



PARTNERSHIP

DEVELOPMENT

MOBILITY

QUALITY

EFFICIENCY

EQUALITY

EQUITY

RESPONSIBILITY

SUSTAINABILITY

Country / City Romania / Bucharest

University / School University of Architecture and Urban Planning "Ion Mincu" / Faculty of Architecture (Universitatea de Arhitectură și Urbanism „Ion Mincu”)

Academic year 5th year

Title of the project Singapore - Smart Green

Authors Smărăndoiu Lorin / Șelțer Andrada

TECHNICAL DOSSIER

Title of the project	Singapore - Smart Green
Authors	Smărăndoiu Lorin / Șelțer Andrada
Title of the course	Urban Design
Academic year	5th year
Teaching Staff	assoc. prof., PhD arch. Cristina Enache
Department/Section/Program of belonging	Urban and Landscape Design Department / Architecture / Faculty of Architecture
University/School	University of Architecture and Urban Planning „Ion Mincu”



Written statement, short description of the project in English, no more than 250 words

General information - The studied area occupies 1/6 of the surface of Singapore, located in the southwest. The main feature - equivalent division of the territory into three functions: housing, industry and green spaces. **Diagnosis** - the junction between housing and industry causes functional incompatibilities with extended effect - pollution and multiple dysfunctions. **Objectives** - cohesion between industrial units and neighboring homes; increased accessibility in green areas.

There are three major **intervention scenarios**, depending on the area on which urban operations are focused: 1. Housing characteristics 2. Mediation of incompatible functions 3. Pollution limitation. We detailed the second scenario, in which we adopted the concept of a "sponge area", referred to the hygroscopic property, in order to absorb and attract activity and dynamics through revitalization and to function as a place of cohesion based on balancing and satisfying common interests. We used 5 umbrella **concepts** to signal the main trends of modification of the study area. The premises are relatively simple, if we abstract them - the role of the study area is to mediate two incompatible functions - industry and housing. The micro-scale intervention consists of a multi-functional integrated complex (research, education, recreation) inserted into a vacant area. Using as few resources as possible, we proposed innovative and sustainable solutions focusing on community participation. We re-purposed existing buildings and generated new ones, creating immersive and engaging spaces.

For further information
Máster d'Arquitectura del Paisatge -DUOT - UPC

T: + 34 93 401 64 11 / +34 93 552 0842
Contact via email at: biennal.paisatge@upc.edu

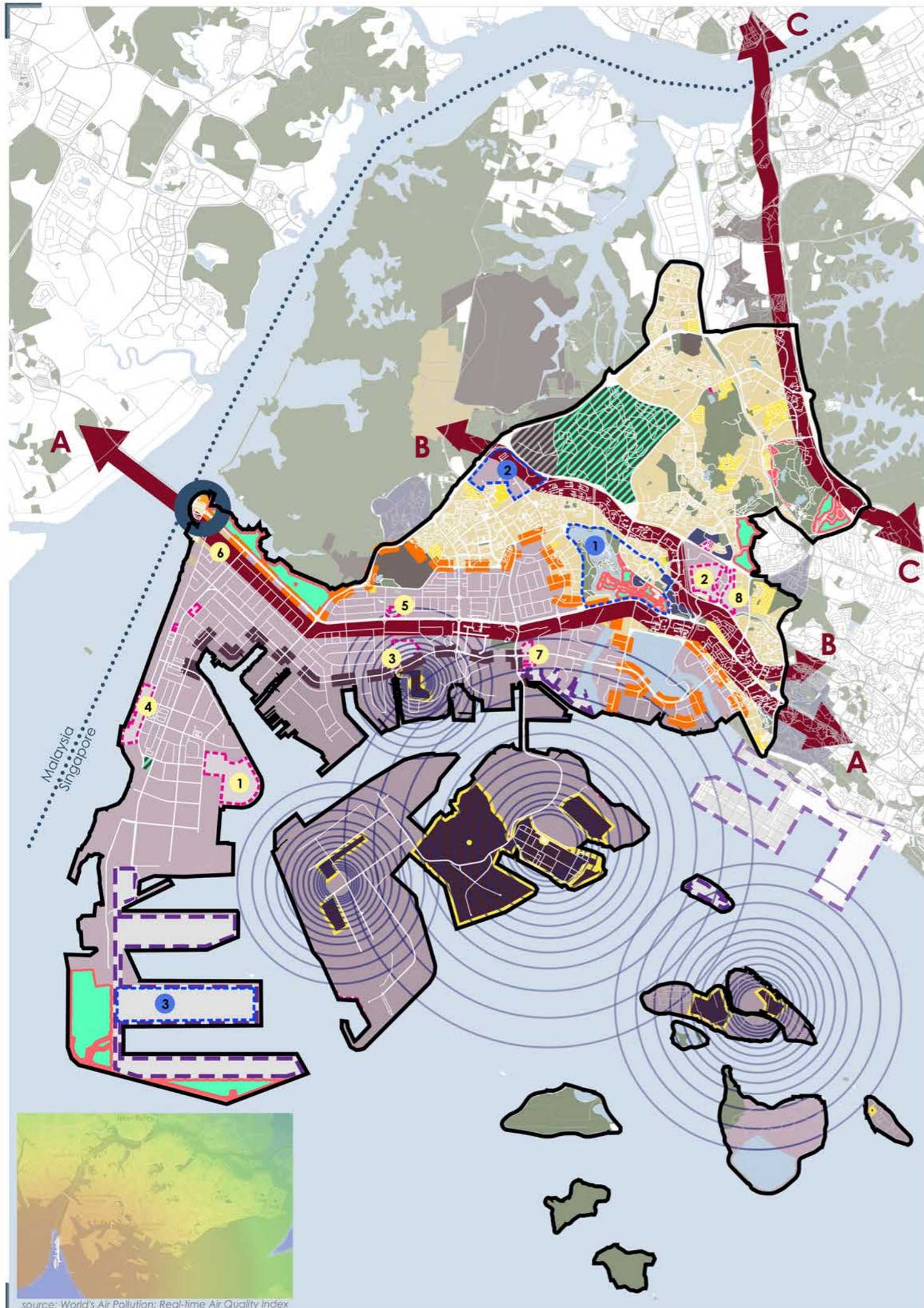
Máster d'Arquitectura del Paisatge -DUOT - UPC
ETSAB- Escola Tècnica Superior
d'Arquitectura de Barcelona
Avenida Diagonal, 649 piso 5
08028 Barcelona-Spain



CLIMATE CHANGE AGAIN

11th International Biennial Landscape Barcelona

Barcelona September 2020
SCHOOL PRIZE



source: World's Air Pollution: Real-time Air Quality Index

1 - living area

- collective housing and complementary functions
- individual dwellings
- investment area, mixed functions with central characteristics
- business center - office buildings and mixed functions

major circulations

- C-C** major direction on the N - S direction - the connection between the northern access from Malaysia and the centre
- B-B** major crossing direction of the area on the direction NW - SE - the connection between the city center and the west

areas of interest for projects and investments

- 1** Jurong innovation district - industrial center for advanced production, research, advanced industries and technology, positioned in the center of the study area
- 2** multifunctional district - offices, homes, recreational areas and commercial functions. positioned adjacent to the western boundary, has the role of improving the quality of housing and public space.
- 2** drinking water recovery and production center
- 8** military base

2 - industrial area

- low pollution industrial area - production, port and storage
- polluting area - oil industry, chemical, steel and port activities
- investment area in non-polluting, advanced industrial func.
- oil refineries - main polluters and main economic agents

major circulations

- A-A** major crossing direction of the area on the E - V direction - the connection between Malaysia and the centre, flanked by oversized buildings, headquarters of major industries

areas of interest for projects and investments

- 3** innovation district - advanced non-polluting technologies, improving the logistics process and capacity of the port
- 1** power plant dedicated to industrial activities
- 3** drinking water recovery and production center
- 4** waste processing and recycling center
- 5** drinking water recovery and production center
- 6** special warehouse for logistics activities
- 7** controlled and restricted access to Jurong Island

major dysfunctions

- these are the main pollution areas in the city - oil refineries and polluting productive industries - generates controversies regarding the future economic developments in the area
- uncertain areas in terms of urban image, characterized by the joining of functions with different characters - industry and housing

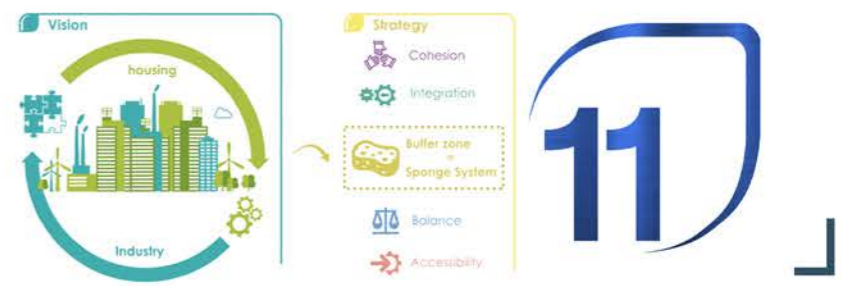
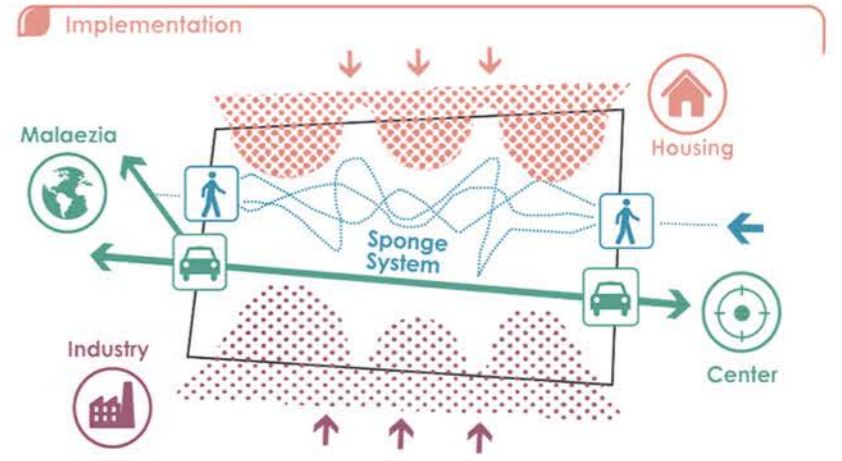
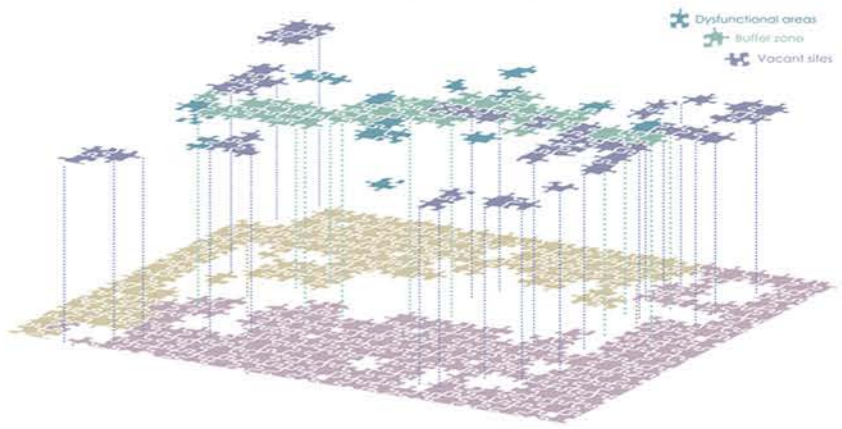
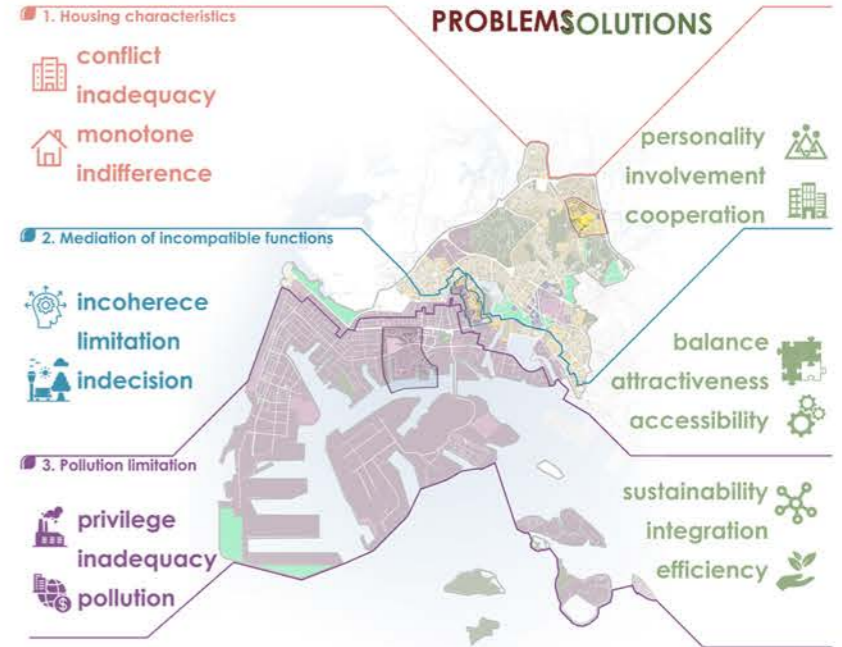
3 - green area

- green areas - forests, parks, squares, public gardens, etc.
- dedicated investments that affect the natural surface

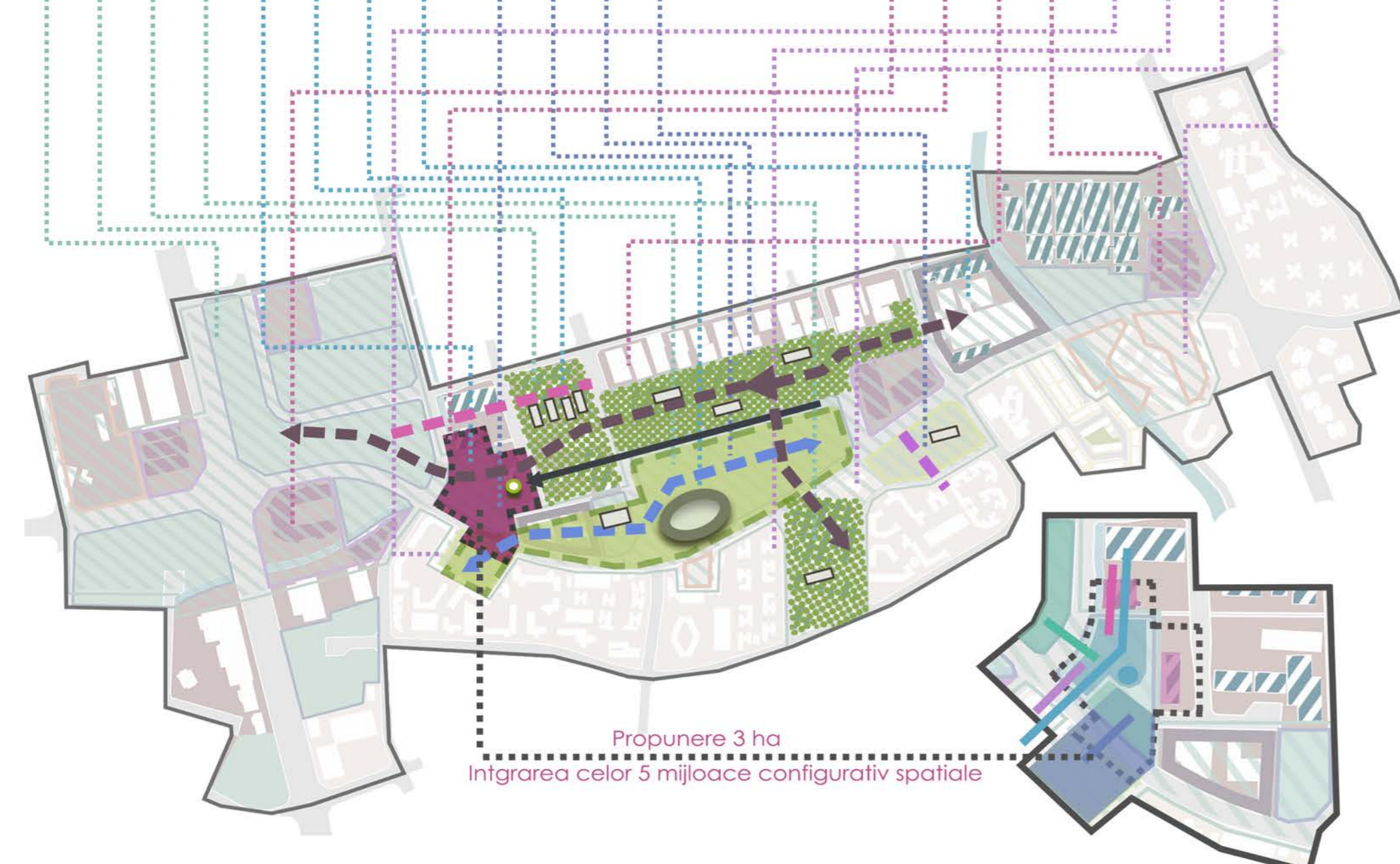
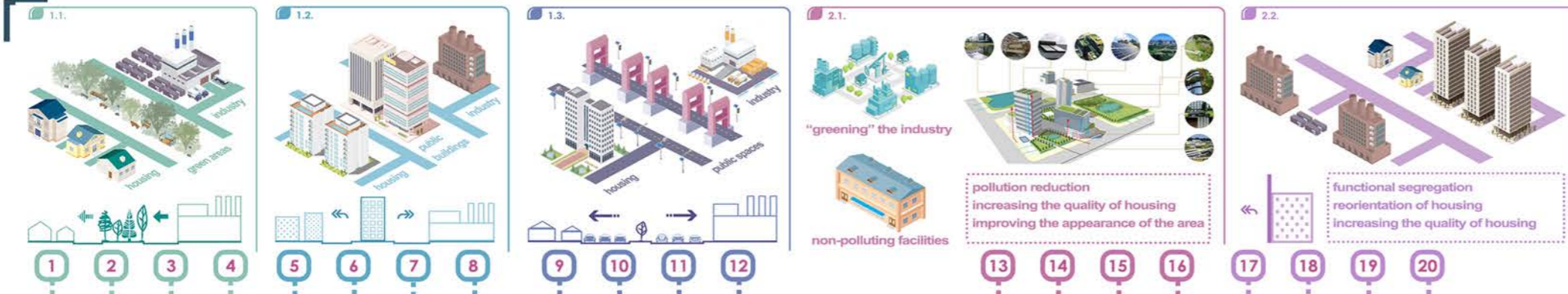
major dysfunctions

- extensive natural areas endangered by real estate pressures and major investments required. in the study area, construction policies of new development areas are preferred instead of green areas, compared to attempts to recover and thicken the existing residential areas.

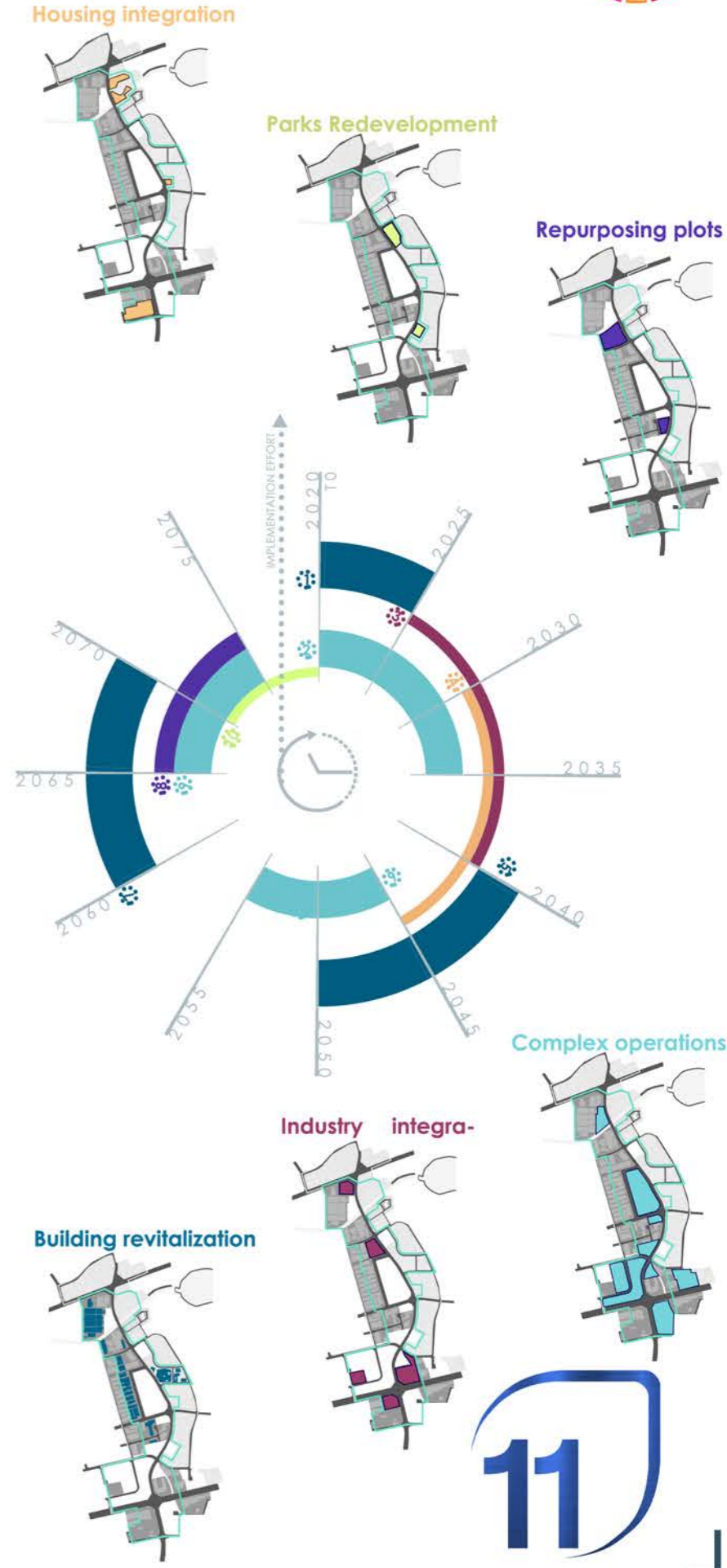
SITE ANALYSIS AND DIAGNOSIS



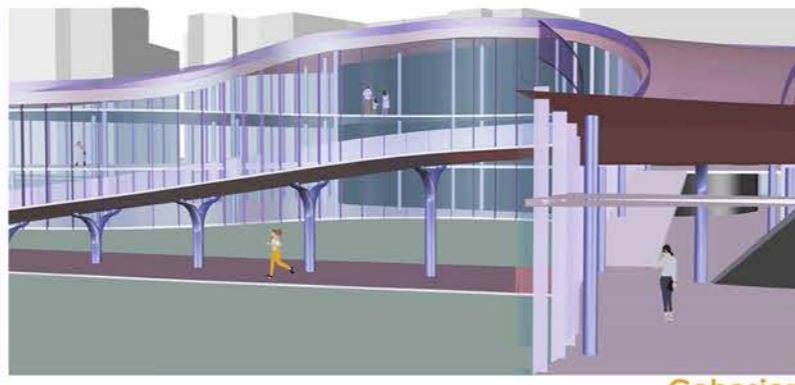
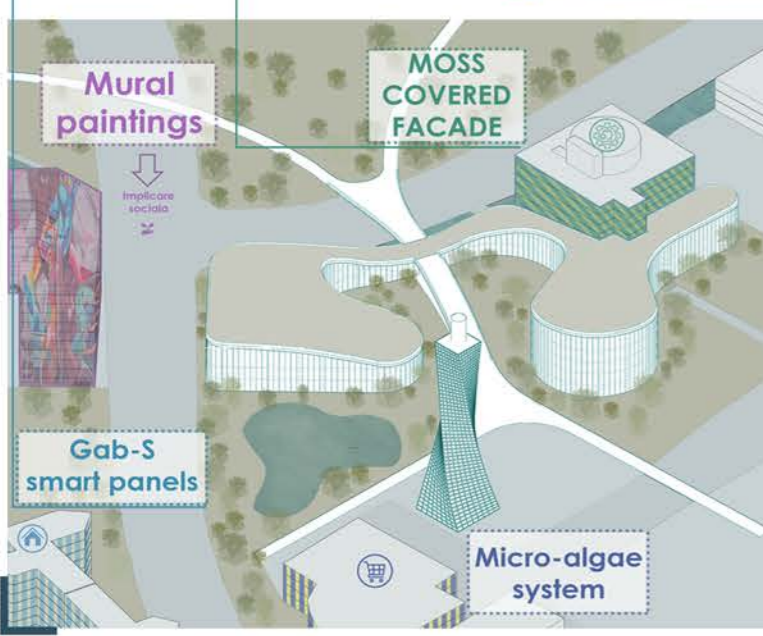
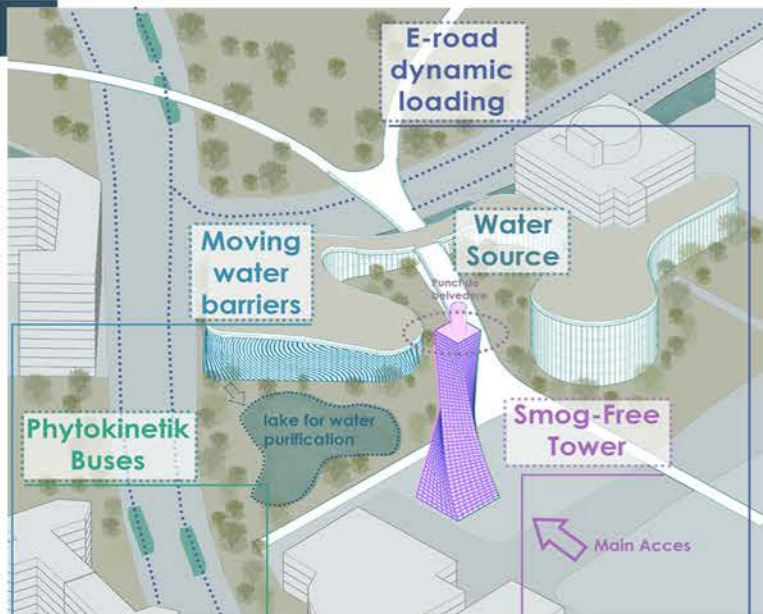
MASTERPLAN AND STAGING



- Green area connecting south and west (industrial area) - plantings, landscaping - with emphasis on non-motorized traffic, areas of activity and implementation (and experiment) of studies
- Park related to the office area - public spaces for relaxation
- Sports and leisure - running tracks, sports parks with specific facilities, etc.
- Park - playground, relaxation, public functions, etc.
- Experimental center - university, research, interactive public spaces
- Business area - with tall buildings, and green spaces
- Stadium and other sports activities - swimming pool, athletics center, tennis arena, basketball arena, etc.
- Large commercial area - with an emphasis on outdoor spaces, with facilities that maintain the comfort of users that do not affect the environment
- "Green" bridge for pedestrians and non-motorized vehicles
- Public spaces intended for the involvement in sports activities
- Public spaces in the area of revitalization of the industry - in close connection with the sports area, we propose the conversion of some facades into climbing walls; open-air cafes, spaces for renting "sharing" transport, medical centers, etc.
- Public spaces - playgrounds, relaxation, spaces for pets, board games, etc.
- Integration of new industrial areas - sale of the ground floor for commercial use, imposition of pollution restrictions, chromatic integration of facades
- integrating building - treatment of facades (sustainable technologies - experimentation and vertical gardens). In the interior, the cession of the atrium and its reuse to generate a museum based on the involvement of users for educational purposes.
- Aesthetic integration of industrial buildings and related spaces
- Advanced industries - visiting and education programs for children
- Treating the facades of apartment buildings - testing murals that purify the air, with the involvement of the public - shows, competitions, artistic events, etc.
- Treatment of degraded homes
- Housing for disadvantaged people - social reintegration program for people with difficulties
- New housing for young people - cheap housing, equipped with services necessary for the development of young people's professional life, which put in a "sharing" regime allow the adequacy of comfortable lives at affordable prices



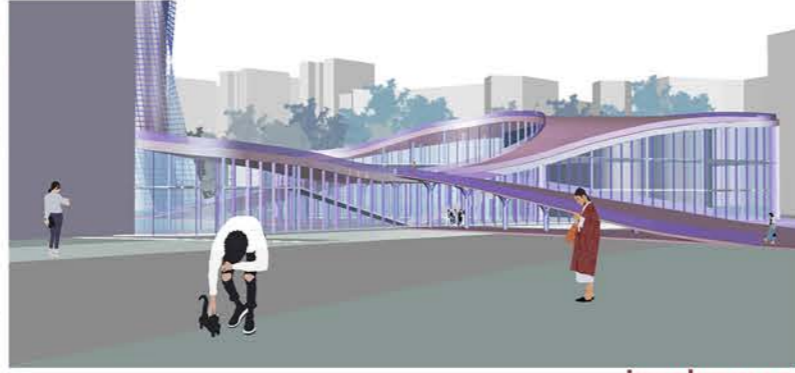
MICRO SCALE INTERVENTION



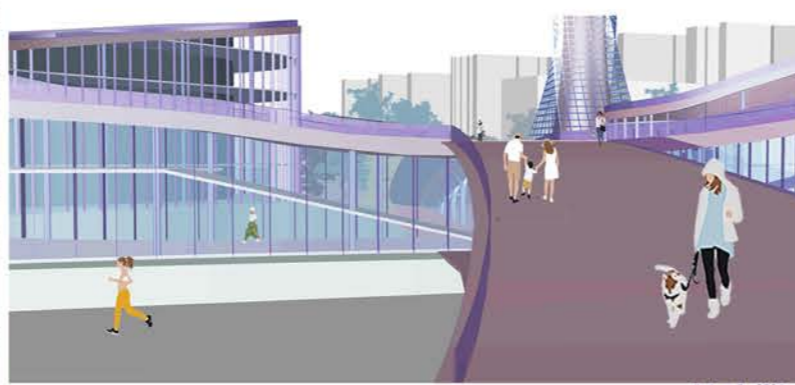
Cohesion North Facade



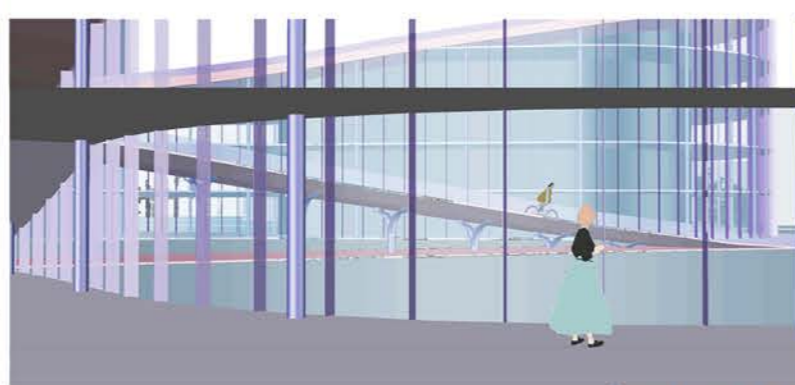
Leisure East Facade



Involvement South Facade



Mobility West Facade



Transparency Southwest Facade

