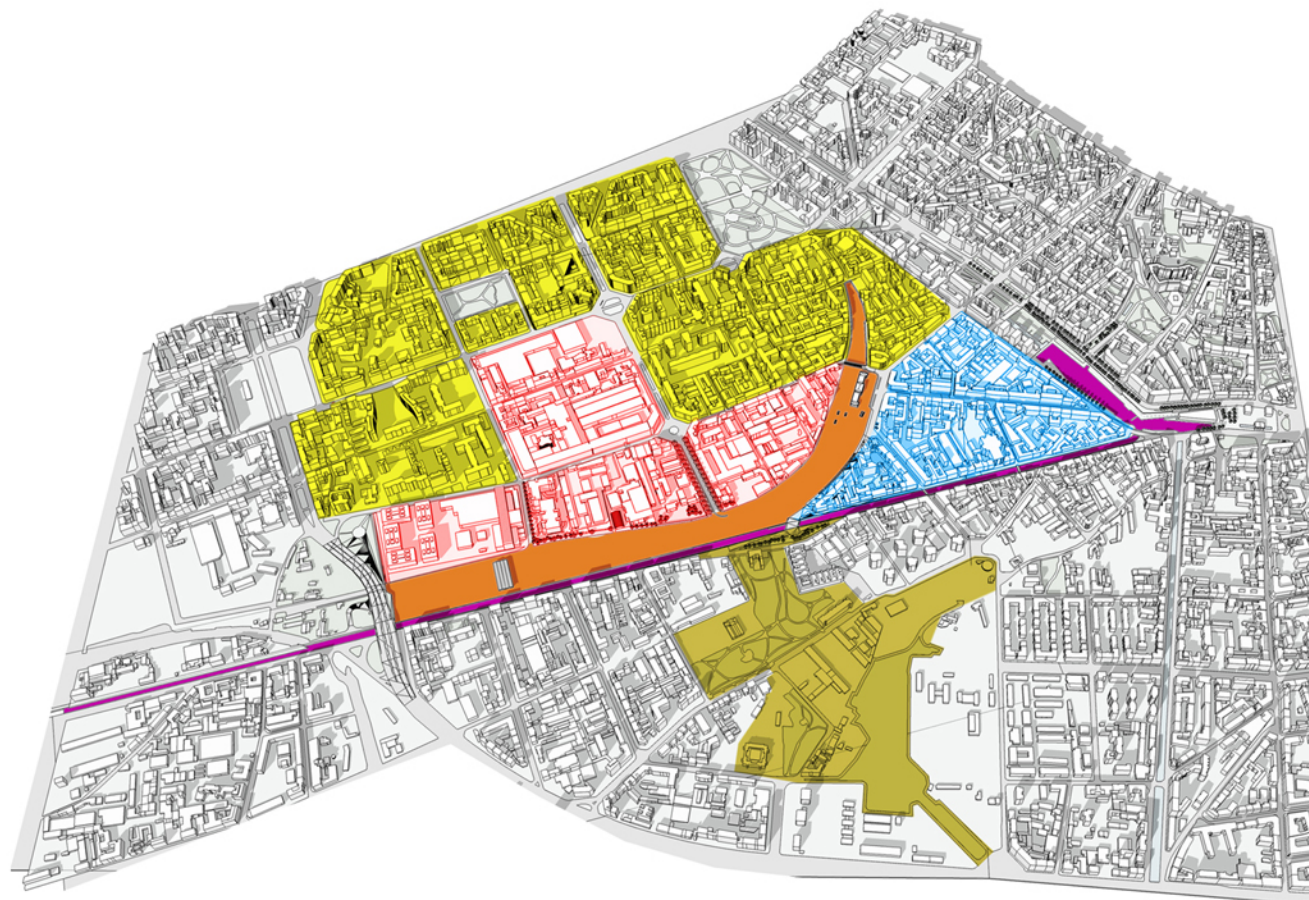
Parking areas should be concentrated in the periphery of Porta Genova central core, in relation to the main mobility system of Milan. These areas have to be visible and well connected with auxiliary mobility infrastructure to avoid cars from coming to the center of Naviglio and incentivizing the use of pedestrian transport as the main system in the interior of this area.

8. Mesopotamia Connectivity Problems and Mobility barriers



Conceptual Strategy

1. Programmatic Proposal



Tortona/Design District
 This area is highly characterized by a deep transformation from an industrial typology to a residential mixed with retail functions. Tortona Area is one of the hearts of Milan design week bringing thousands of people thanks to the Design activities and commerce that happens here.



P. Genova Neighborhood
 This Neighborhood is described by residential buildings of very different typologies given to the transformation from an industrial to a purely residential area. The strong barrier presented by the Porta Genova station creates a deep break on the urban texture generating an isolation of this neighborhood with the center



Old Porta Genova Railway
 This Neighborhood is described by residential buildings of very different typologies given to the transformation from an industrial to a purely residential area. The strong barrier presented by the Porta Genova station creates a deep break on the urban texture generating an isolation of this neighborhood with the center



Naviglio Grande
 Naviglio grande presents a series of local and very traditional leisure activities in a complex relation between public space and water. There is an important need to relate this water system to the rest of the urban fabric by joining it to the actual transport system .



Mesopotamia Green Area
 This important free space in the middle of Porta Genova area is the result of a dismantled industrial field that needs to be conformed and delimited as a free space for the city. At the moment it presents not a really defined activity what makes it an inhabited and dangerous scenario.



Porta Genova Historial core
 This area is highly characterized by a mix use between residential and commercial activities. Its particular situation limiting in between the main plaza for the old Porta Genova Railway station and the Naviglio Grande demands a direct relation with important metropolitan

2. The New Railway Front

Thanks to the opening of this urban void by eliminating the existing physical barriers will create a new cultural and commercial metropolitan front. This innovative relation between the existing fabrics that once had no relationship with Porta Genova Public realm generates an open space that will communicate and congregate people from here into the entire city.



3. The Inclusion of Water into Porta Genova Scenario

An important part of the strategies for this intervention is to bring up again the lost presence of water into the area. The main objective of this intermediation is to RE - establish Porta Genova with Its hydric naturality as a unique event that will congregate thousands of users making us of this important Programmatic resource.



4. Re-Taking the Urban Void as a Machine for Interconnection

This Dismissed area has as main characteristic to be located in a strategic point of the city, were various types of mobility and public space communications are happening. By re organizing this void and assigning it a high connection behavior, it will produce a mobile fluidity in the urban context generating a system of kinesis and public spaces dynamics with the capacity to enforce Porta Genova into the metropolitan context.

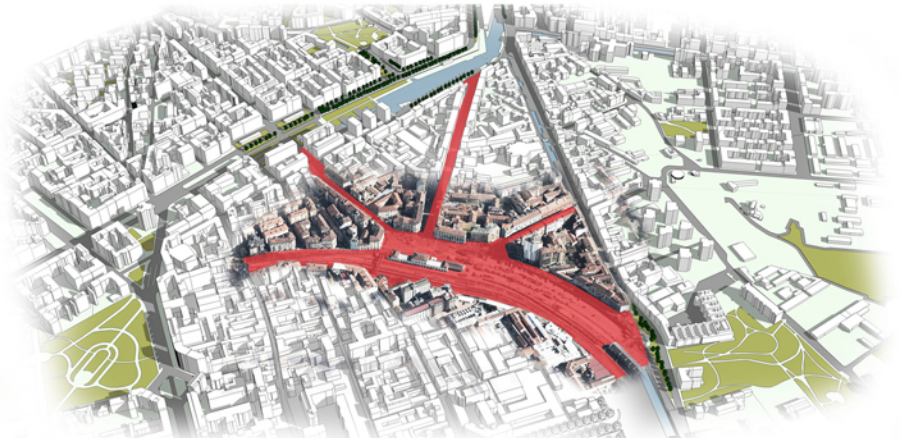


5. Public Space Actual Situation

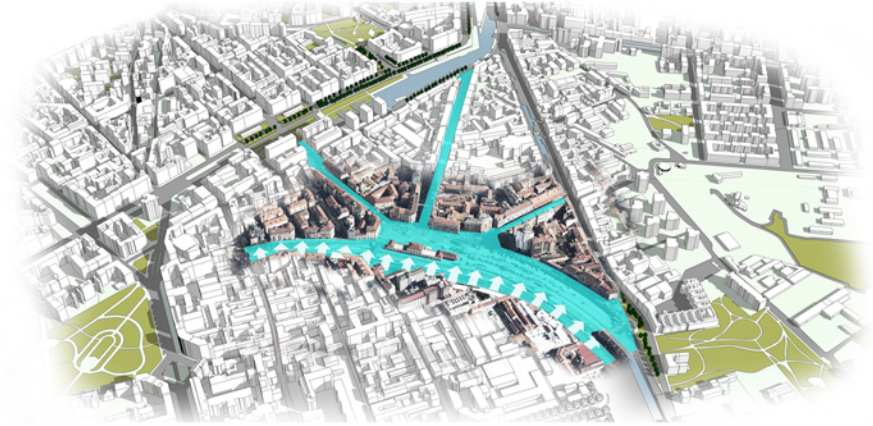
Before



After



6a. The New Comercial Front



6b. The Old Station As Plaza Center



7. The Existing WALL

Before

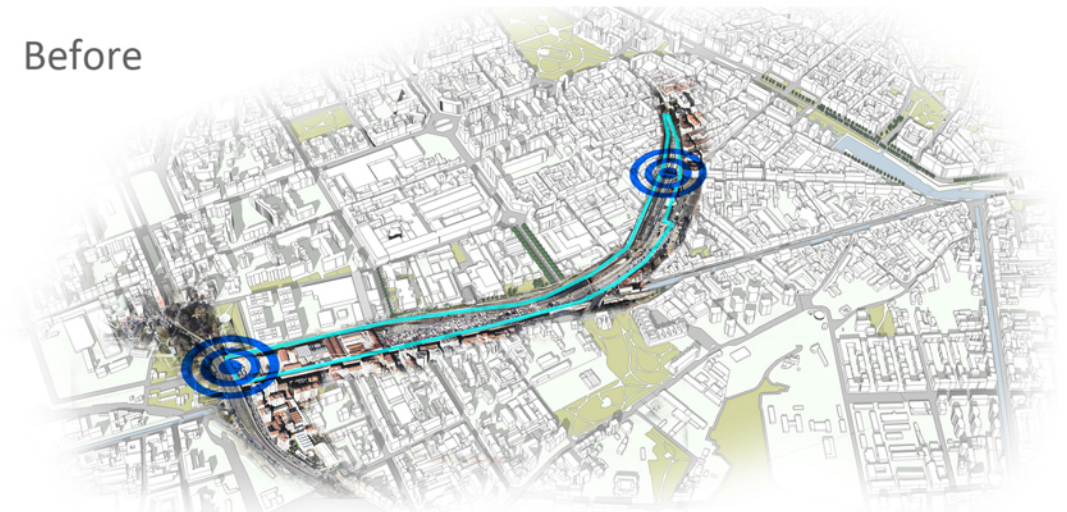


After

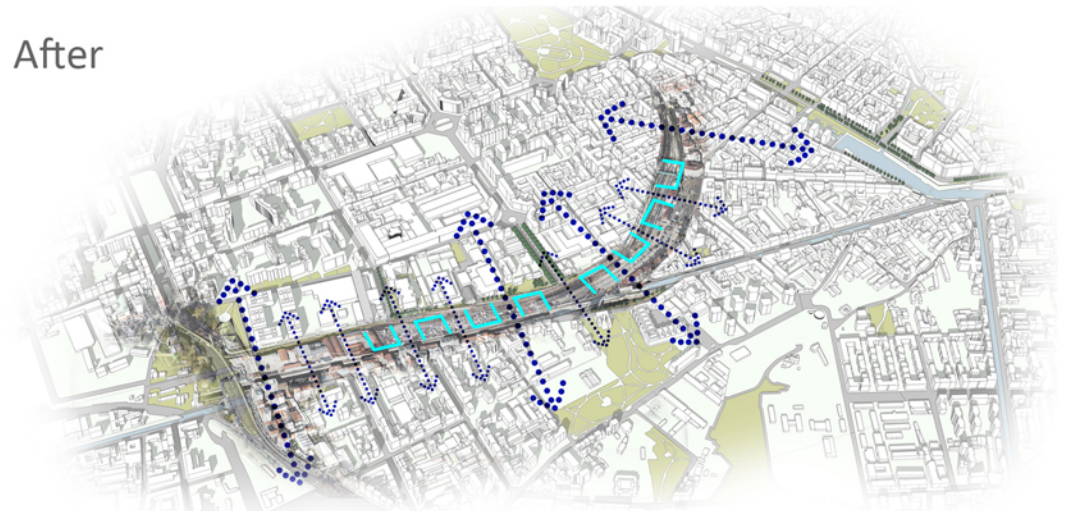


8. Connection Nodes

Before



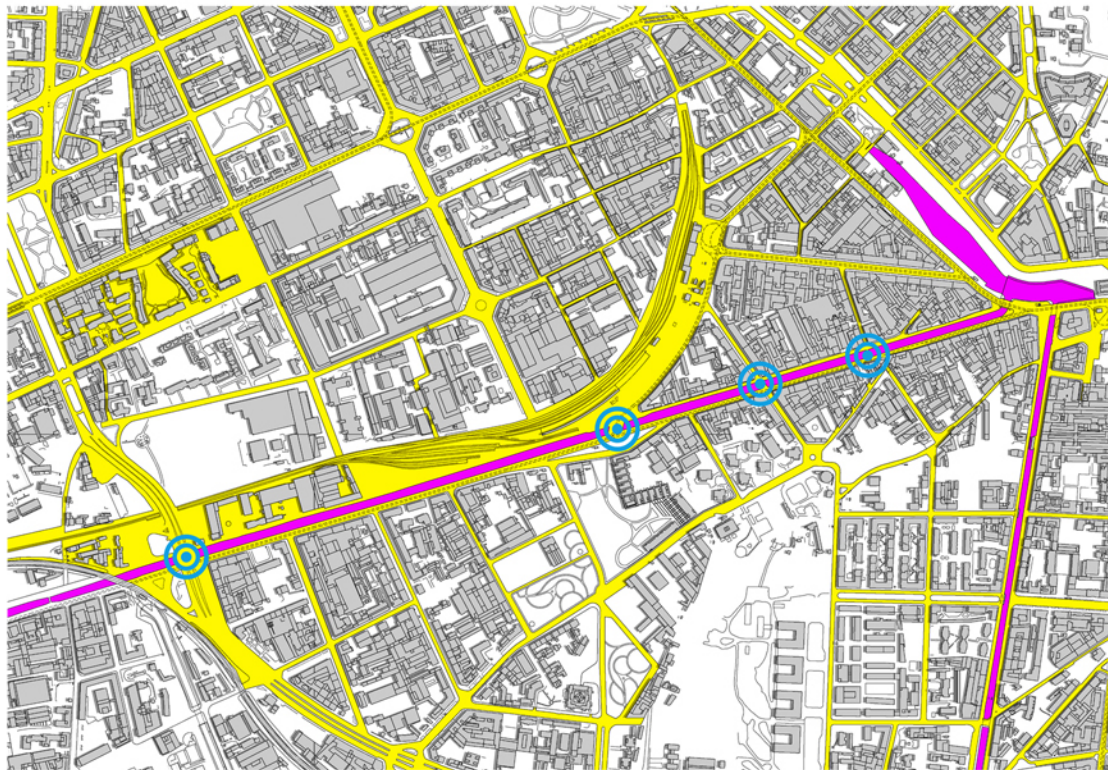
After



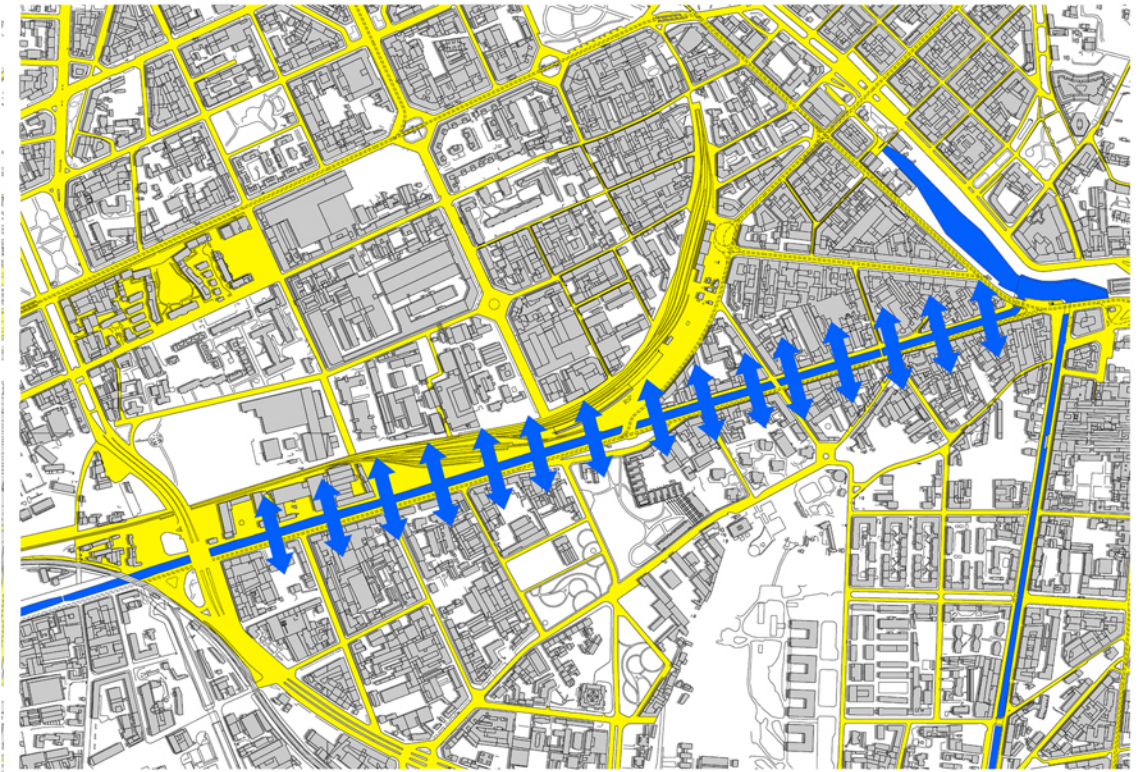
9. Proposal of Naviglio Grande from a concentrated node crossing system into a linear continuous connection surface.


The main objective for the proposal over the Naviglio Grande is to make of it an urban system that connects in the longitudinal and transversal way. It is important to understand this element as a recreational at the same time functional machine for Milano and Porta Genova area. The solution proposed in this case is to expand the crossing of this canal all along its extension so that pedestrian mobility is enhanced. Now a day the crossing is concentrated in nodes creating congestion and making of this blocking element, instead the use of Naviglio must be to permit fluidity in between the old Porta Genova station and its direct relation with Romolo and Mesopotamia area.

Before



After

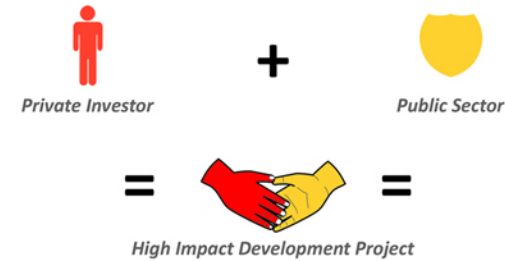


10. =  =

High Impact Development Project

PUBLIC/PRIVATE COLABORATION INVESTMENT

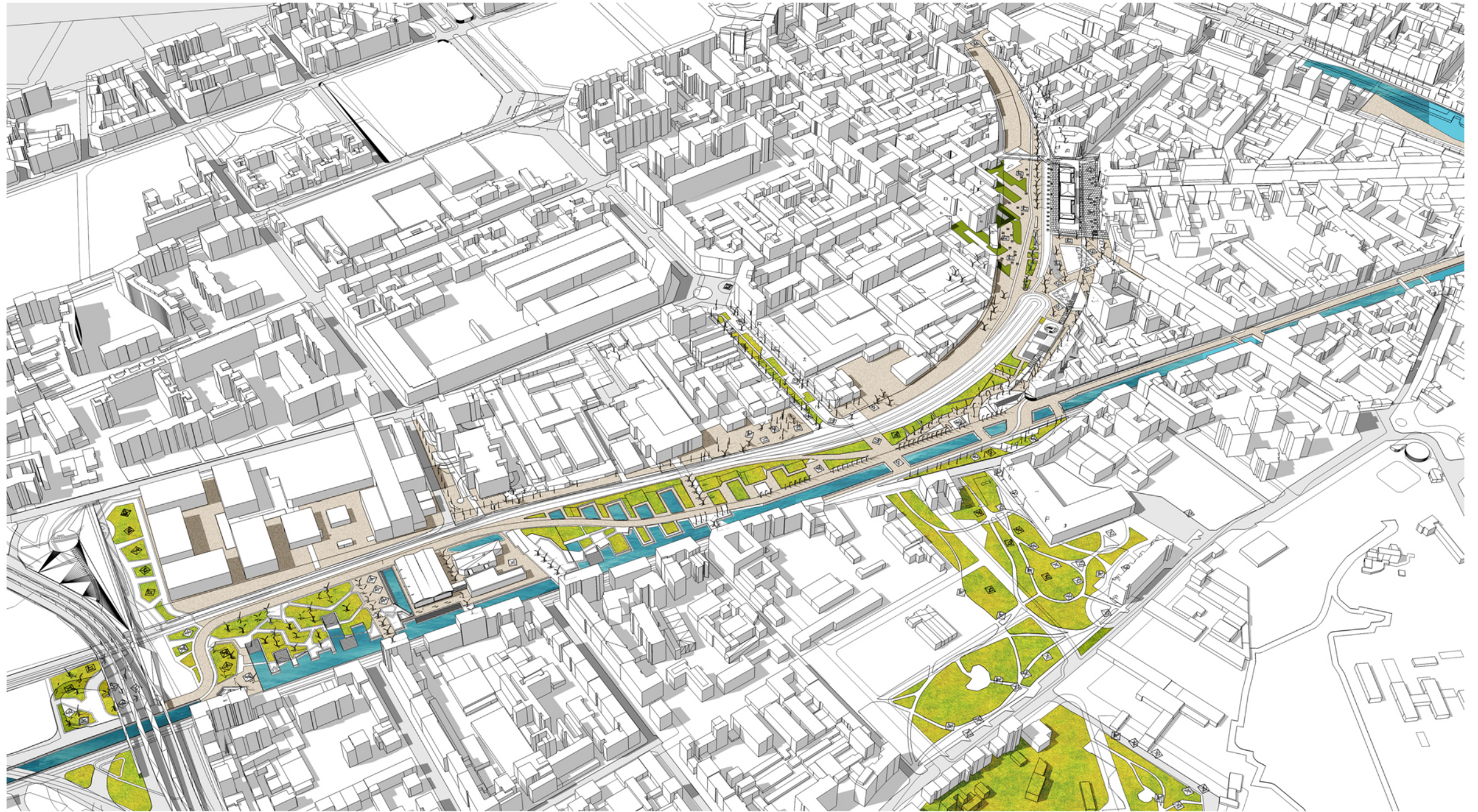
One of the main Real State Strategies for developing these are is to implement the figure of public and private investment system so that the developing and construction of this project is possible. By gathering all the social, economic and public entities present in the area to intervene and take decisions that benefit all this project is feasible. The strong existing diversity of interest involved in Porta Genova development can create a multifunctional project that encloses the entire public and private realm making of this a successful junction with the power to transform the city.



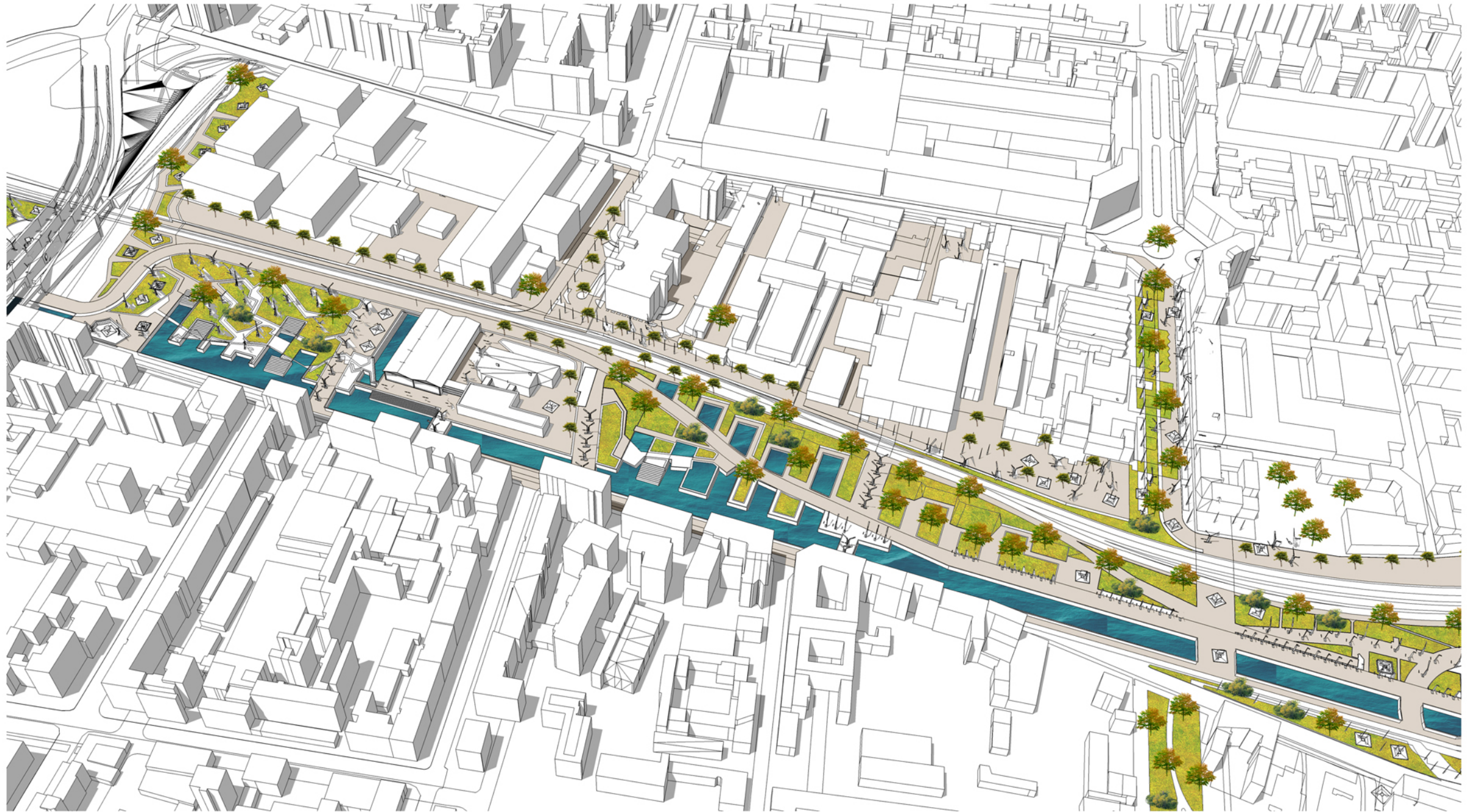
**SOCIAL AND ECONOMICAL URBAN
DEVELOPMENT OF HIGHT COLLABORATIVE EFFICIENCY**

Master Plan





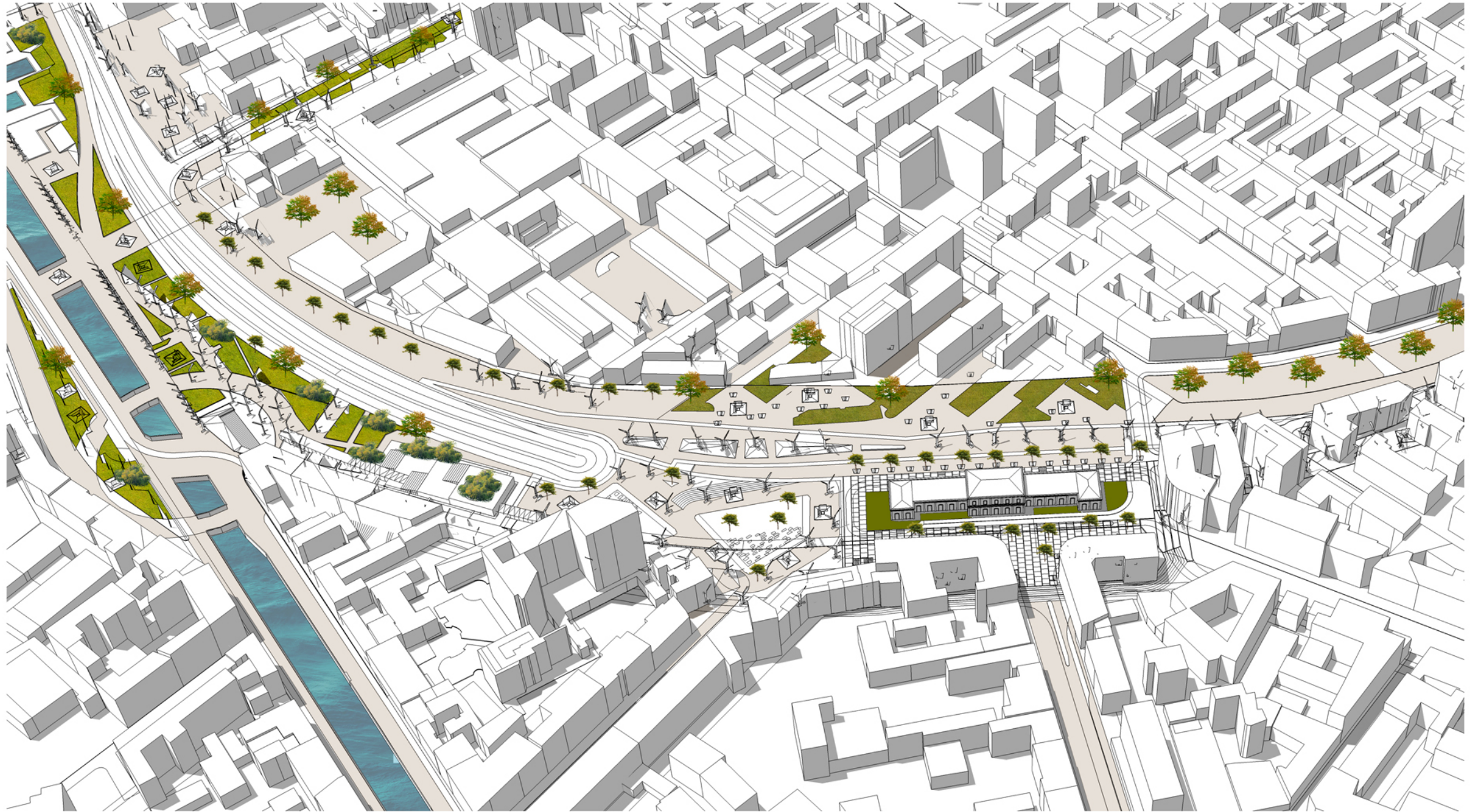




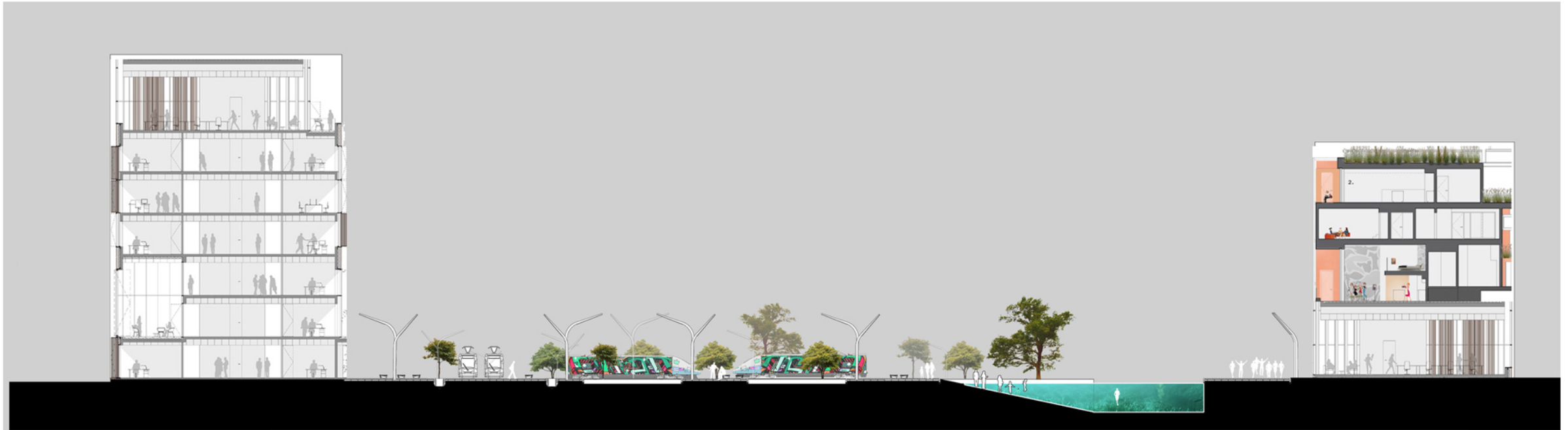








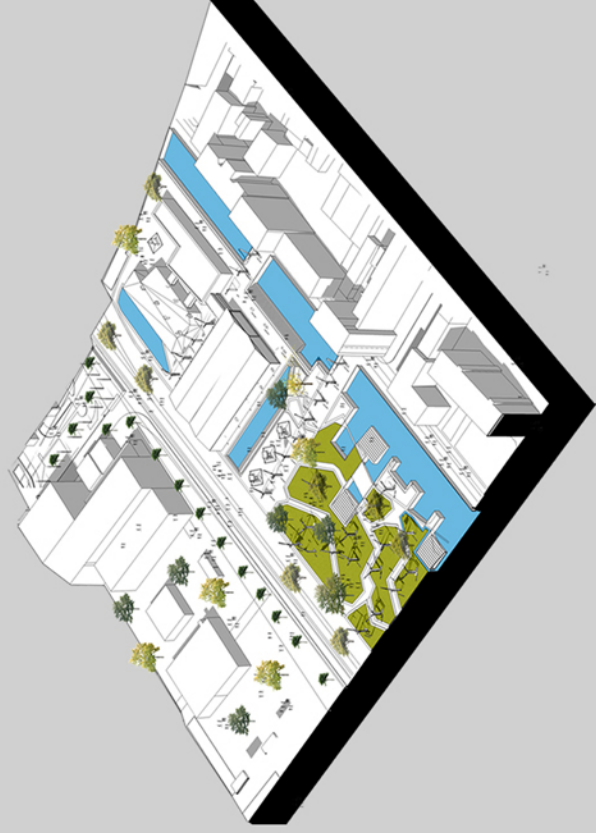
*Zoom 1:
Porta Genova Cultural Center*



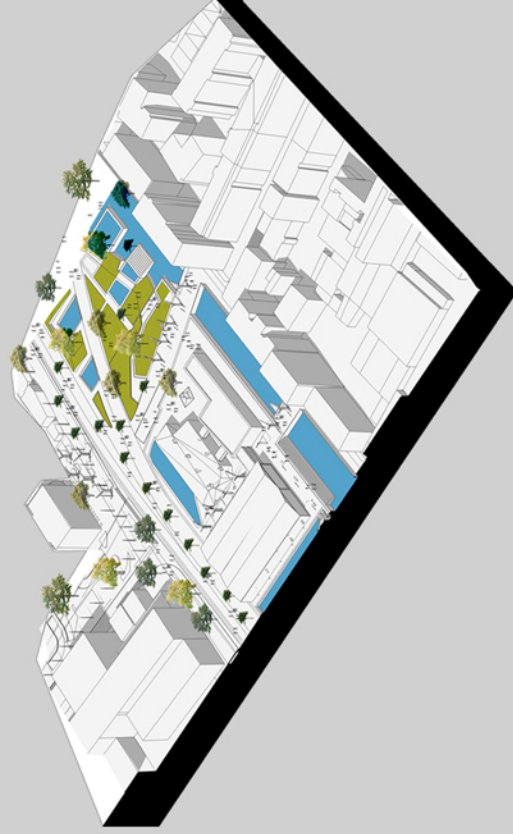
Section 1-1' esc 1:500



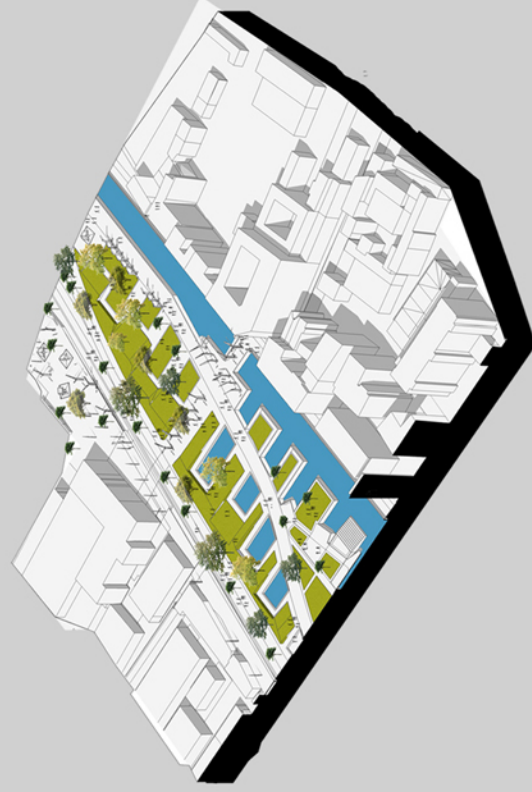
Axonometric Sections



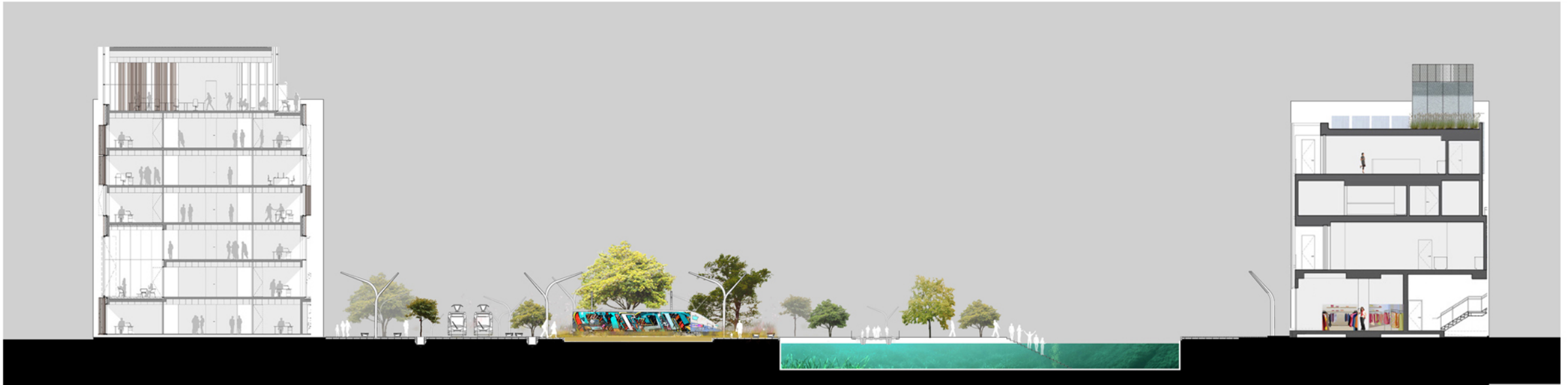
A.



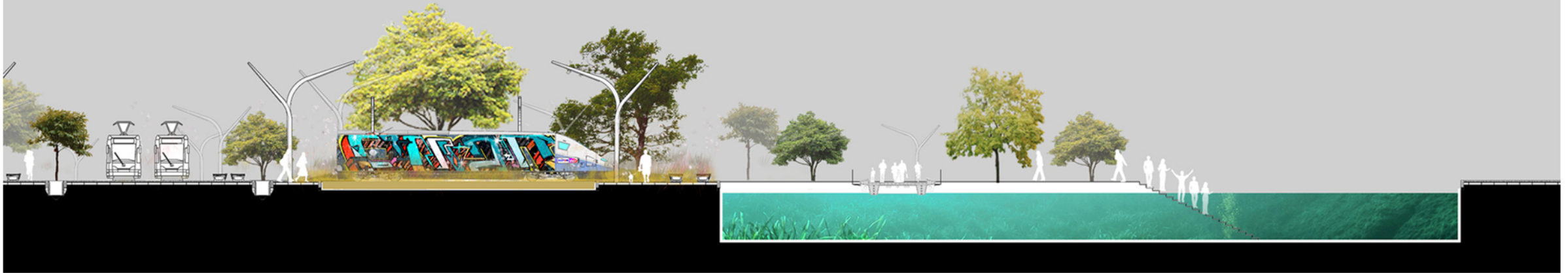
B.



C.



Section 2-2' asc 1:500

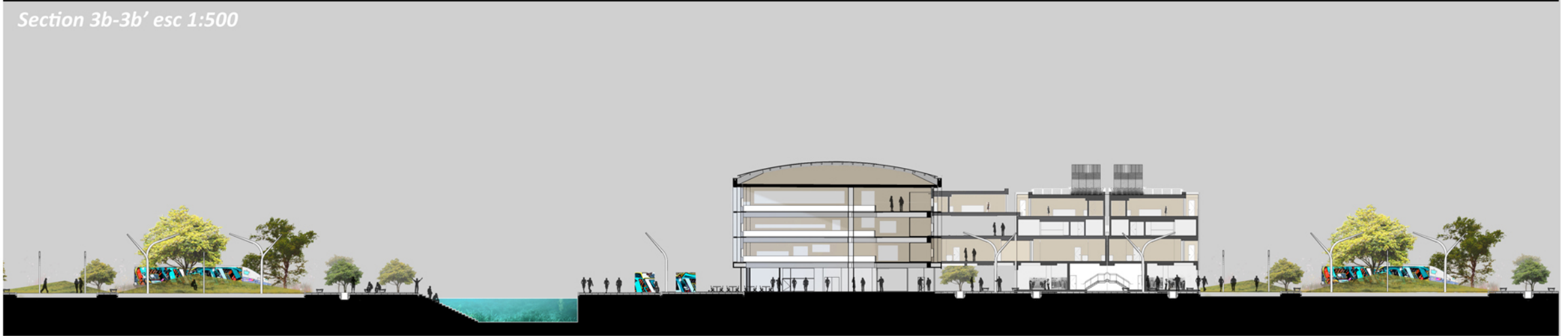






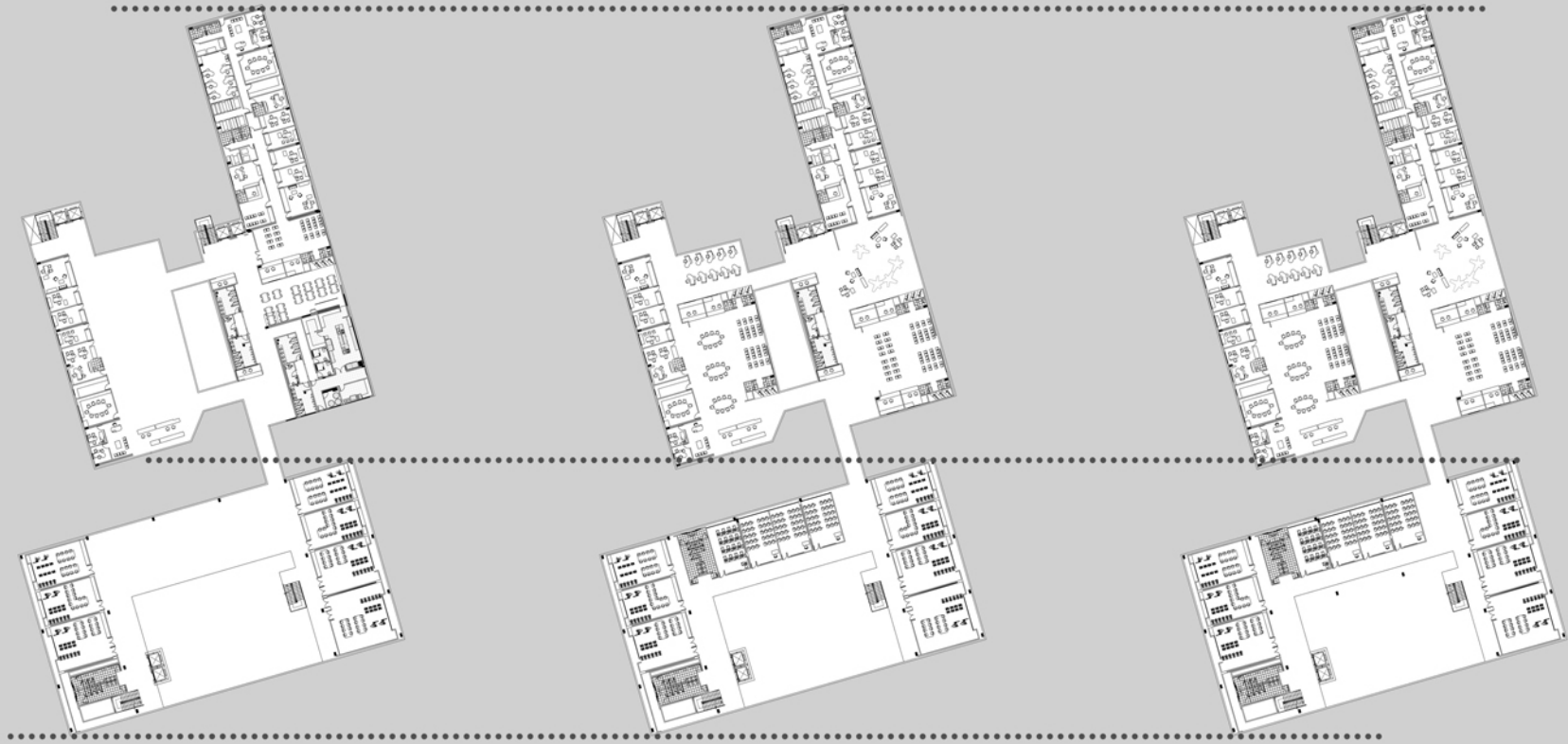


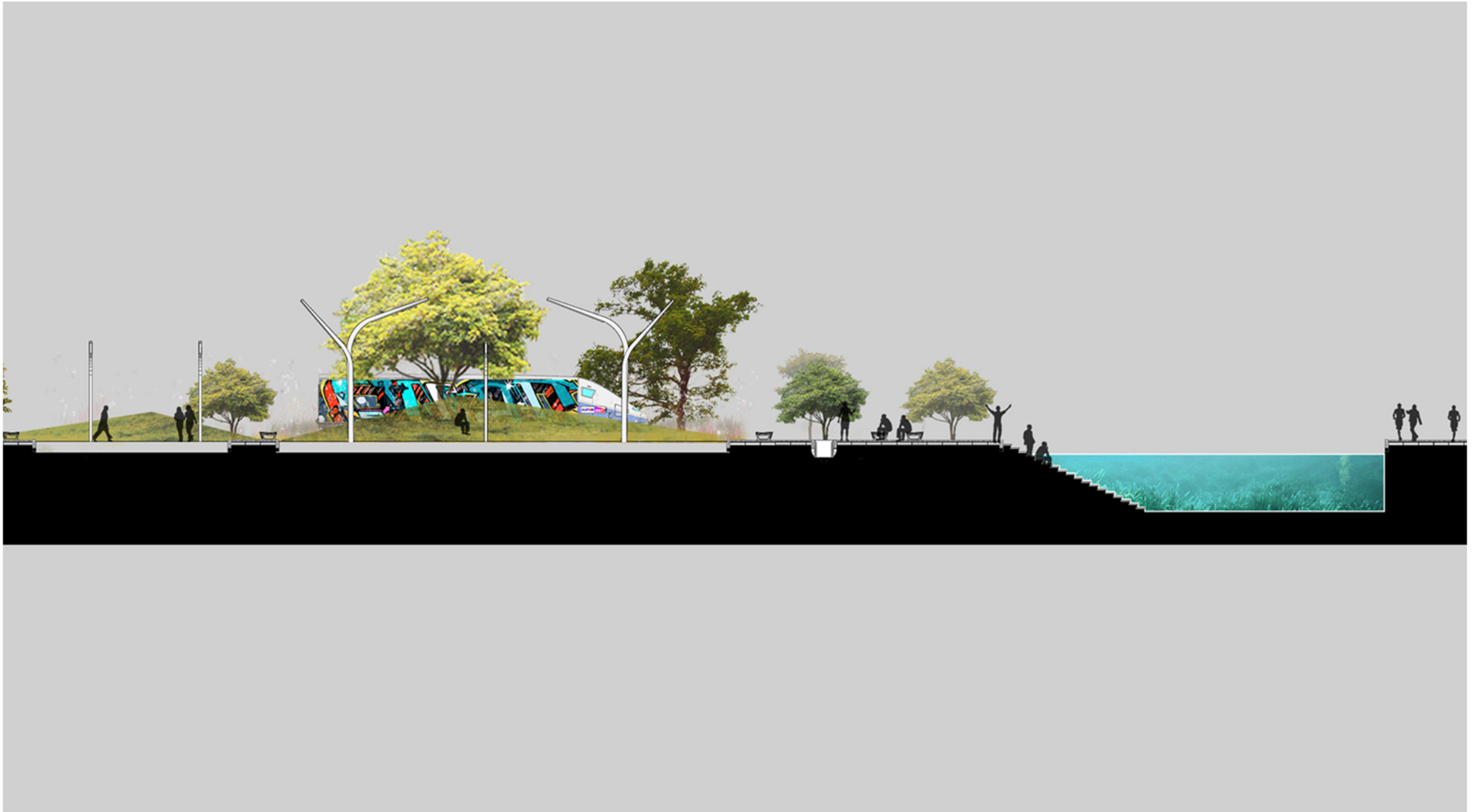
Section 3b-3b' esc 1:500



Section 3c-3c' esc 1:500

The Cultural Center Building



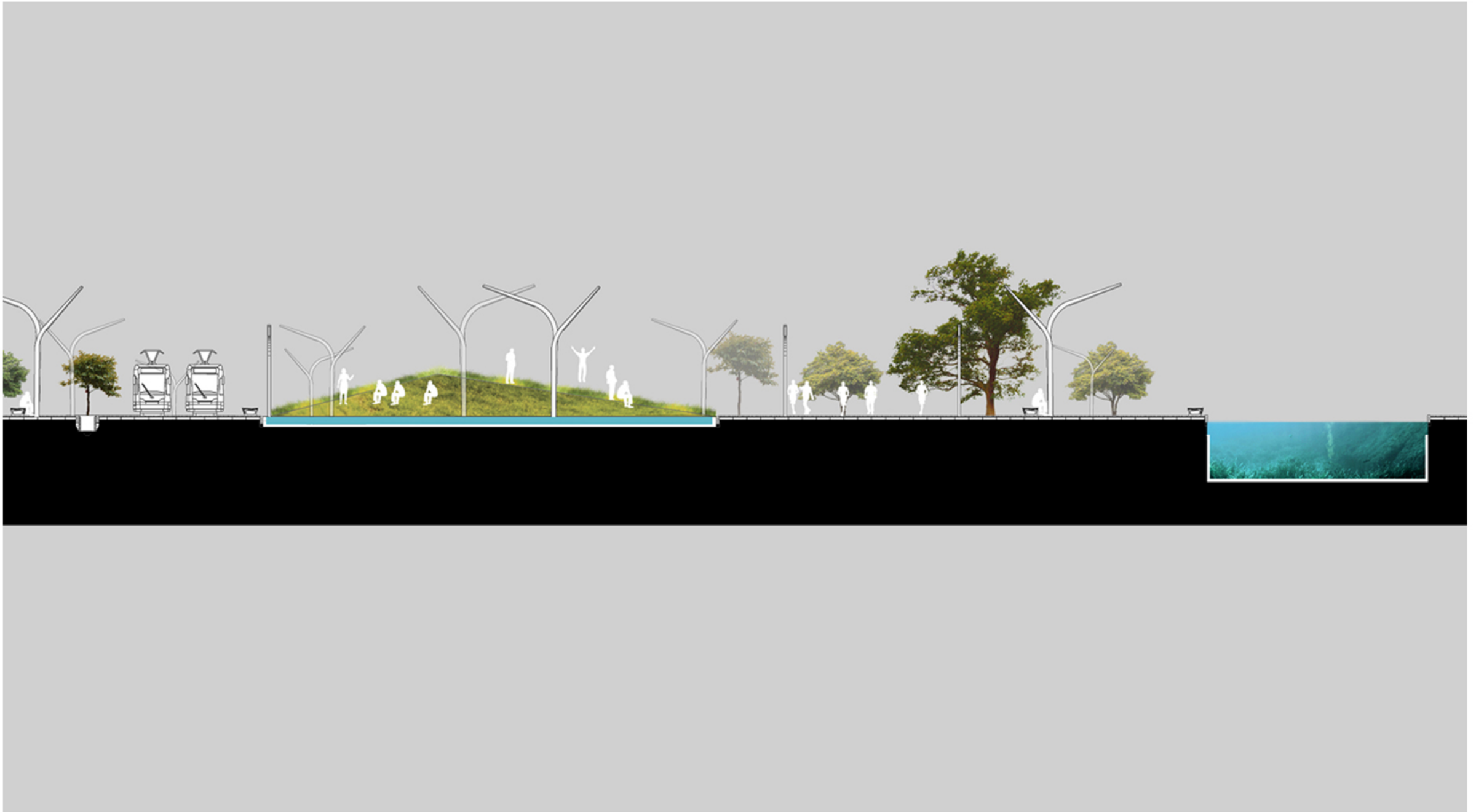




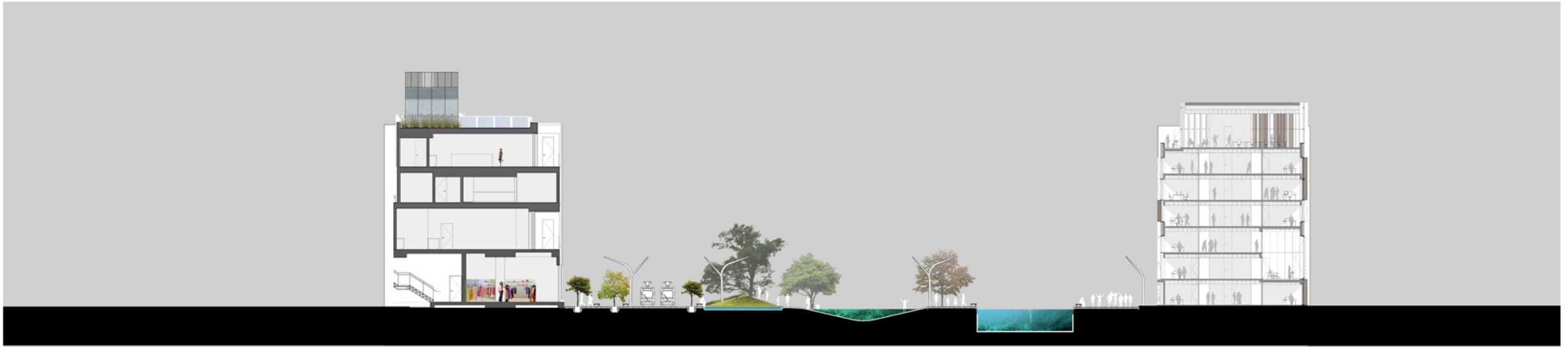
Section 3a-3a' esc 1:500



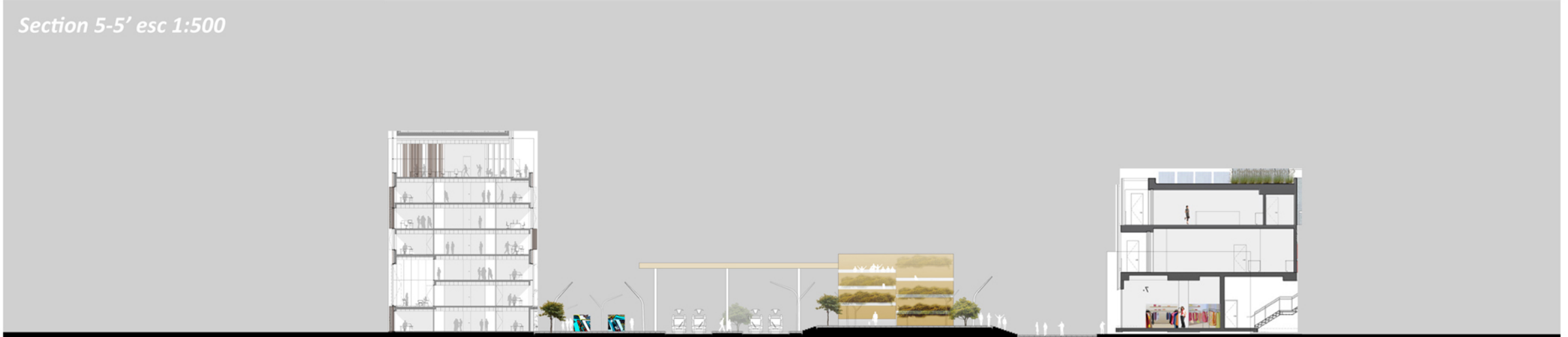
Section 4-4' esc 1:500



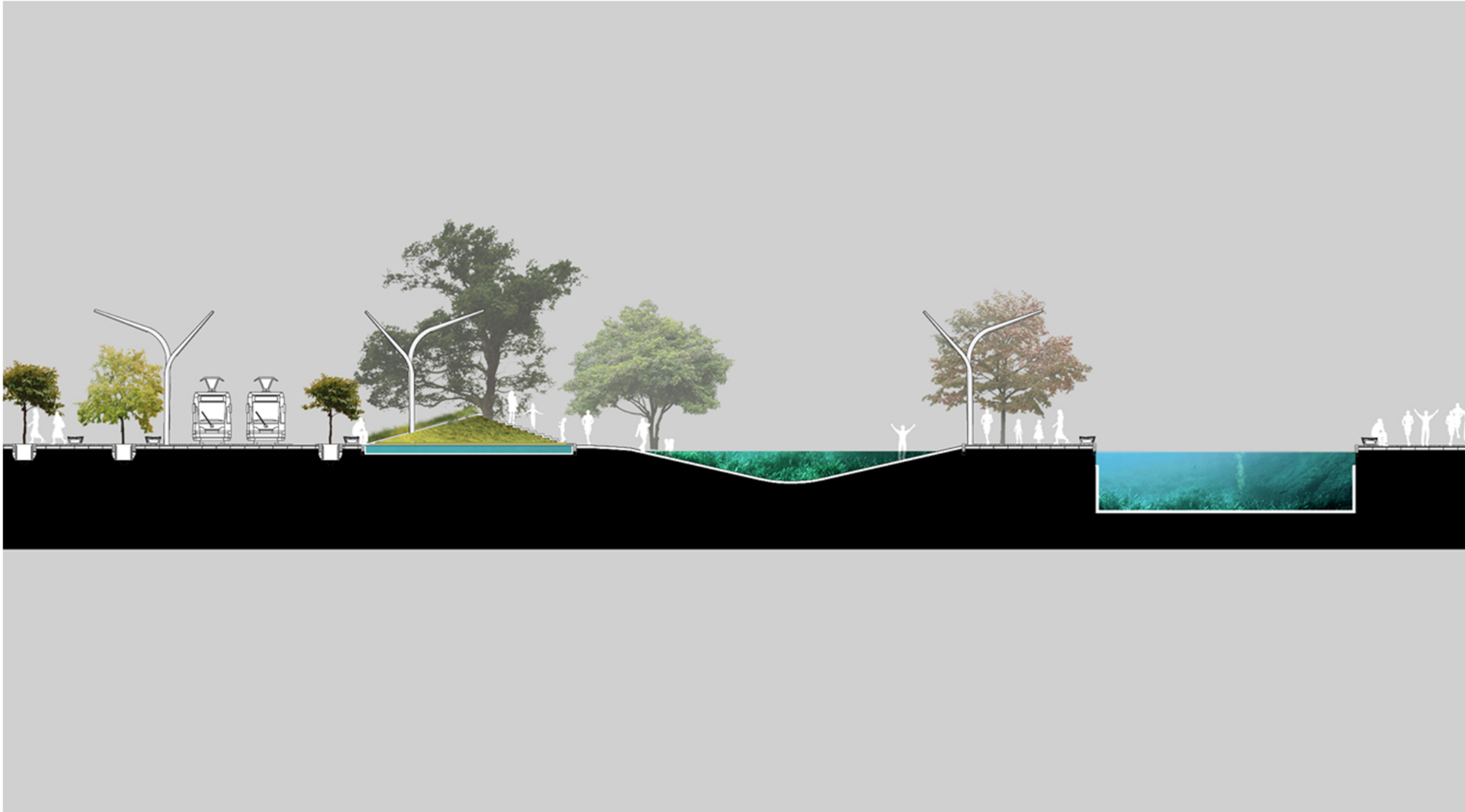




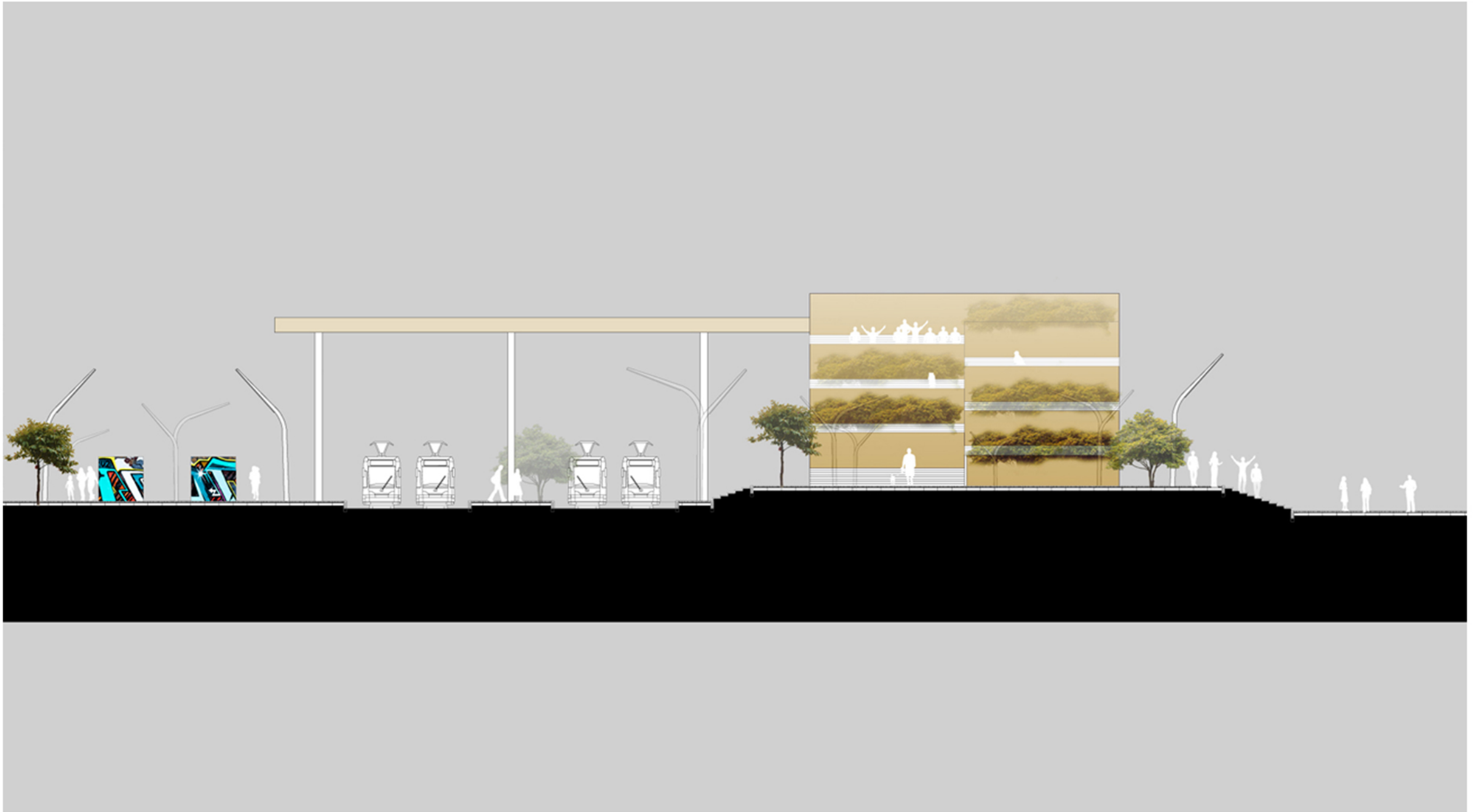
Section 5-5' esc 1:500



Section 7-7' esc 1:500



*Zoom 2:
Porta Genova Conexión Hub*





Axonomic Sections



D.



E.



F.



Section 8-8' esc 1:500



Section 9-9' esc 1:500



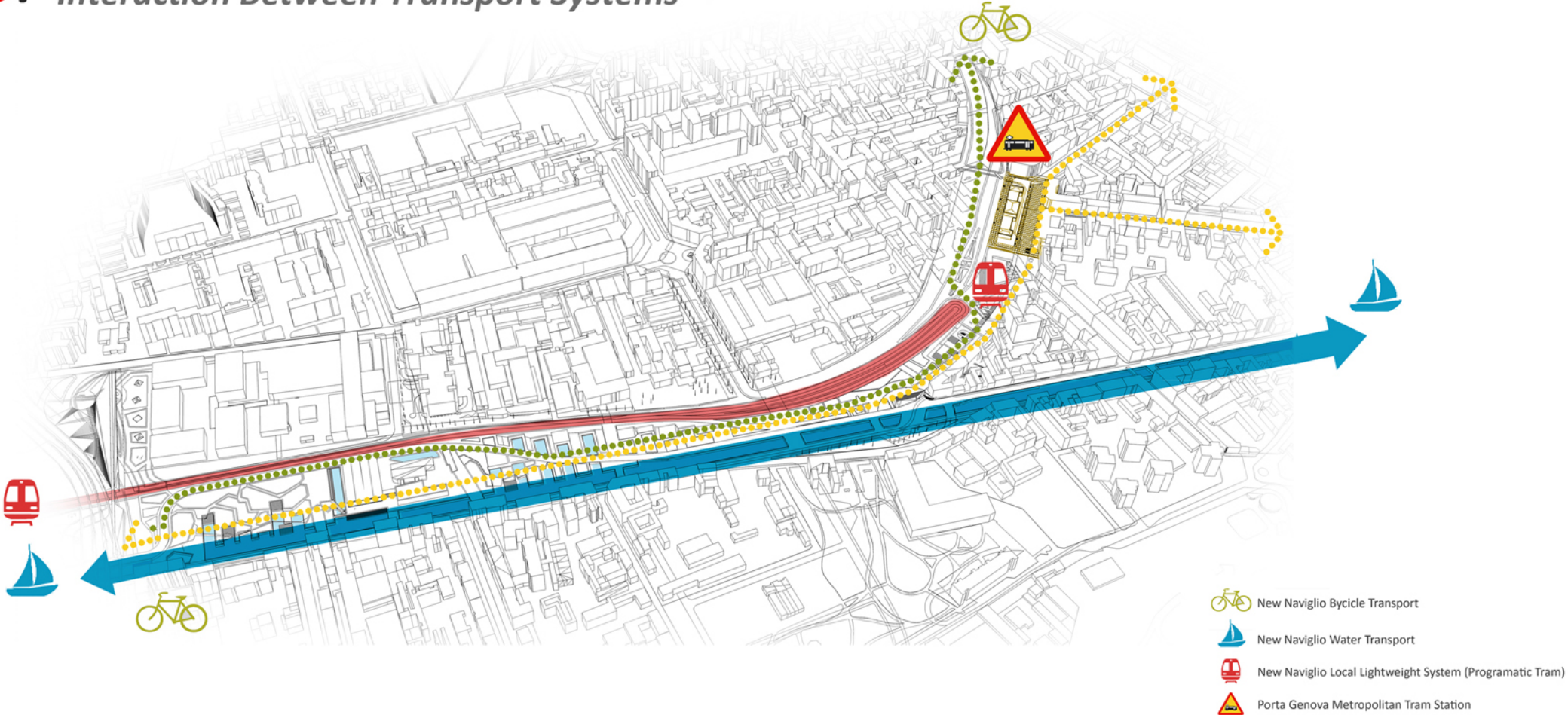


The Concept

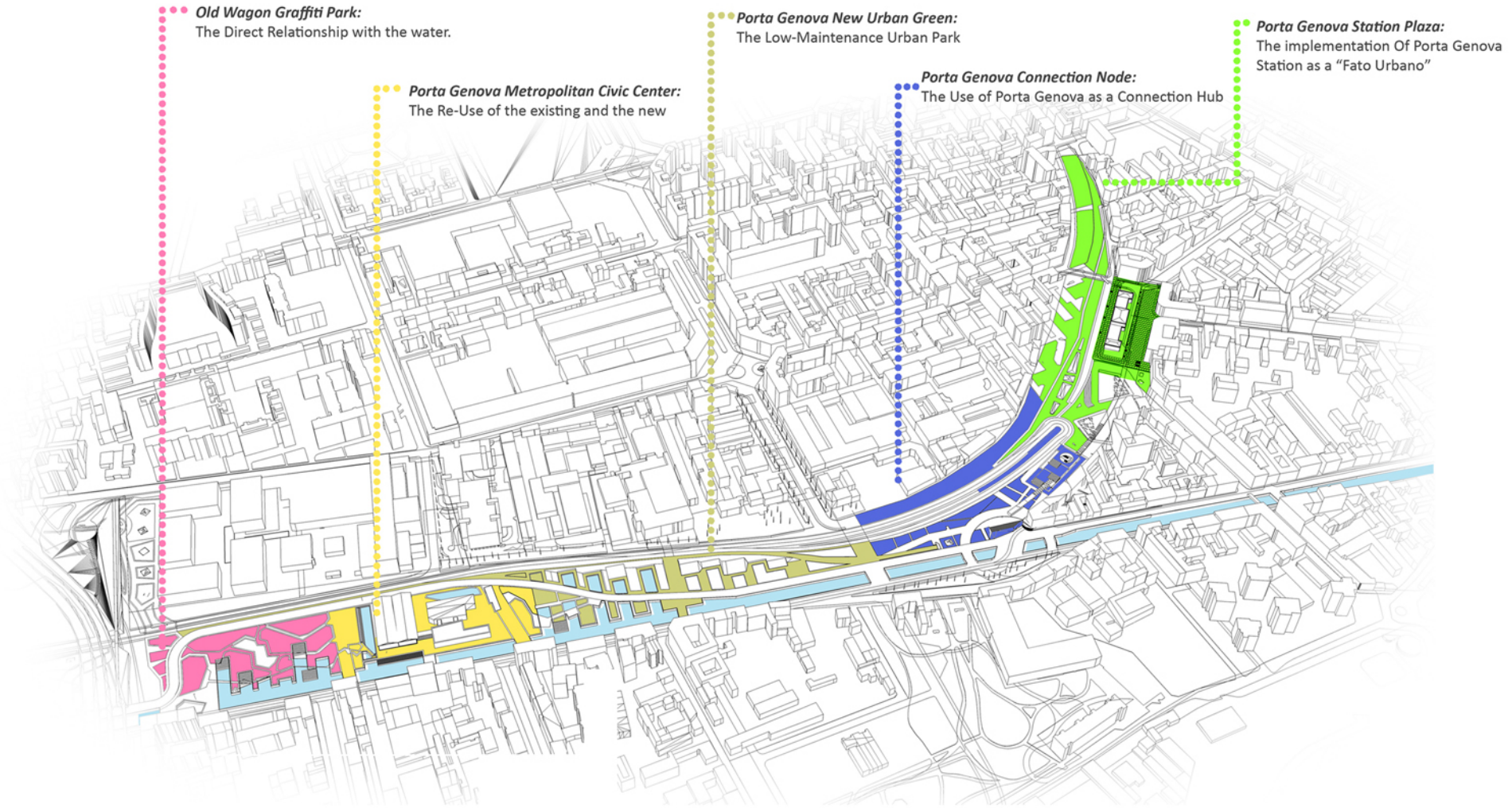
2. *Conexion Nodes and Pedestrian Continuity*



3. Interaction Between Transport Systems



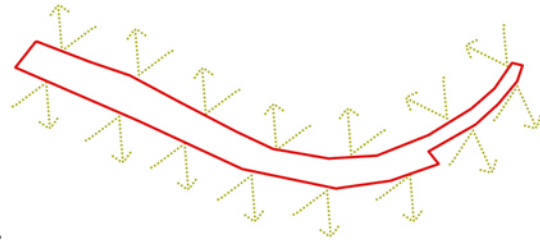
4. New Porta Genova Programmatic Scheme



5. The WALL as Urban Integrator and Memory of a Place

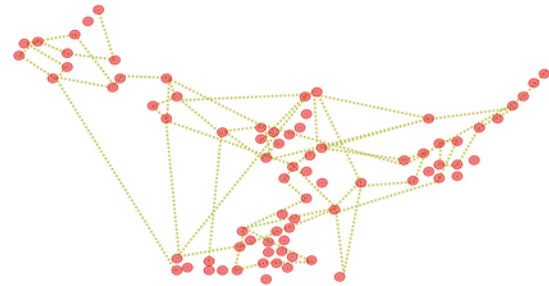
Before:

The wall working as an urban fracture dividing Porta Genova from its surrounding Context.



After:

The fragmentation of this wall into micro spaces spread all around the area, bringing as a result a public detonator that congregates activities for Porta Genova Neighborhood.

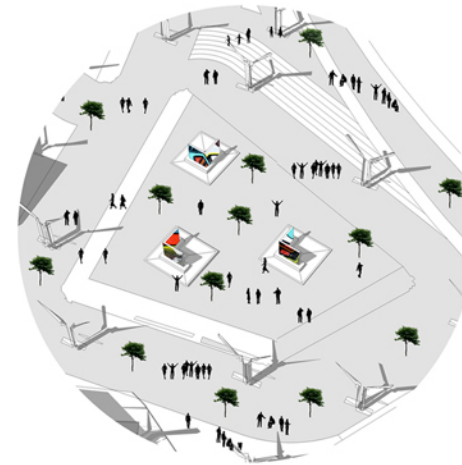


Fina Result :

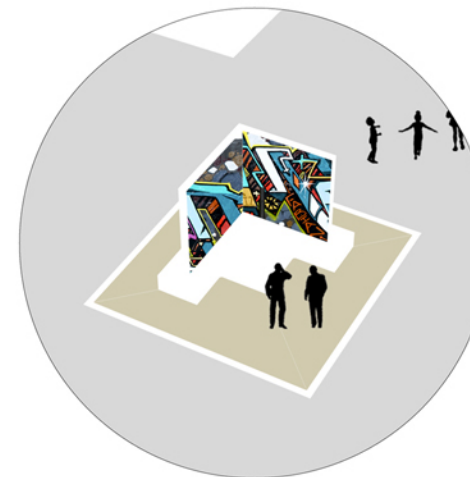
The sub division of the wall into permeable elements in Porta Genova area will create a "Fato Urbano" where culture , memory and public space will co work to create activities that give life to this urban void.



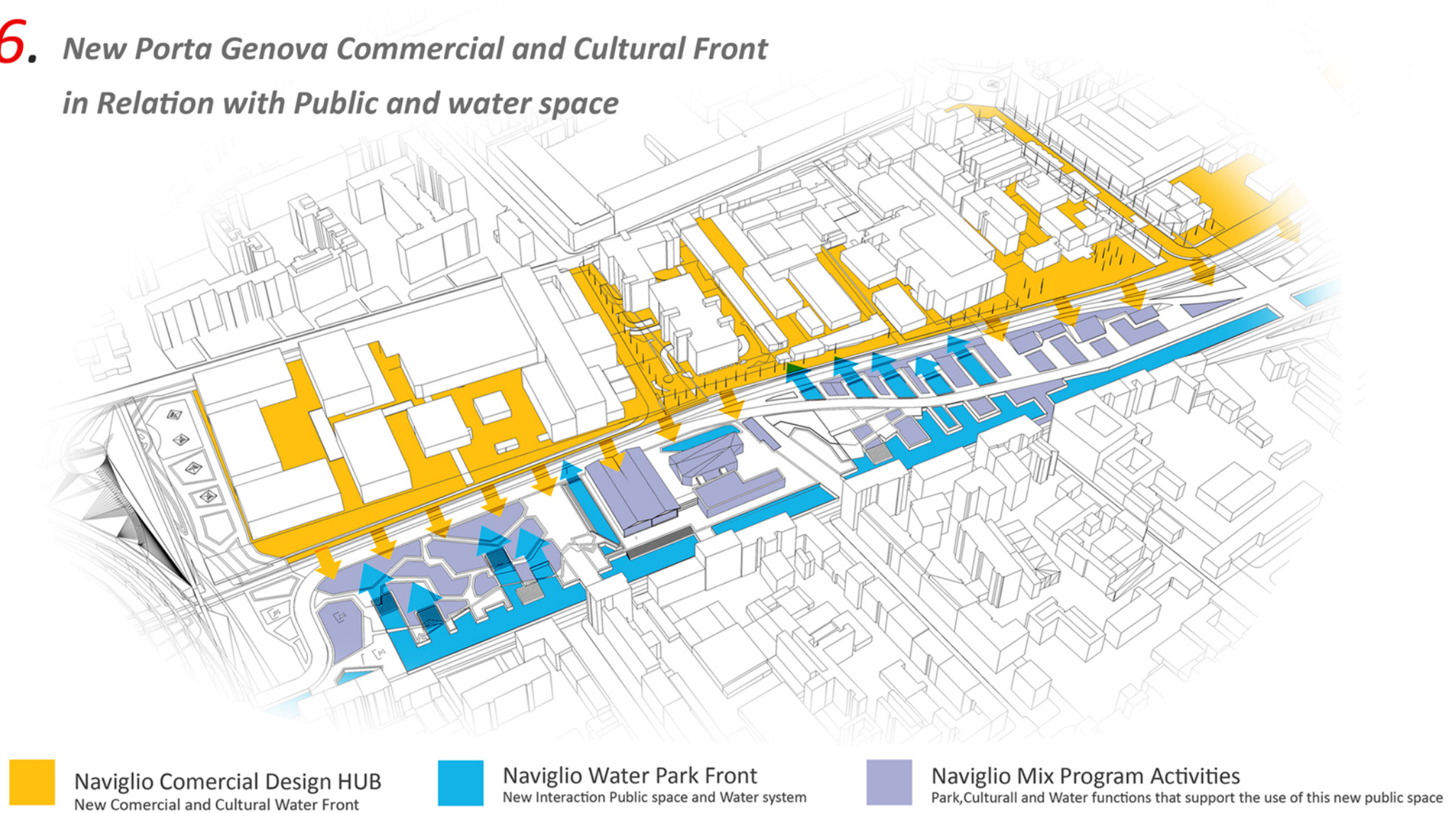
The Wall as Urban Memory



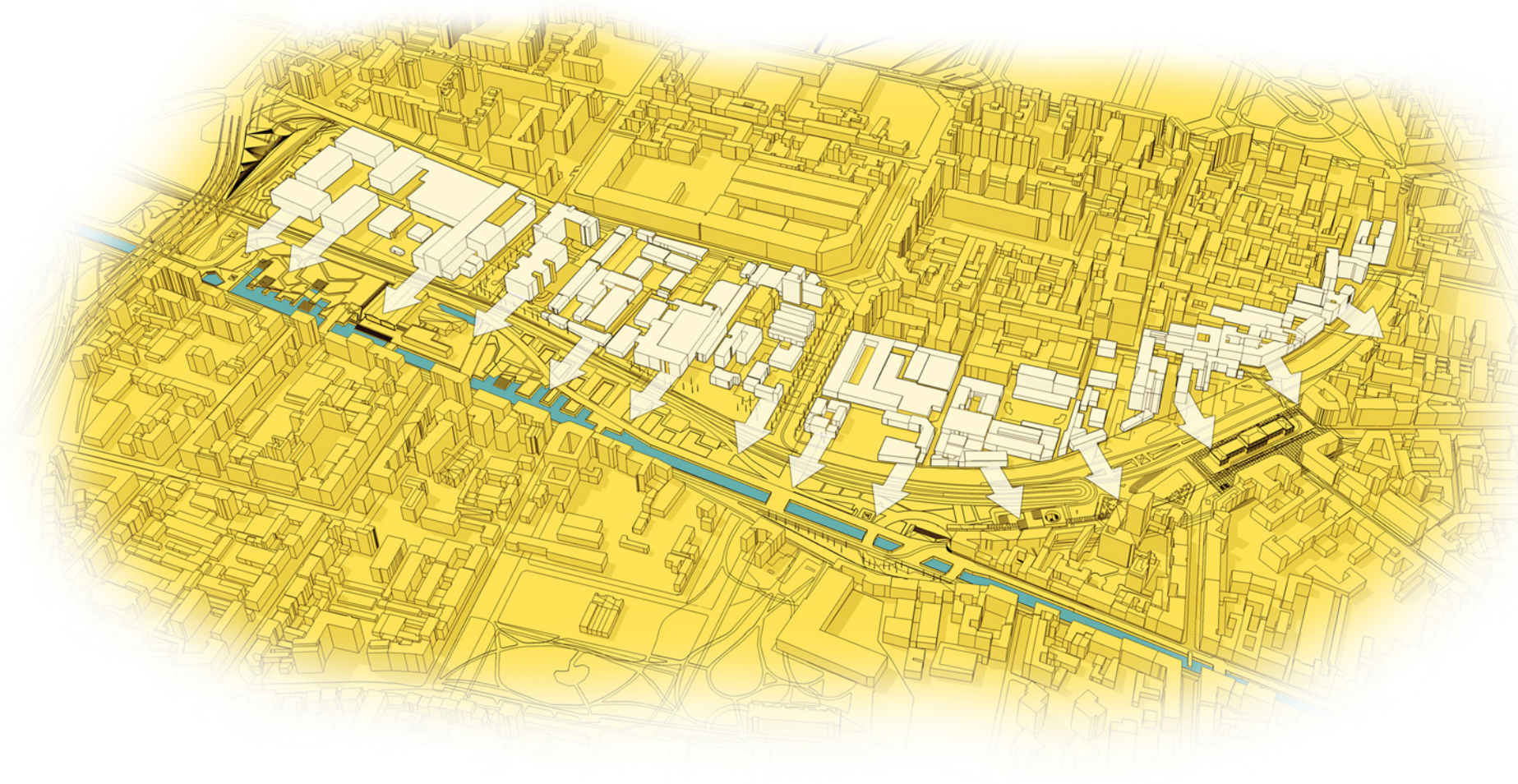
Integrative Furniture



6. *New Porta Genova Commercial and Cultural Front
in Relation with Public and water space*



7. *TNew Relationship of the Existing Buildings with the Park*



8. GREEN System



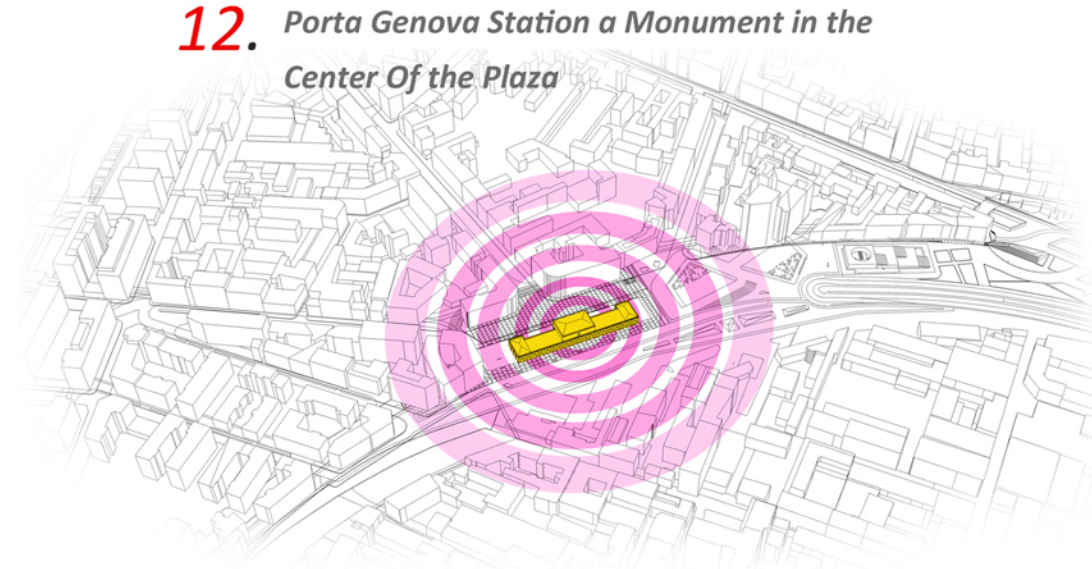
9. Road City Interconnection



11. Crossing Points

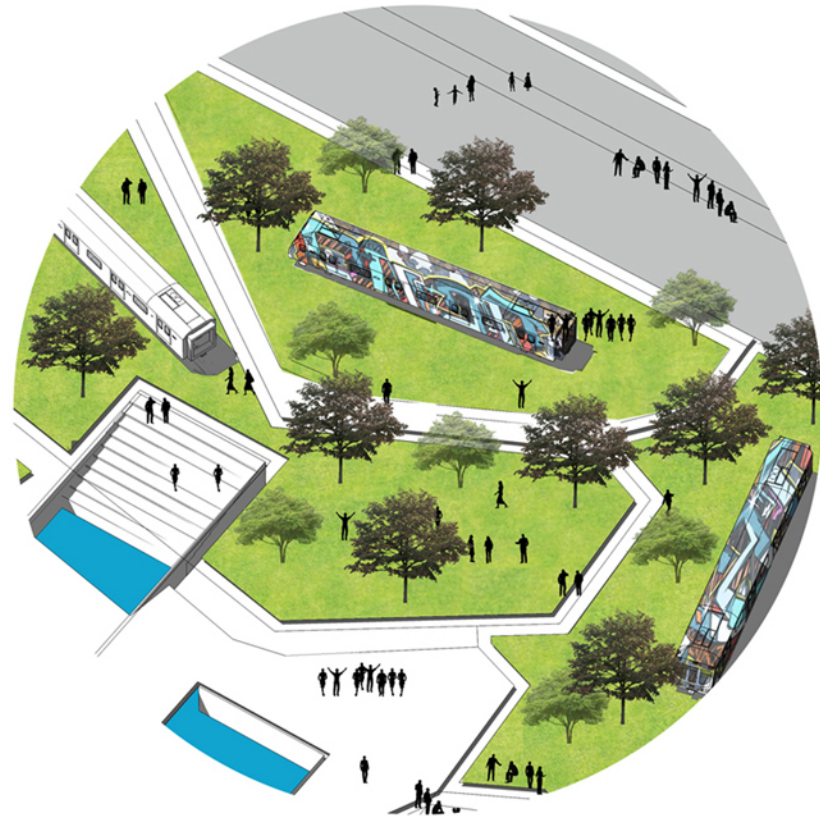


12. Porta Genova Station a Monument in the Center Of the Plaza

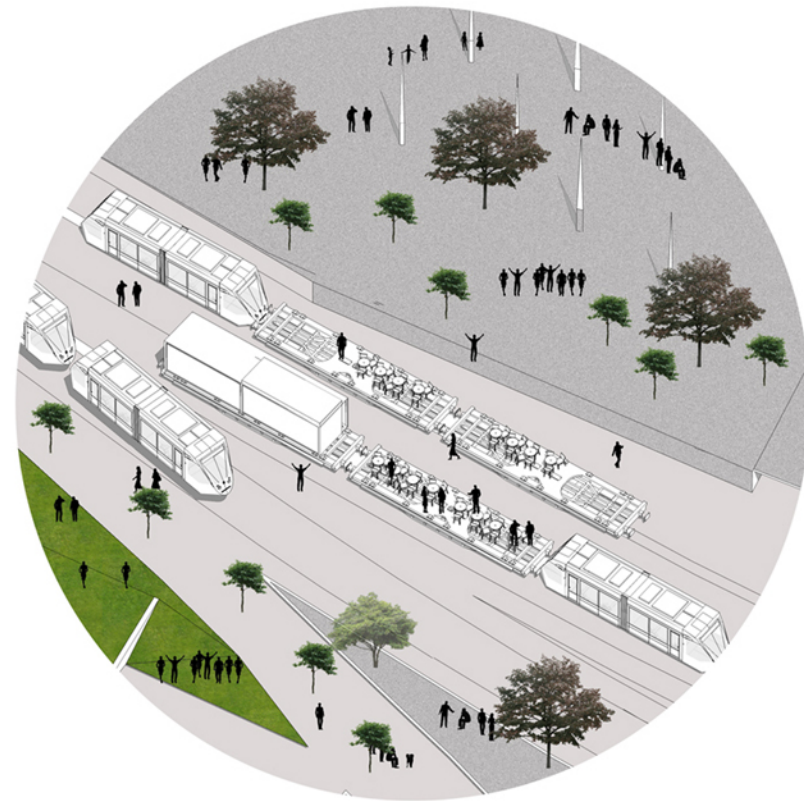
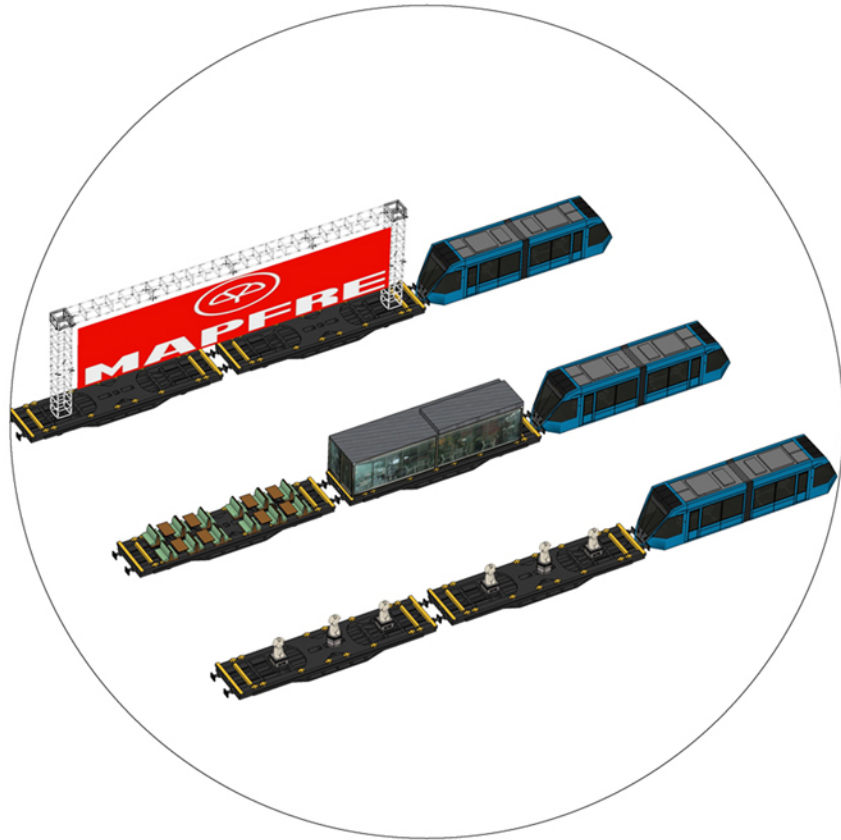


The Details

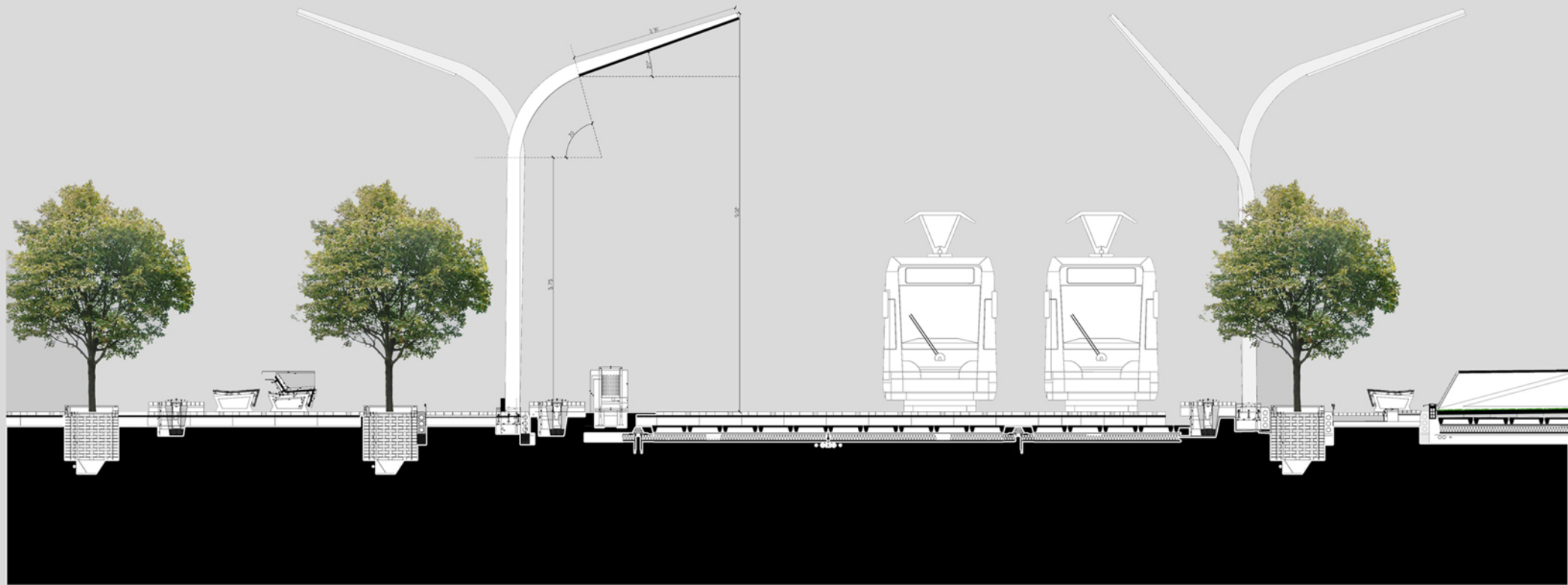
10. *Porta Genova Graffiti Museum:*
A park for social inclusion



13. *The new Programmatic lightweight mobility System.
Mixing mobility and Program Activities*



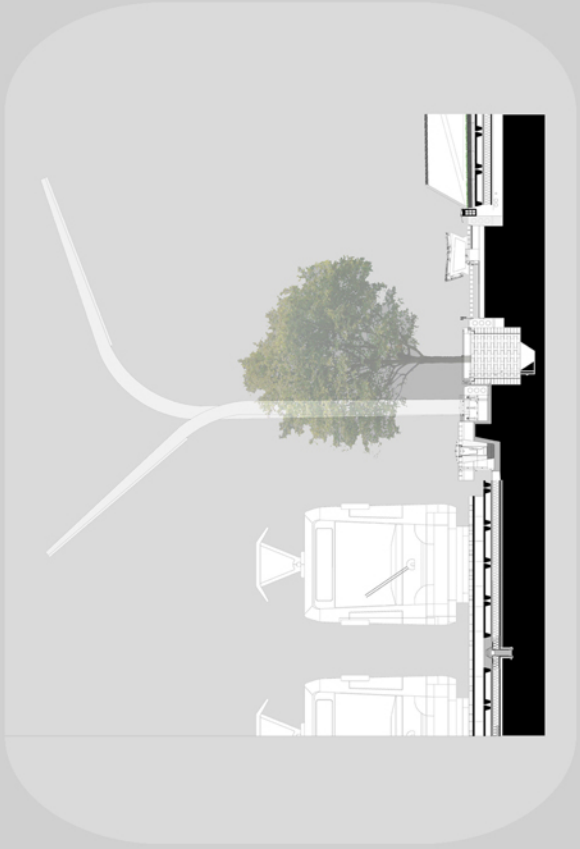




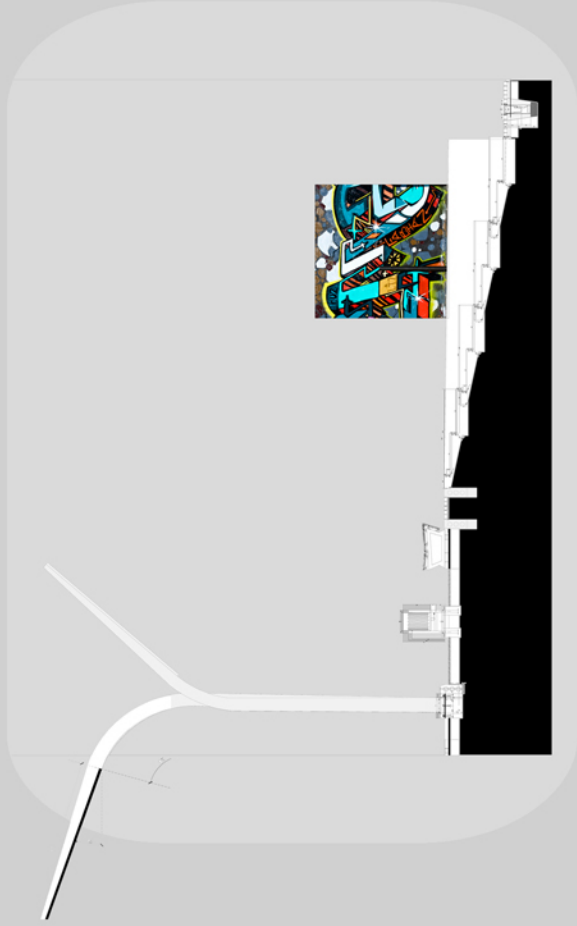
14. *Light Train Detail Section*



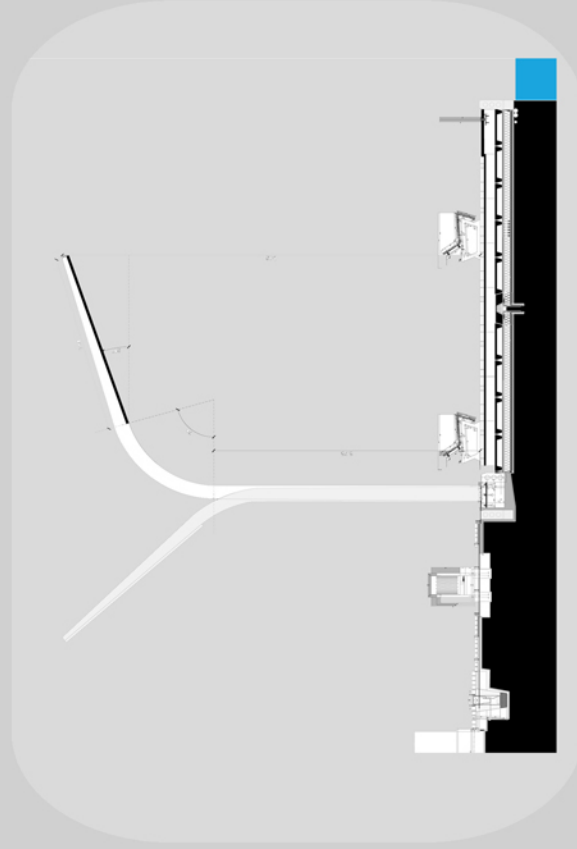
15. *Naviglio Grande Front Detail*



16. *Tree Root Container Detail*



17. *Naviglio Grande Front Detail*



18. *Water Drainage System*

The End



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Academic Period 2012 - 2013