

2021 SWA SUMMER
STUDENT PROGRAM

SHANGHAI, CHINA

URBAN RESILIENCE

EXPLORING THE HUANGPU RIVER
NORTHWEST BUND WITH A NEW
URBAN FABRIC



URBAN RESILIENCE

EXPLORING THE HUANGPU RIVER NORTHWEST BUND WITH A NEW URBAN FABRIC



WANG, YAN
王焱

Principal and Urban Design Director of Perkins&Will. Yan is an active speaker on urbanism. He is also a productive author who is committed to merging urban and human aspects in unique, inspiring ways.



YANG, CHEN
杨晨

Assistant professor in Landscape Architecture Department, Tongji University. Chen is dedicated to landscape heritage characterisation and assessment, landscape architecture planning and design, and frontier technology of heritage conservation.



LI, ZHONGWEI
李中伟

Co-Founder of LAB D+H and the creative director of the Shanghai Office. He focuses on and dedicated to solving high-incidence urban problems by creating public spaces.



QIN, SHU
秦曙

Associate Principal of Original Design. Shu has an architect background and rich experience in designing the whole Yangpu Waterfront Renovation.



CHEN, RUI
陈瑞

Director of Guangda Anshi. Rui has an architect background and over 20 yrs experience in mixed-use and large-scale project development.



CHEN, HAO
陈昊

Co-Founder of HCCH STUDIO. She focuses on the practice of everyday life, covering architecture, interior, public art, trying to challenge /mediate norms and standard by explore specific, innovative, alternative approach.



徐行镇
Xuhang

月浦镇
Yuepu

罗店镇
Luodian

嘉定区
Jiading District

杨行镇
Yanghang

长兴镇
Changxing

横沙乡
Hengsha

马陆镇
Malu

庙行镇
Miaohang

高东镇
Gaodong

南翔镇
Nanxiang

大场镇
Dachang

Fuxing Island

曹路镇
Caolu

华新镇
Huaxin

普陀区
Putuo District

上海市
Shanghai

Lujiazui

浦东新区
Pudong

合庆镇
Heqing

SWA Shanghai Office

唐镇
Tangzhen

徐泾镇
Xujing

徐汇区
Xuhui District

北蔡镇
Beicai

三林镇
Sanlin

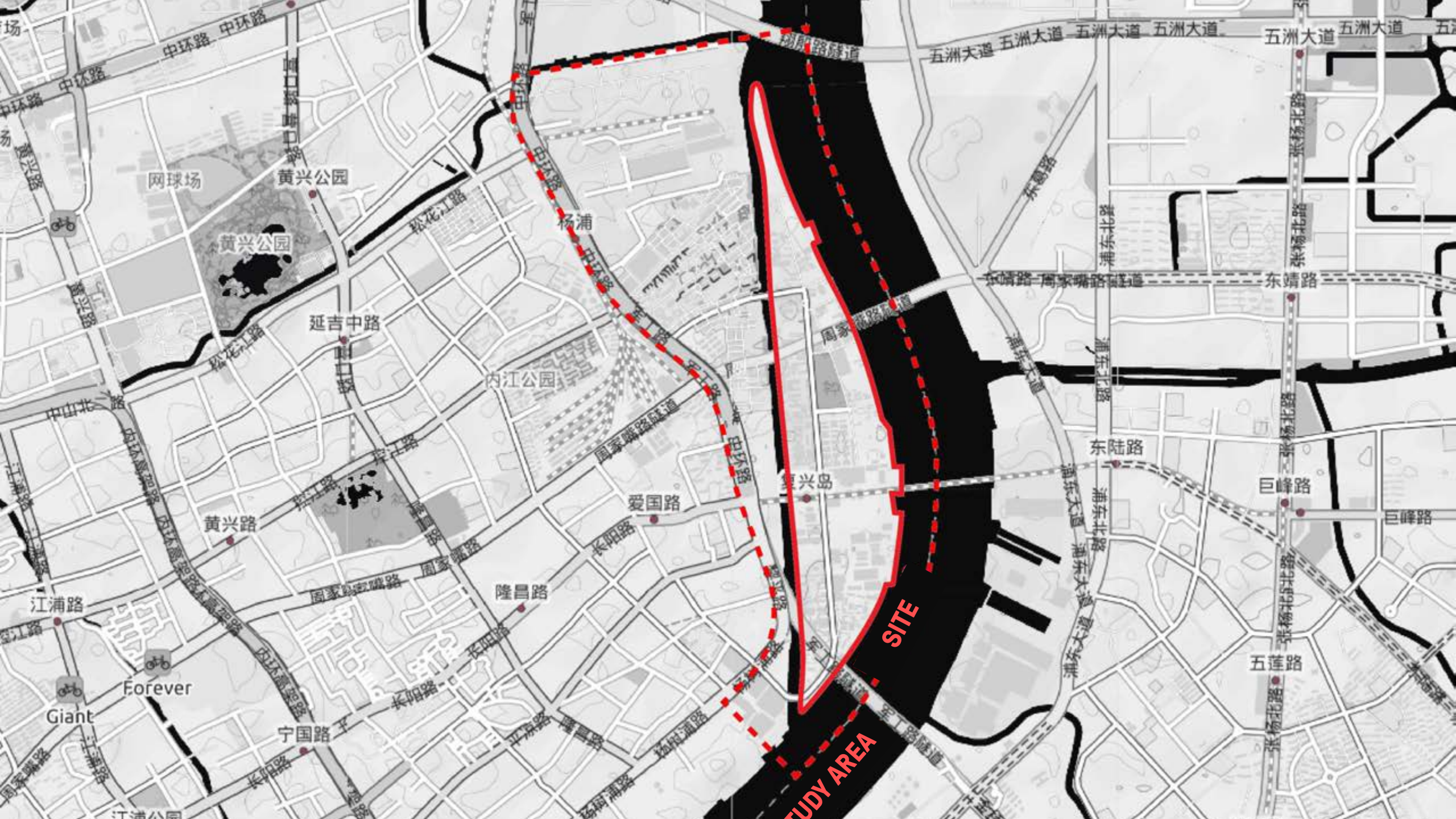
康桥镇
Kangqiao

泗泾镇
Sijing

闵行区
Minhang District

周浦镇
Zhoupu

祝桥镇
Zhuqiao



HERITAGE 遗产

WEEK 1 – WEEK 3

SYSTEM & BIG IDEA



ECOLOGY 生态

WEEK 1 – WEEK 3

SYSTEM & BIG IDEA

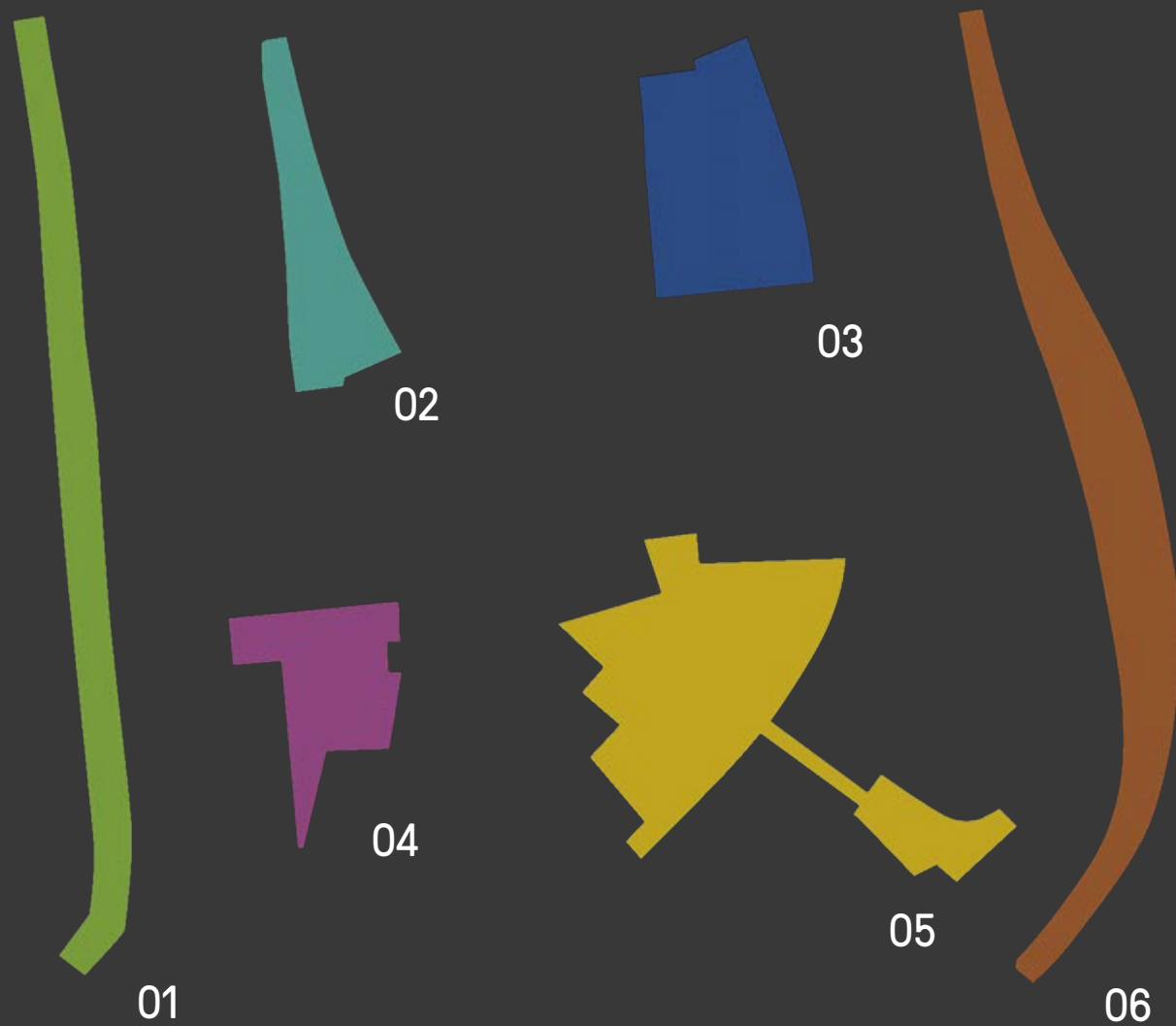


DEVELOPMENT 产业

WEEK 1 – WEEK 3
SYSTEM & BIG IDEA

WEEK 4 – WEEK 7

SITE POSSIBILITY



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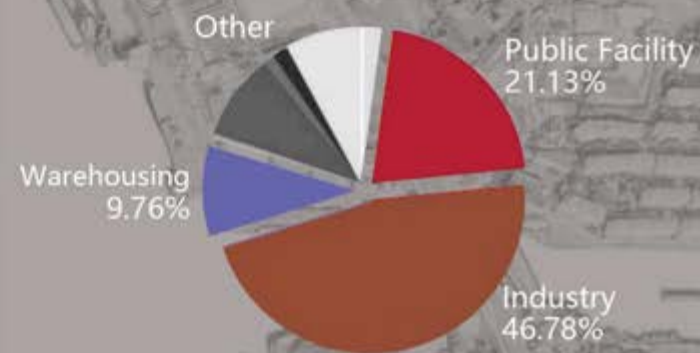
碳中和岛屿

Carbon Neutral Island

Xiongxin Xiao, SWA Summer Program



Before 2021, Carbon Emission >> Carbon Sequestration



Sources of Carbon 1:
Industrial production & Fossil fuel

碳排放主要来源 1:
工业生产和化石燃料燃烧

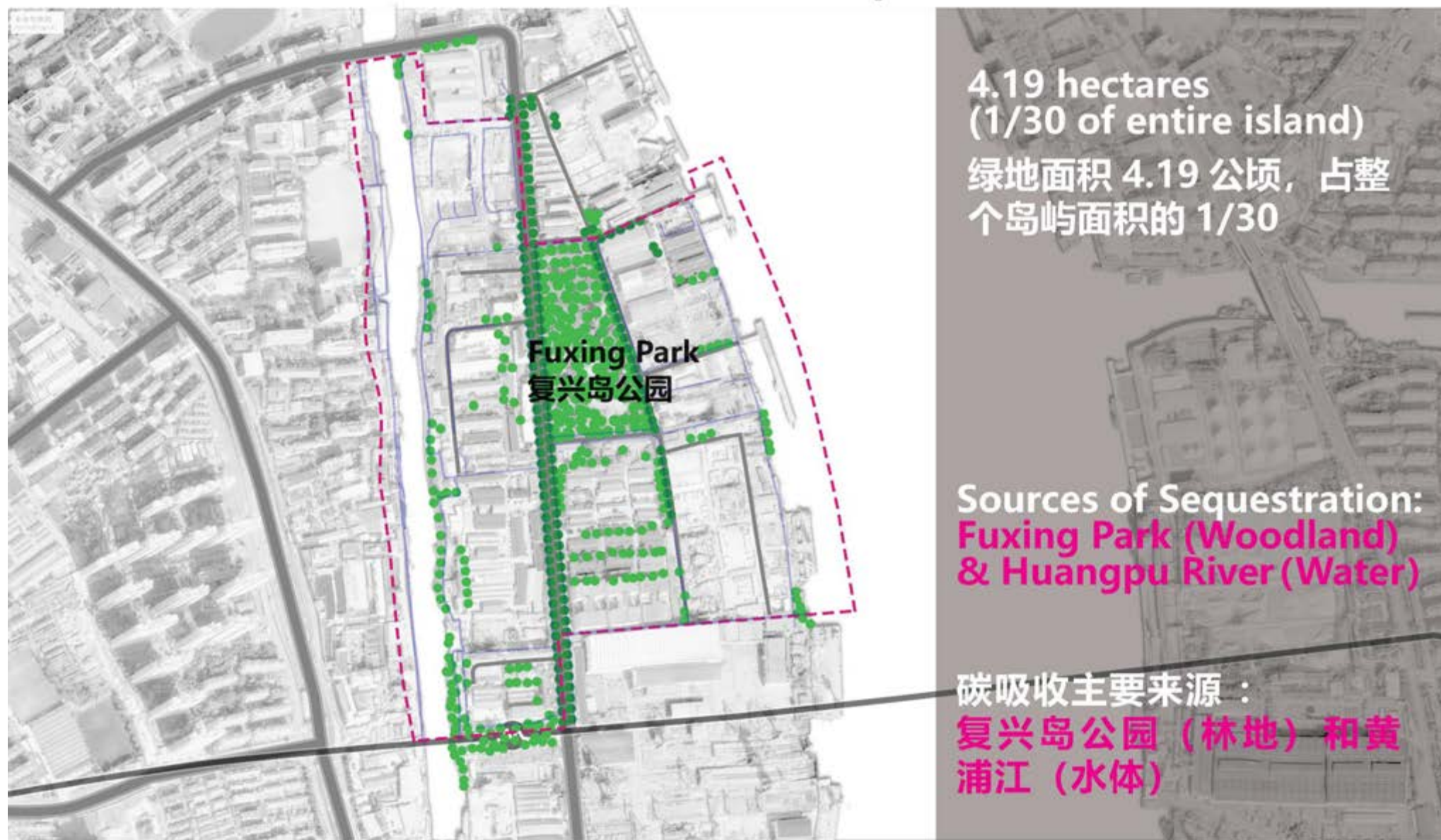
场地中大部分是工业和物流仓储用地，随着未来产业和能源结构变更，传统工业将逐步迁出城中心（复兴岛）

Before 2021, Carbon Emission >> Carbon Sequestration



场地中只有一条公共主干道，位于两座桥（长阳路桥拟建）之间但却无公共停车场

2021, Carbon Emission >> Carbon Sequestration



唯一一座复兴岛公园承担了绝大部分的碳汇功能，但目前它被围墙包围，限制了其与周边地块的渗透

BEFORE 2021

CARBON EMISSION



INDUSTRIAL EMISSION
工厂排放



TRANSPORTATION
交通排放

CARBON SEQUESTRATION

>



WOODLAND
林地碳汇

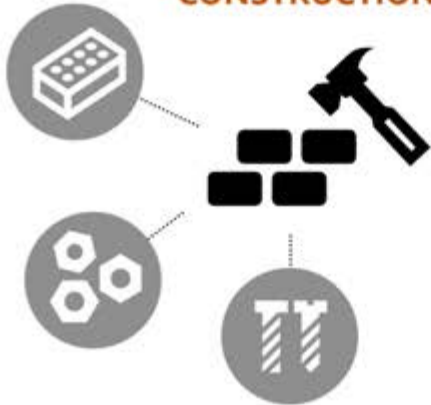


RIVER
水体碳汇



In the future

建设排放
CONSTRUCTION



生活消费排放
DAILY LIFE



+



WETLAND
湿地碳汇

≈



URBAN AGRICULTURE
农地碳汇



GRASSLAND
草地碳汇

未来碳排放主要来源将变为建设排放和生活消费排放，通过增加绿地类型的多样性来实现碳汇类型的多样性和稳定性

Big Idea

Phase1, Zero Carbon Landscape 零碳景观打造 - 建筑废料的再利用来减少碳摄入

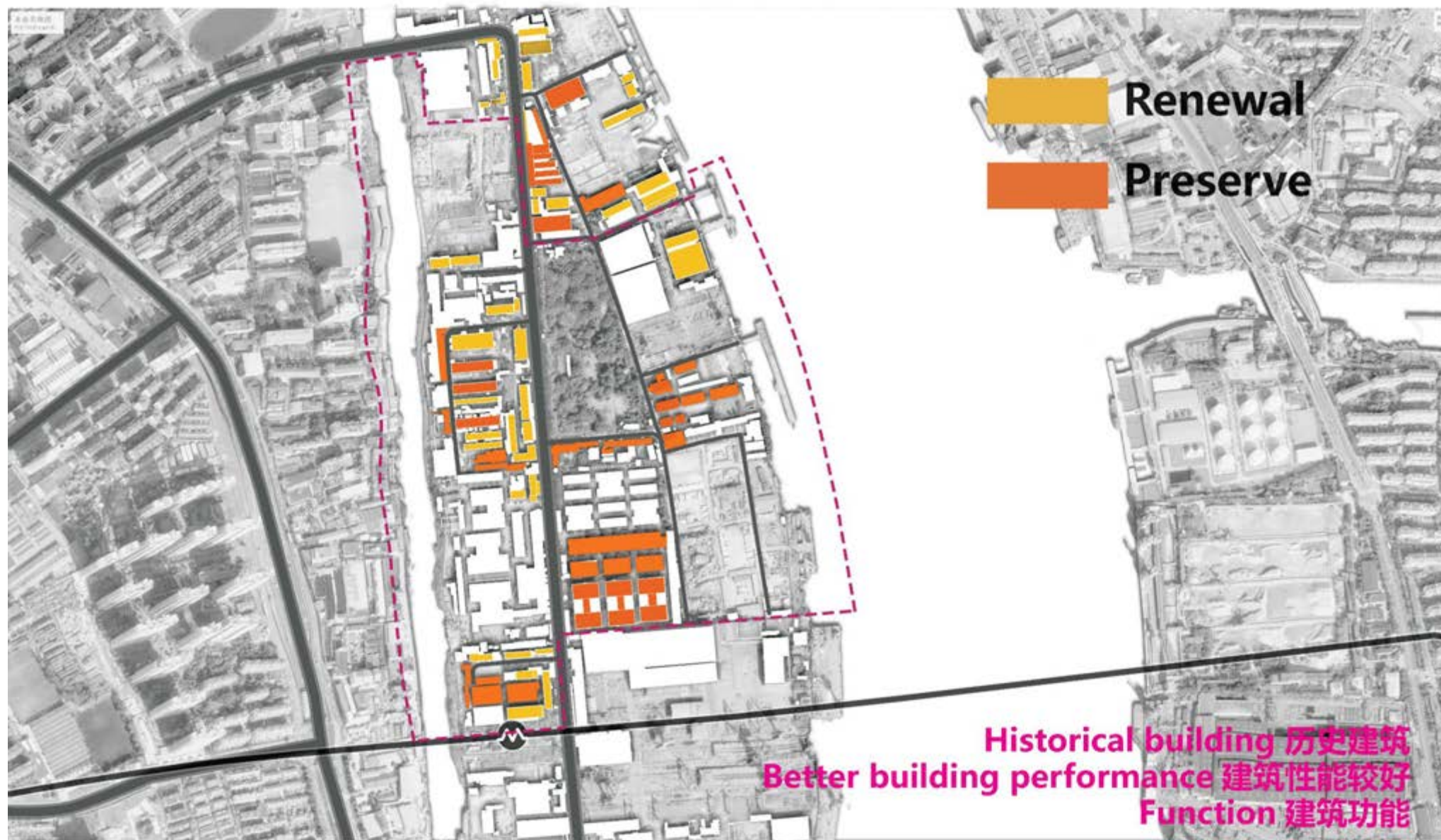


Phase2, Zero Carbon Life-style 零碳生活方式形成 - 减少未来消费端的碳排放



Phase1, Zero Carbon Landscape 零碳景观打造

Preserve & Renewal 需直接保留或更新保留建筑



对现存建筑进行评估，从而决定需要保留，更新的建筑以及可以拆除的建筑



住宅组团 & 社区中心
Residential Unit
& Community Hub



住宅组团 & 仓储
Residential Unit
& Warehousing



研究所
Research laboratory



物流 & 仓储
Logistics & Warehousing



住宅组团 & 仓储
Residential Unit
& Warehousing



研究所
Research laboratory

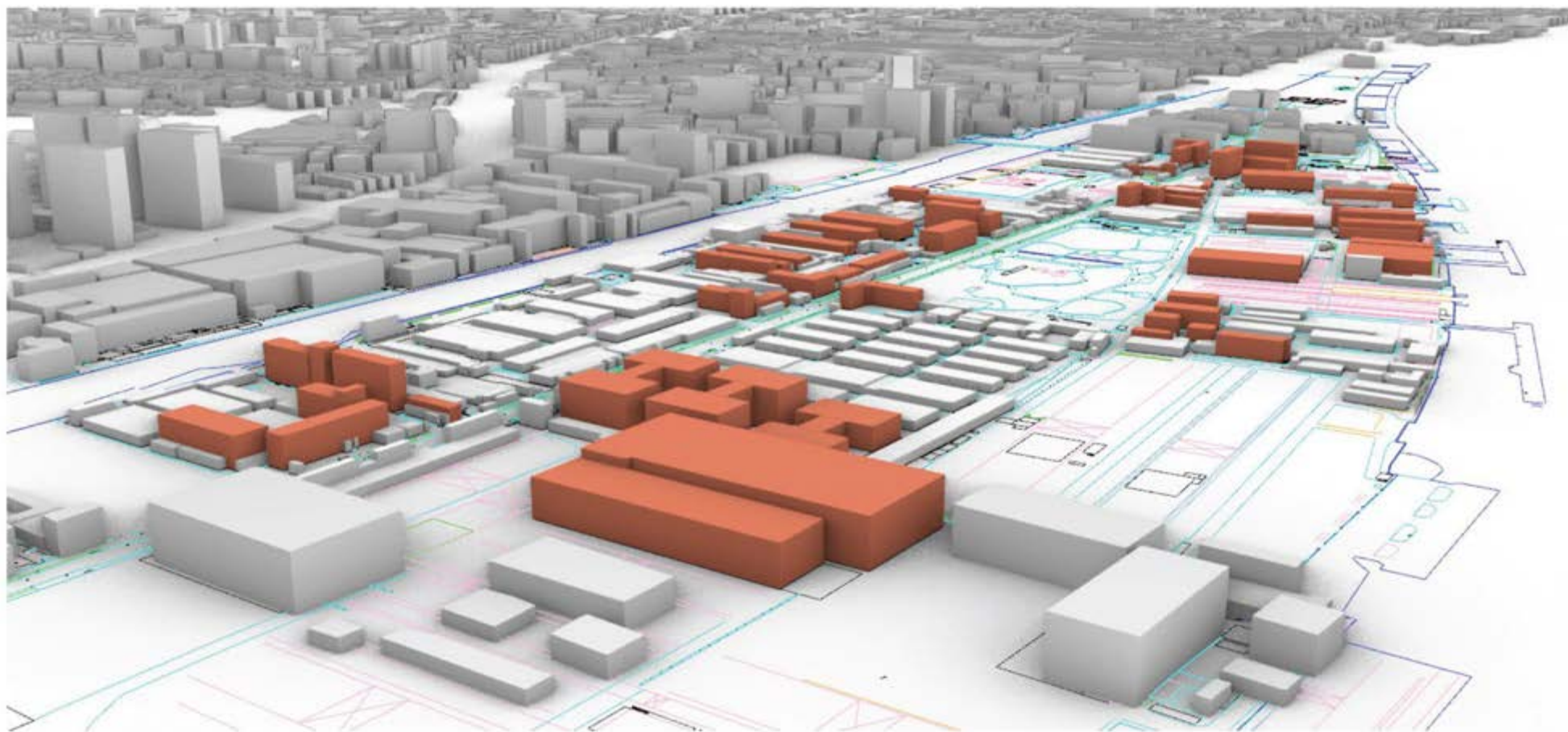


住宅组团 & 研究所
Residential Unit
& Research laboratory



工厂
Factory

Preserve & Renewal 需直接保留或更新保留建筑



Demolition 建筑拆除

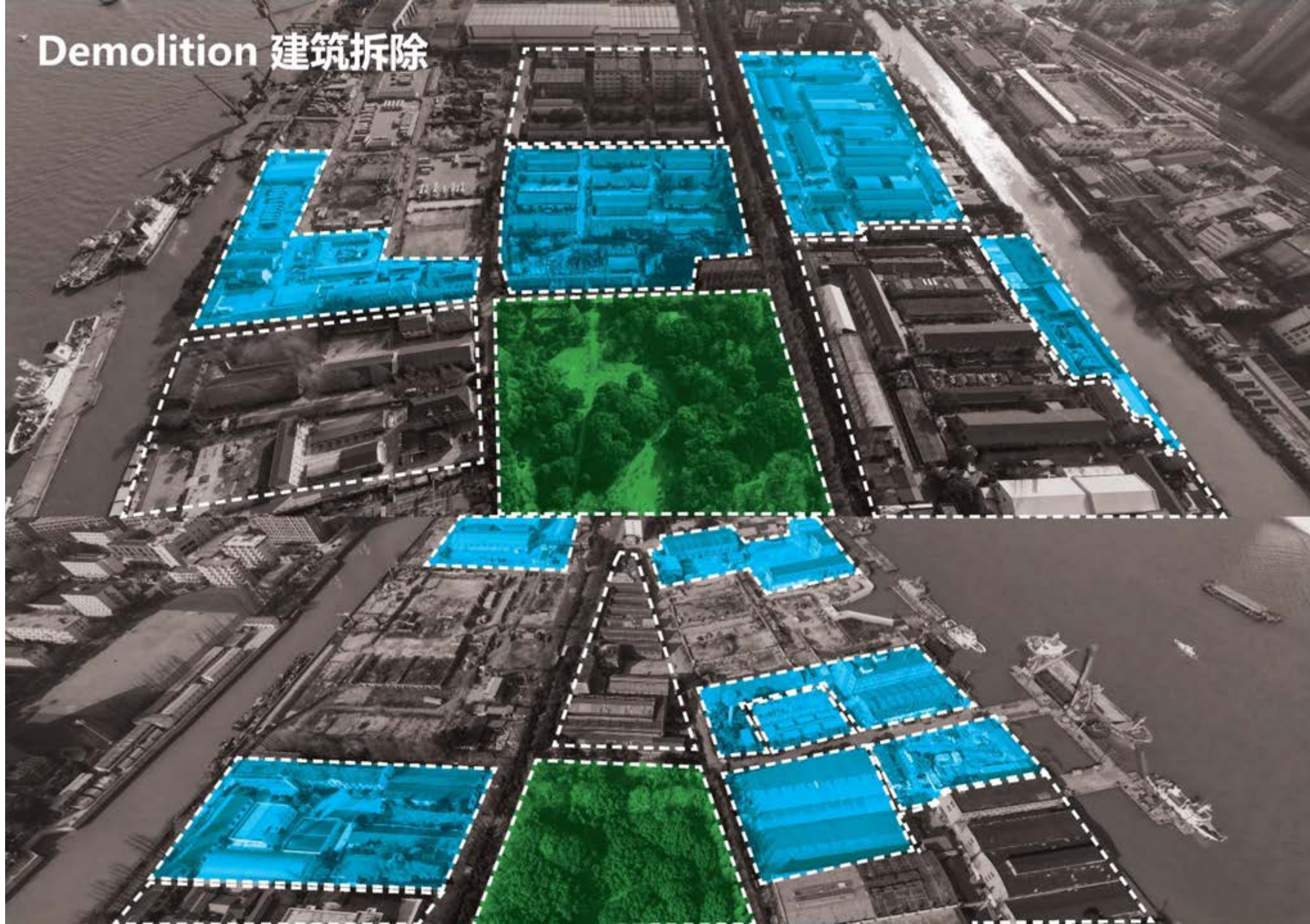


Demolition 建筑拆除



这些建筑多半是属于临时性建筑，且建筑性能差，多为仓库和工厂用房

Demolition 建筑拆除



AFTER DEMOLITION

≈ 3900t Construction Waste

≈ 150mt CO2 Emission

≈ 33Yrs CO2 Sequestration of
Fuxing park

~~2021 + 33 = 2054 --- 2050 Carbon Neutral~~

这些拆除后的建筑废料相当于复兴岛上绿地 33 年的碳汇量

Support by PathPnder Calculator, CMG

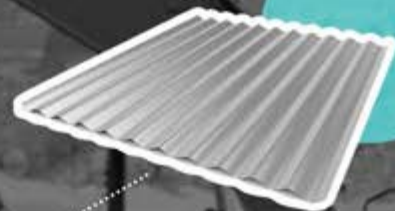
Timber/Beam



Hollow concrete slab



Aluminum plate



Glass



Bricks/Blocks



Tiles



Concrete debris



Rebar/Pillar



RECYCLE & REUSE

这些建筑废料并不是全无利用价值，相反废料的再利用可以让景观有新的质感

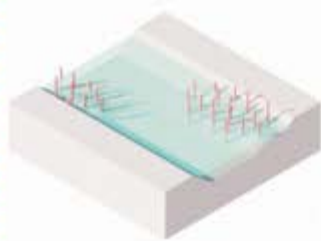
Methods - Reuse of Construction Waste 建筑废料再利用

滨水

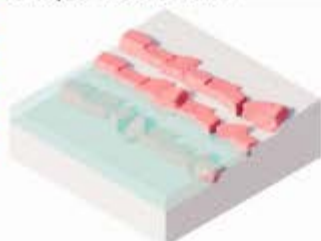
Landfill
Shape landform



Wood stick
Sediment capture

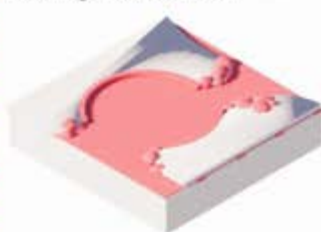


Concrete debris
Shape waterfront



铺装

Block & Bricks
Paving/Retain wall



Wooden beam
Stepping



Hollow concrete slab
Permeable paving

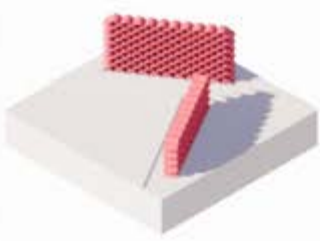


隔断

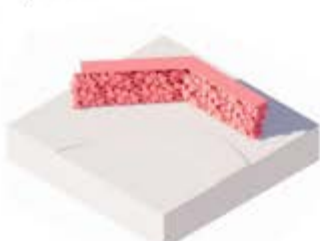
Concrete debris & Rebar
Gabion



Tiles
Special wall

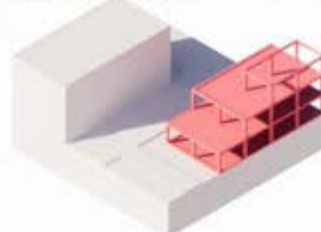


Timber waste
Special wall



构架

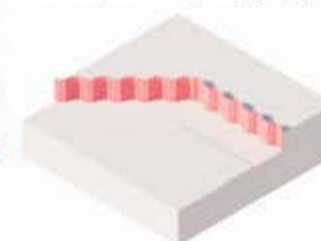
Renewable building
Retain frame



Metal Beam
Pergila/Pavilion



Aluminum plate
Metal planting edging



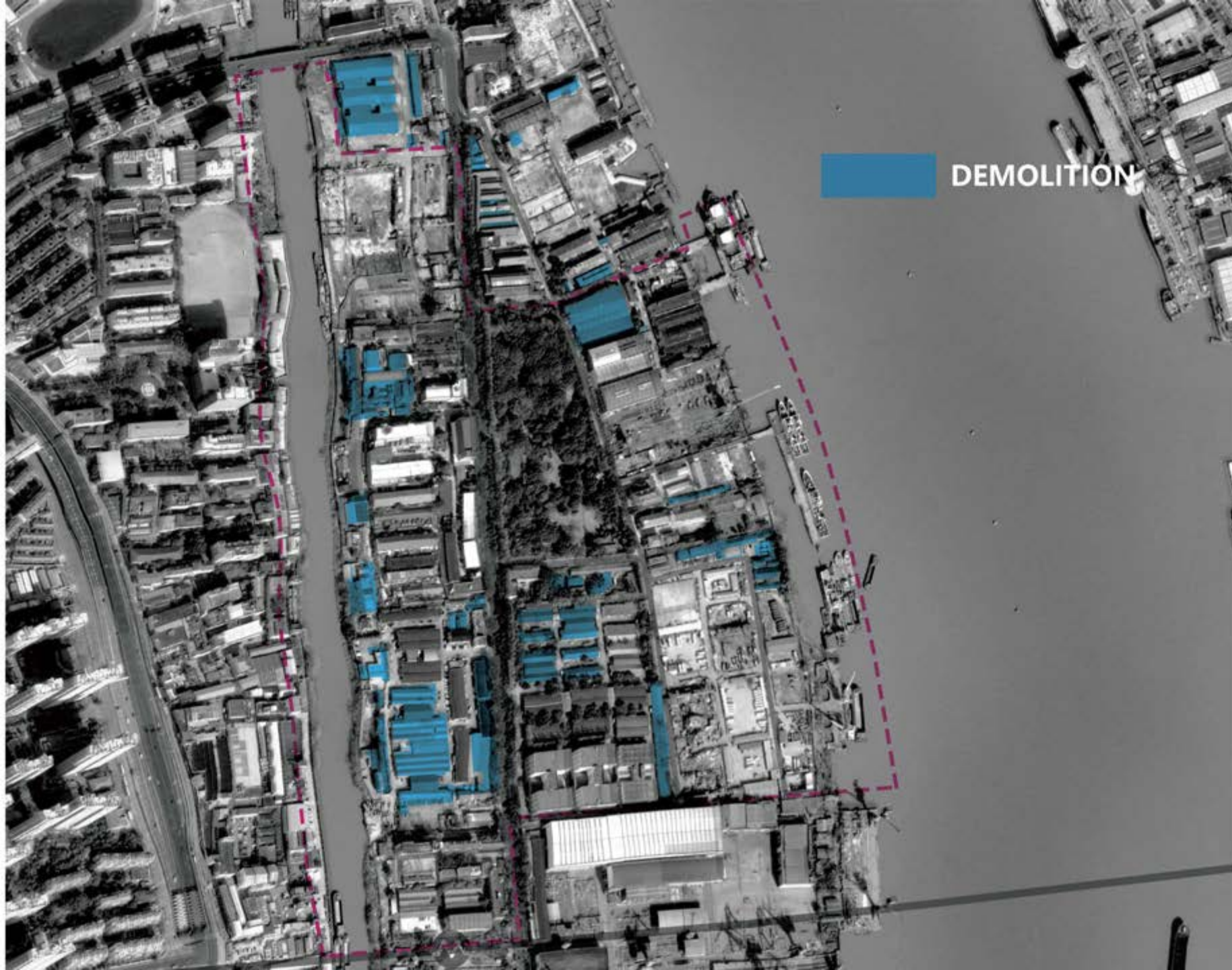
这些废料有的可以直接利用（碎块驳岸等），有的可以经过简单处理再利用（地面铺装等），有得无法利用可以就地填埋堆造地形（地形取代防洪墙）

Phase2, Zero Carbon Life-style 零碳生活方式

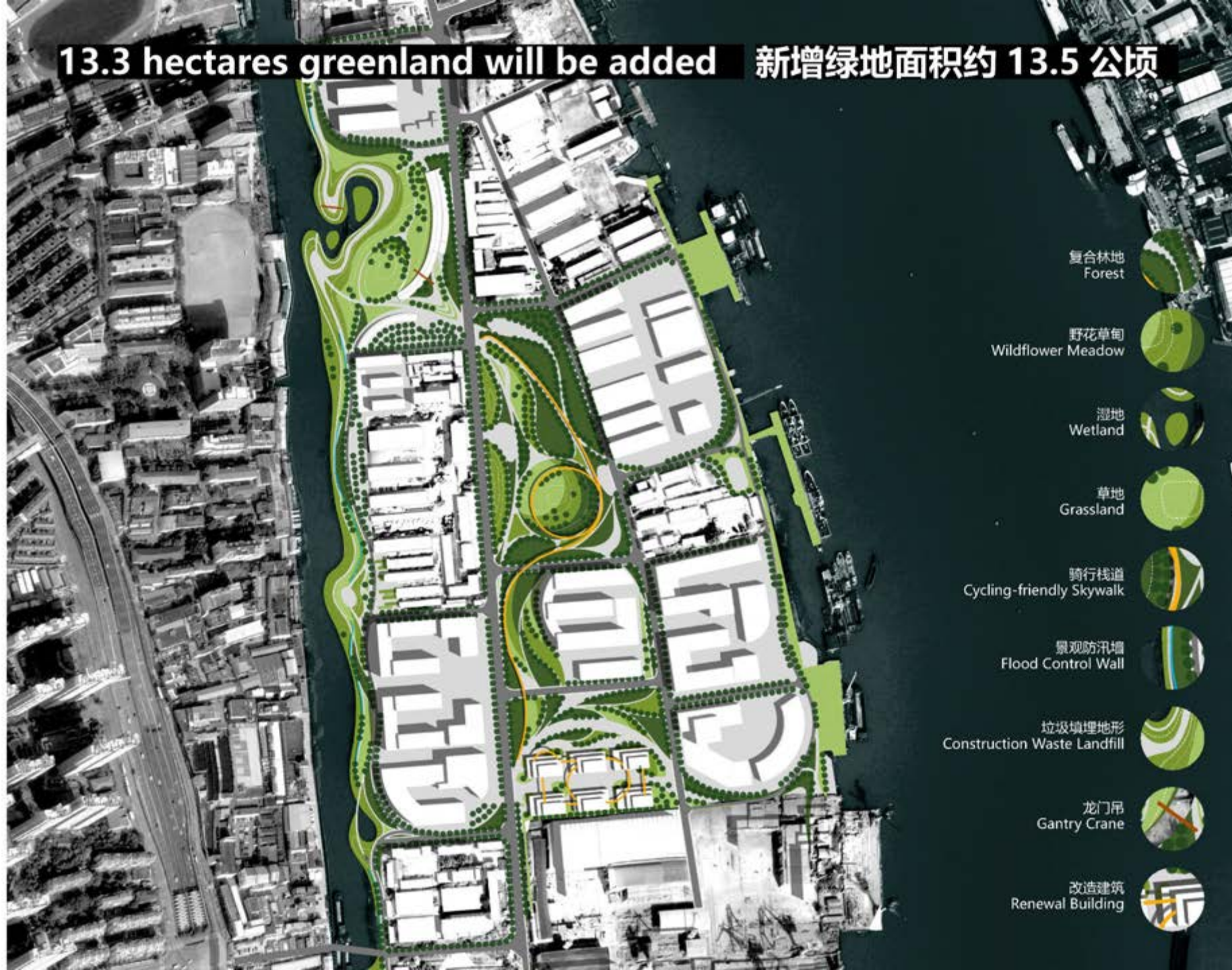


'Carbon Credits' - Carbon Trading Experience

在前不久，全国碳交易市场刚刚在杨浦区开市，中国第一颗碳监测卫星也于 8.16 号发射。我希望借势推出一款碳交易模拟软件，根据人的活动类型计算碳积分和奖励机制倡导低碳的生活方式。



13.3 hectares greenland will be added 新增绿地面积约 13.5 公顷



复合林地
Forest



野花草甸
Wildflower Meadow



湿地
Wetland



草地
Grassland



骑行栈道
Cycling-friendly Skywalk



景观防汛墙
Flood Control Wall



垃圾填埋地形
Construction Waste Landfill



龙门吊
Gantry Crane



改造建筑
Renewal Building



Carbon Sink Diversity 碳汇类型多样性



多样的碳汇类型，同时也为人们提供多样的开放空间。丰富外部空间活动类型的同时具有深远的低碳教育意义

Typology - 低碳示范点



A: Renewable building - Zero Carbon Hub 立体停车 - 零碳枢纽



Before



After

A: Renewable building - Zero Carbon Hub 立体停车 - 零碳枢纽

我们鼓励岛上未来的居民，游客以及工作者进入岛上之后，就可以把机动车停在一楼，并租用自行车出行。自行车可以通过建筑内部的坡道进入到二楼，骑行者也可以来到空中栈道眺望风景。建筑保留了部分框架结构并应用立体绿化软化边界，用废弃的枕木和混凝土碎块材料塑造外部景观。

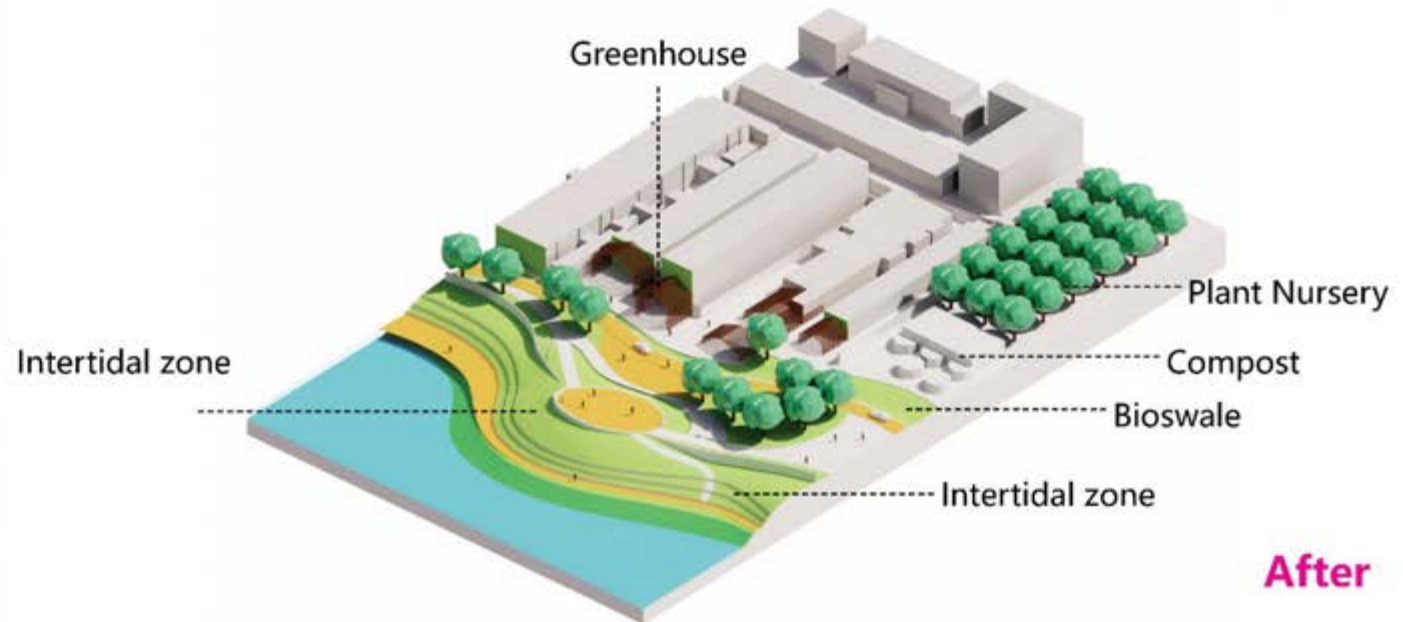
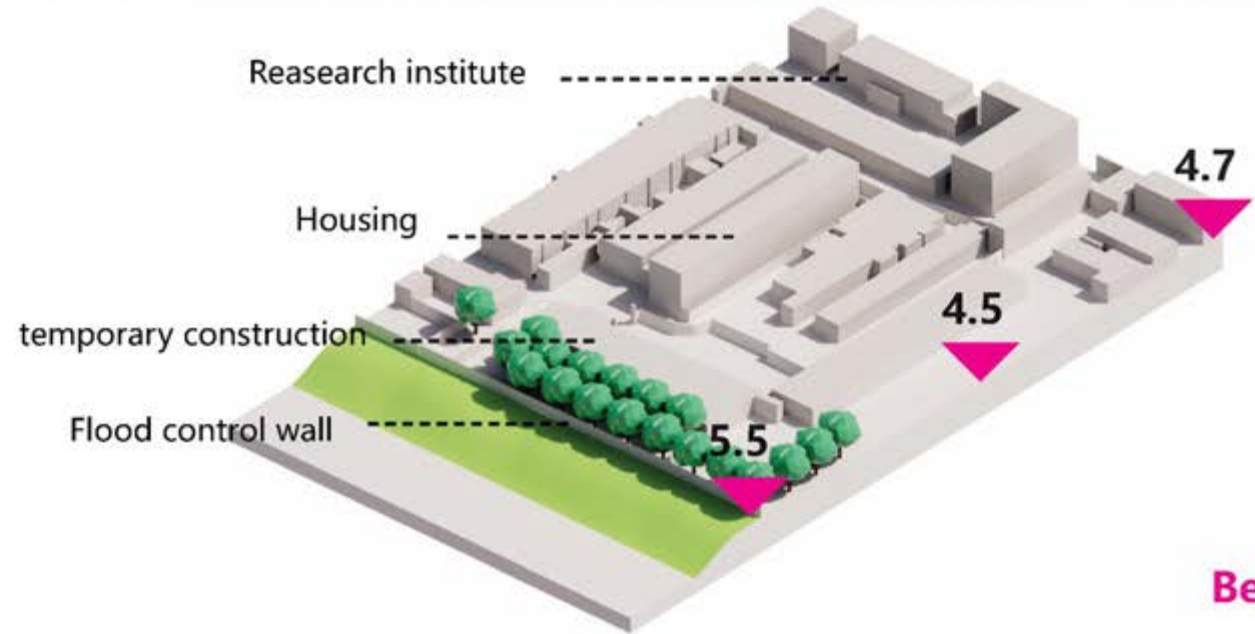


A: Renewable building - Zero Carbon Hub 立体停车 - 零碳枢纽

无论你采取何种出行方式，这都将会被转化成碳积分进入你的手机里



B: Residential Unit - Urban Farm & Resilient Waterfront 生活水岸 - 社区农场



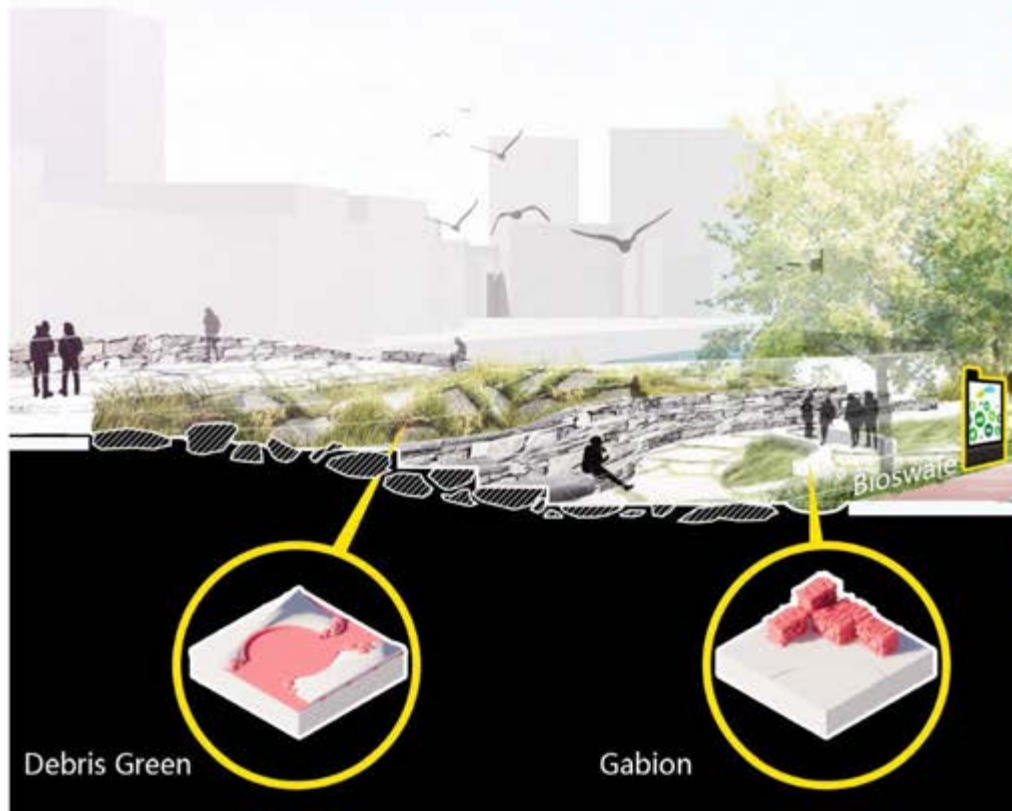
B: Residential Unit - Urban Farm & Resilient Waterfront 生活水岸 - 社区农场

利用废弃的建筑材料打造都市农场和滨水空间，野性和温情共存
生活垃圾将通过堆肥从而用作农作物的肥料

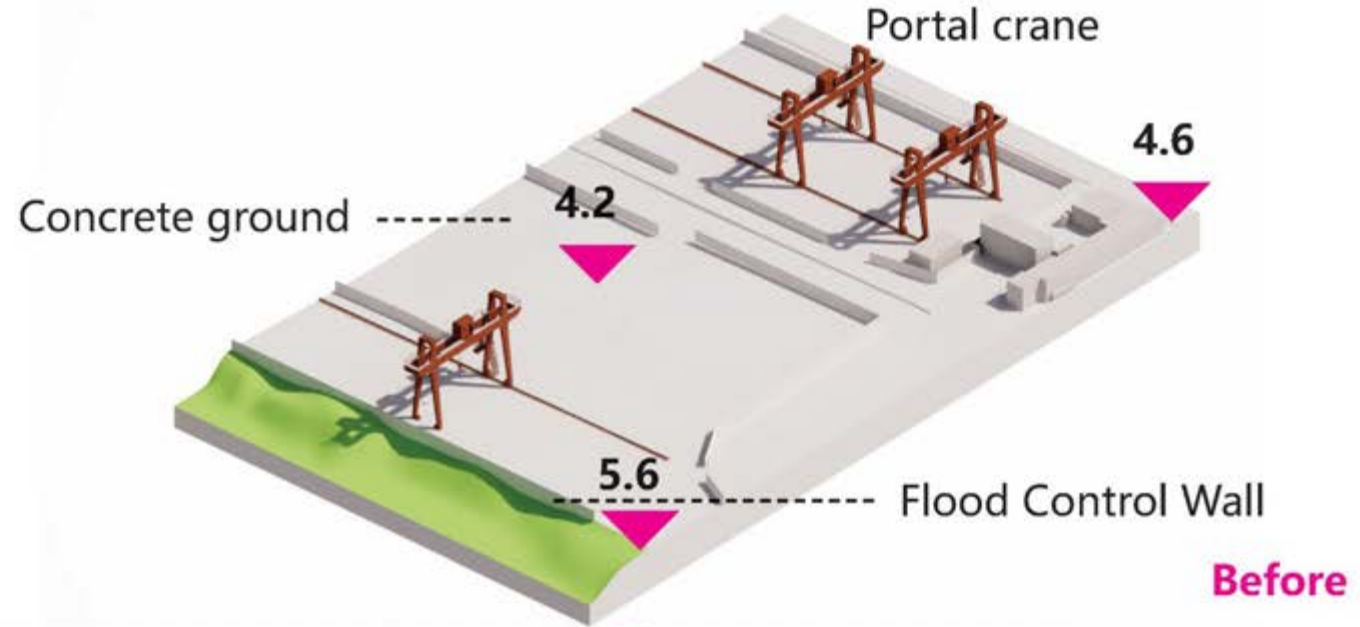


B: Residential Unit - Urban Farm & Resilient Waterfront 生活水岸 - 社区农场

混凝土碎块花园，废弃铝板种植床，空心混凝土板铺装



C: Vacant land - Wetland Carbon Sink 湿地碳汇 - 雨水调蓄



C: Vacant land - Wetland Carbon Sink 湿地碳汇 - 雨水调蓄

建筑废料填埋、沉积物回填并用植被覆盖形成取代防洪墙的生态堤岸

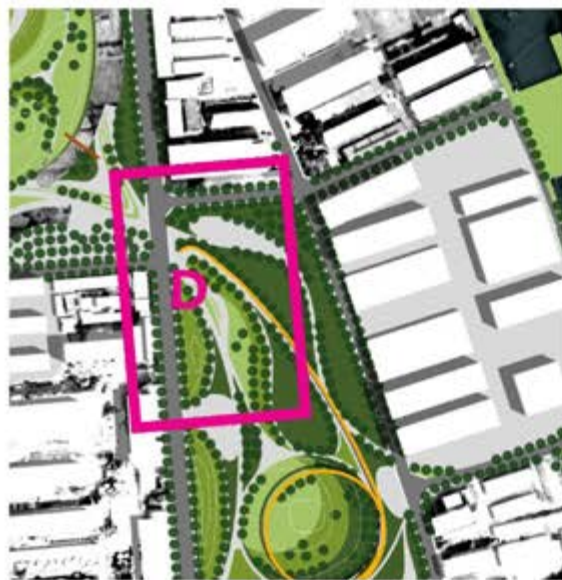


C: Vacant land - Wetland Carbon Sink 湿地碳汇 - 雨水调蓄

驳岸用混凝土碎块塑造，碎块间所形成的空隙也为各类水中生物提供栖息地



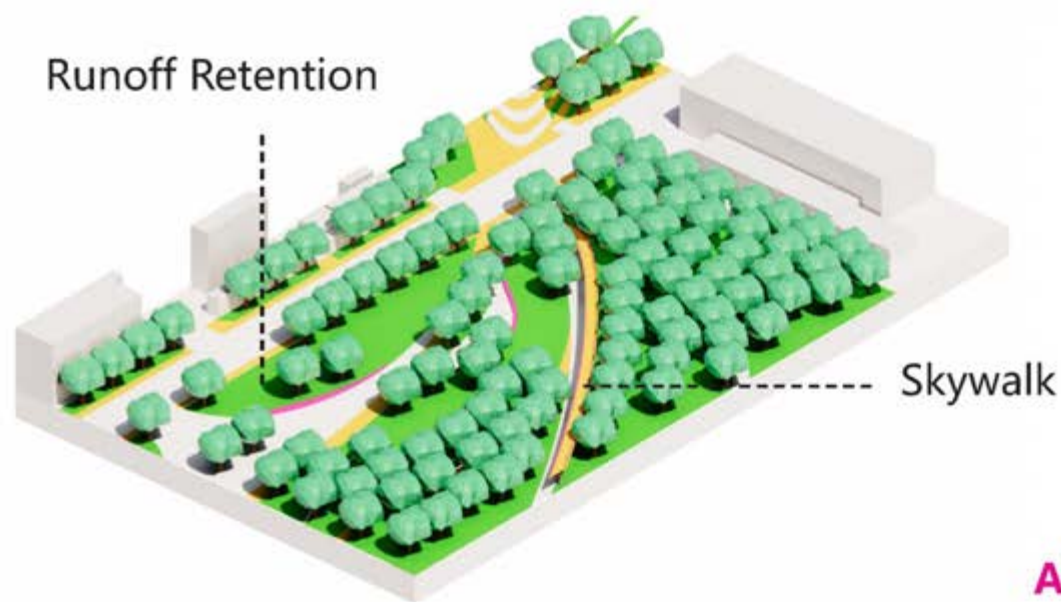
D: Fuxing Park - Woodland Carbon Sink 多层群落结构 - 森林碳汇



围墙隔离，位于岛屿最低点



Before



After

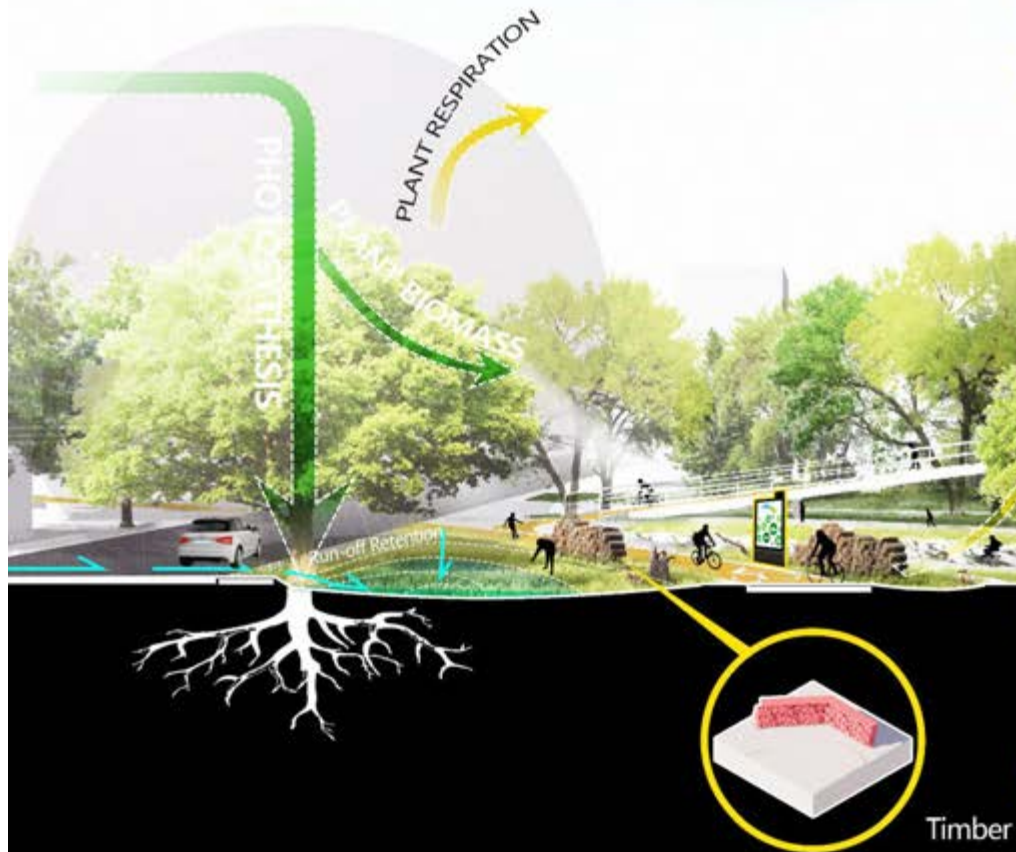
D: Fuxing Park - Woodland Carbon Sink 多层群落结构 - 森林碳汇

骑行道，步行道穿梭其中，吸引骑行者和步行者的同时分担岛屿主干道的慢行压力



D: Fuxing Park - Woodland Carbon Sink 多层群落结构 - 森林碳汇

雨水滞留，雨洪调蓄
多层次的慢行空间体验
慢行距离将兑换成碳积分



A new Landscape leads to a Zero-carbon lifestyle



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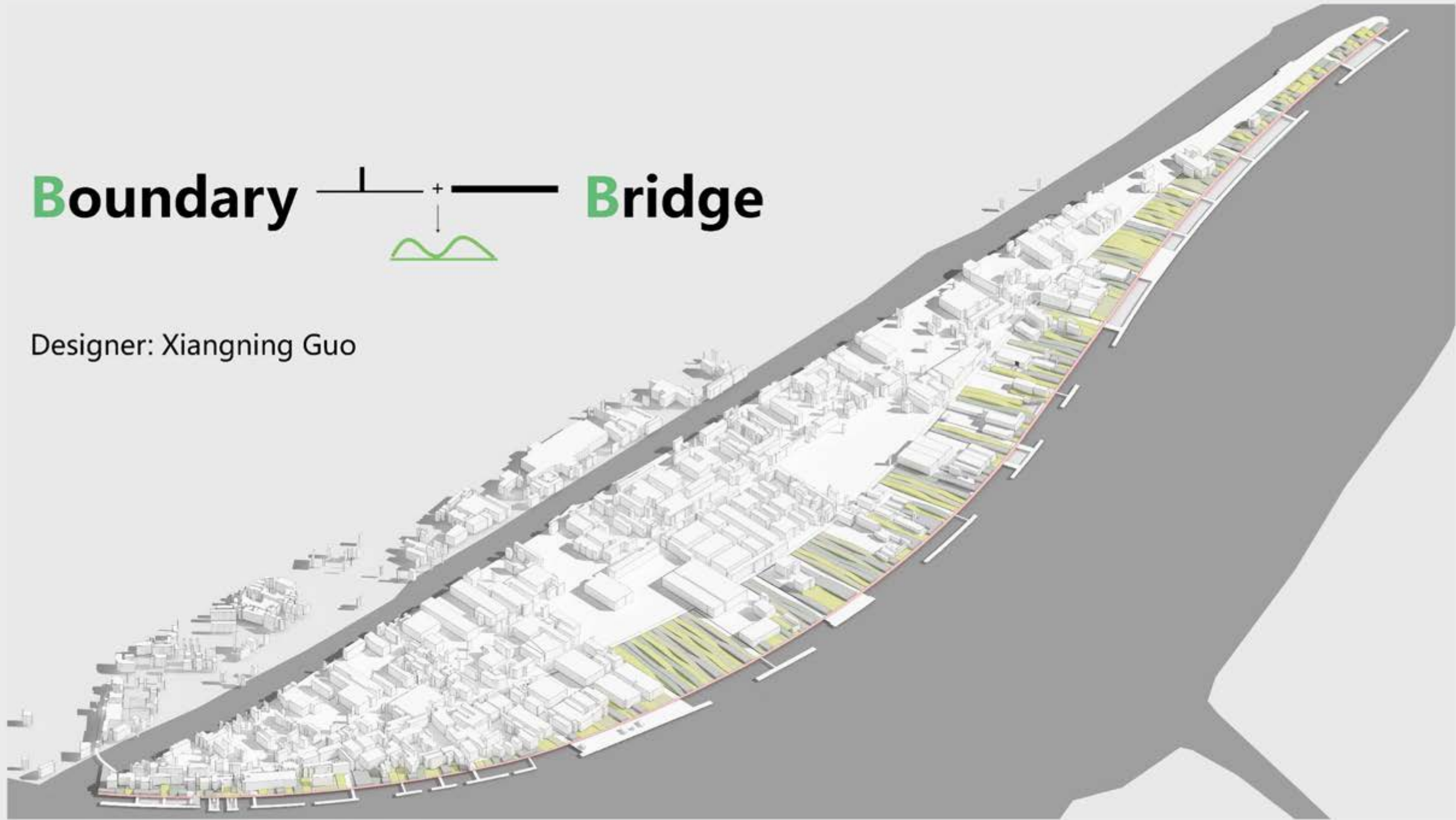
URBAN RESILIENCE

EXPLORING THE HUANGPU RIVER
NORTHWEST BUND WITH A NEW
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Boundary Bridge

Designer: Xiangning Guo



The Evolving Huangpu River

演变中的黄浦江沿岸

1843-1949
"Trade River"

1949-1992
"Industrial River"

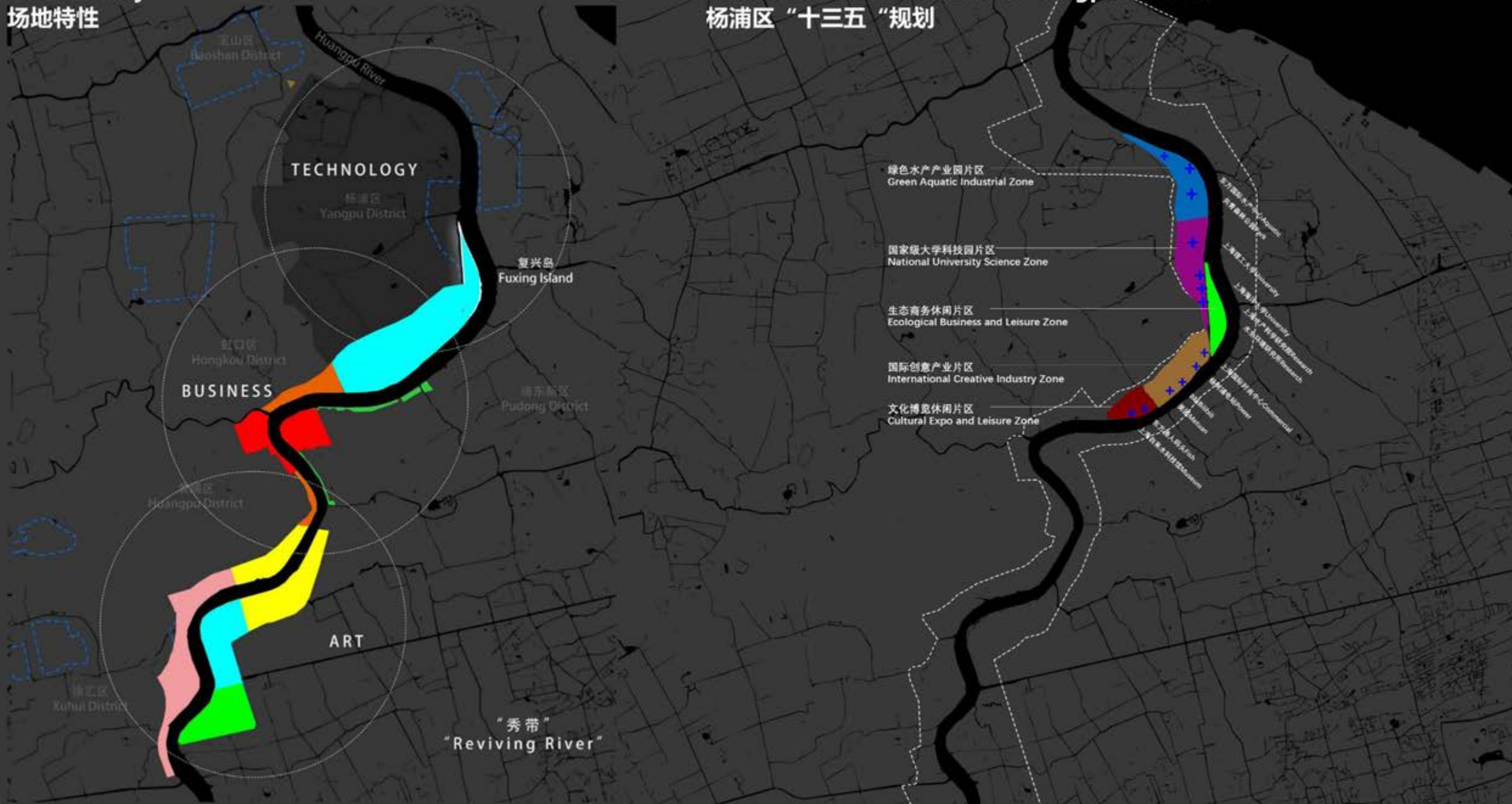
1992-2002
"Declining River"

2002-present
"Reviving River"



Site Identity 场地特性

"The 13th Five-Year Plan" in Yangpu District 杨浦区“十三五”规划



Natural Ecosystem on the West
西侧驳岸自然栖息地



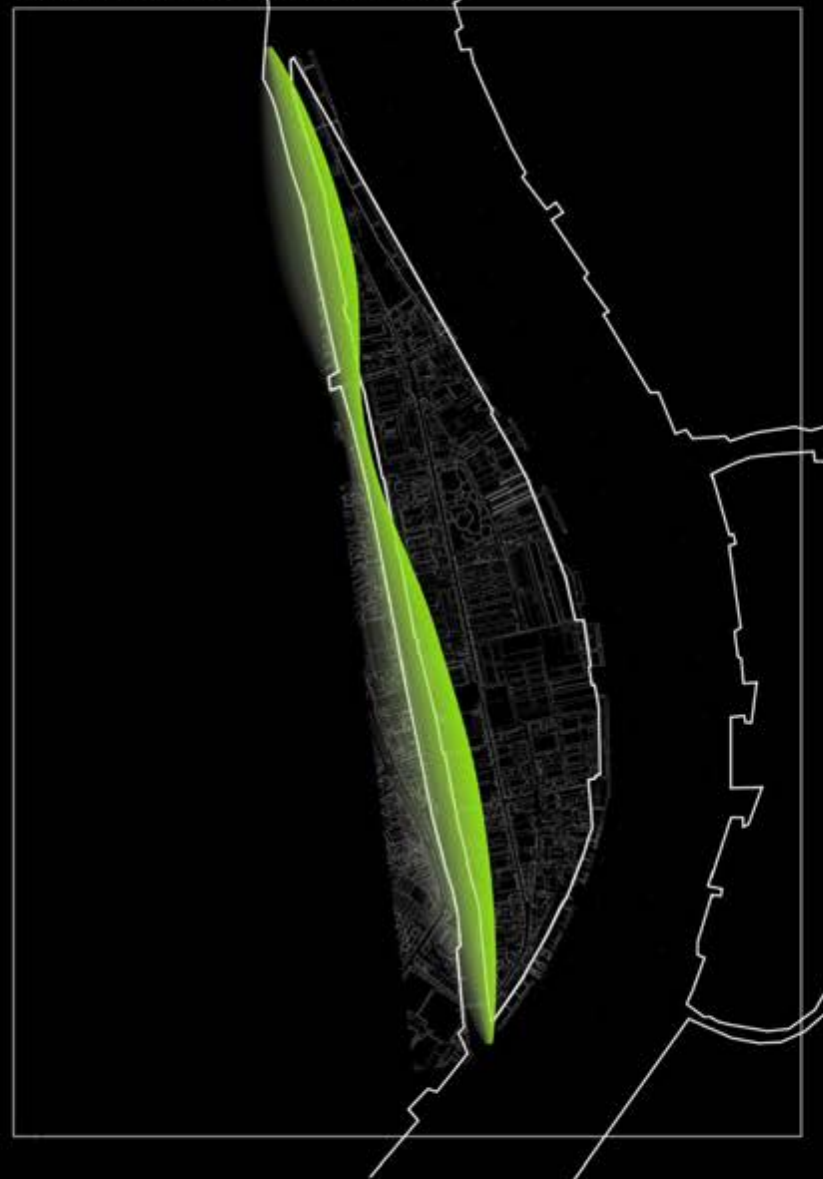
Industrial Freight Terminal
东侧工业货运码头



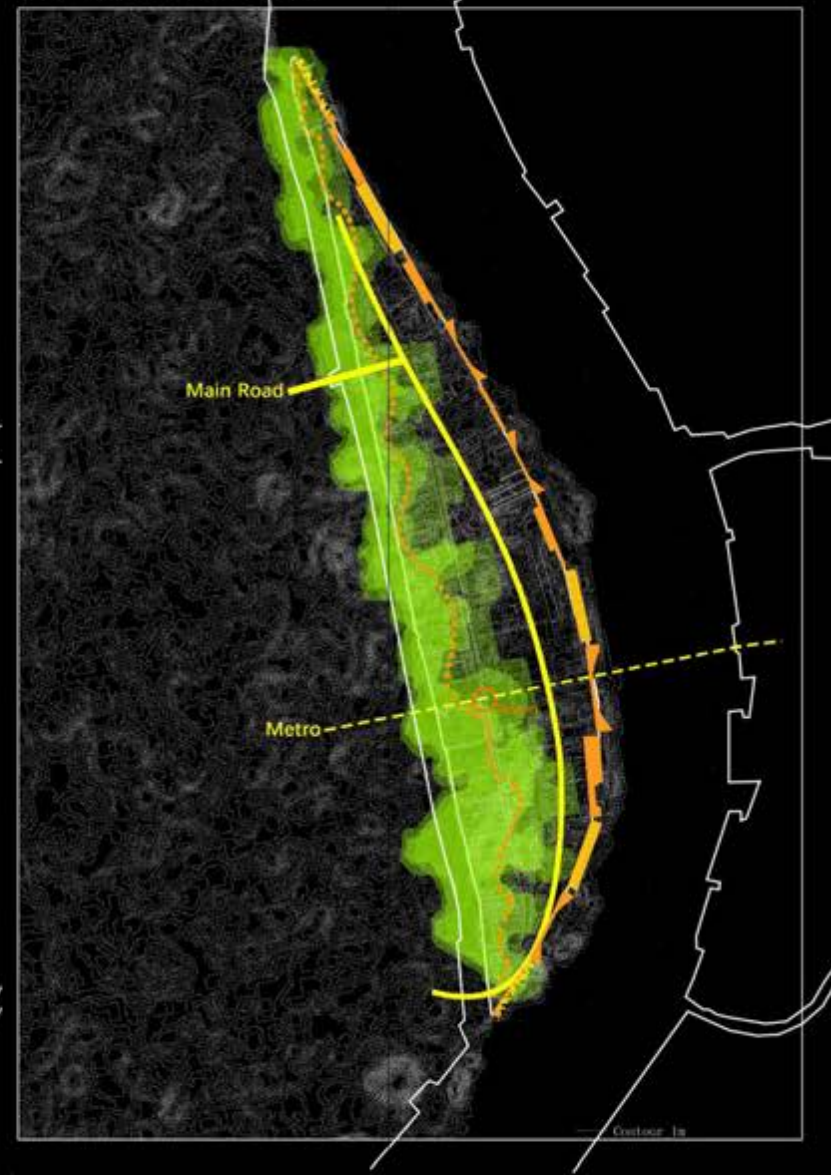
Risk Analysis of Shanghai Storm Surge in 2030
2030 上海风暴潮风险分析



New Balance Point between Human and Nature
寻找自然与人工新的平衡点



Soft Edge and Hard Edge
保留东西驳岸特性



Road System Analysis- Poor Accessibility
路网现状分析 - 路网混乱，滨水可达性差



Identify Design Area
红线确定



The Reappearance of Historical Road

历史道路的重现



before 1905



1905-1926



1927-1937



1938-1944



1945-1949



1950-1990

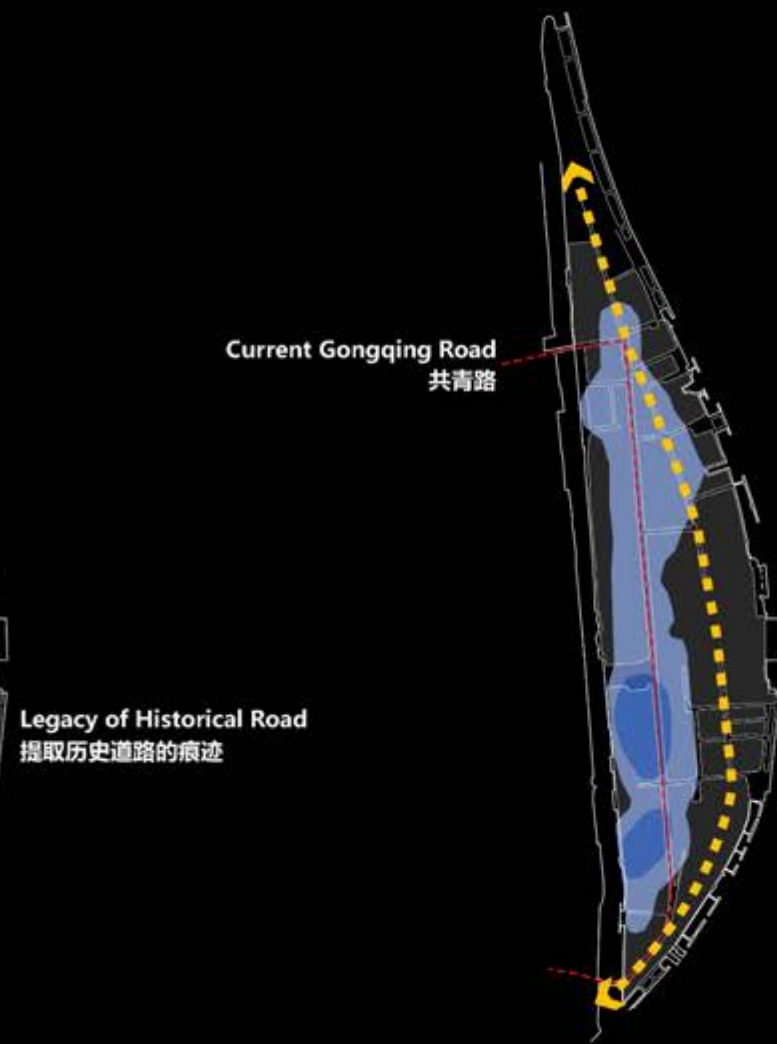
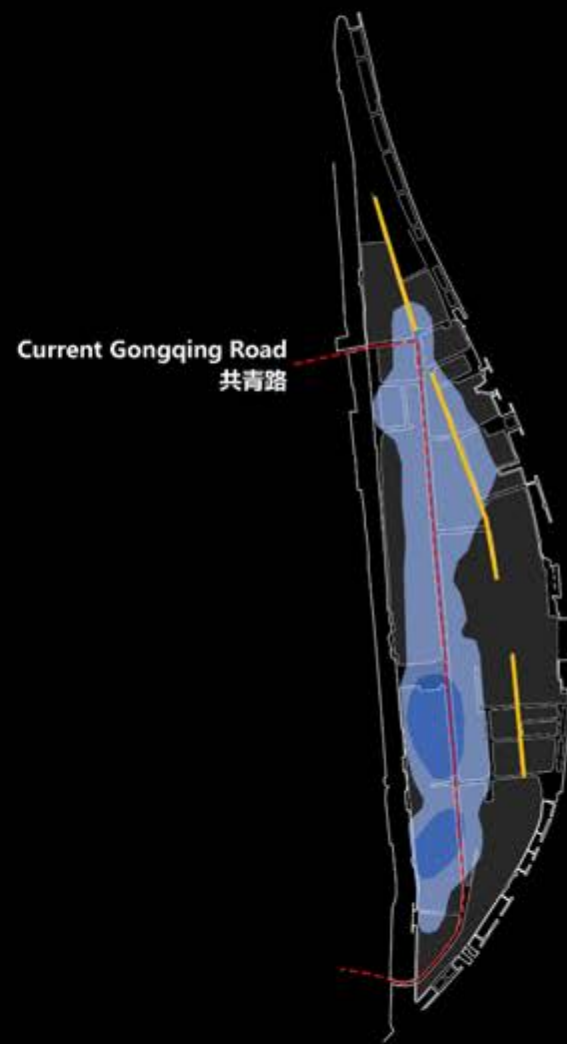


present

■工业用地 ■绿化用地 ■仓储用地 ■市政用地
Industrial Green Storage Government

The Reappearance of Historical Road

规避风暴潮风险 - 历史道路的重现



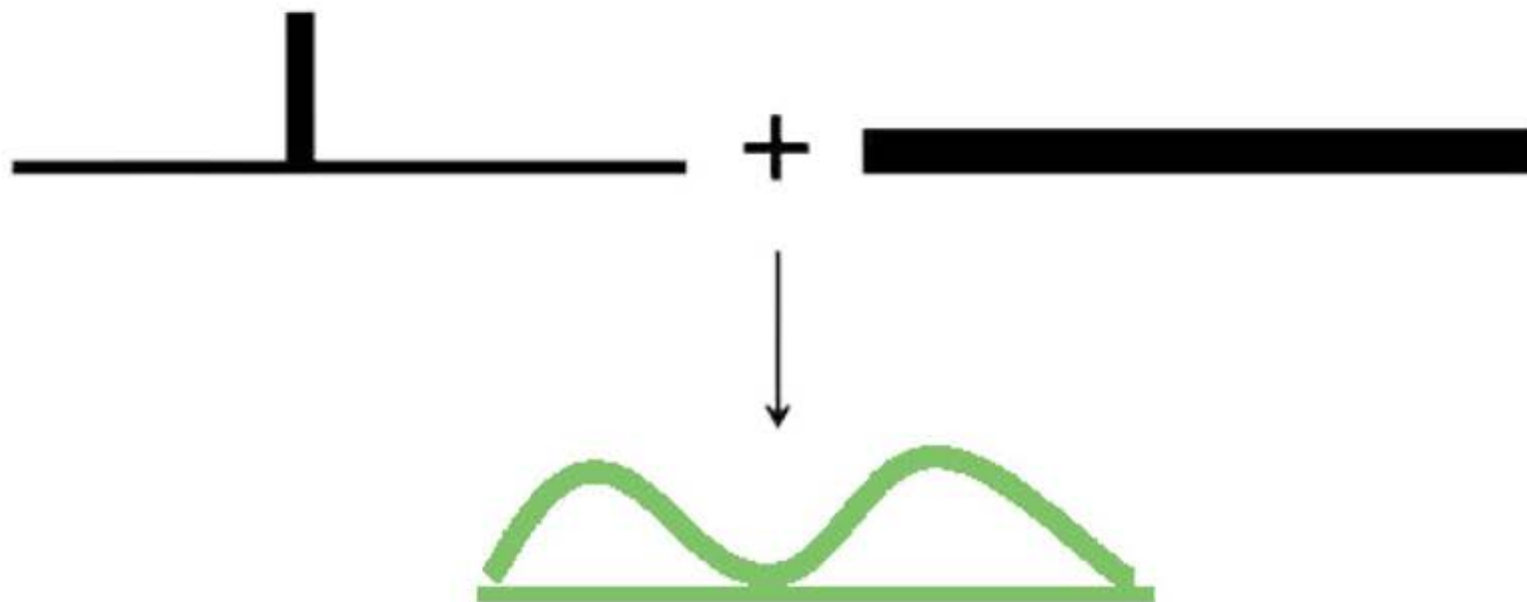
Transform-Change the Industrial Transportation System to Pedestrian System
将历史工业运输系统转变为人行系统



VS



Boundary to Bridge

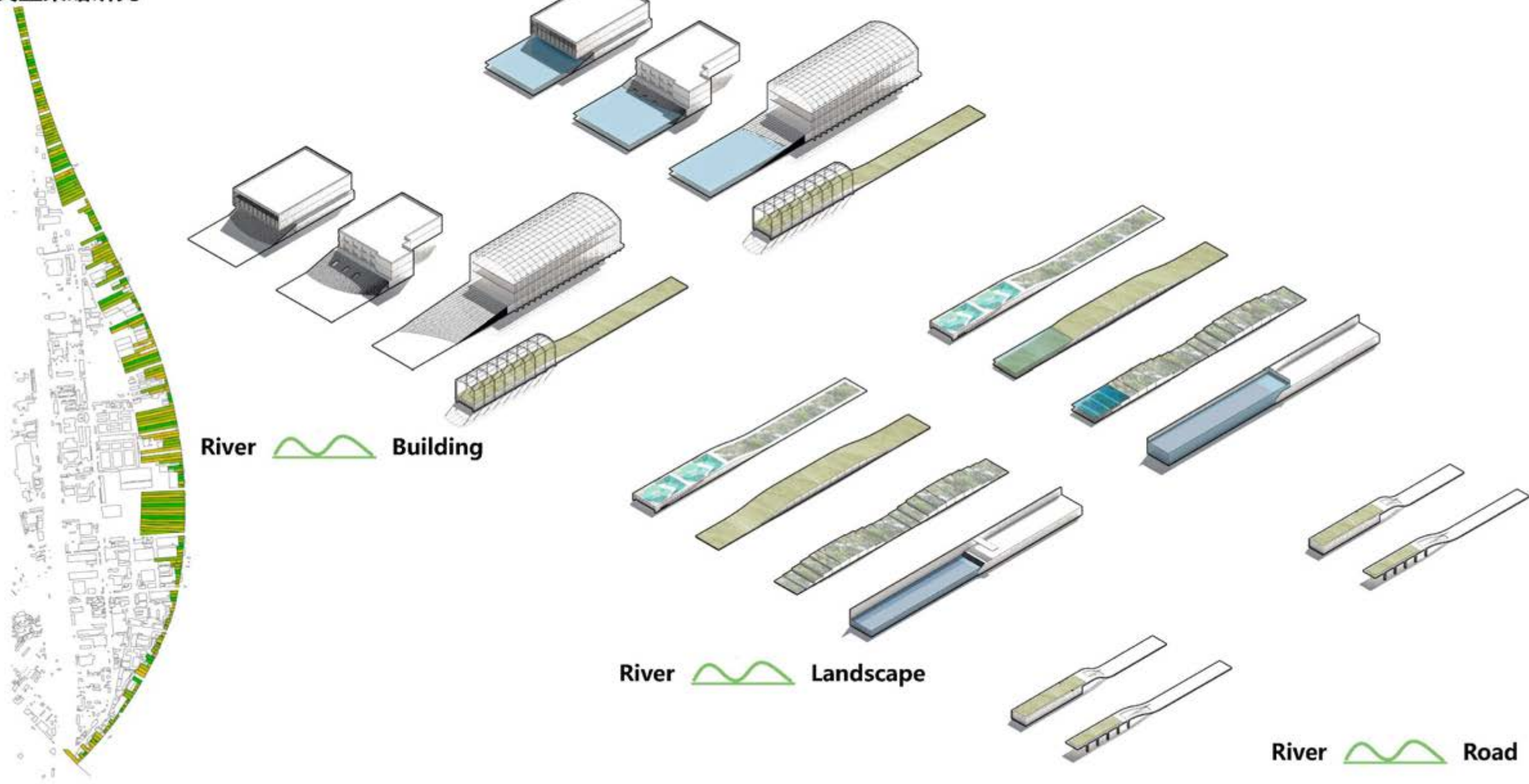


Retrospect Site Memory
追溯场地的记忆

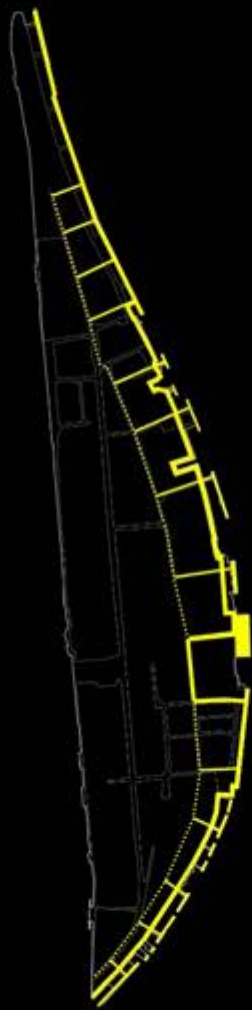


Boundary to Bridge- Basic Units

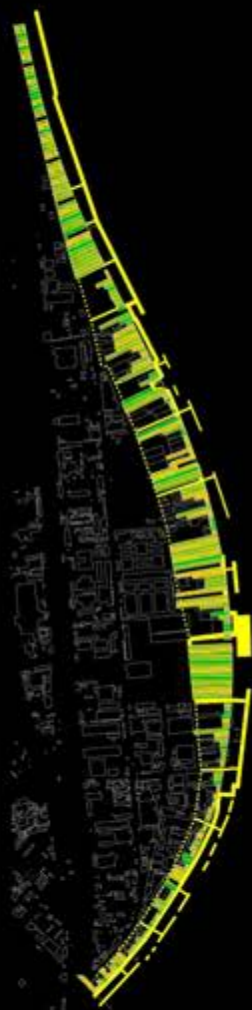
类型策略研究



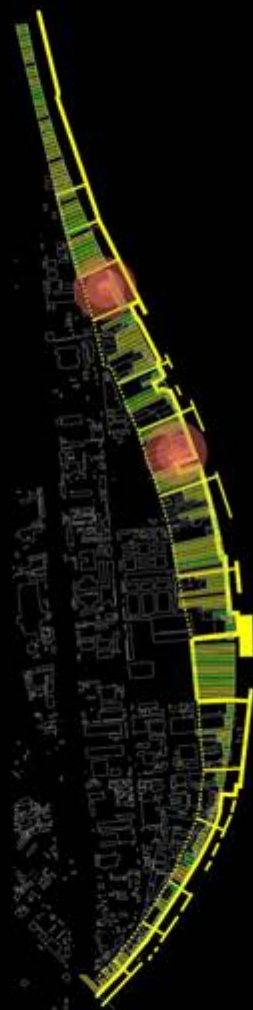
Reorganize Road System
重新组织滨水路网



Boundary to Bridge
化“阻断”为“桥梁”



Design Focus
重点设计区域



Urban Context of Specific Design Area

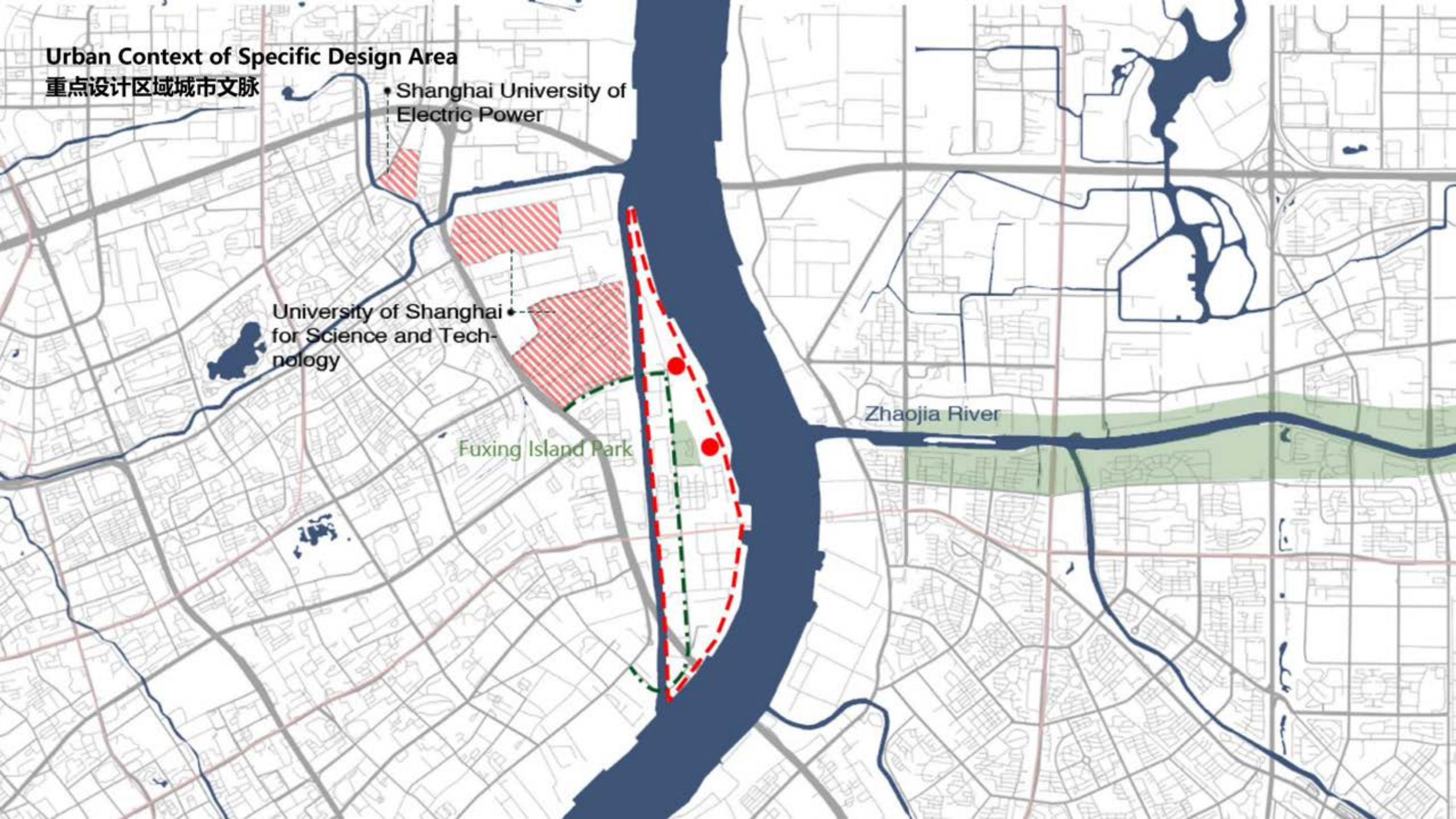
重点设计区域城市文脉

Shanghai University of
Electric Power

University of Shanghai
for Science and Tech-
nology

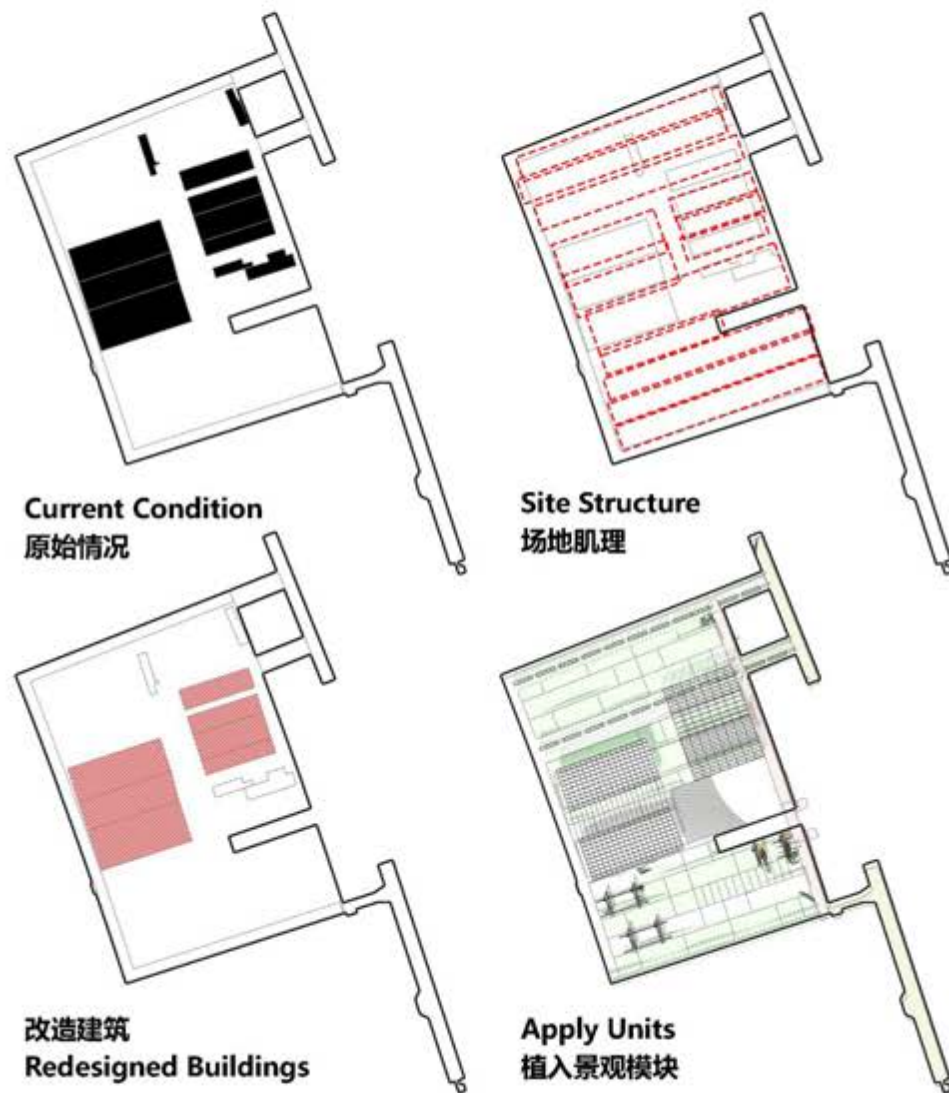
Fuxing Island Park

Zhaojia River

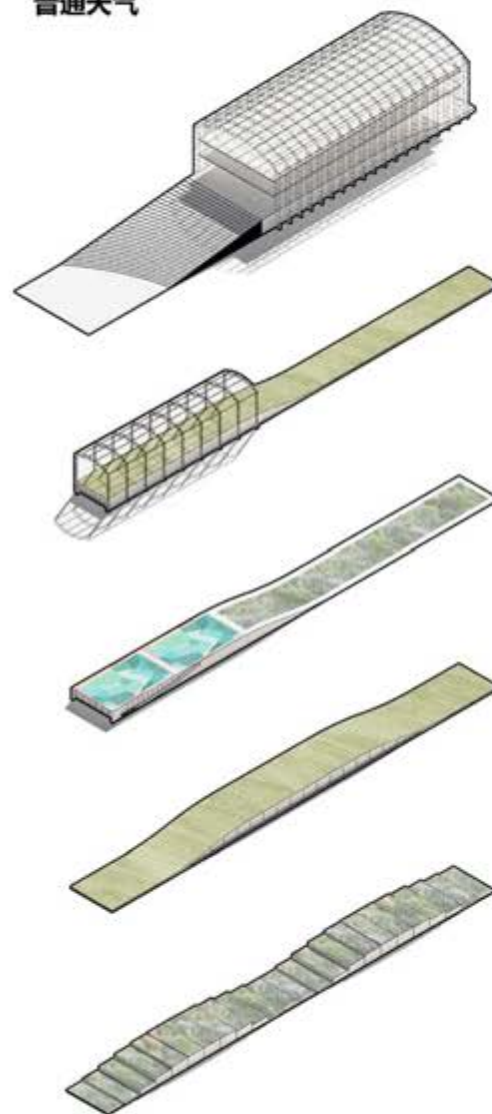


Ecological Oriented Block Generation Process

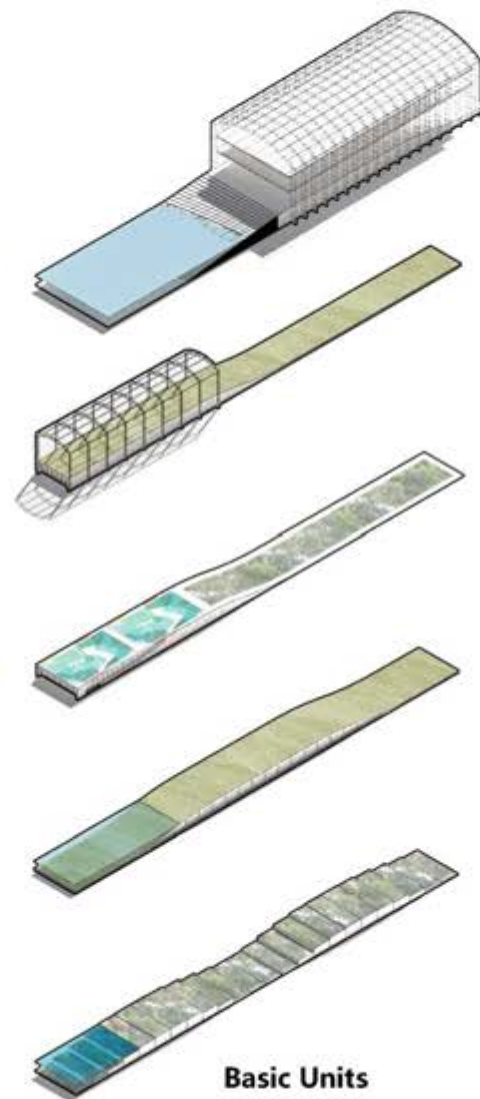
生态街区生成逻辑



Normal Days
普通天气



Storm Surge Days
风暴潮天气



Basic Units
景观模块类型

Ecological Oriented Block Axonometric View
生态街区鸟瞰



Flooding Control- Ecological Oriented Block
应对风暴潮 - 生态街区

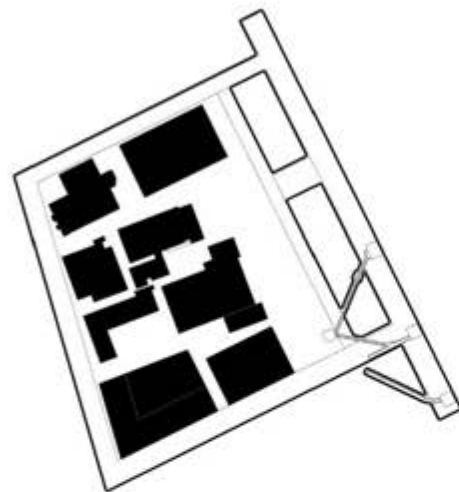


Ecological Oriented Block
生态街区

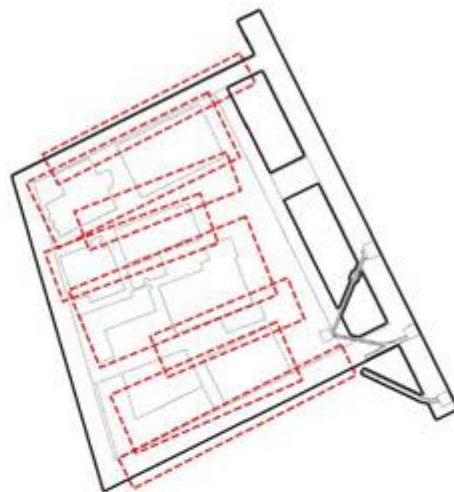


Incubator Oriented Block Generation Process

孵化器街区鸟瞰



Current Condition
原始情况



Site Structure
场地肌理

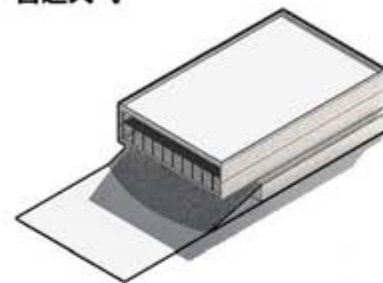


改造建筑
Redesigned Buildings

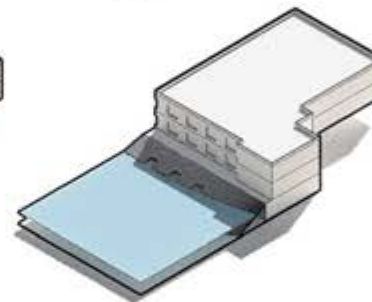
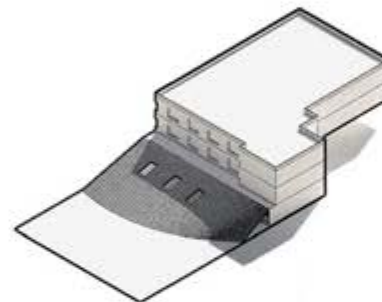
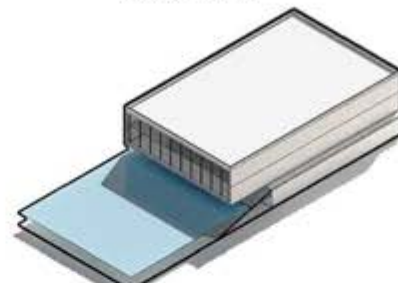


Apply Units
植入景观模块

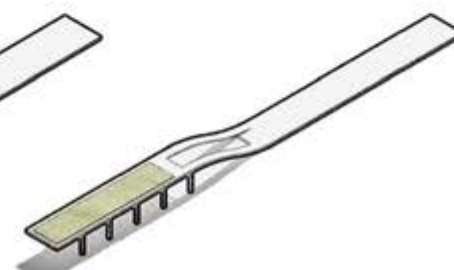
Normal Days
普通天气



Storm Surge Days
风暴潮天气



Basic Units
景观模块类型



Incubator Oriented Block Axonometric View
孵化器街区鸟瞰



Flooding Control- Incubator Oriented Block
应对风暴潮 - 孵化器街区

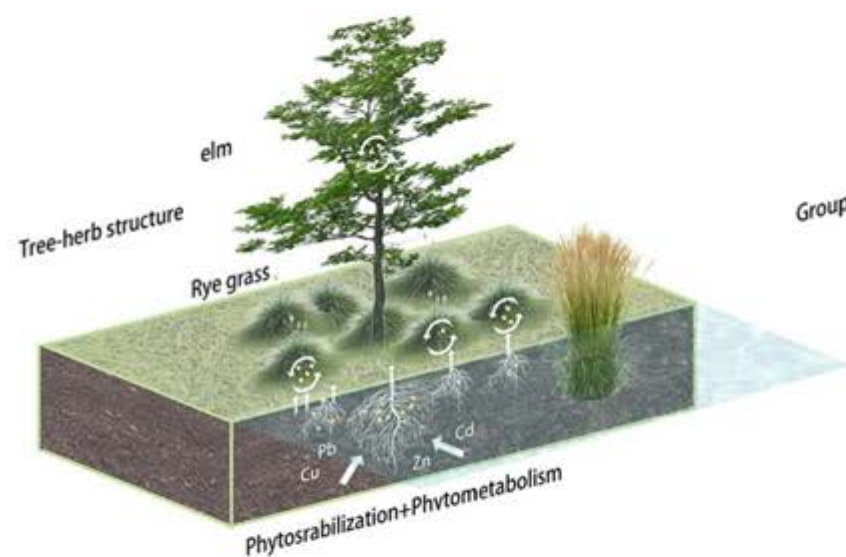


Incubator Oriented Block
孵化器街区

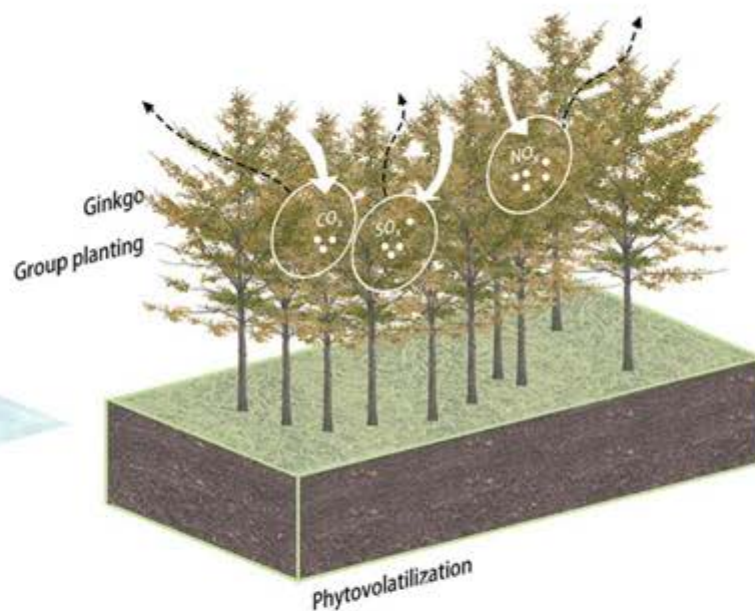


Plant Purification 植物净化

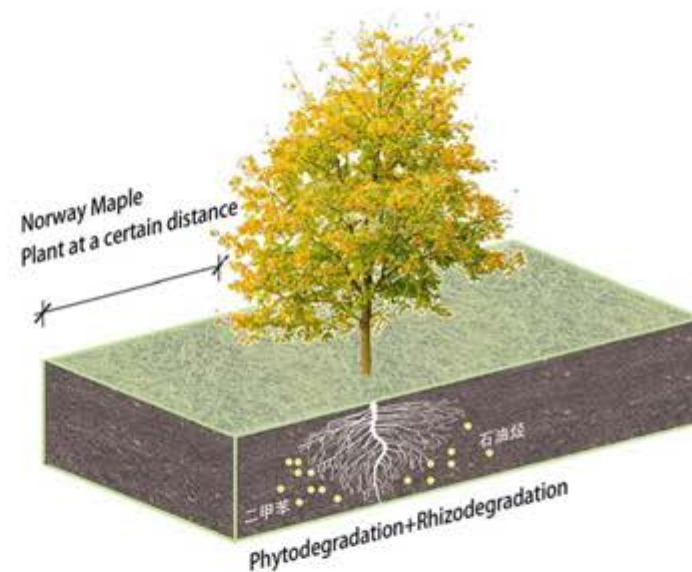
01 Metal



02 Volatile Organic Compounds —Cox、 Sox、 NOx

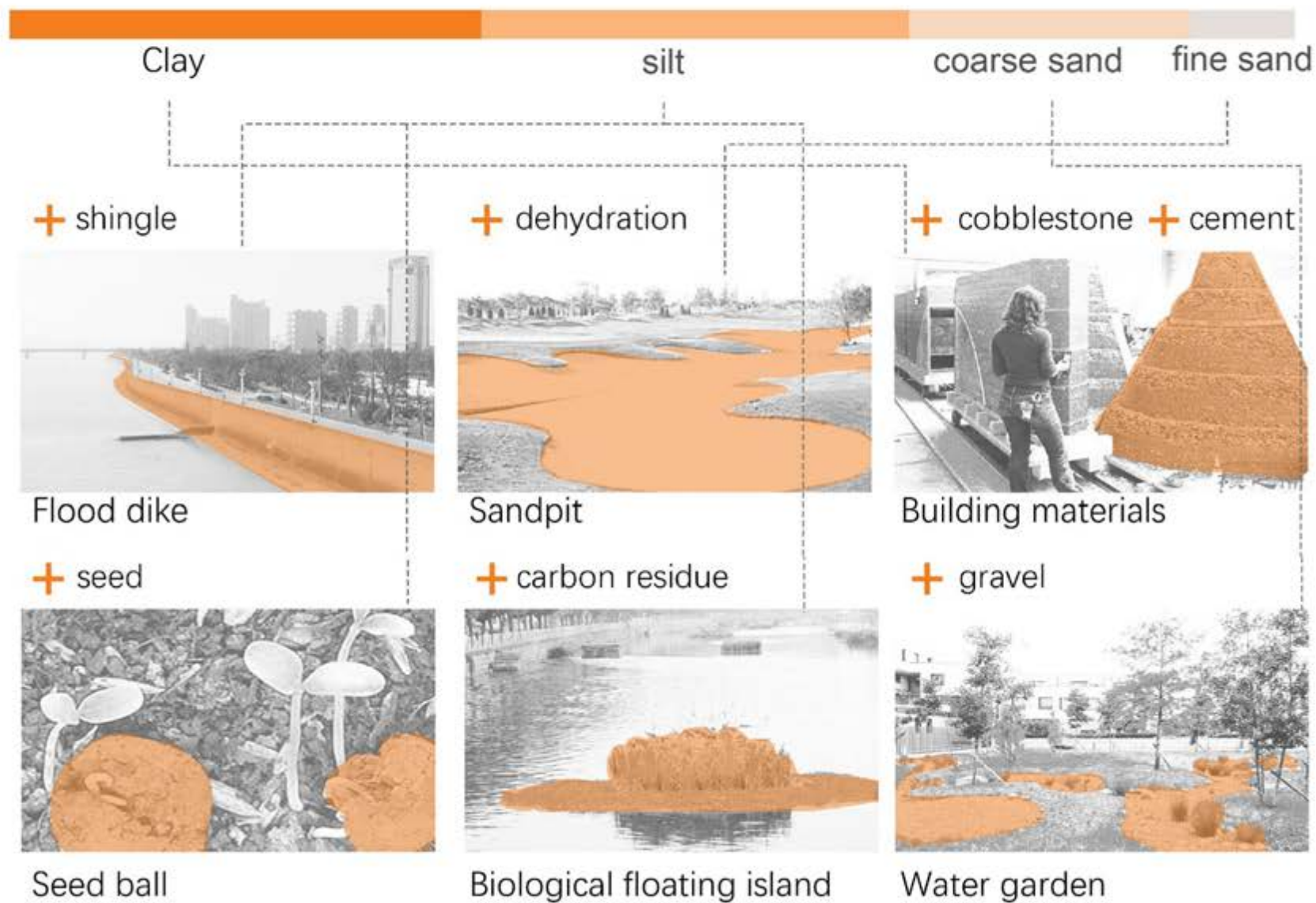


03 Volatile Organic Compounds —Petroleum chemicals



Reuse the Dredging Material

循环利用清淤产物



Boundary Bridge

Designer: Xiangning Guo

Thank you for listening!



2021 SWA SUMMER
STUDENT PROGRAM

SHANGHAI, CHINA

URBAN RESILIENCE

EXPLORING THE HUANGPU RIVER
NORTHWEST BUND WITH A NEW
URBAN FABRIC



HI! BIRDS

— Fuxing Birdland —

Xiying Zhang

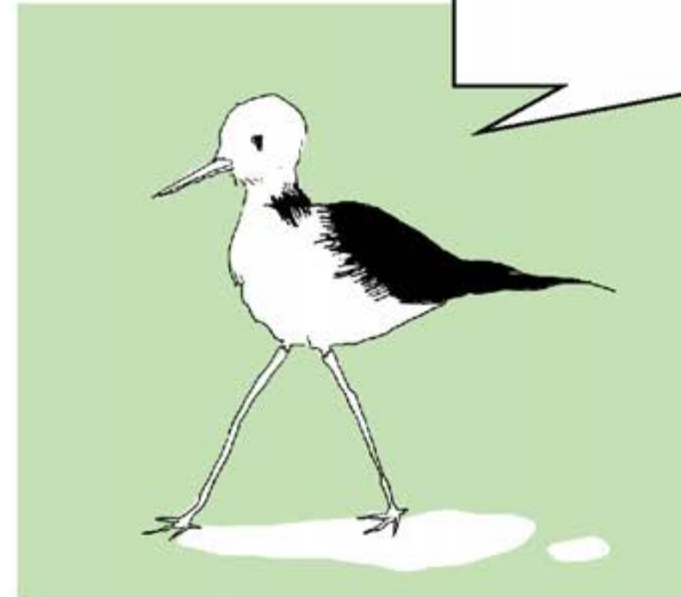
东亚-澳大利亚迁徙路径
East Asia-Australia migration path



上海观鸟地图
Map of bird watching in Shanghai



Hello!
I'm Black-winged Stilt



我是黑翅长脚鹬

Migrate between East Asia and Australia with my friends
Shanghai is an important stopover place for me.
The area around Shanghai's estuary is where we gather in large numbers

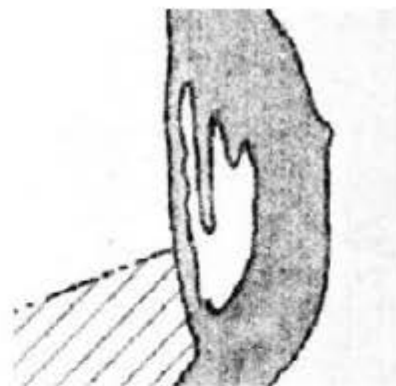
SITE
Foxing Island Canal



1909



1926



1932



1945



1982

浅滩形成后，复兴岛运河被挖凿出，用作小型货物运输

The shoal formed by the scouring of the river,

The west side is dug into a canal,

In the past, some small cargoes and ships were transported



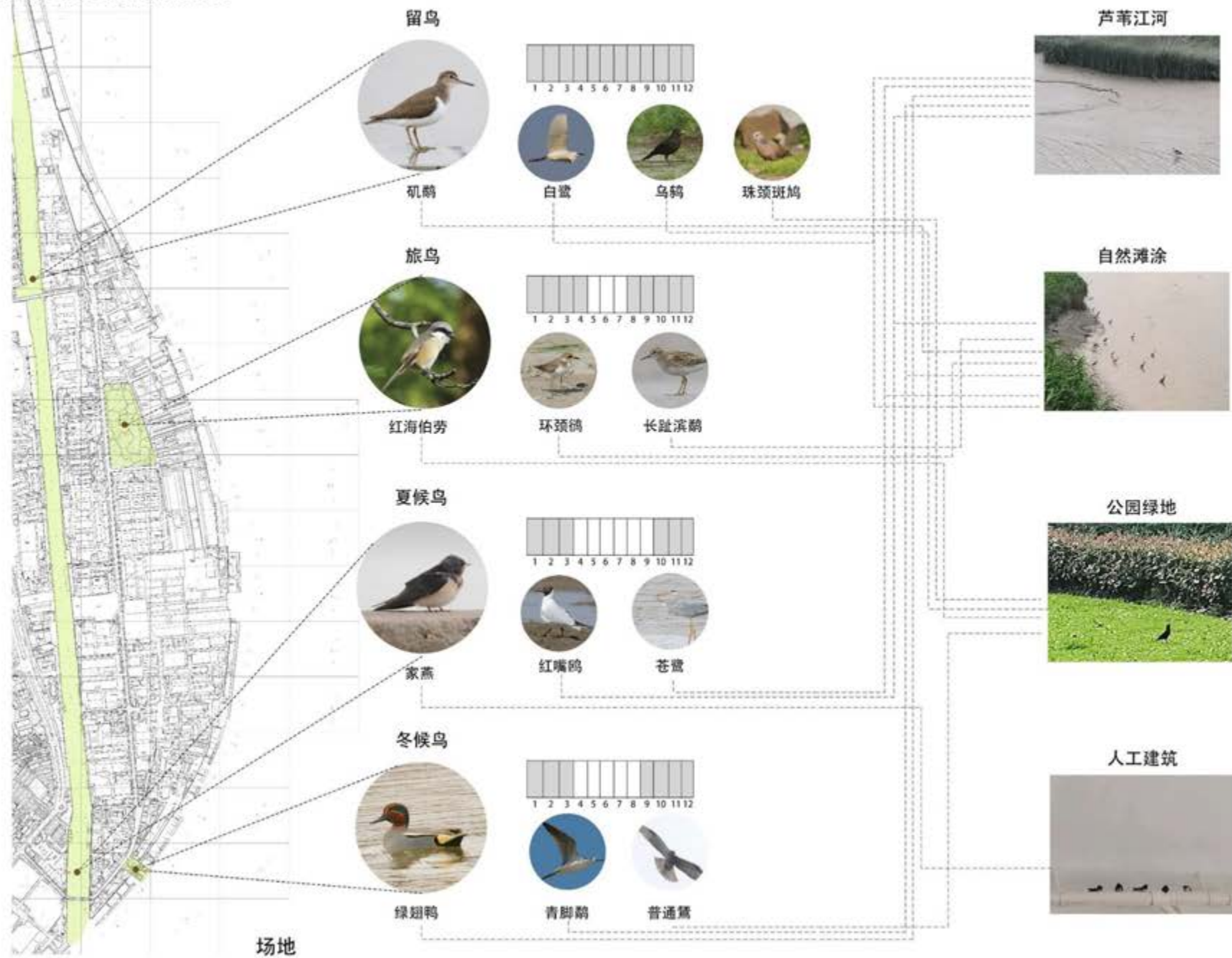
There is a good ecological environment here



Met a lot of friends



Bird distribution



有不同习性爱好
Different habits and hobbies

乔木+灌木+草本

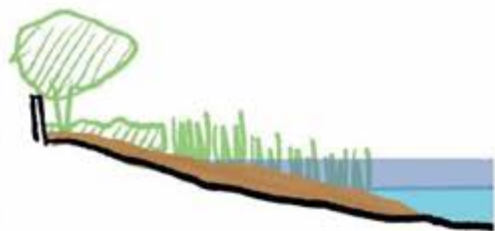


Plant communities

> 15M



乔木+灌木+草本

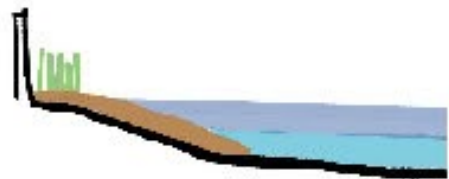


Plant communities

> 15M



草滩+光滩



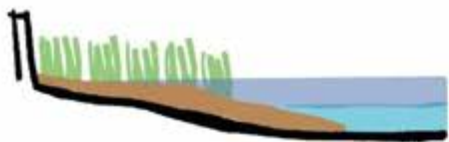
Plovers, the beaches are large in the light selection and the vegetation is relatively low, and the trend is less than 10cm

Grass&bare tidal flat

10-15M



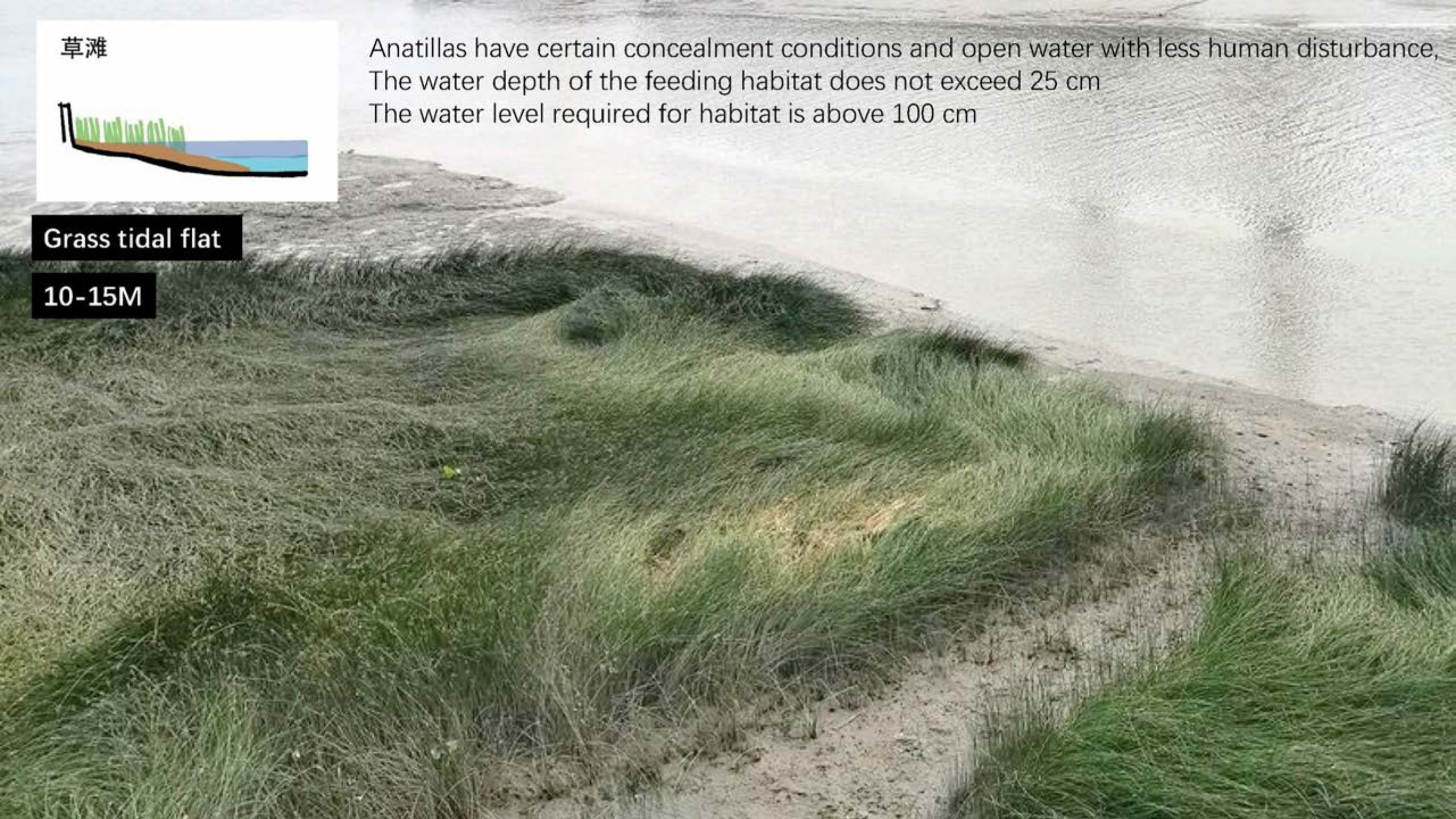
草滩



Anatillas have certain concealment conditions and open water with less human disturbance,
The water depth of the feeding habitat does not exceed 25 cm
The water level required for habitat is above 100 cm

Grass tidal flat

10-15M

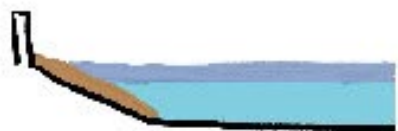




Bare tidal flat

0-5M





No tidal flat



Situation around the revetment



场地绿化缺少

硬质防洪墙的阻隔滩涂狭窄

Lack of greening of the site

Because of the rigid flood wall

the habitat on the Fuxing Island Canal is very narrow



No space of shelter from wind and rain

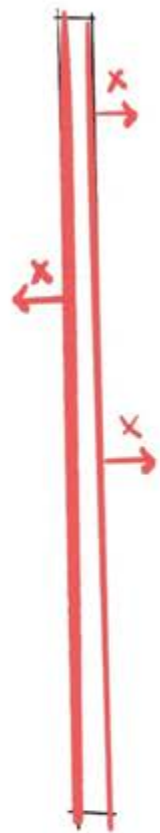
FOR BIRDS

Based on the ecological base of Fuxing Island Canal

Meet the needs of habitat and stay

Increase the bird habitat

STRATEGY



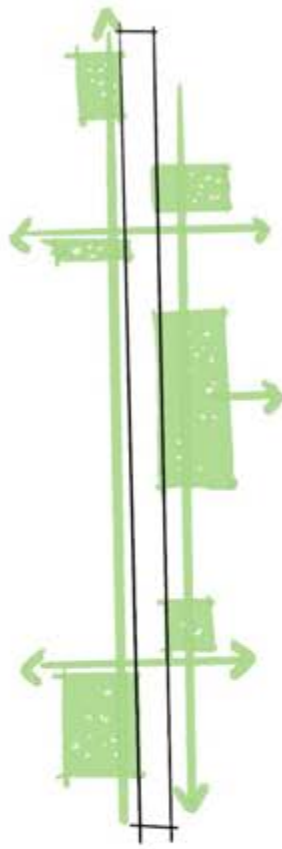
01
防汛墙
Flood Wall

硬质→软质
Hard→Soft



02
沉积物
Sedimentation

冲刷→留下
Scour→Stay



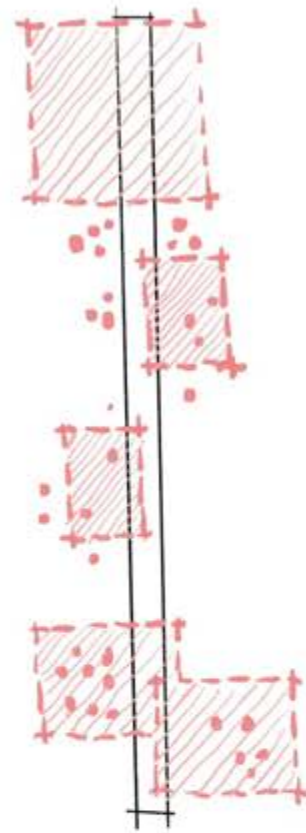
03
绿地空间
Green Space

零散→连接
Scattered→Connect



04
栖息地
Habitats

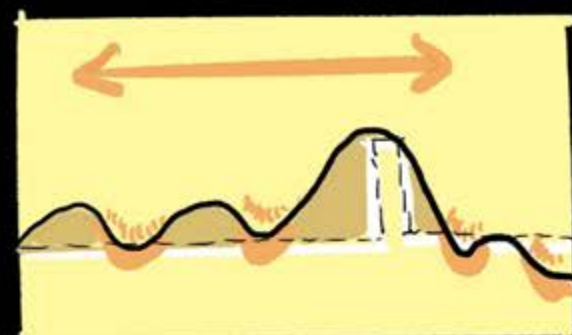
单一→多样
Single→Variety



05
鸟&人
Birds&People

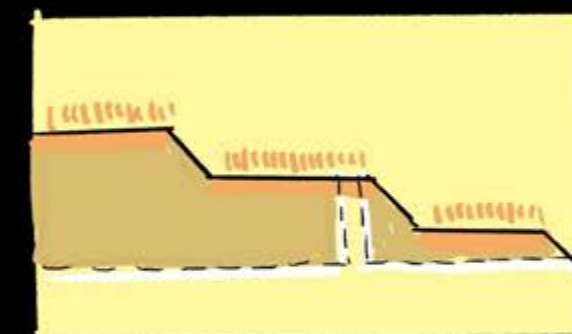
二元→多元
Duality→Multiple

STRATEGY 01
弹性防洪
Flexible
Flood
Protection



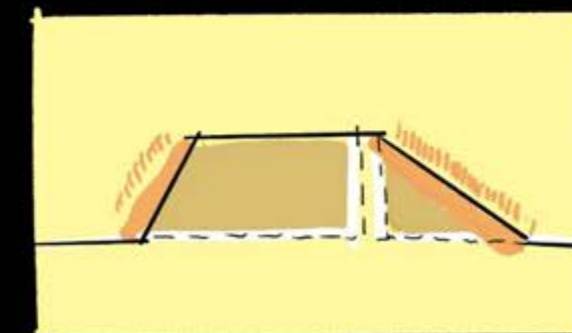
Allow the possibility of flooding

折叠Fold



Increase the habitat interface

梯度Gradient



Possibility of green plant growth under narrow conditions

拓宽Widen

STRATEGY 02

减缓流速

Slow
Down
the
Flow
Rate

Tidal Flat

No tidal flat

0-5M

5-10M

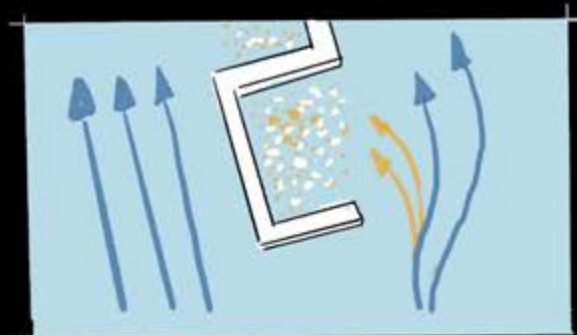
10-15M

> 15M

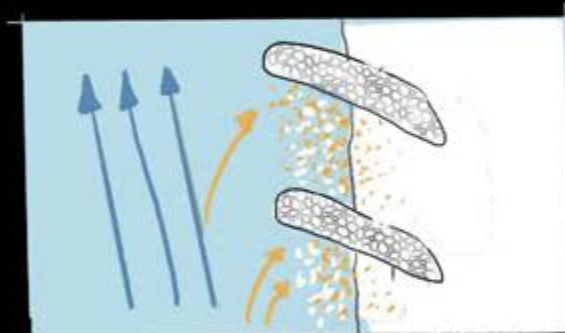


Through the
current siltation
situation

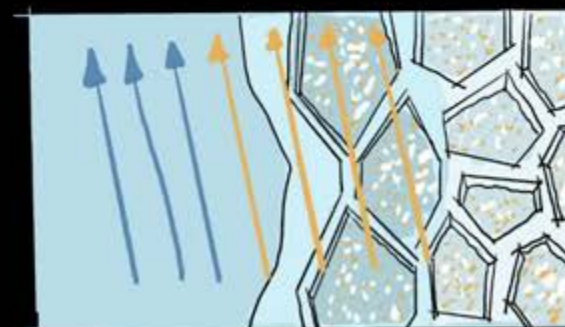
- Obstruct
- Sunken
- Diversion



分流Diversion



阻拦Obstruct



下凹Sunken

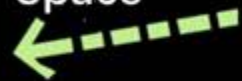
STRATEGY 03

退还绿地

Return

Green

Space



Greening potential



Removable



Polluted

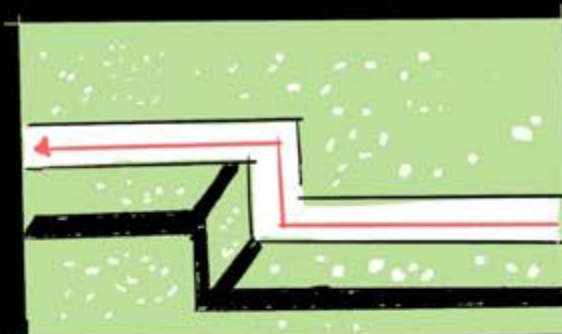
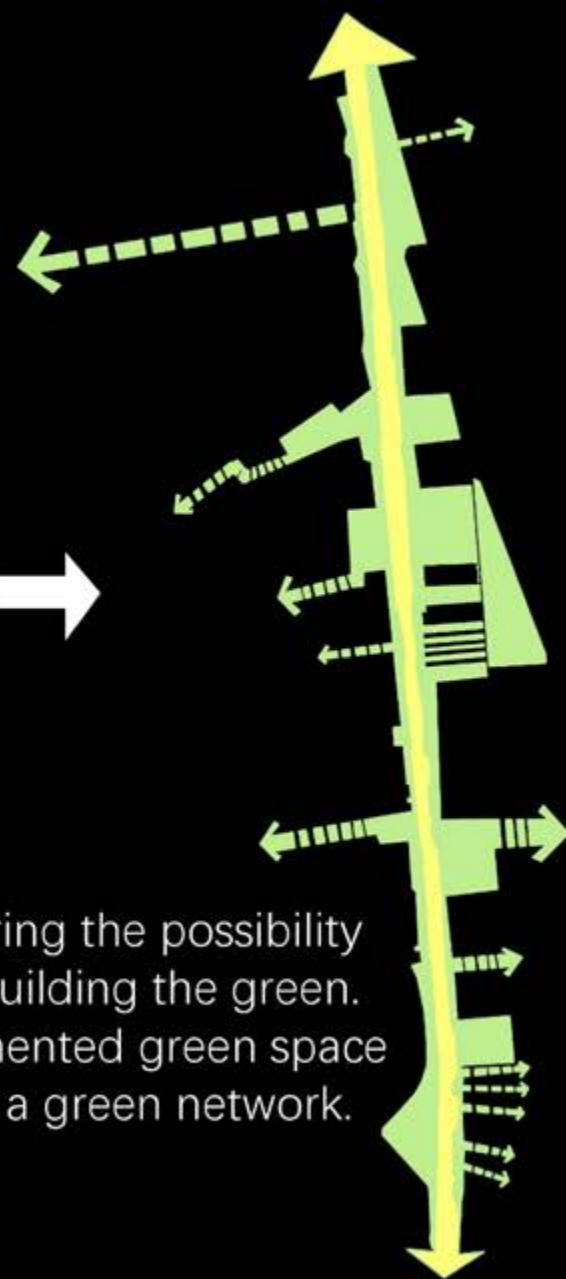


Green



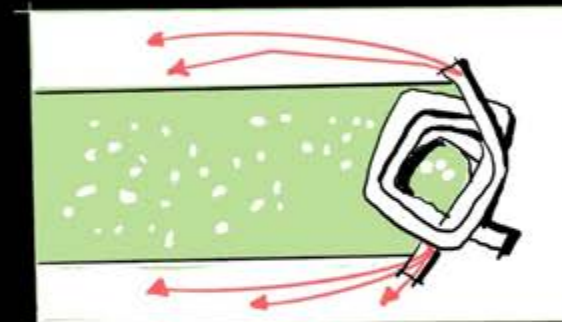
Abandoned

Exploring the possibility of rebuilding the green. Fragmented green space forms a green network.



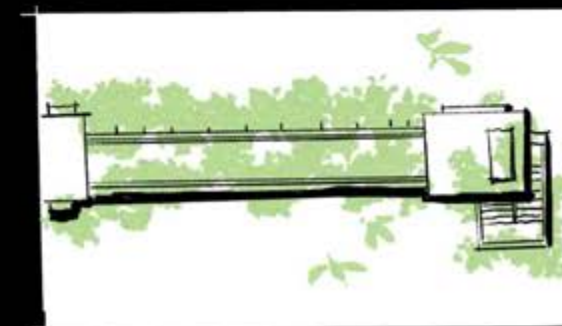
Give ground to green space

架空Overhead



Form a traffic tower to give up road space to greenery

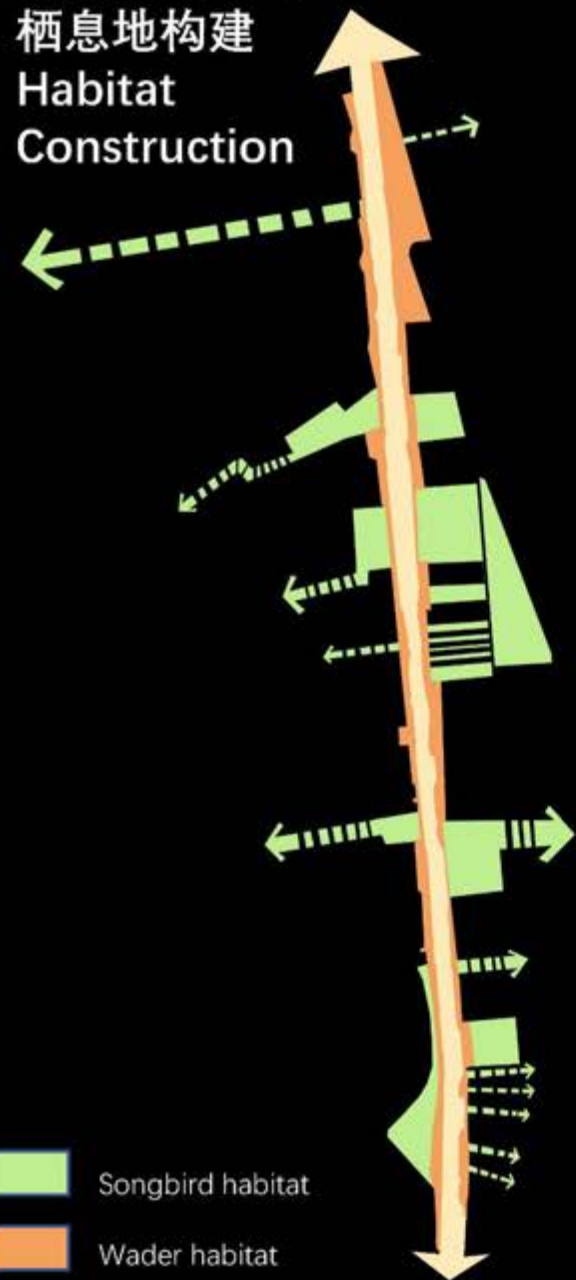
复合Compound



Leftover buildings on the site form a habitat for birds

侵蚀Erosion

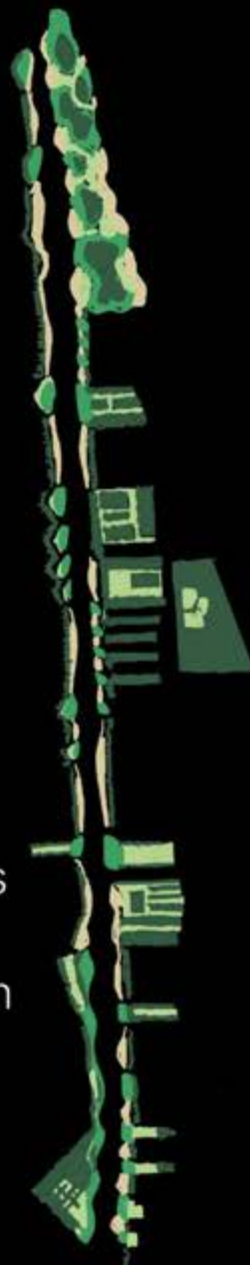
STRATEGY 04 栖息地构建 Habitat Construction



Greenbelt
structure
formation



North-south:
More tidal flats,
providing more
shelters for waders
East-west:
Extend more green
space, provide
more habitat for
songbirds



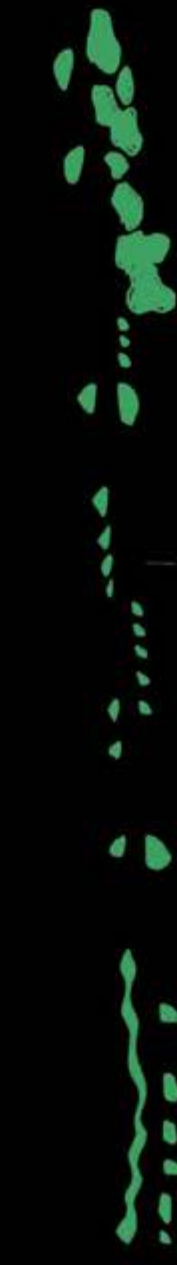
常绿森林



疏林草地



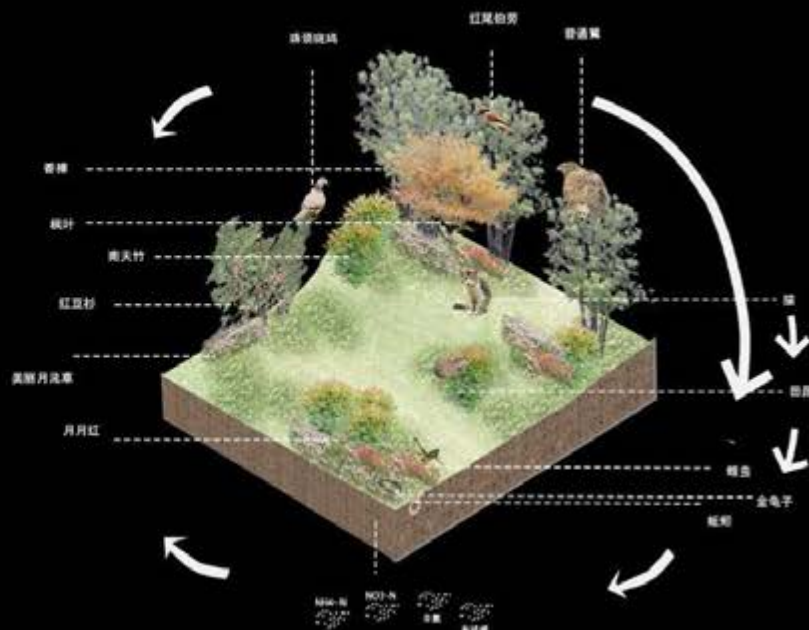
芦苇草滩



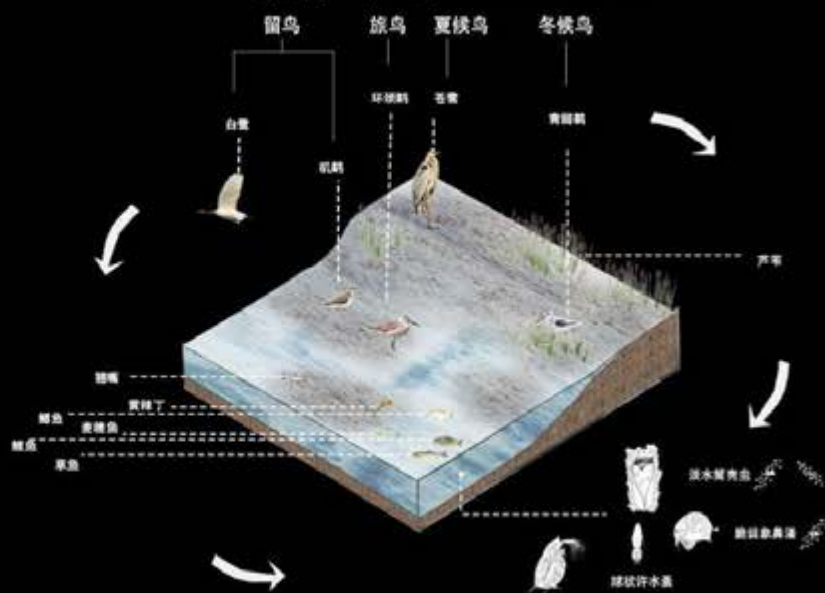
自然草滩



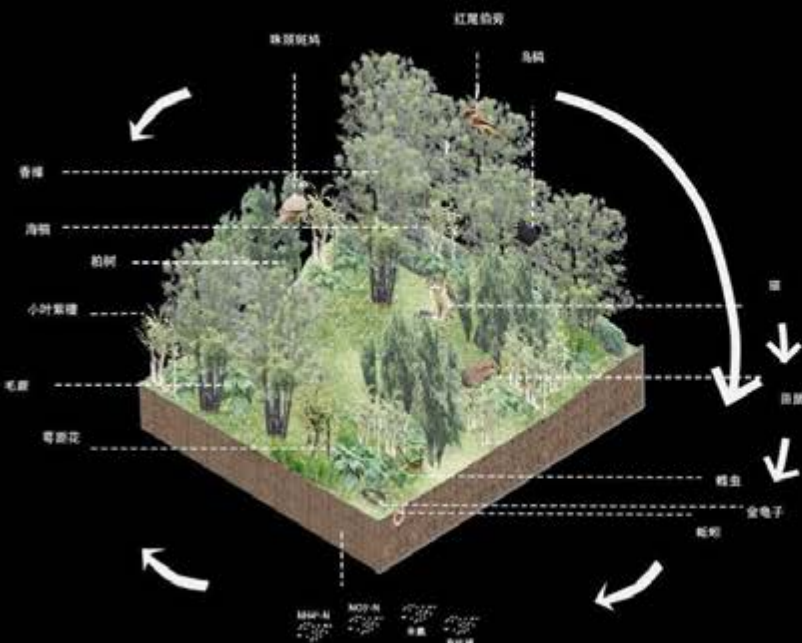
STRATEGY 04 栖息地构建 Habitat Construction



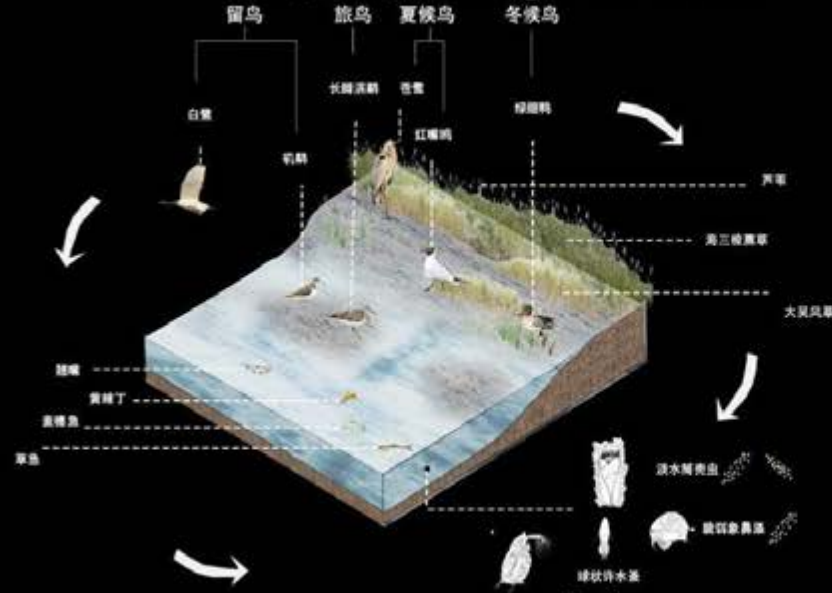
疏林草地 Grassland



光滩 Shoals



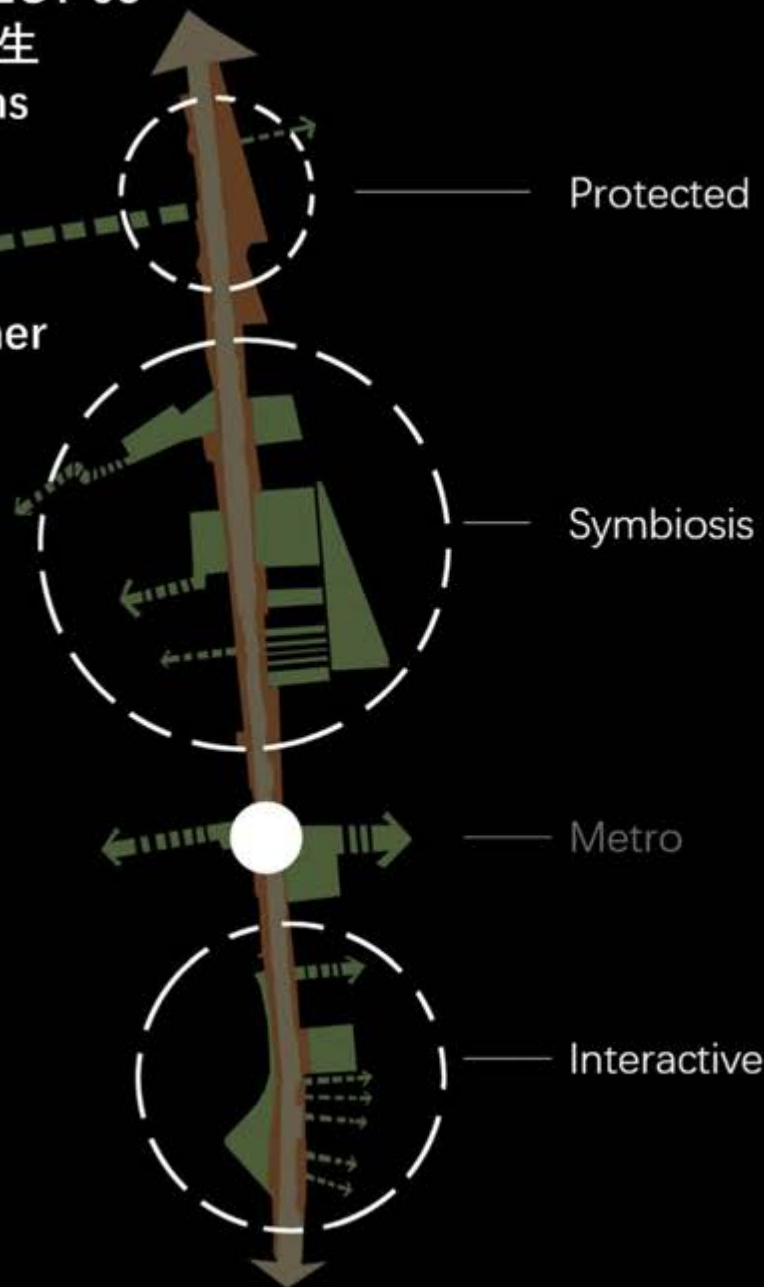
常绿森林 Evergreen forest



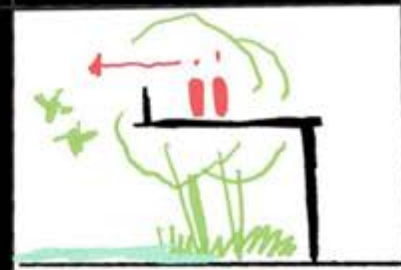
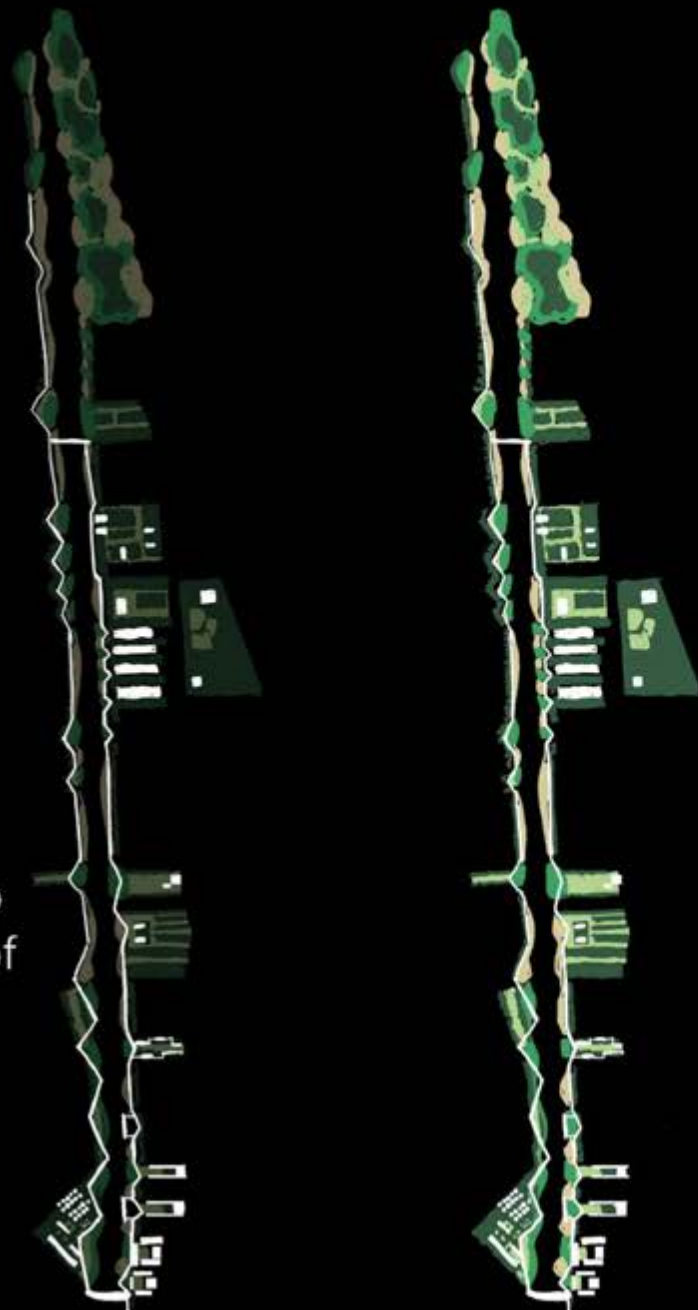
草滩 Grass tidal flat

STRATEGY 05

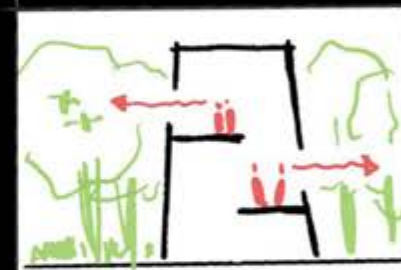
人鸟相生
Humans
&
Birds
Live
Together



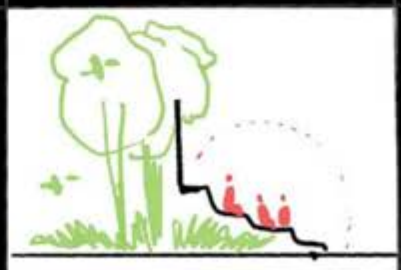
According to
the degree of
human
interference



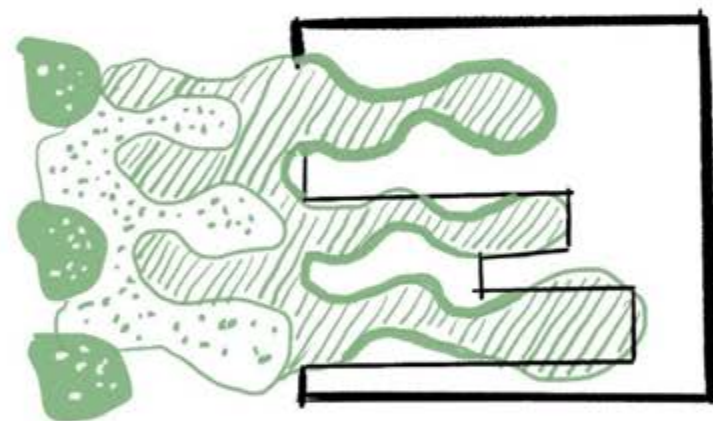
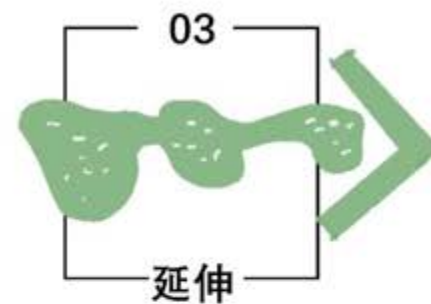
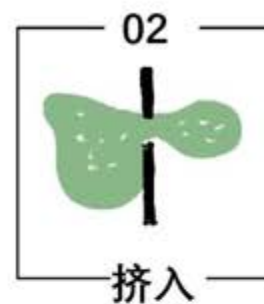
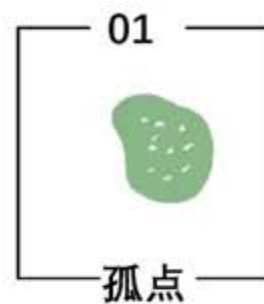
互动Interactive



观赏Viewing



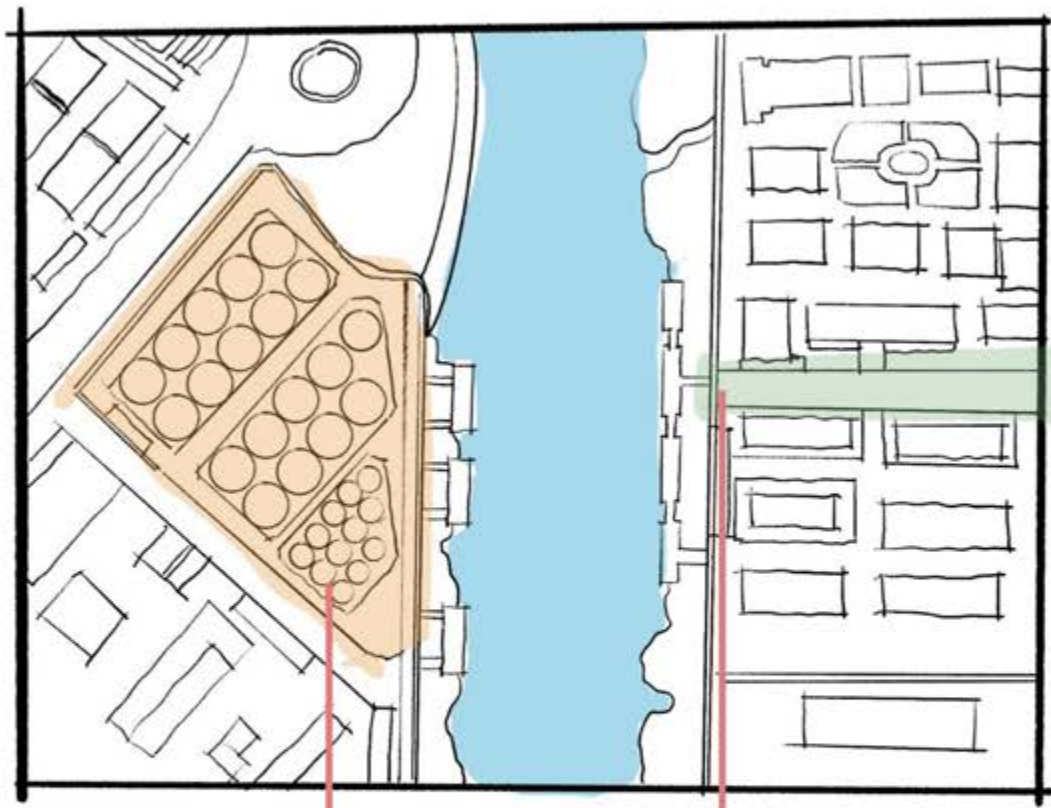
分隔Separate



绿地空间挤入运河周围的
城市空间
生态系统层层演替

Green space squeezes into the urban space around the canal
Ecosystem succession formation

01 Interactive



可拆除
Removable

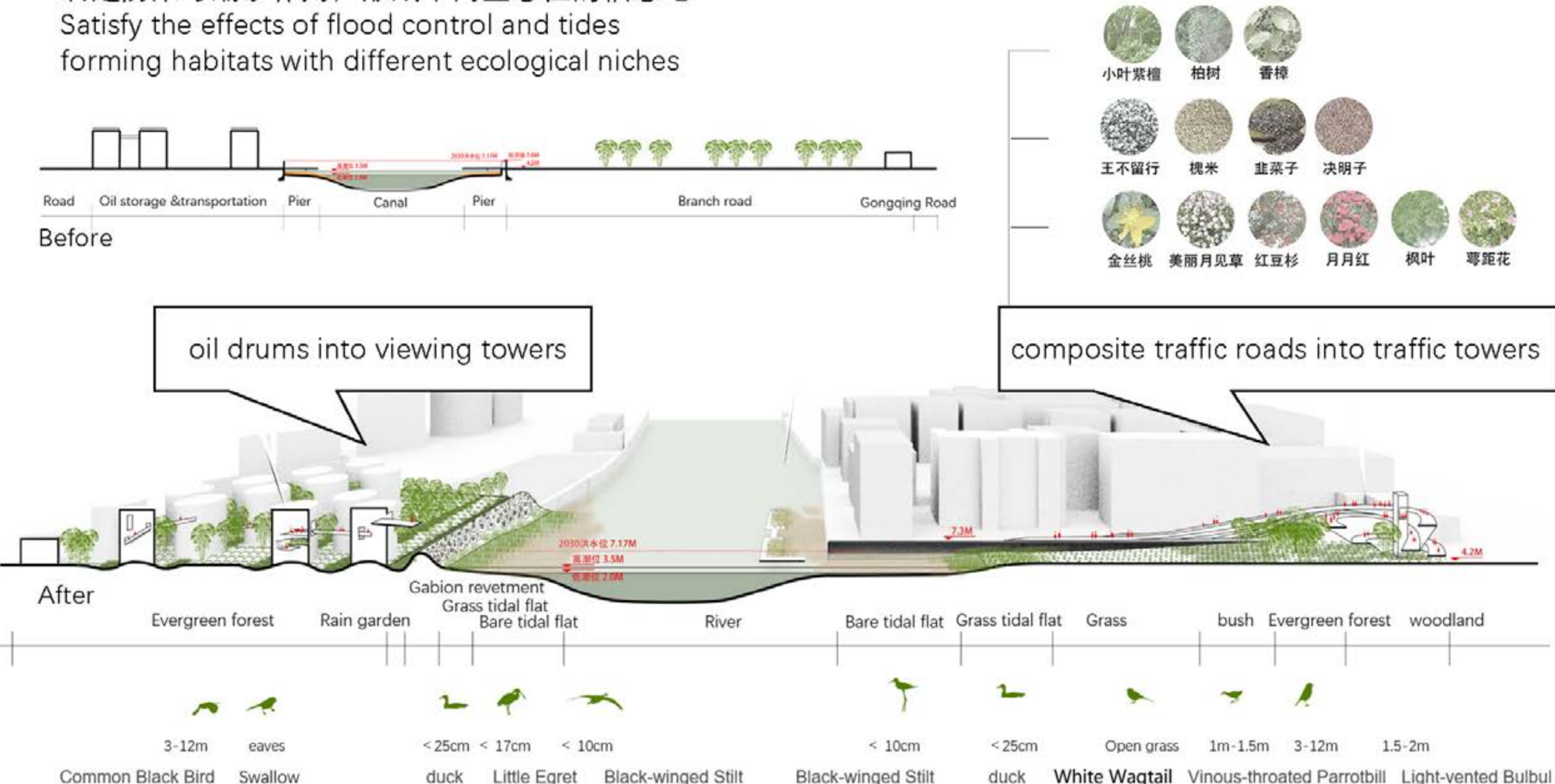
绿地
Green Land

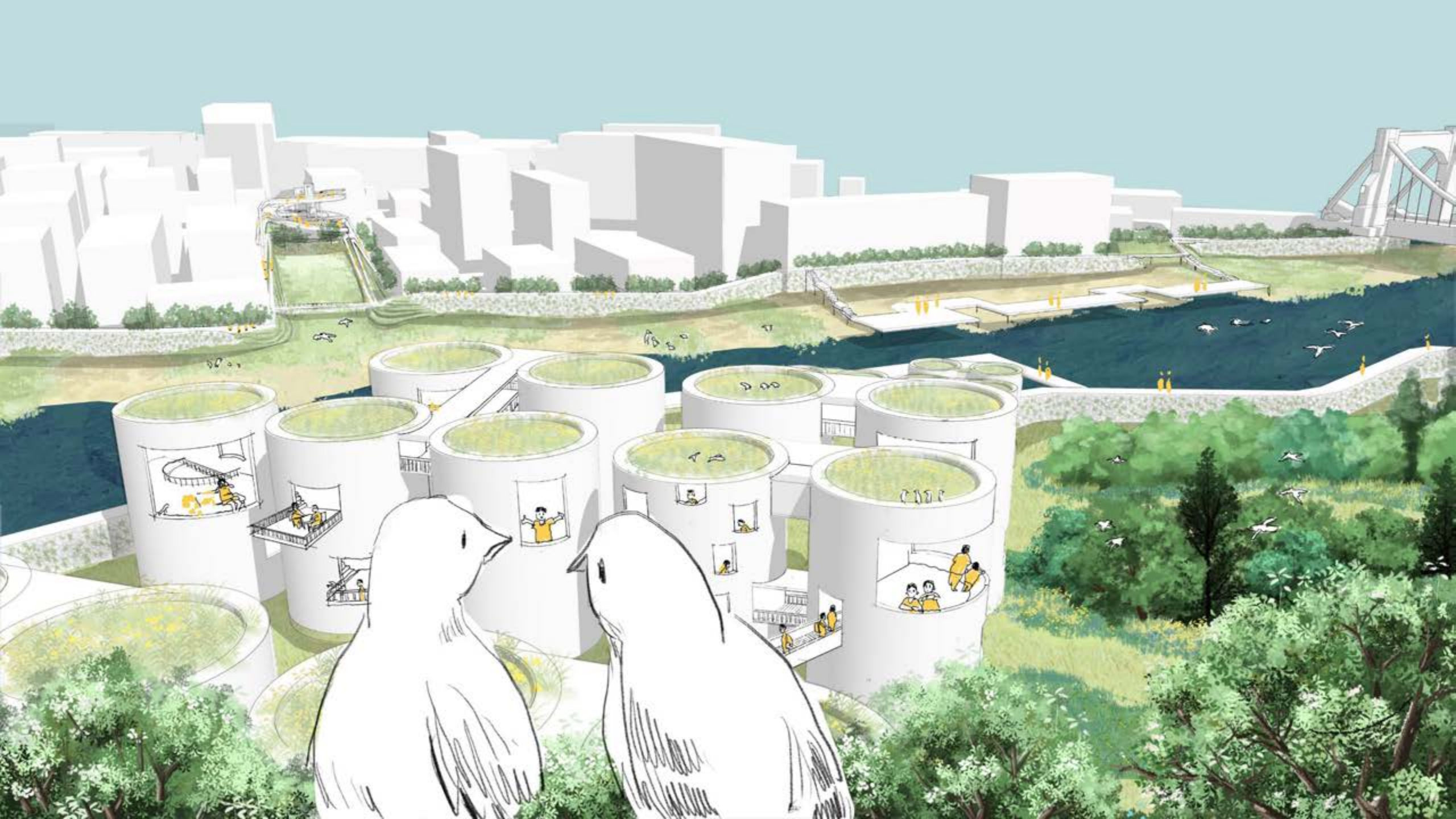
The current situation is demolition and traffic green space



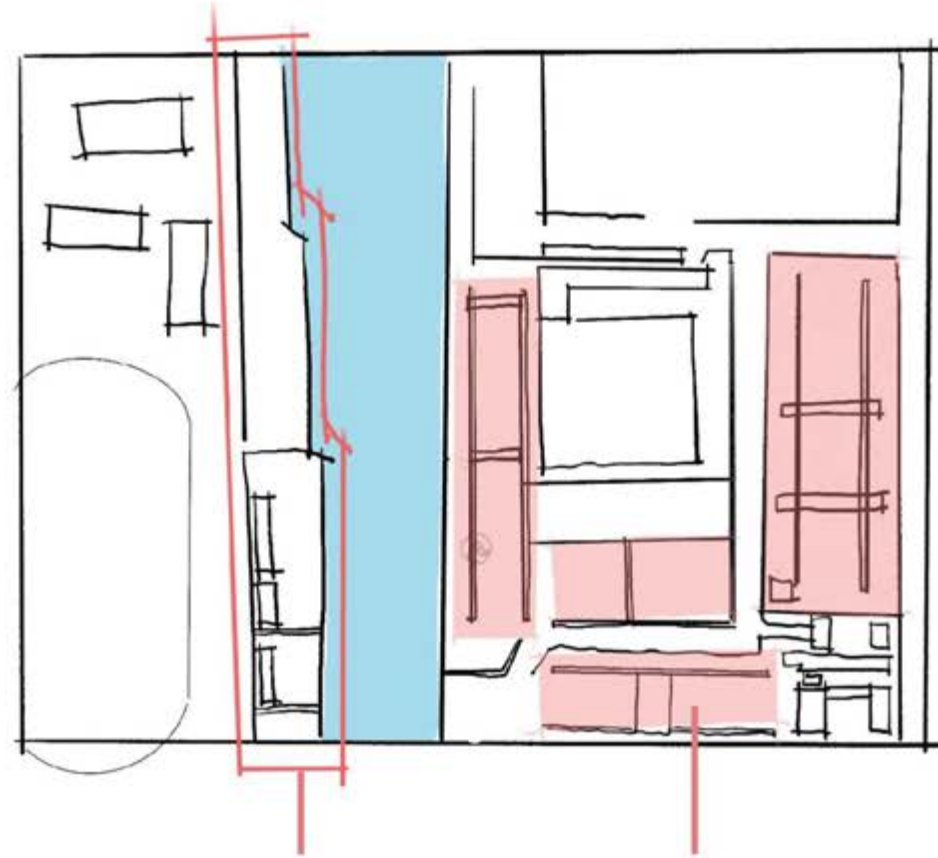
01 Interactive

满足防汛与潮汐作用，形成不同生态位的栖息地
Satisfy the effects of flood control and tides
forming habitats with different ecological niches





02 Symbiosis

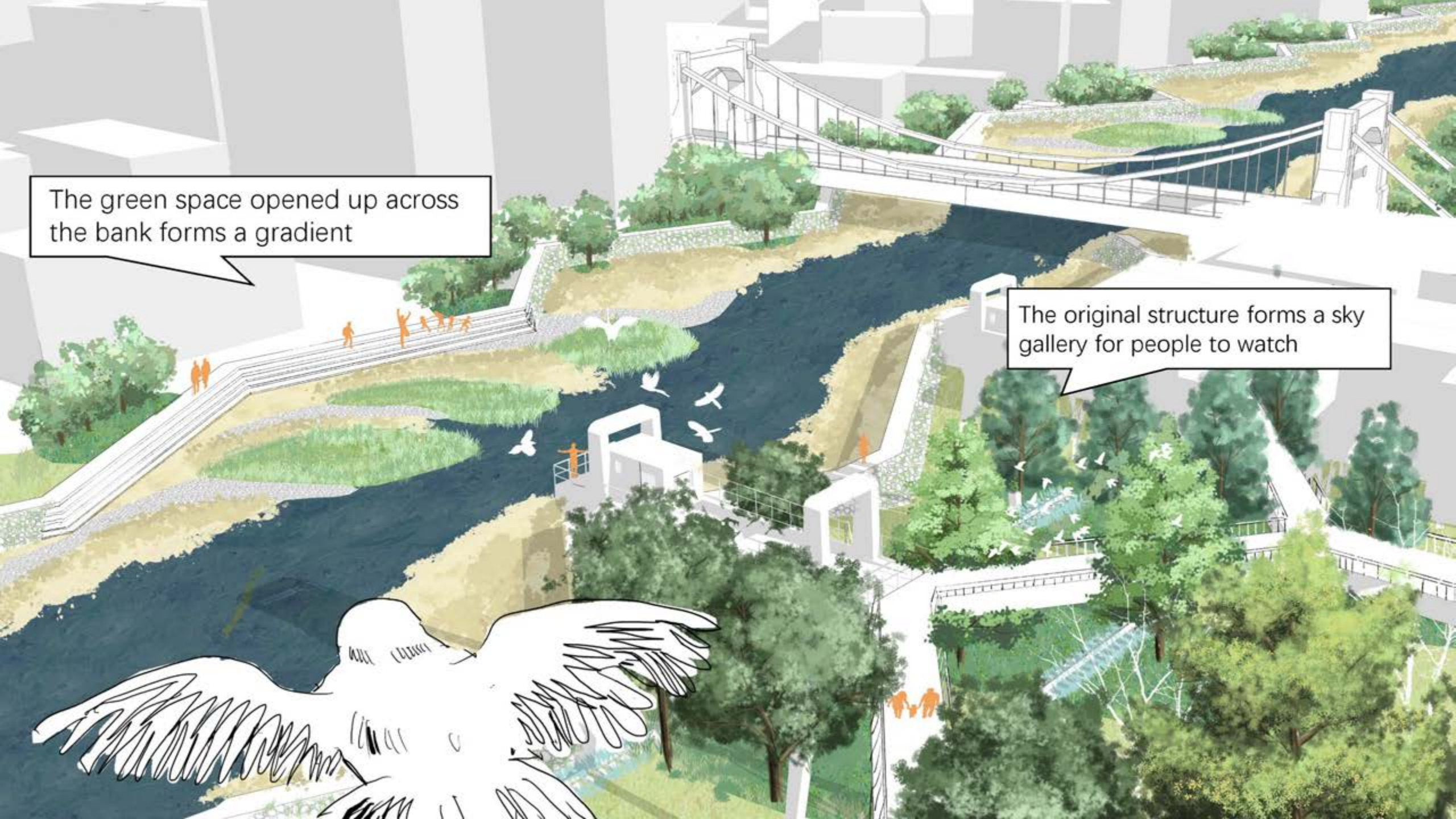


可拆除
Removable

污染
Pollution



The current situation is green space and industrial pollution
Different plant species and matching methods to deal with pollution



The green space opened up across the bank forms a gradient

This architectural rendering depicts a river restoration project. A dark blue river flows through the center. On the left bank, a wide, stepped green space with a gradient of vegetation leads down to the water. Several orange human figures are shown walking on this path. A suspension bridge with a white frame and grey cables spans the river in the background. The right bank features a series of white, rectangular concrete structures that act as viewing platforms or 'sky galleries' for people to watch the river. These structures are surrounded by lush green trees and grass. In the foreground, a large white bird with its wings spread is shown in flight. The overall scene is a blend of natural elements and modern architectural design.

The original structure forms a sky gallery for people to watch

03 Protected



闲置
Idle

绿地
Green space



The status quo is idle and green land

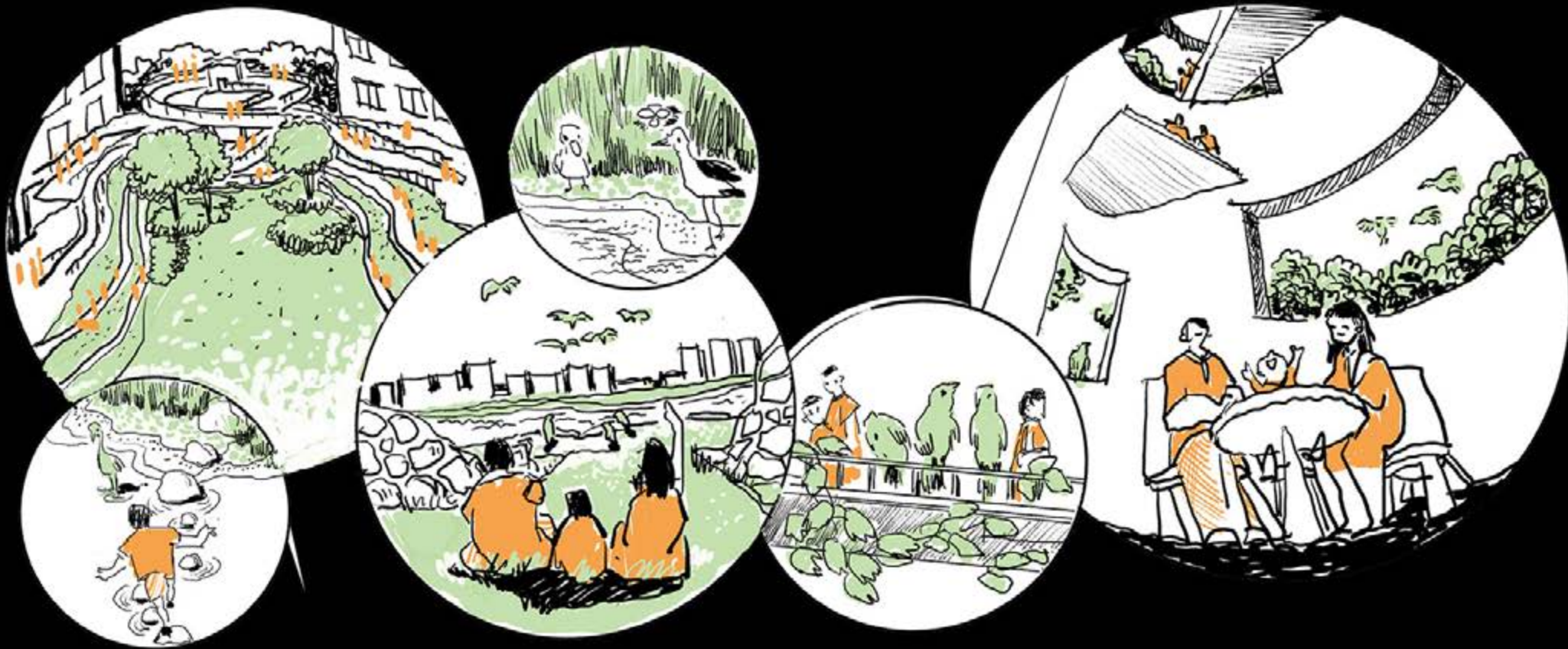
Under the possible background that the northern section of the site was submerged



A wetland was formed and
became a home for birds

People are watching in the corridor
along the river on the opposite bank

FUXING BIRDSLAND



2021 SWA SUMMER
STUDENT PROGRAM

SHANGHAI, CHINA

URBAN RESILIENCE

EXPLORING THE HUANGPU RIVER
NORTHWEST BUND WITH A NEW
URBAN FABRIC



2021 SWA SUMMER
STUDENT PROGRAM

SHANGHAI, CHINA

URBAN RESILIENCE

EXPLORING THE HUANGPU RIVER
NORTHWEST BUND WITH A NEW
URBAN FABRIC

SNACK BREAK



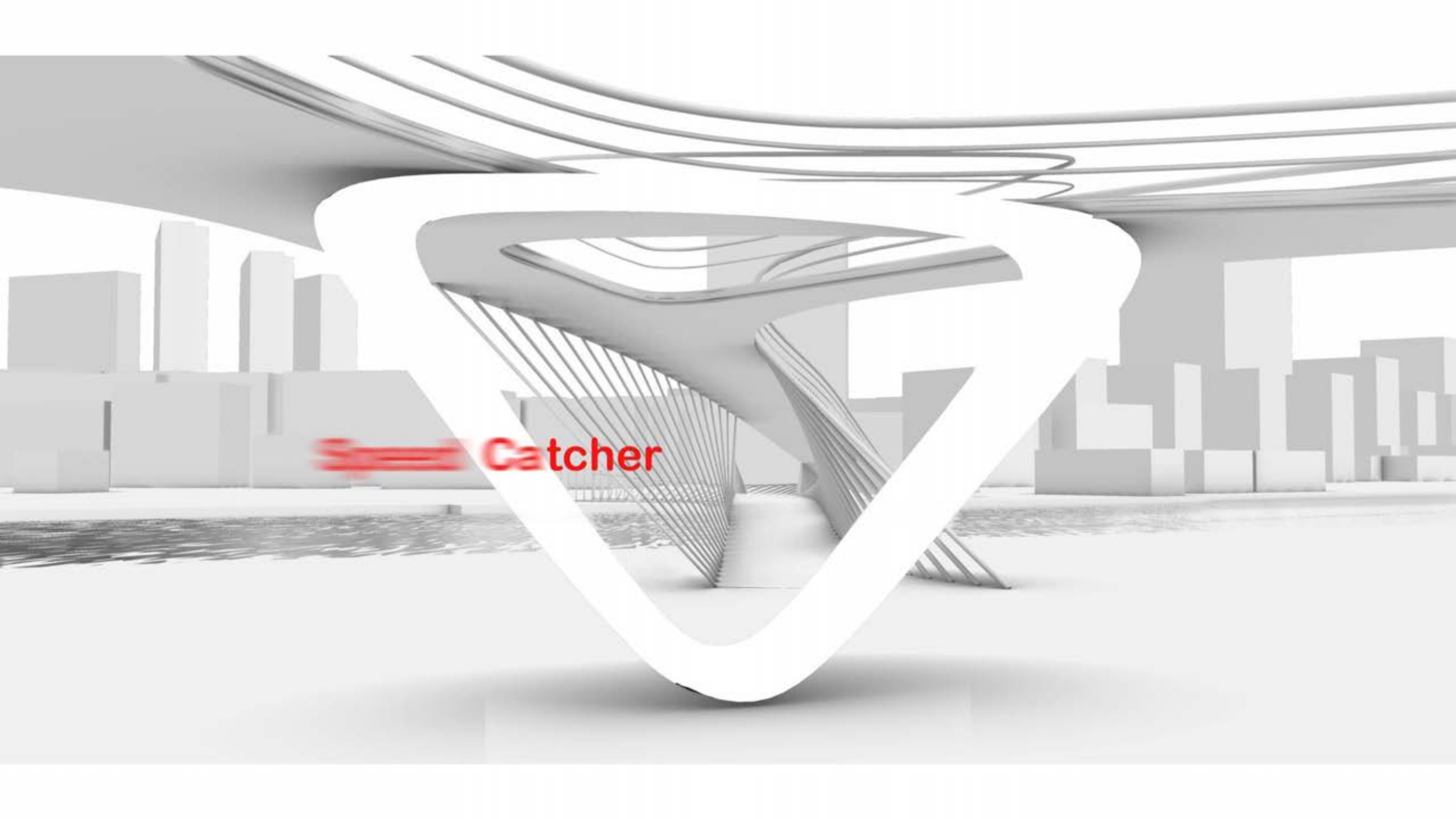
2021 SWA SUMMER
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SHANGHAI, CHINA

URBAN RESILIENCE

EXPLORING THE HUANGPU RIVER
NORTHWEST BUND WITH A NEW
URBAN FABRIC





Speed Catcher

复兴岛与自行车

FUXING Island and non-motorized vehicle



渡江者

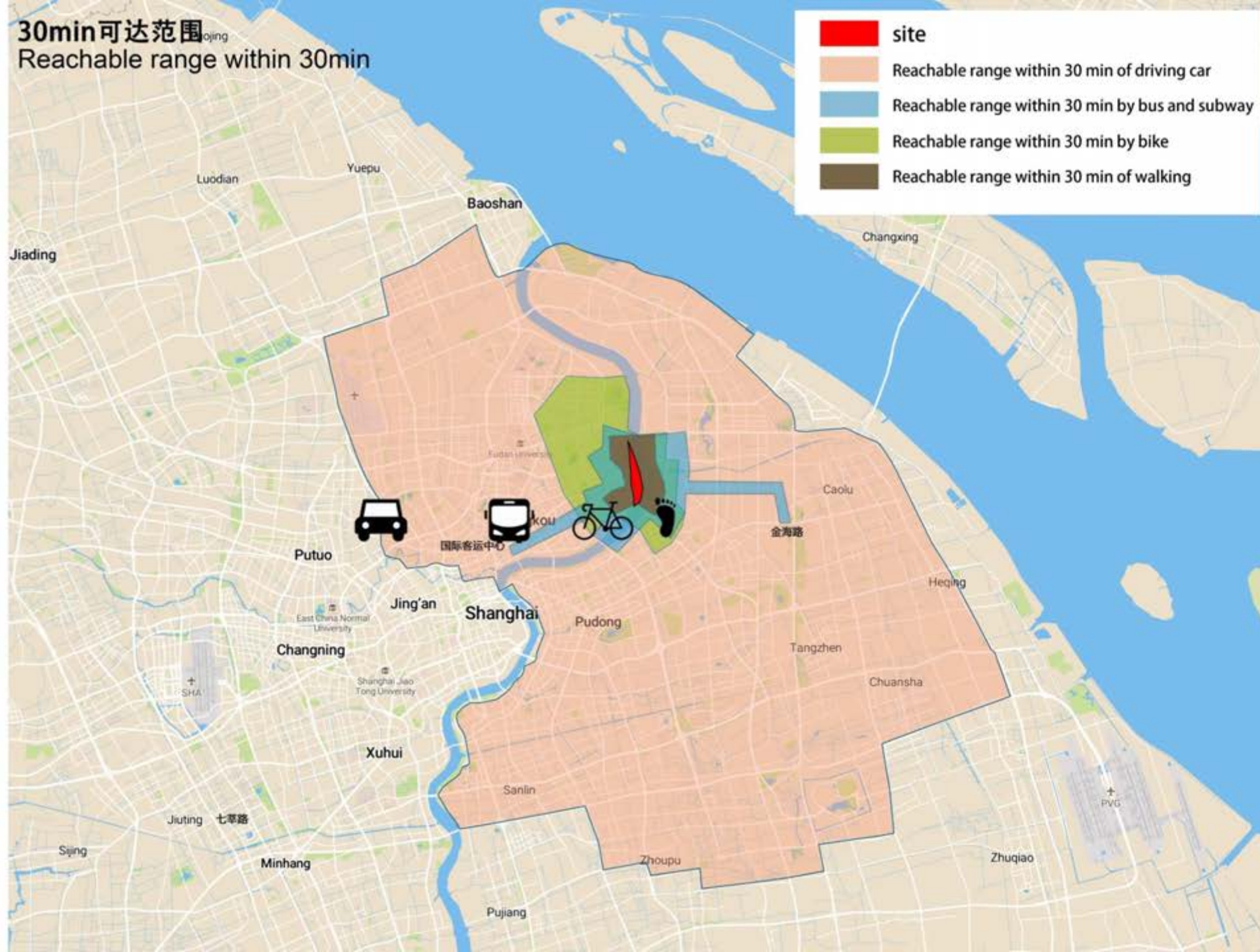
People crossing the river



复兴岛已成为**驾驶非机动车的市民**来往浦东浦西的必经之路
FUXING Island has become **the only way for non-motorized citizens** to travel to and from Pudong and Puxi

30min可达范围
Reachable range within 30min

- site
- Reachable range within 30 min of driving car
- Reachable range within 30 min by bus and subway
- Reachable range within 30 min by bike
- Reachable range within 30 min of walking



复兴岛与杨浦区城市规划

FUXING Island and urban planning of Yangpu

杨浦区目前在完善慢行系统的区域

Yangpu District is currently in the area of perfecting the non-motorized transportation system



新江湾城未来将完善“慢行复合环”

Xinjiangwan will improve the non-motorized transportation system.



五角场提升慢行系统

Wujiaochang will improve the non-motorized transportation.



杨浦滨江地带是重点打造的慢行出行空间

The Yangpu Riverside area is the space that focuses on creating non-motorized system.



复兴岛处于杨浦区大力发展慢行系统大背景之下, 并且在杨浦区慢行规划范畴中。

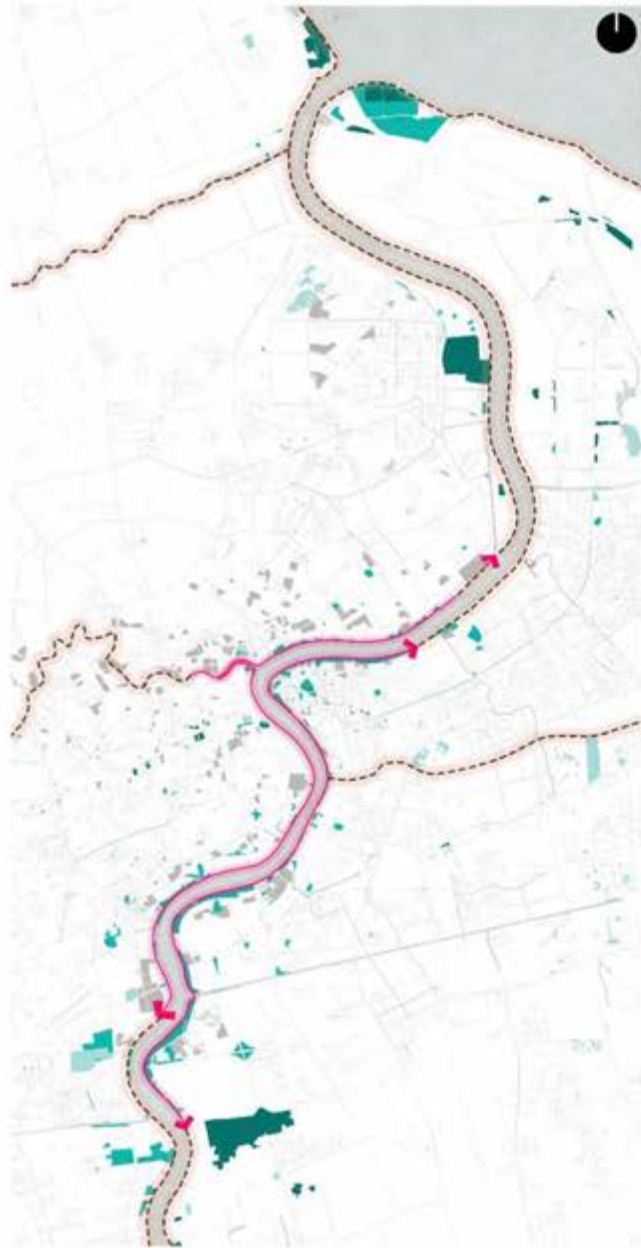
FUXING Island is under the background of Yangpu District's vigorous development of the non-motorized transportation system.

复兴岛与上海2035年规划

FUXING Island and Shanghai's 2035 Plan

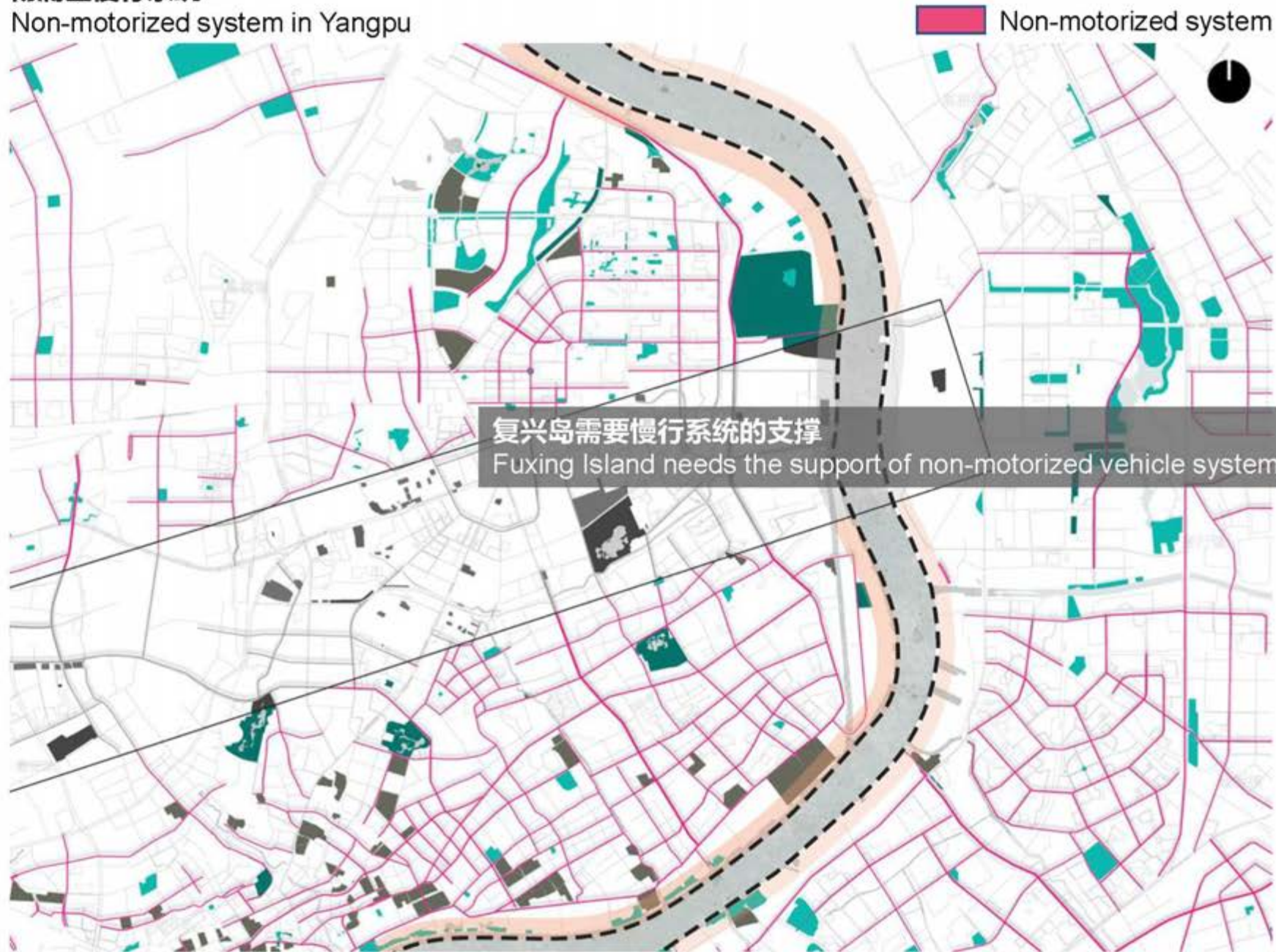
滨江慢行系统

Riverside non-motorized system



杨浦区慢行系统

Non-motorized system in Yangpu





复兴岛适合并且需要发展城市慢行系统，设计旨在将其发展为一座**慢行系统示范岛屿**

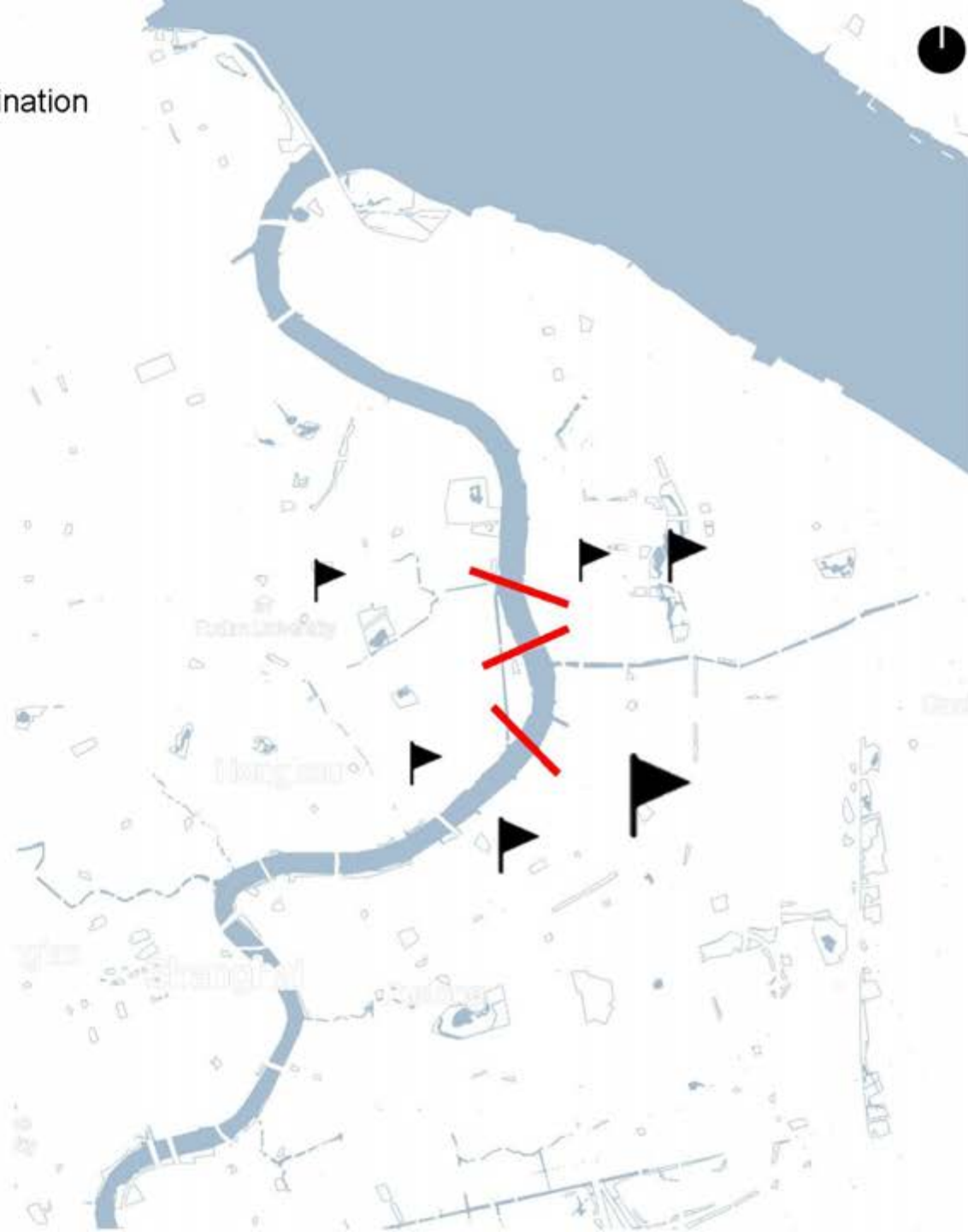
FUXING Island is suitable for and needs to develop an urban non-motorized transportation system, and the design aims to develop it into a model island for non-motorized transportation system.

复兴岛与三个交通系统

FUXING Island with three different transportation systems

复兴岛:难以到达的目的地

FUXING Island: Hard-to-reach destination



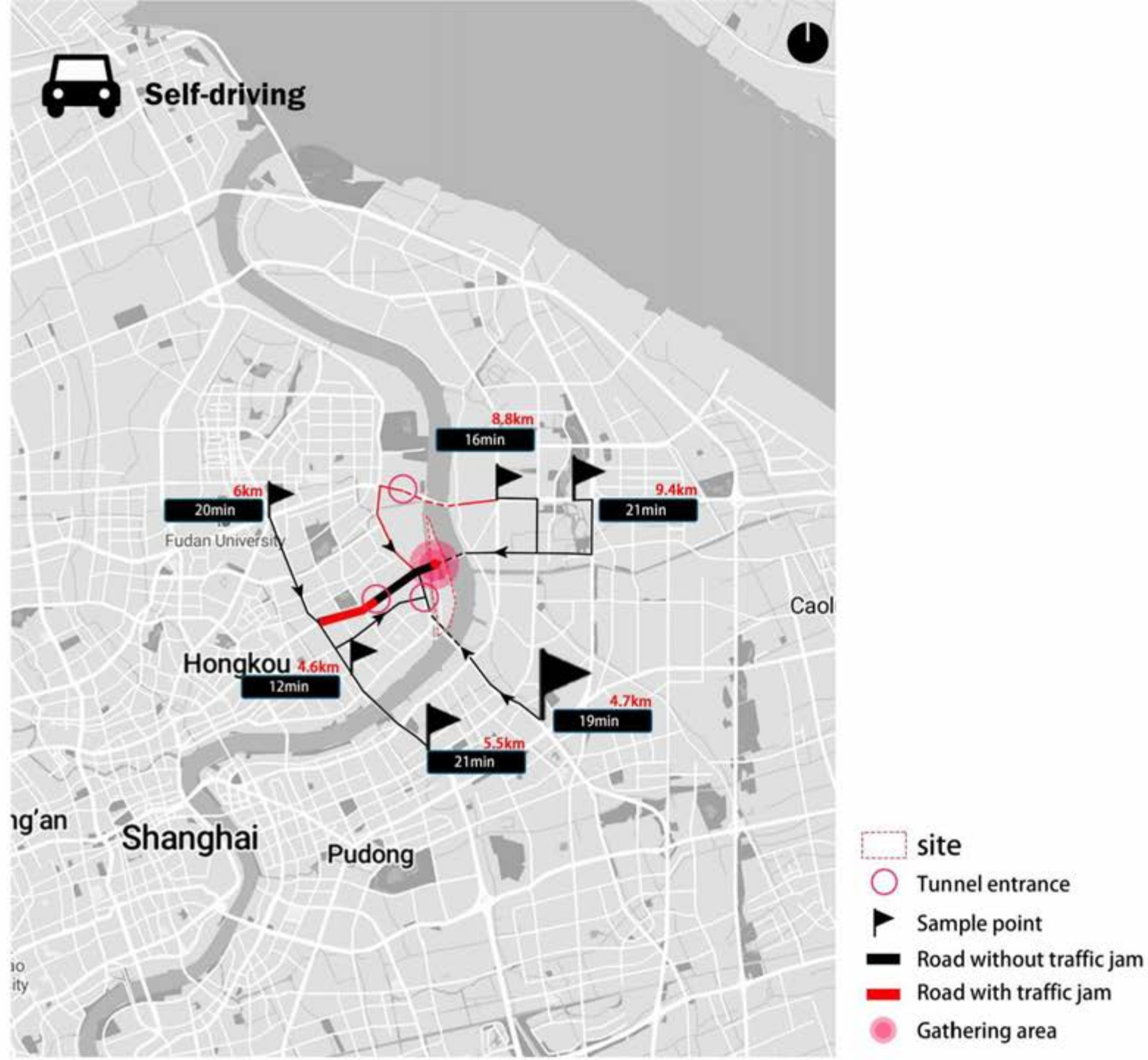
- 隧道或桥梁
Tunnel or bridge
- ▶ 参考点
Sample point

复兴岛与车行交通系统

FUXING Island with **self-driving** transportation systems

岛屿南北端入口对于汽车来说地位不均等。北端入口对于车行更为方便。**岛屿北端因此成为车辆聚集区。**

The entrances in the northern and southern of the island are unequal for cars. The entrance in the northern is more convenient for cars. **The gathering area is in the north of the island.**

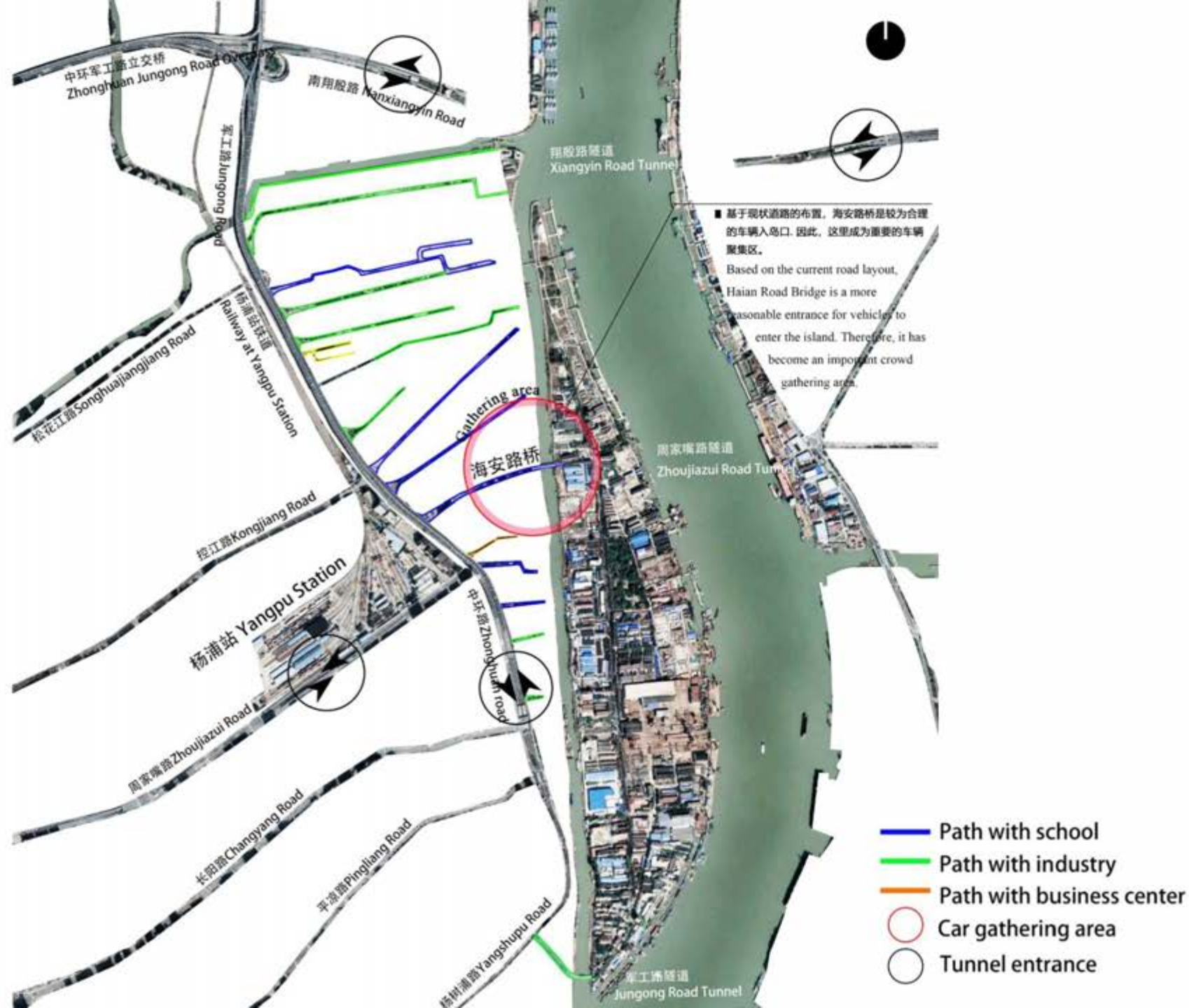


复兴岛与车行交通系统

FUXING Island with **self-driving** transportation systems

不同颜色的道路代表不同区域的道路，为岛屿入口的选择提供了依据。**绿色代表可能通行的入口。**

Roads in different colors represent roads in different areas, providing a basis for the choice of island entrances. **The green roads represent possible entrances.**

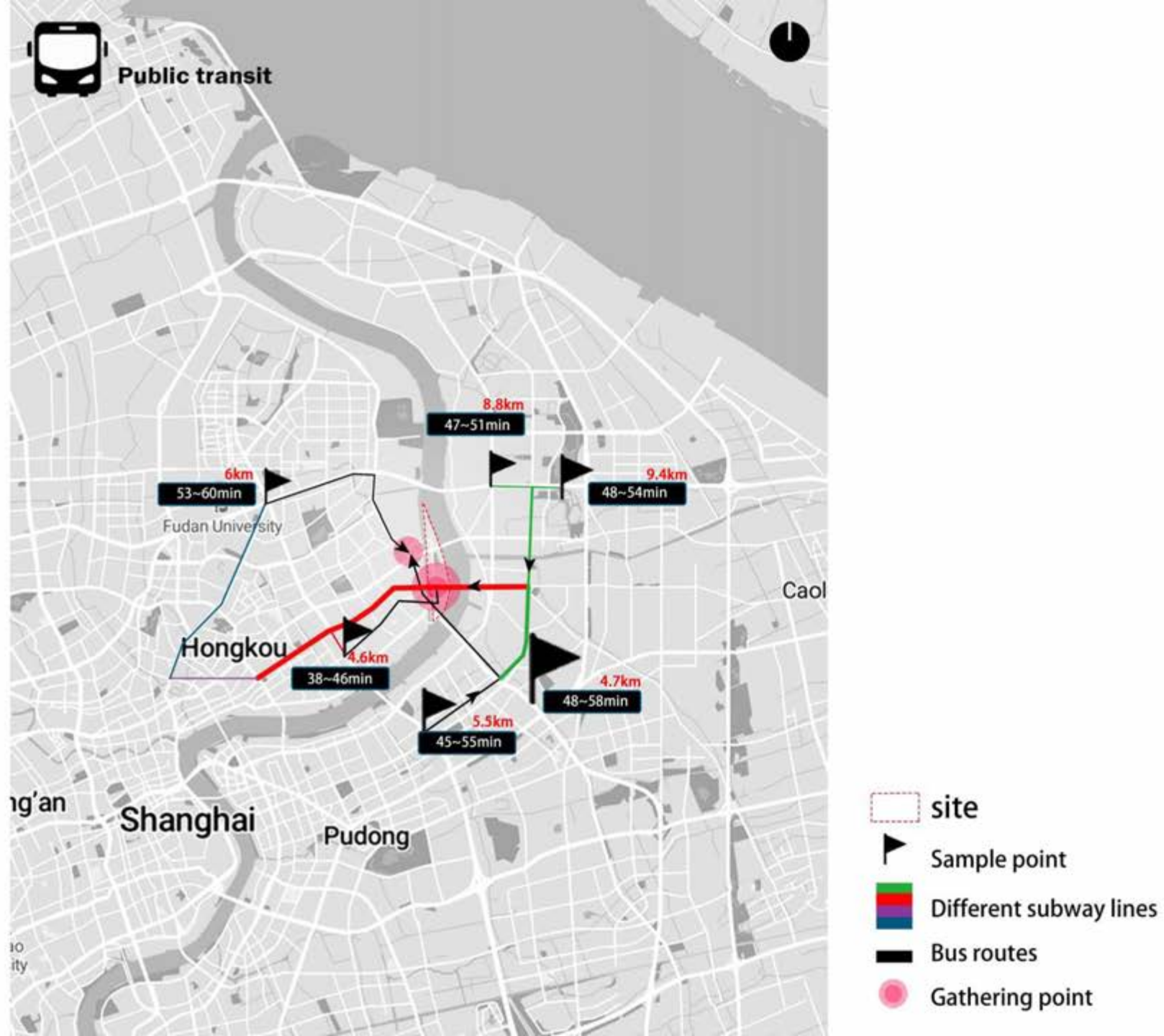


复兴岛与公共交通系统

FUXING Island with public transportation systems

公共交通很不方便，聚集点在岛屿的南端

Public transportation is very inconvenient, the gathering area is in the south of the island.

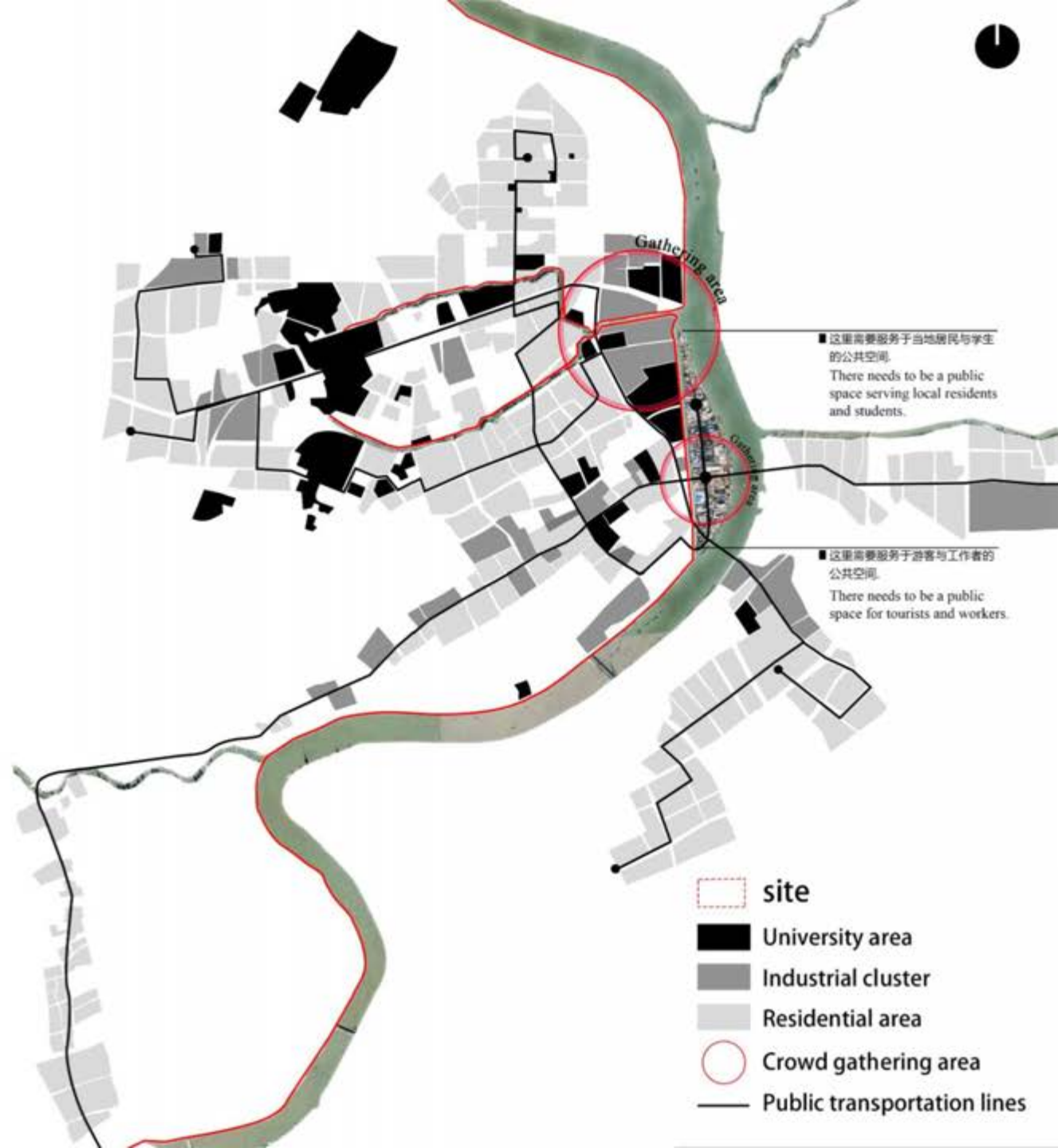


复兴岛与公共交通系统

FUXING Island with **public** transportation systems

根据公共交通沿线的区域类型可推断出，**岛屿的北端主要服务于当地居民与学生，南端主要服务于游客与工作者。**

According to the regional type along the public transportation, it can be inferred that **the northern end of the island mainly serves local residents and students, and the southern end mainly serves tourists and workers.**

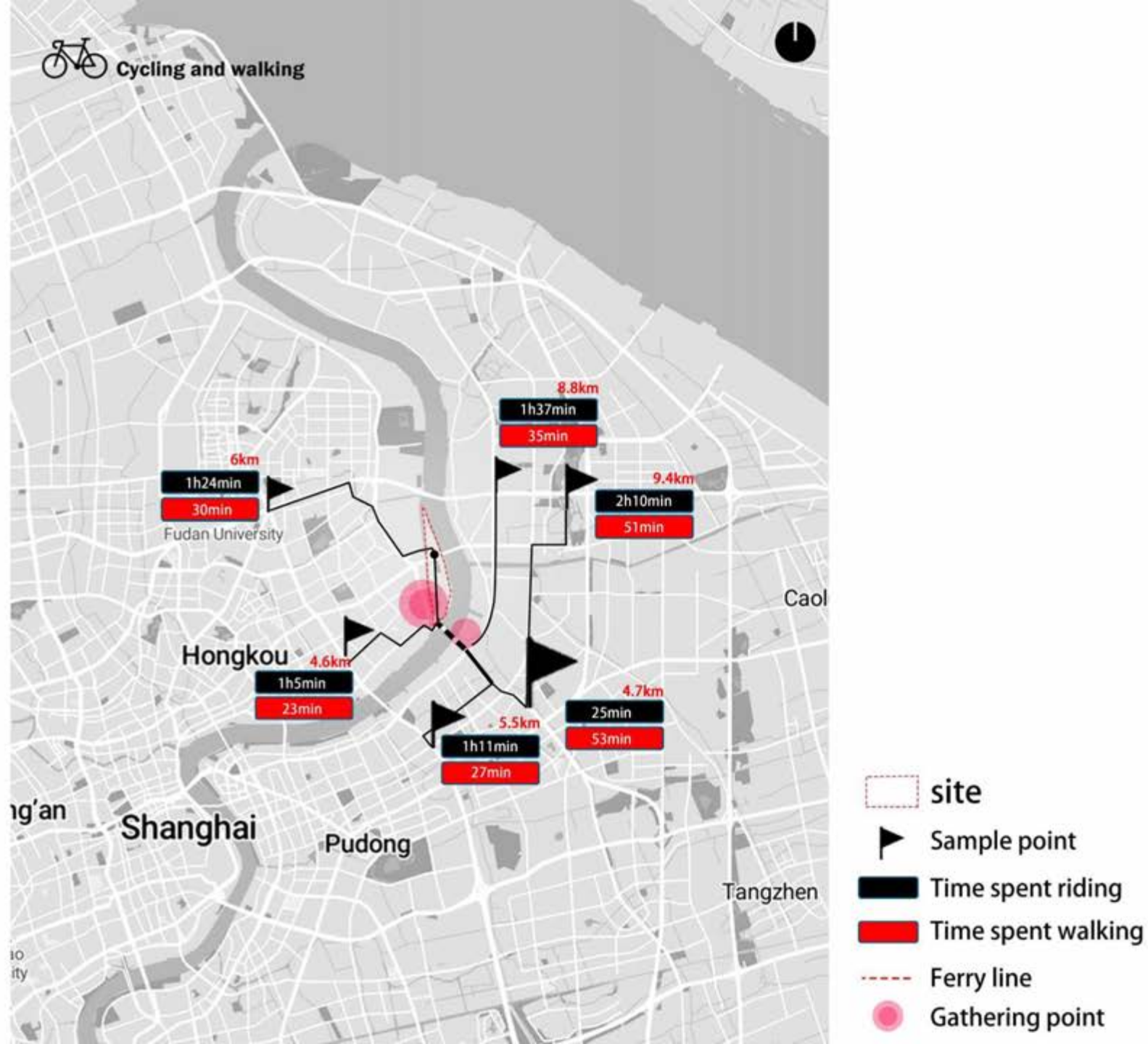


复兴岛与慢行系统

FUXING Island with **non-motorized** transportation systems

人群主要聚集于轮渡站、地铁站与岛屿南部区域

Crowds mainly gather **at the ferry, subway station and the southern part of the island**

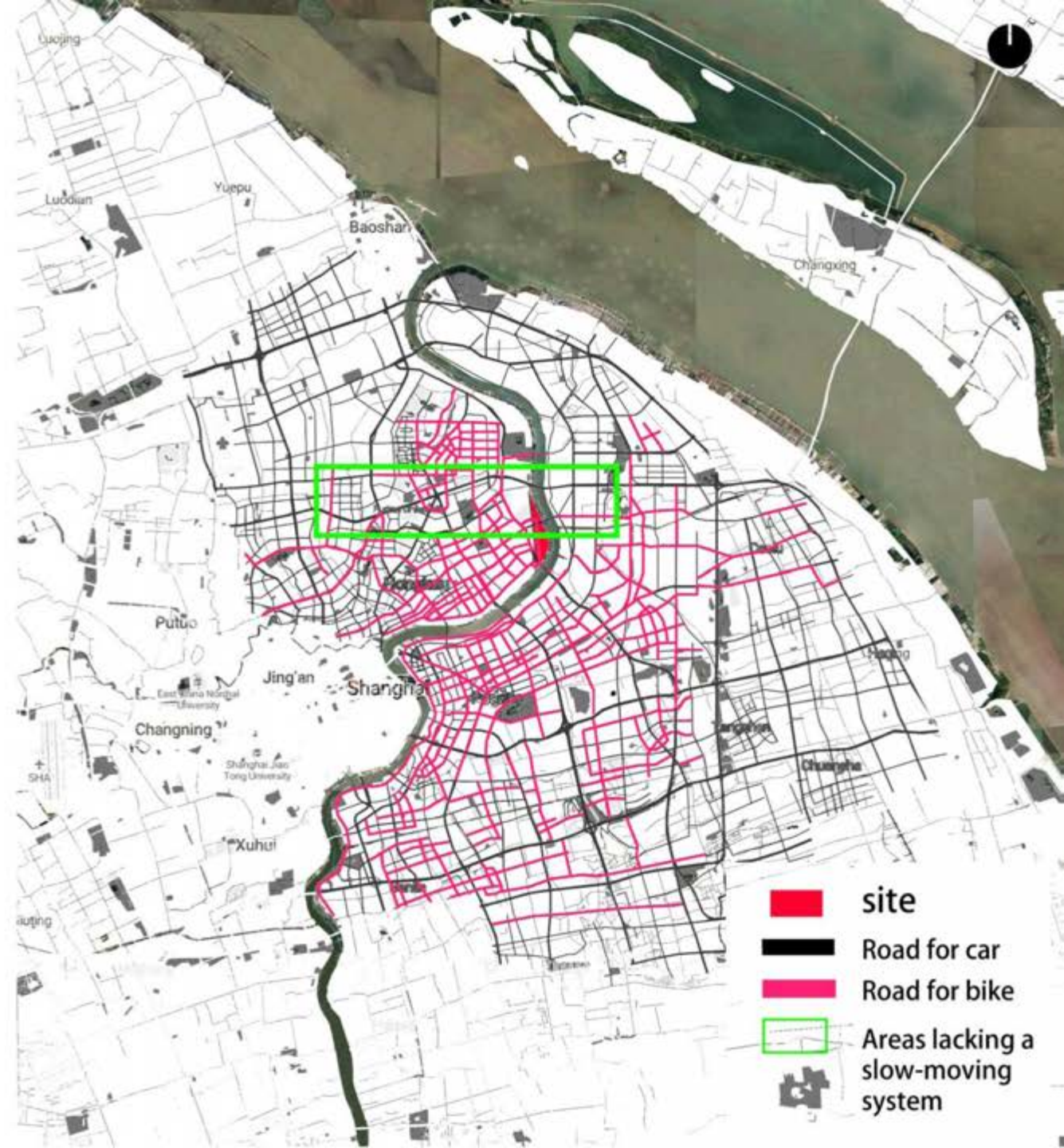


复兴岛与慢行系统

FUXING Island with **non-motorized** transportation systems

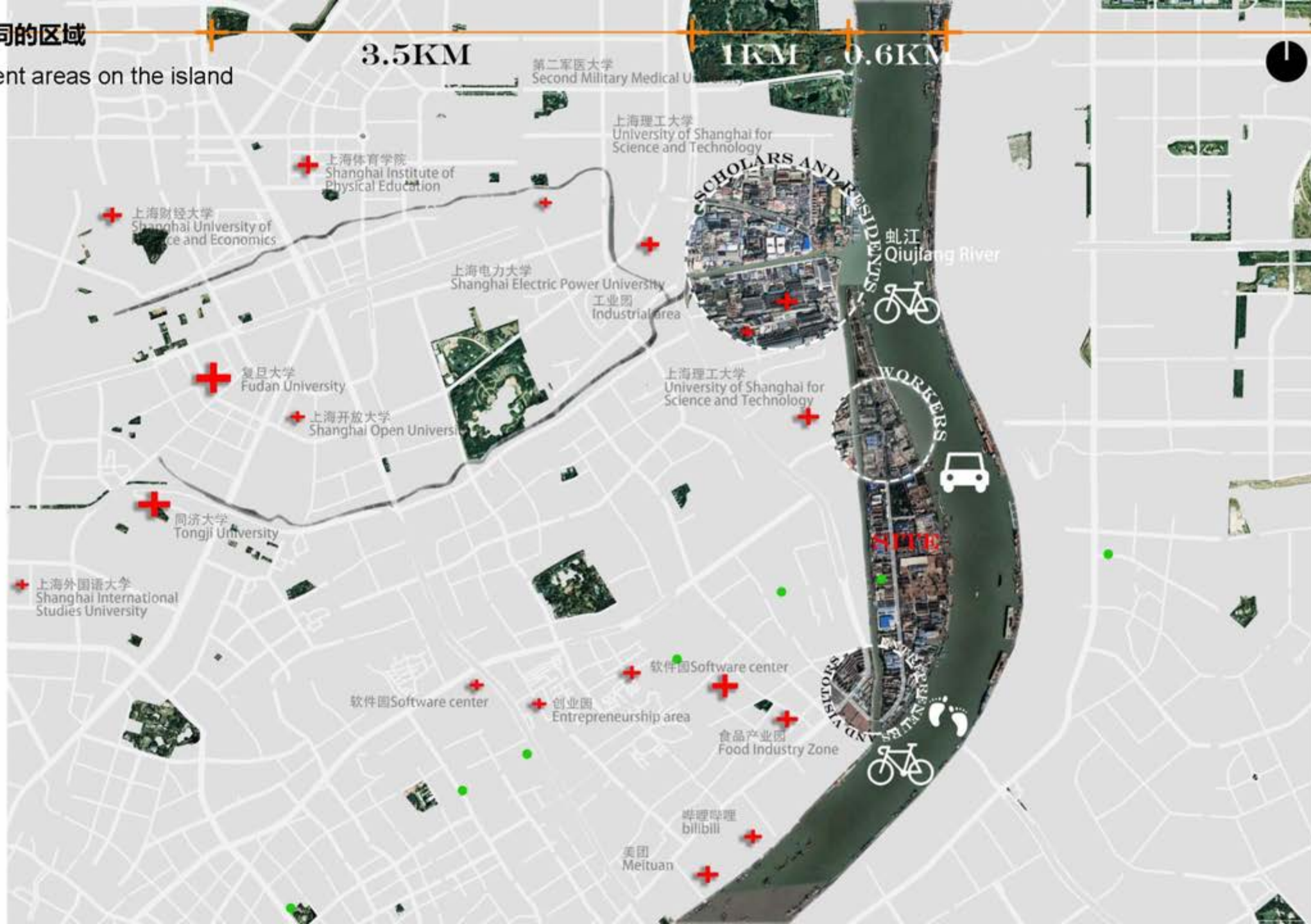
分析得到复兴岛周围缺乏慢行系统的区域

The analysis shows that the area around Fuxing Island lacks a non-motorized transportation system.



岛上三个不同的区域

Three different areas on the island



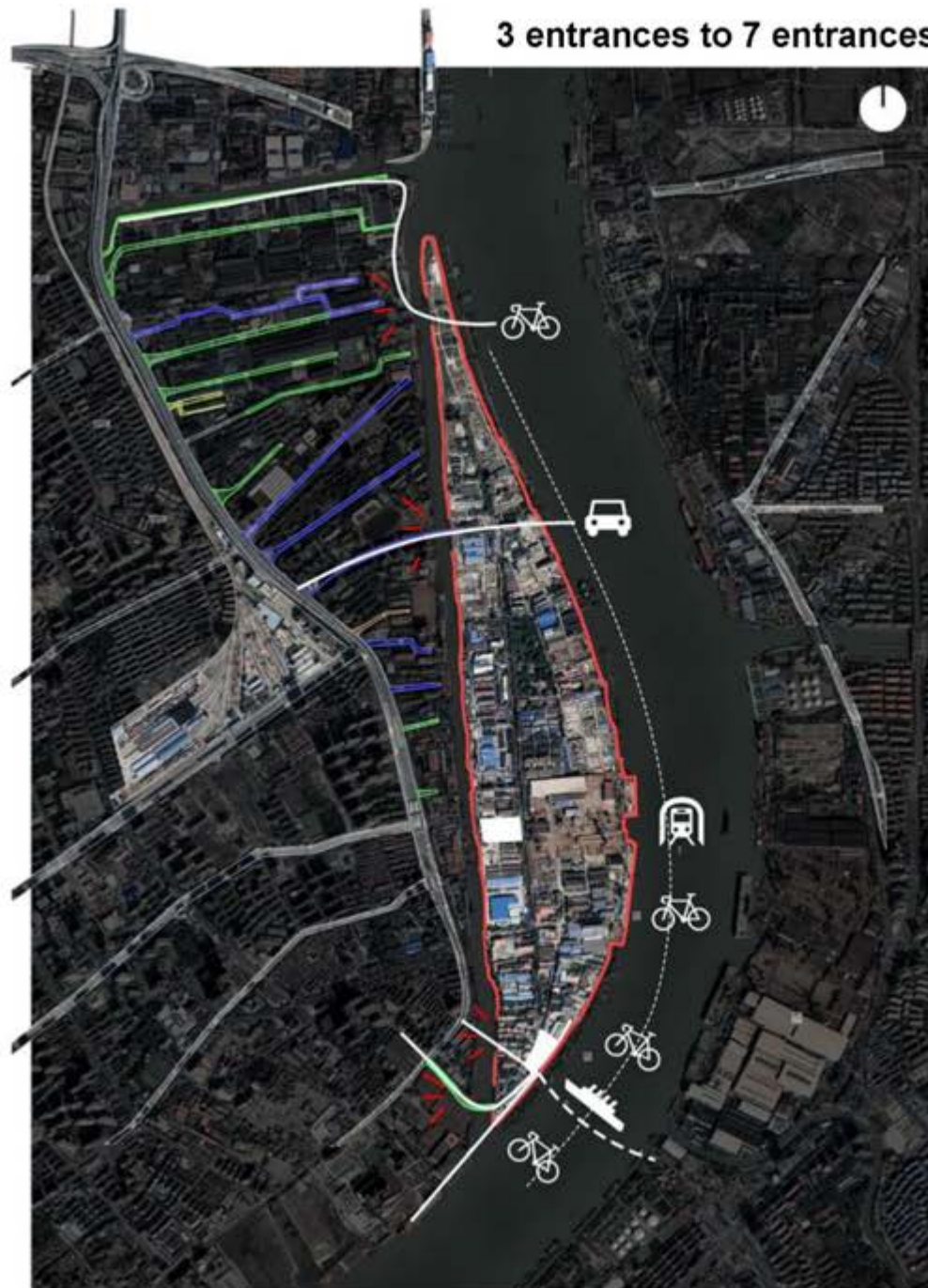
复兴岛慢行系统的规划

Planning of Non-motorized Transportation System on Fuxing Island

Before



3 entrances to 7 entrances



FOR CAR



FOR BICYCLE



FOR WALKING



BEFORE

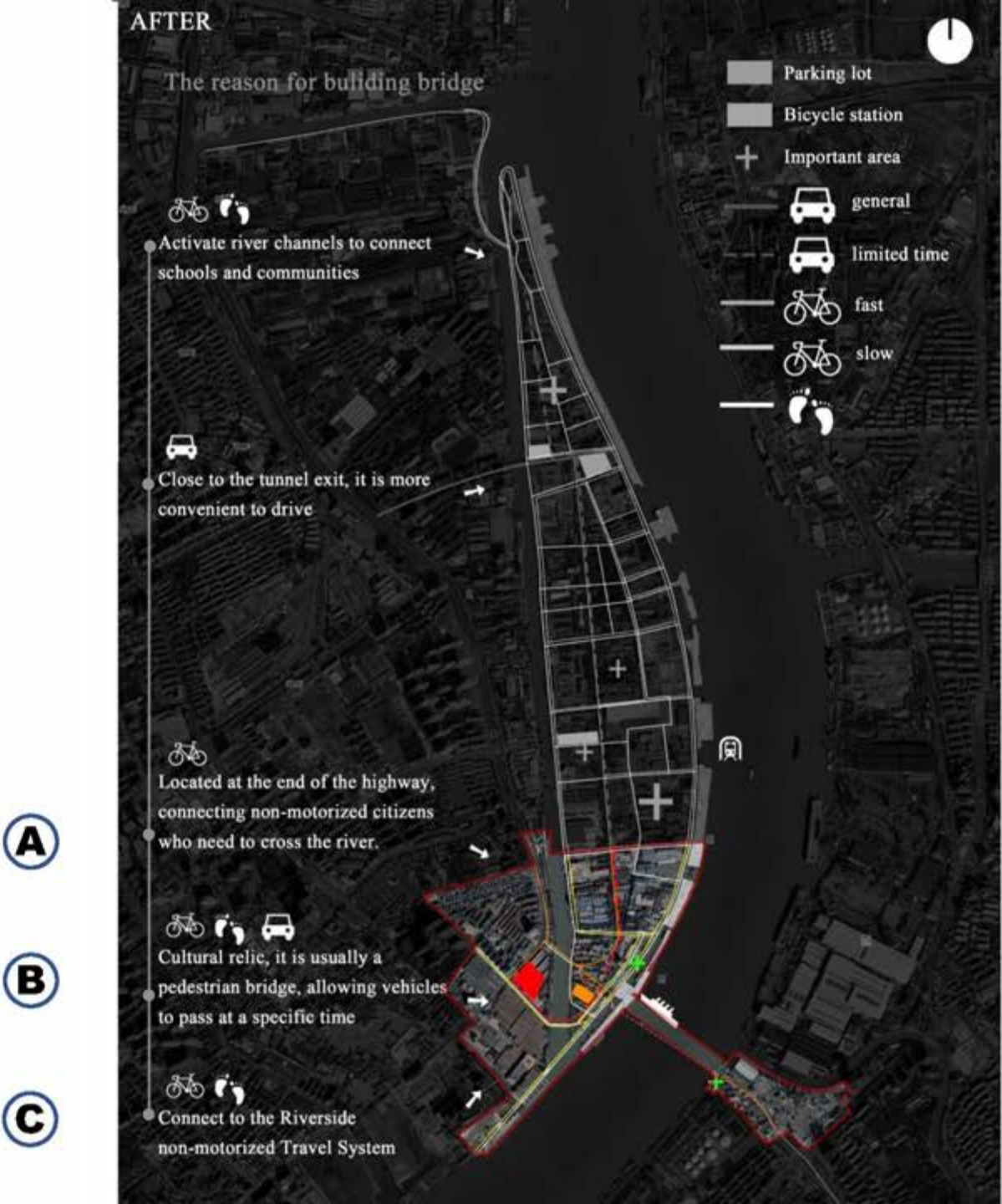


AFTER



设计场地选择的原因

Reasons for the choice of the site



三座桥

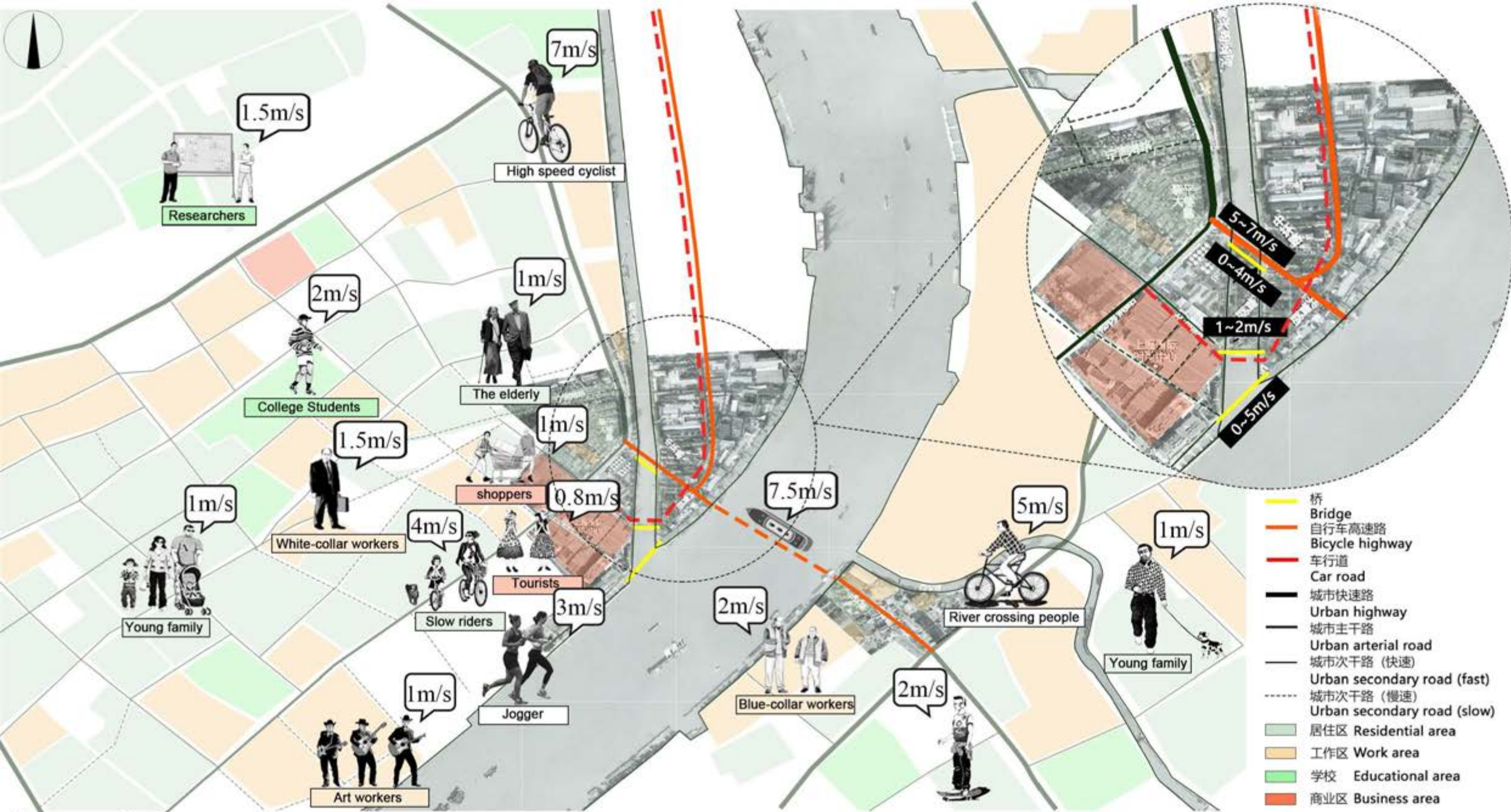
Three different bridges

岛内道路与城市的连接

The connection
between the road on
this island and the city



- 桥
Bridge
- 自行车高速路
Bicycle highway
- 车行道
Car road
- 城市快速路
Urban highway
- 城市主干路
Urban arterial road
- 城市次干路 (快速)
Urban secondary road (fast)
- 城市次干路 (慢速)
Urban secondary road (slow)
- 居住区 Residential area
- 工作区 Work area
- 学校 Educational area
- 商业区 Business area



速度mapping
Speed mapping

AFTER

The reason for building bridge

Activate river channels to connect schools and communities

Close to the tunnel exit, it is more convenient to drive

Located at the end of the highway, connecting non-motorized citizens who need to cross the river.

Cultural relic, it is usually a pedestrian bridge, allowing vehicles to pass at a specific time

Connect to the Riverside non-motorized Travel System

- Parking lot
- Bicycle station
- Important area
- general
- limited time
- fast
- slow

SUMMARIZE

A 5~7m/s 混合用途桥
1~4m/s Mixed-use bridge (division of people and bicycles)

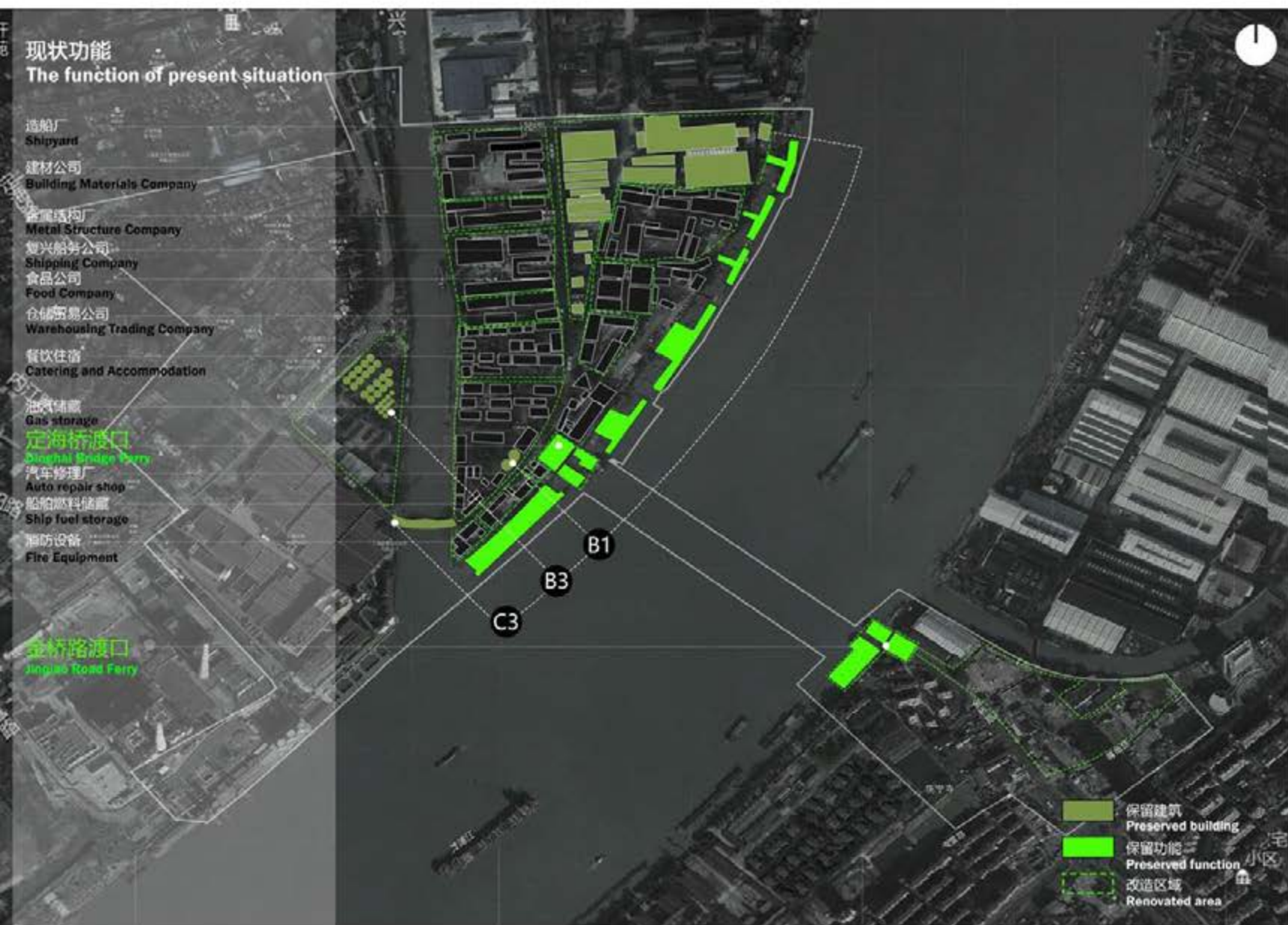
This is a mixed-use double-deck bridge. It connects non-motorized citizens who need to cross the river. On the other hand, it also serves residents who exercise.

B 1~20m/s 混合用途桥
Mixed-use bridge (Allow vehicles to pass if necessary)

Culture relic, it is usually a pedestrian bridge, with the function of temporary vehicle traffic. It mainly serves the workers on the island and walkers.

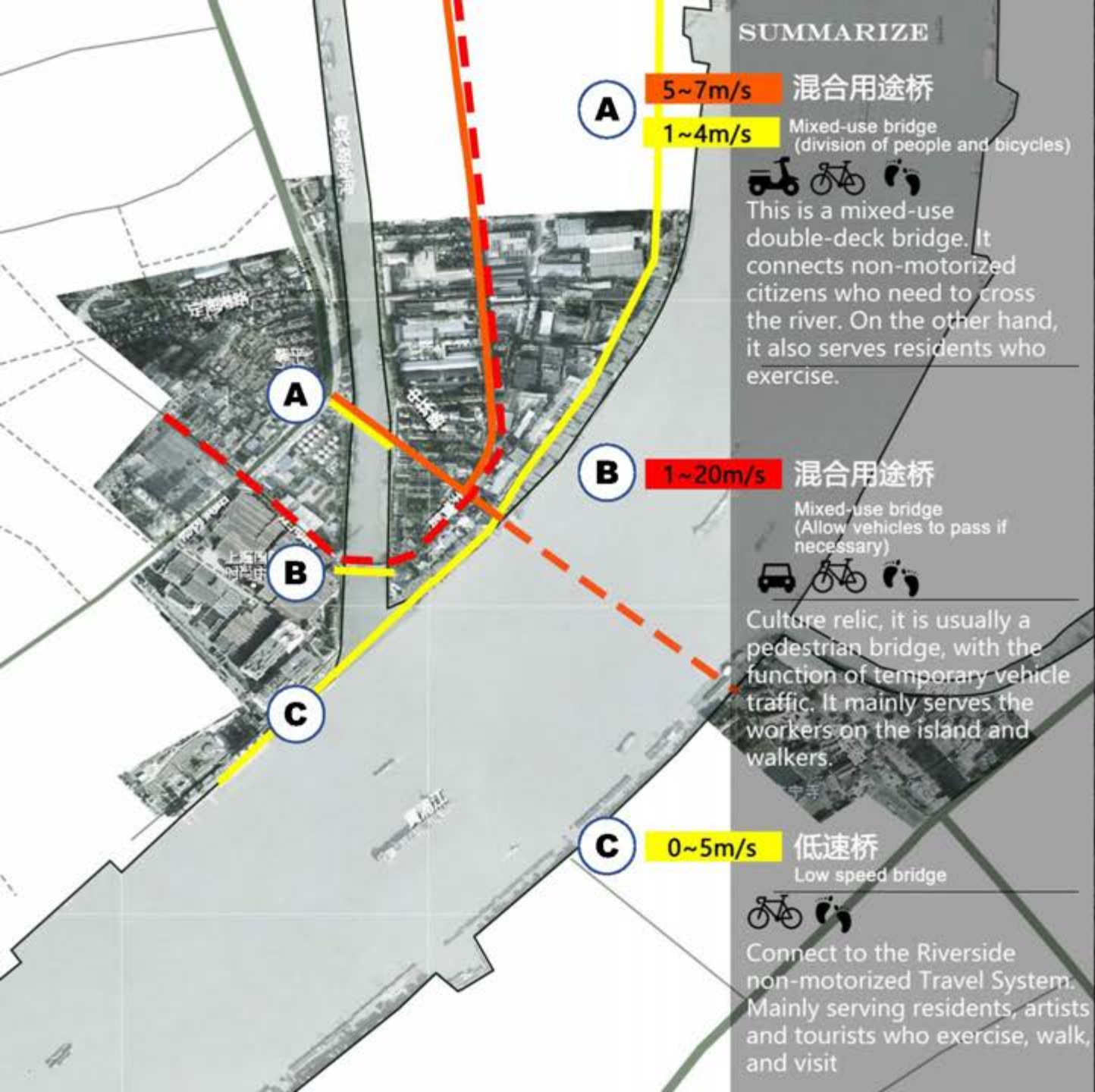
C 0~5m/s 低速桥
Low speed bridge

Connect to the Riverside non-motorized Travel System. Mainly serving residents, artists and tourists who exercise, walk, and visit



现状评估 Assessment of the present situation

	(原)名称	占地面积/长度	高度	建筑数量	材料结构	破损程度	交通	遗产价值	相似案例	美学价值	现状用途
A1	中华造船厂厂房(南)	23850m ²	≈15m	1	混凝土+钢结构	***	西侧紧邻共青路主路、东侧紧邻黄浦江	***** 复兴岛首个工业企业	西岸艺术中心、罐之丘	体量较大,内部空间开阔,工业厂房特色	沪东中华造船厂
A2	中华造船厂厂房(北)	17430m ²				**					上海华利船舶有限公司
A3	上海鱼市场	原址已拆除	/	/	/	已拆除	位于共青路主路北侧	***** 近代中国首家建造的第一座现代化鱼市场	西岸艺术中心、老码头	/	东海制药股份有限公司研发中心
A4	联合仓库	1008m ² 42x24	6.5m	6	空斗红砖外墙+高侧窗+钢筋混凝土圈梁外墙	*	距黄浦江300米;紧邻共青路主路	***** 民国工业建筑代表作	/	体量适中,内部空间较为开阔	发信物流复兴岛库区
A5	自产	335m ²	≈3.5m	1	砖石结构	2009年翻新	位于复兴岛内,距黄浦江220米	***** 蒋介石离开大陆前最后一站	/	体量较小,设施齐全,日式建筑风格	杨浦滨江党群活动站
A6											
B1	油桶建筑	175m ²	10m	2	内层铁皮油库(已拆除),外屏为0.6m厚钢筋混凝土厚壁	**	距黄浦江60米;紧邻共青路主路	*	油桶艺术中心	体量较小,内部空间有限	部队拆除铁皮油桶,只留混凝土表皮,现为住宅与办公建筑
B3	油桶建筑	6000m ²	10m 5m	30	内层铁皮油库,外屏为0.6m厚钢筋混凝土厚壁	*	黄浦江沿岸	***	油桶建筑	体量较小,内部空间有限	使用中
C1	复兴公园	40800m ²	/	1	/	1981年重新对外开放	距黄浦江250米;紧邻共青路主路	*****	/	场地开阔,绿化环境,传统日式庭院风格	开放中
C2	复兴岛码头	≈2065m	/	≈27	钢筋混凝土	*	黄浦江沿岸	**	徐汇滨江,布鲁克林码头	线性开放空间,空间潜力丰富	使用中
C3	定海路桥	85m	/	1	混凝土+钢架	*	南侧连接	***	/	/	使用中
C4	海安路桥	65m	/	1	混凝土+钢架	*	北侧连接	**	/	/	使用中
	其他建筑	/	/	/	/	****	/	无	/	/	使用中



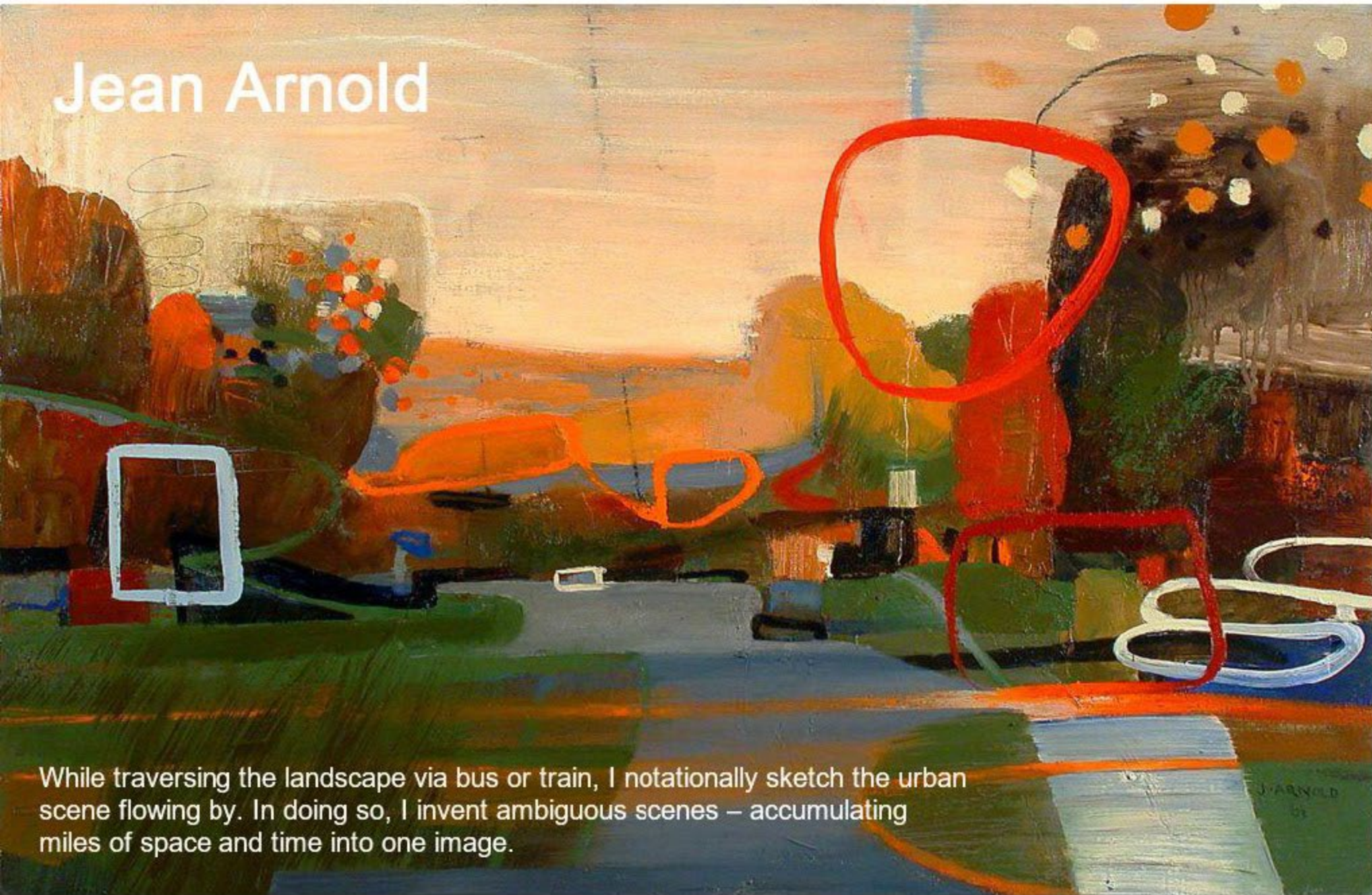
灵感

Inspiration

Jean Arnold



Jean Arnold



While traversing the landscape via bus or train, I notationally sketch the urban scene flowing by. In doing so, I invent ambiguous scenes – accumulating miles of space and time into one image.



memory



structure

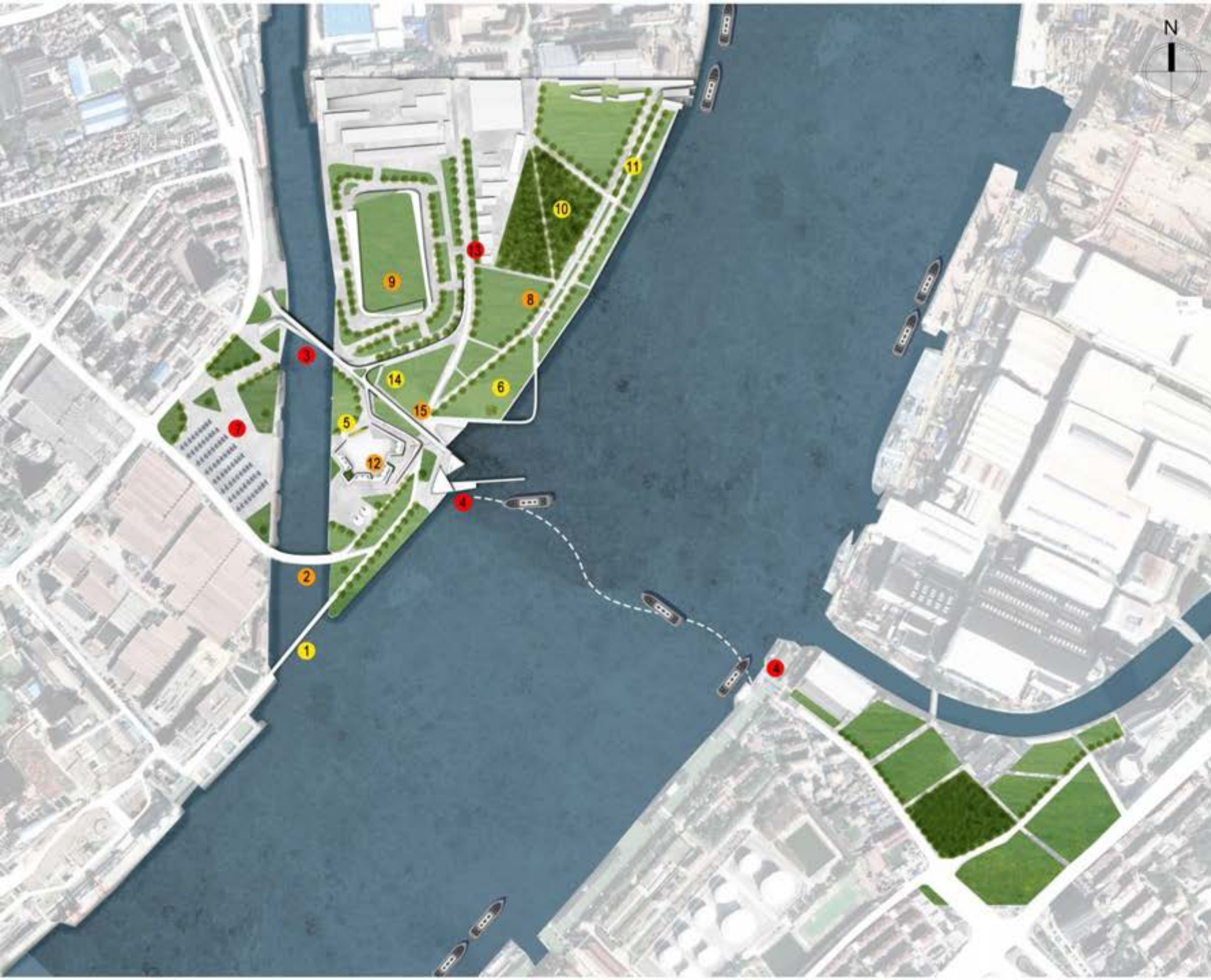


speed

记忆
memory

结构
structure

速度
speed



0~5M/S

- 1 低速桥
Low speed bridge
- 5 速度剧场
Speed theater
- 6 速度广场
Far-sighted plank road
- 10 远望步道
Far-sighted plank road
- 11 散步的树林
Walk in the woods
- 14 入口的捕捉器
Entrance capture

1~20M/S

- 2 混合用途桥 (必要时开放车行)
Mixed-use bridge (Allow vehicles to pass if necessary)
- 8 沿江骑行道
Cycling Road along river
- 9 雨水运动场
Rainwater playground
- 12 自行车车站
Bicycle station
- 15 速度捕捉站
Speed capture station

0~7M/S

- 3 混合用途桥 (人与自行车分流)
Mixed-use bridge (division of people and bicycles)
- 4 轮渡站
Ferry
- 7 停车场
Parking lot
- 13 自行车高速路
High-speed road



场景展示

Scene display



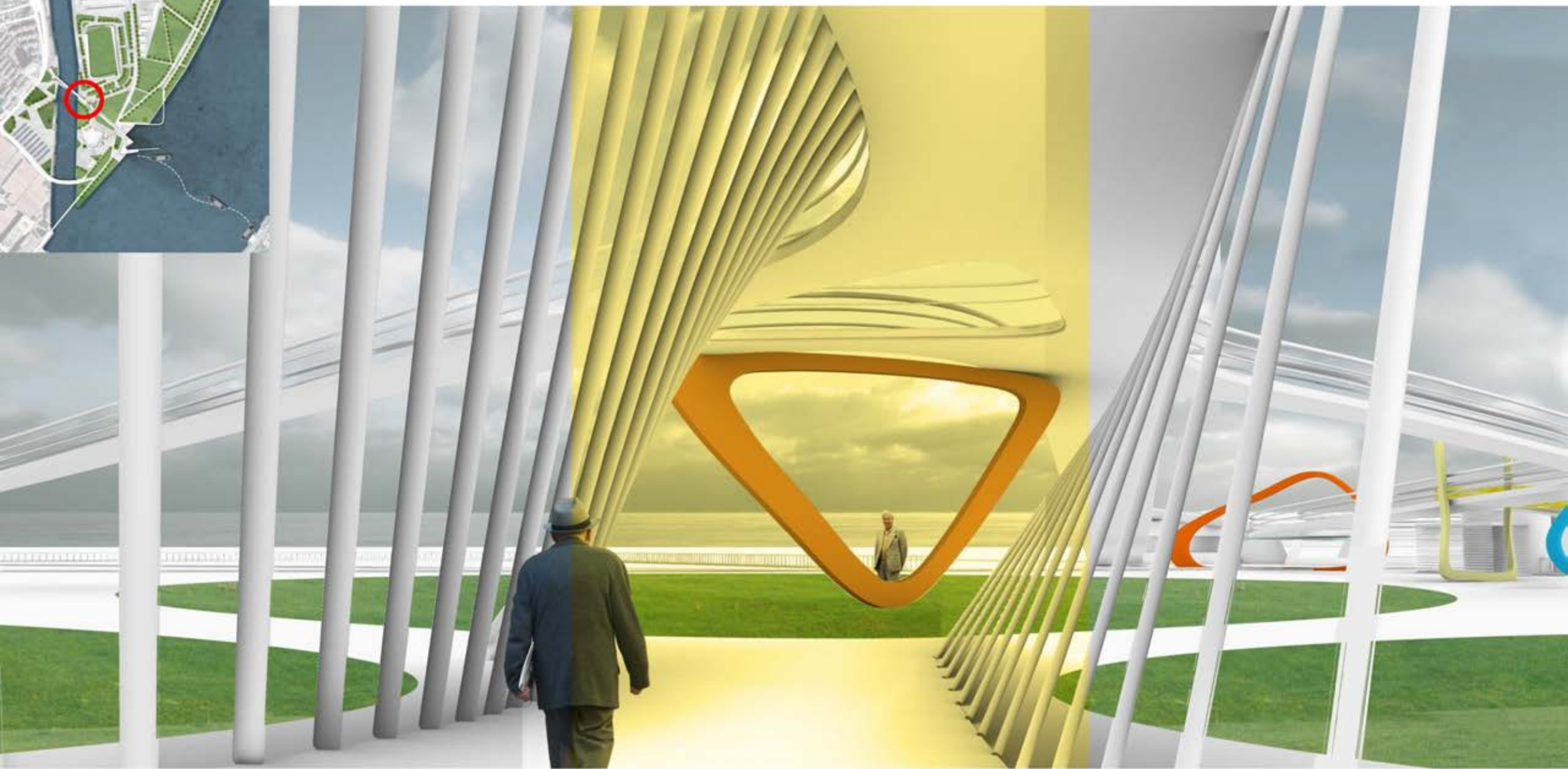
Low-speed walking trail

High-speed bicycle road

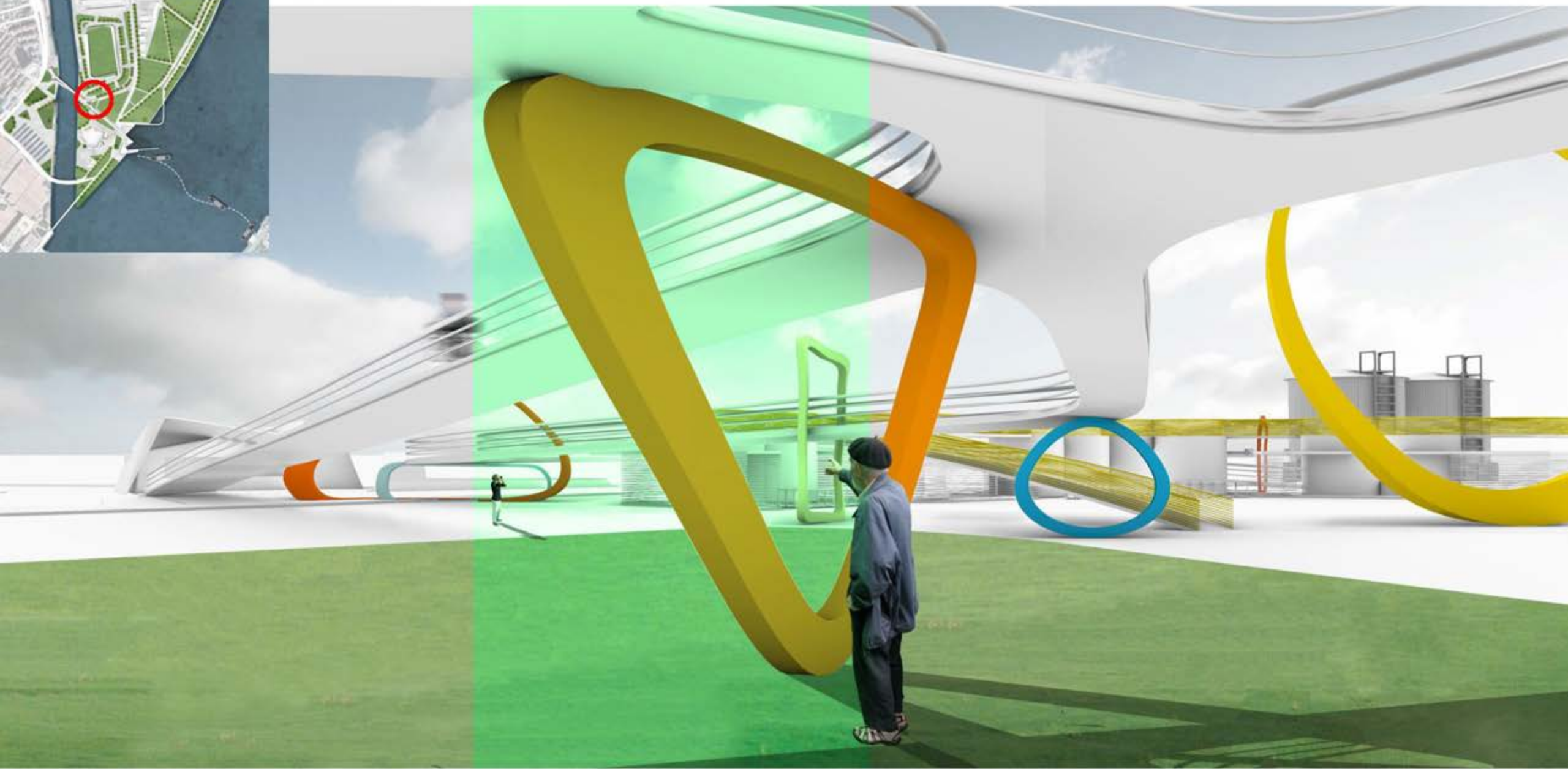
Low-speed walking trail

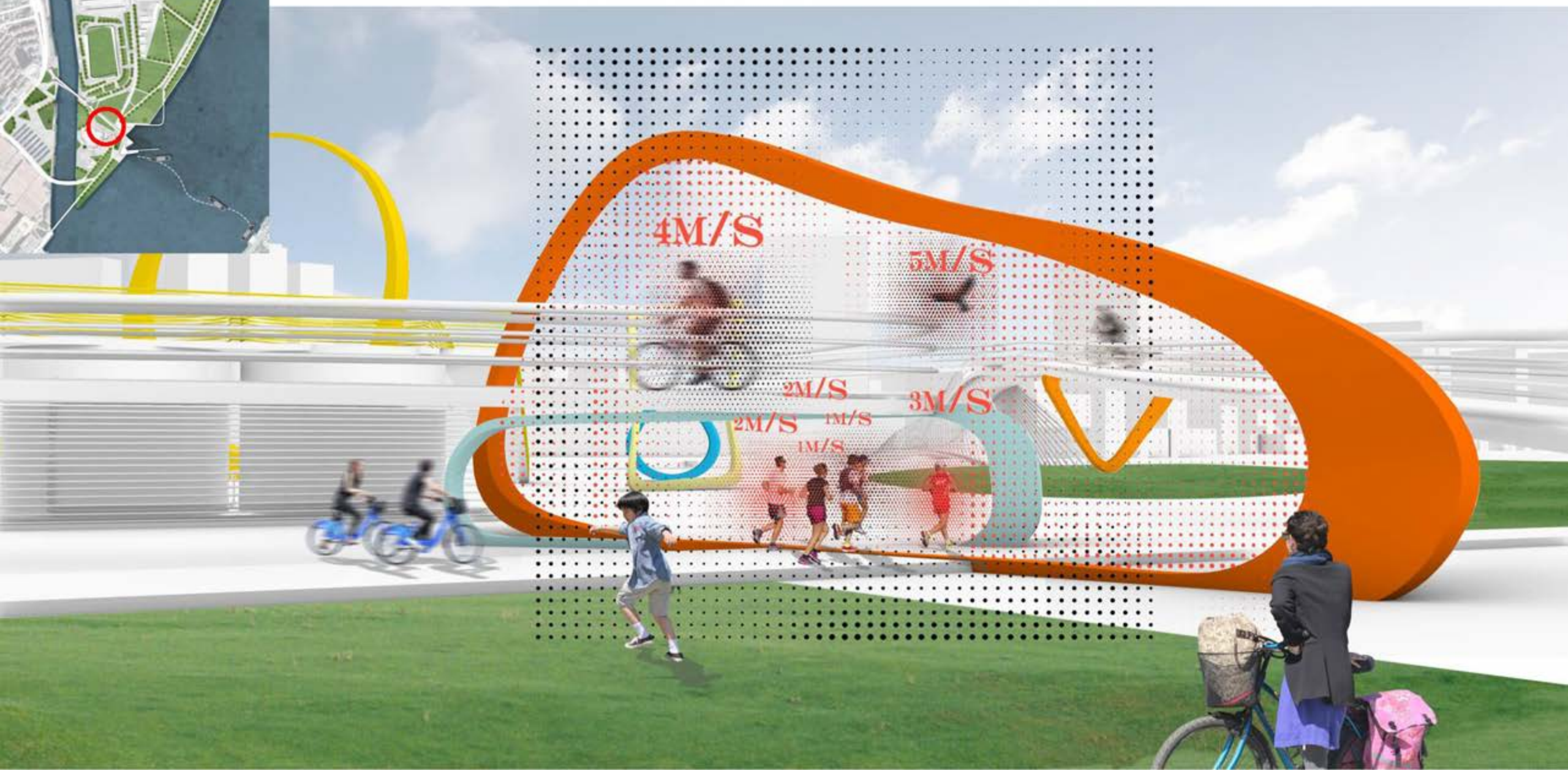
Low-speed bicycle road

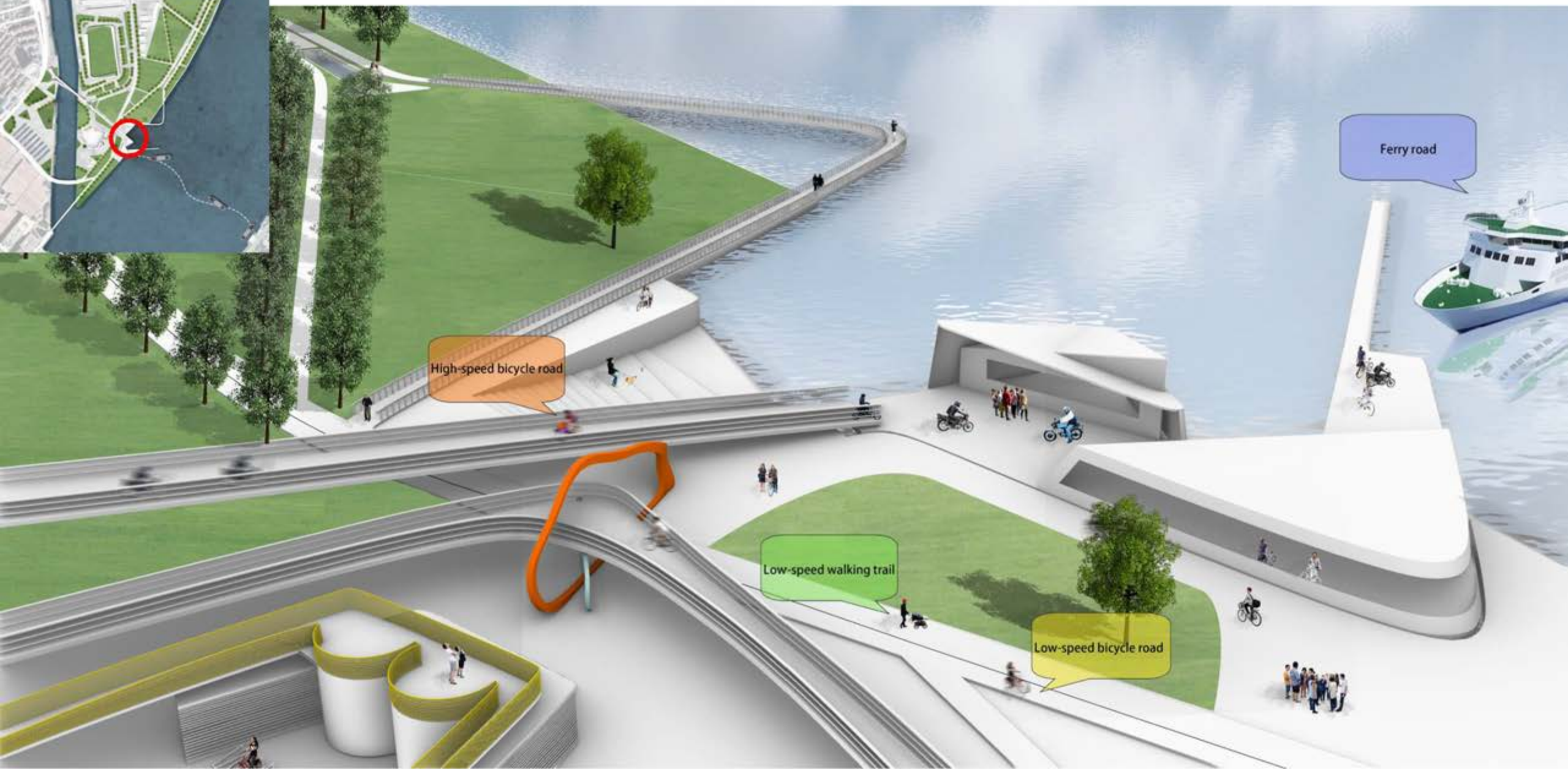


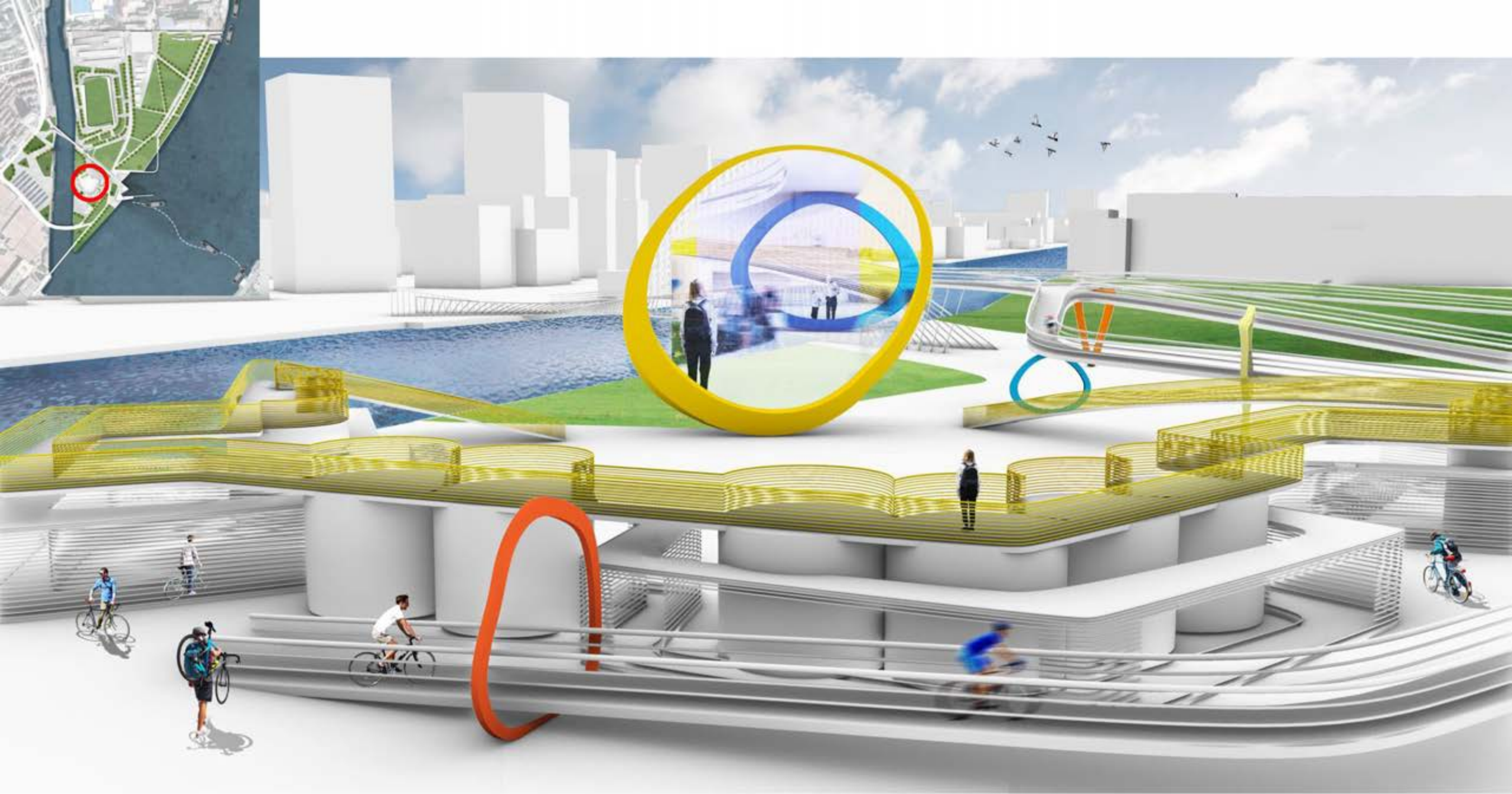




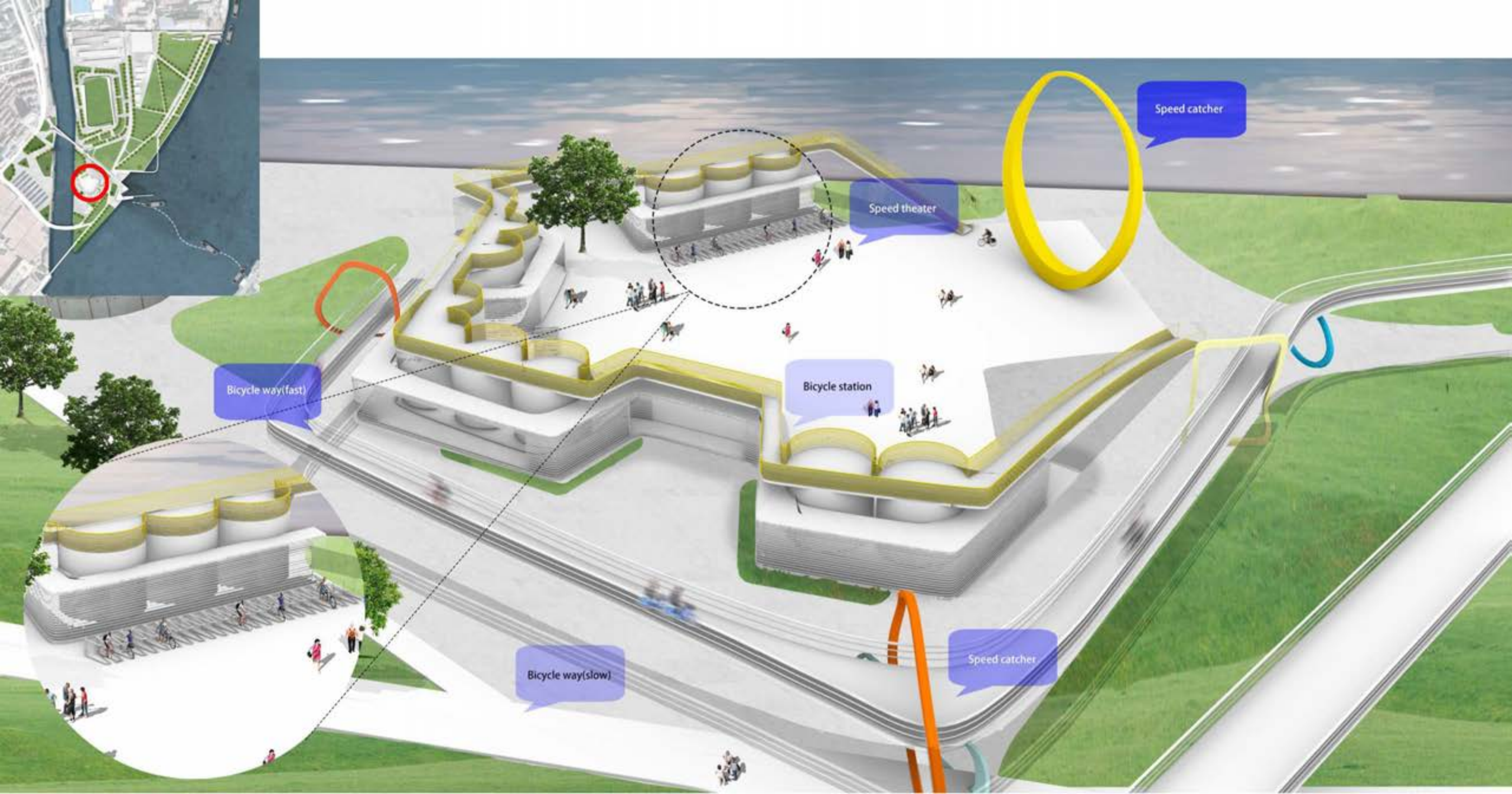


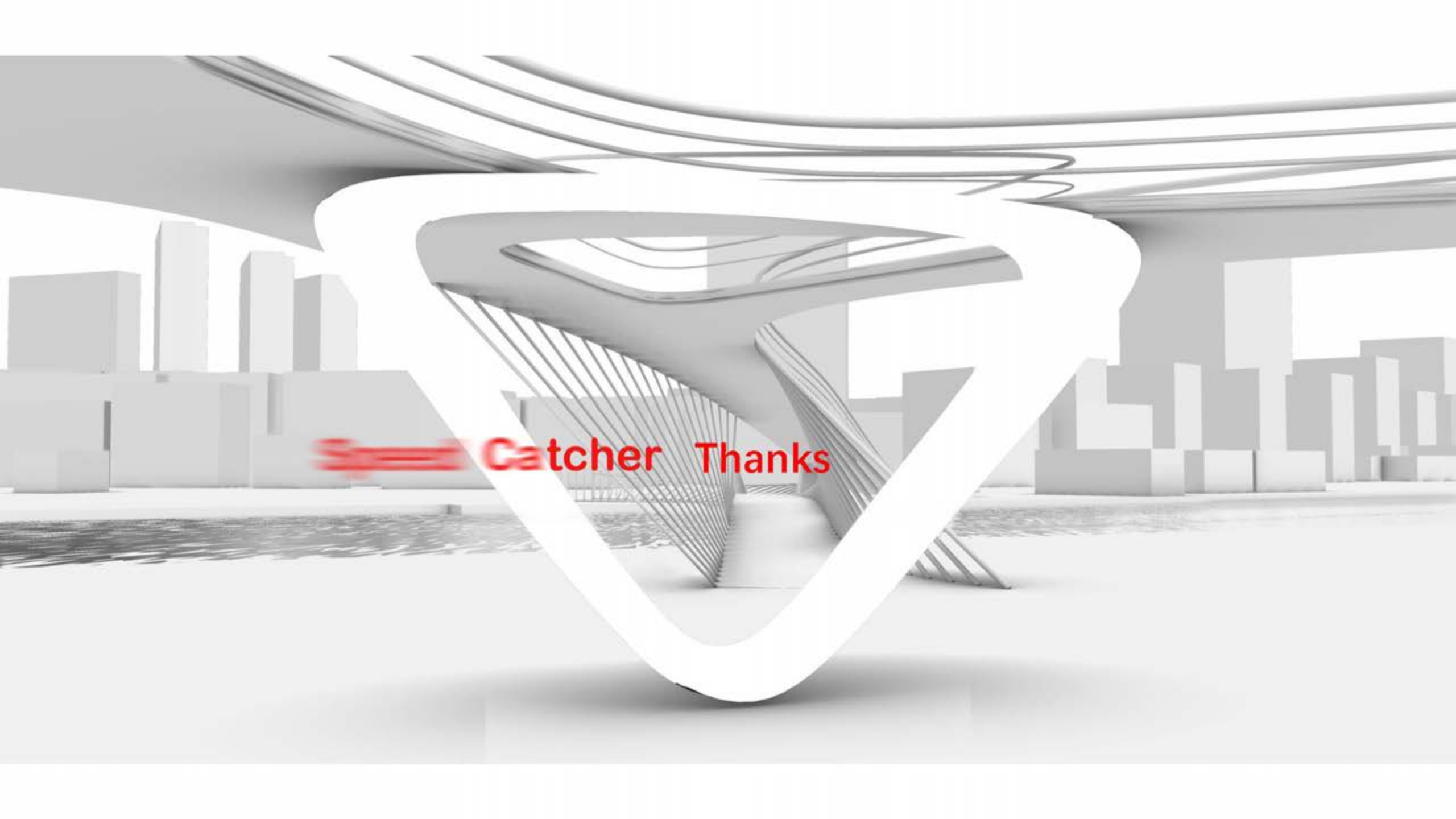












Speed Catcher Thanks

2021 SWA SUMMER
STUDENT PROGRAM

SHANGHAI, CHINA

URBAN RESILIENCE

EXPLORING THE HUANGPU RIVER
NORTHWEST BUND WITH A NEW
URBAN FABRIC

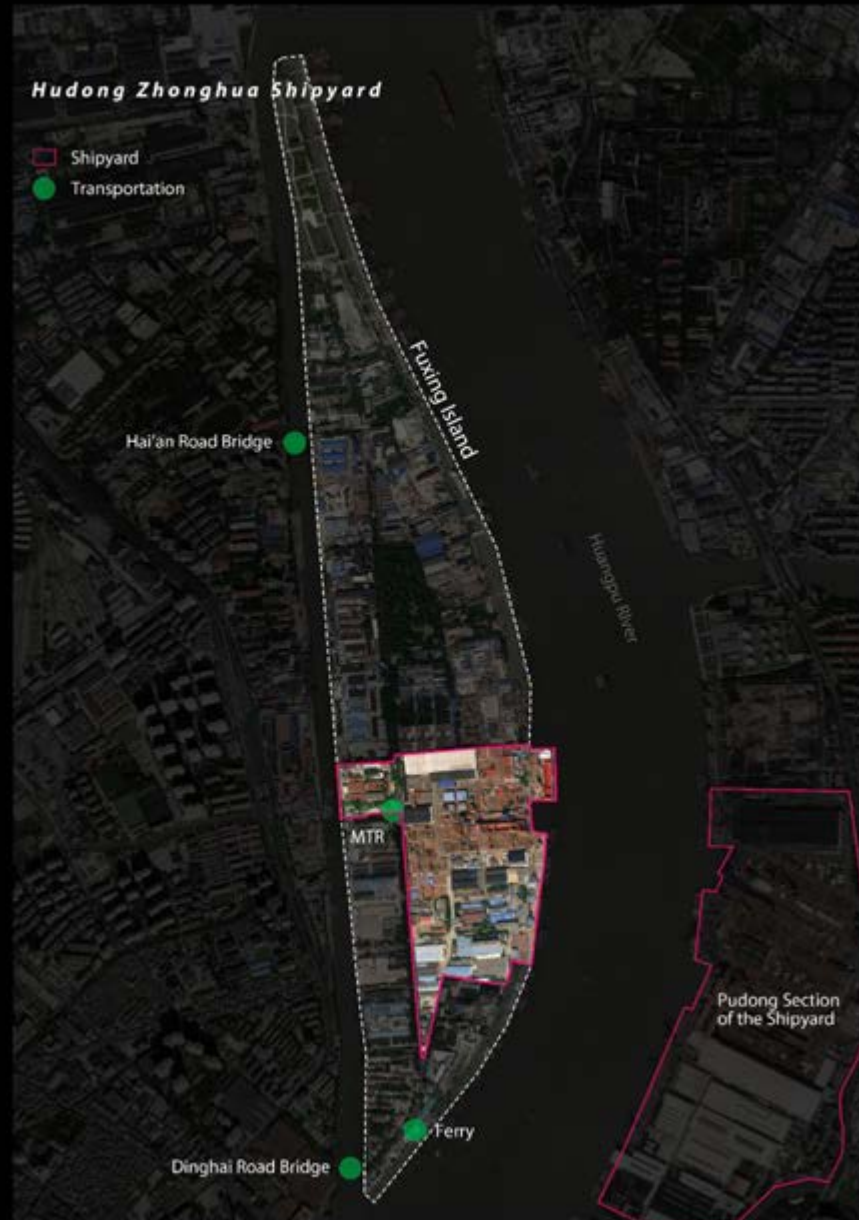


"BATTLEFIELD"

- Hudong Zhonghua Shipyard-

2030.08.20

Hudong Zhonghua Shipyard on Fuxing Island



1927-1937



1938-1944



1945-1949



1950-1990



My great-grandpa's Zhonghua Shipyard was built in 1926 as the first industry on the island, and was merged with Hudong Shipyard into one later.
我曾祖父的船厂，中华造船厂在复兴岛的南边，建于1926年，是岛上的第一个工业企业。21世纪初和黄浦江对面的沪东船厂合并成为沪东中华造船厂。

2022.07.30

A design student came to me. She had a new idea for my grandpa's shipyard.

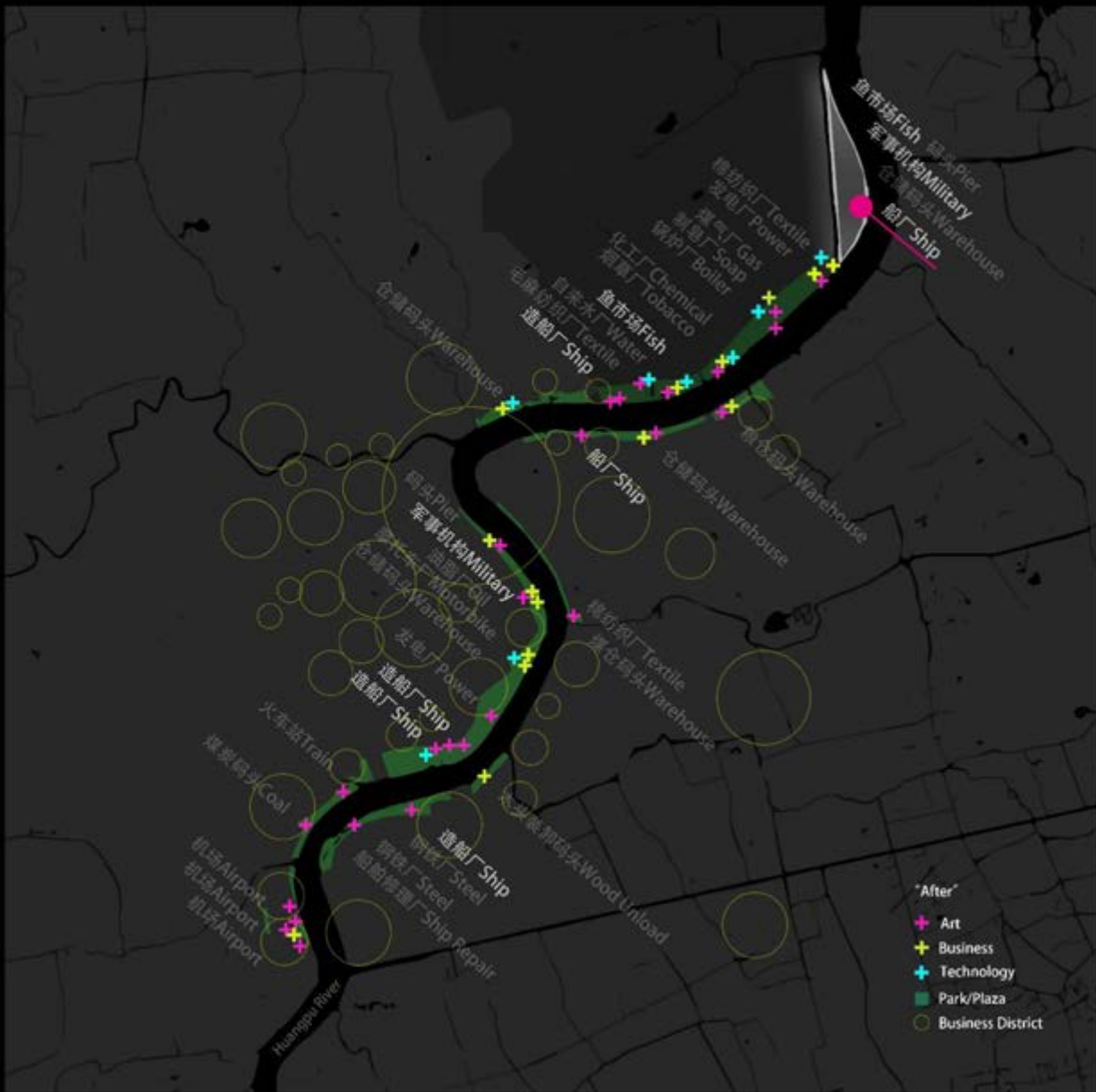
一个设计专业的学生找到了我，告诉了我她对船厂未来的想法。

Shipyard's Identity | A National Enterprise in Yangpu District



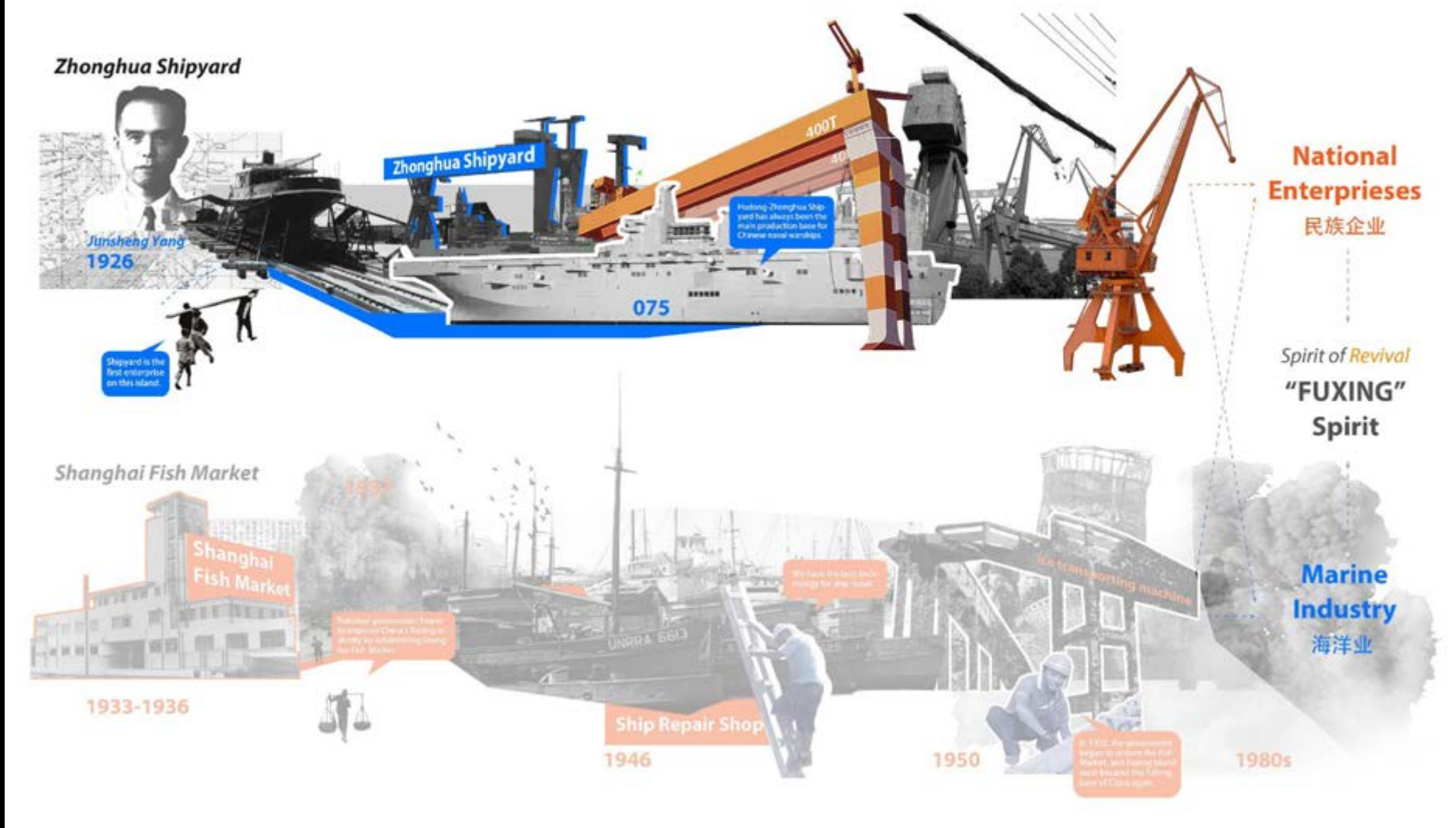
She told me that the shipyard was a well-known and scarce national enterprise outside the foreign settlement in Yangpu District in the 20th century.
她告诉我，这个船厂在 20 世纪的时候是一个很有名的民族企业，它并不在上海杨浦区的公共租界内。

Shipyard's Identity | How to differentiate from the industrial transformation?



And knowing all the old industries along the river, the main question is how to differentiate the shipyard from the other art, commercial, and technological transformations?
在了解了整个黄浦江沿岸的工业遗迹改造后，我们的问题是如何将中华造船厂的未来区别于滨江成功的艺术商业科技改造？

Shipyard's Identity | Spirit of Revival in "Battles" - "Battlefield"



My great-grandpa's story of fighting and negotiating with the enemies to keep and revive his shipyard becomes the key for future. And also most ships were built for military defense. 在抗日战争前后，曾祖父为了船厂的兴旺与多方谈判的故事成为了这个船厂未来发展的重要线索，并且这个船厂制造的大部分船只都为国防事业做出了巨大贡献。



Therefore, the big idea is for current generation to inherit the spirit of revival in the "battles" left by the previous generations in the new "Battlefield", the old shipyard.

因此，这位设计学子的概念是将船厂改造成“竞技场”，在新一代的参与和努力下，延续并发扬旧船厂的在战斗竞技中的复兴精神。

"BATTLES" in the "BATTLEFIELD"



Athletics 运动竞技

Chinese Top Athletics

Ping-pong Ball
Skating
Swimming
Running
Trampoline
Volleyball
Basketball
Diving
Rowing

Chinese Traditional Athletics

Weiqi
Chinese Chess
Kungfu
Martial Art
Mahjong
Game of Bridge

21st Popular Athletics

Skateboarding
Streetdance
Triathlon
E-sports
Sky-diving
Indoor Gym

Technology 头脑风暴



AI, VR, and Robots

AI Exhibition
AI Lab
VR Center
Robot Lab
Robot Runways
Testing Ground
Robot Competition
High-tech Store
E-sport Center

Computer Science

Programming Class
Programming Competition
Studio/Lab/Office
Maintenance Center
Exhibition
Conference/Lecture

Start-ups and National Brands

Flagship Store
Exhibition
Office/Lab
Trading Center
Fashion Show
Workshop

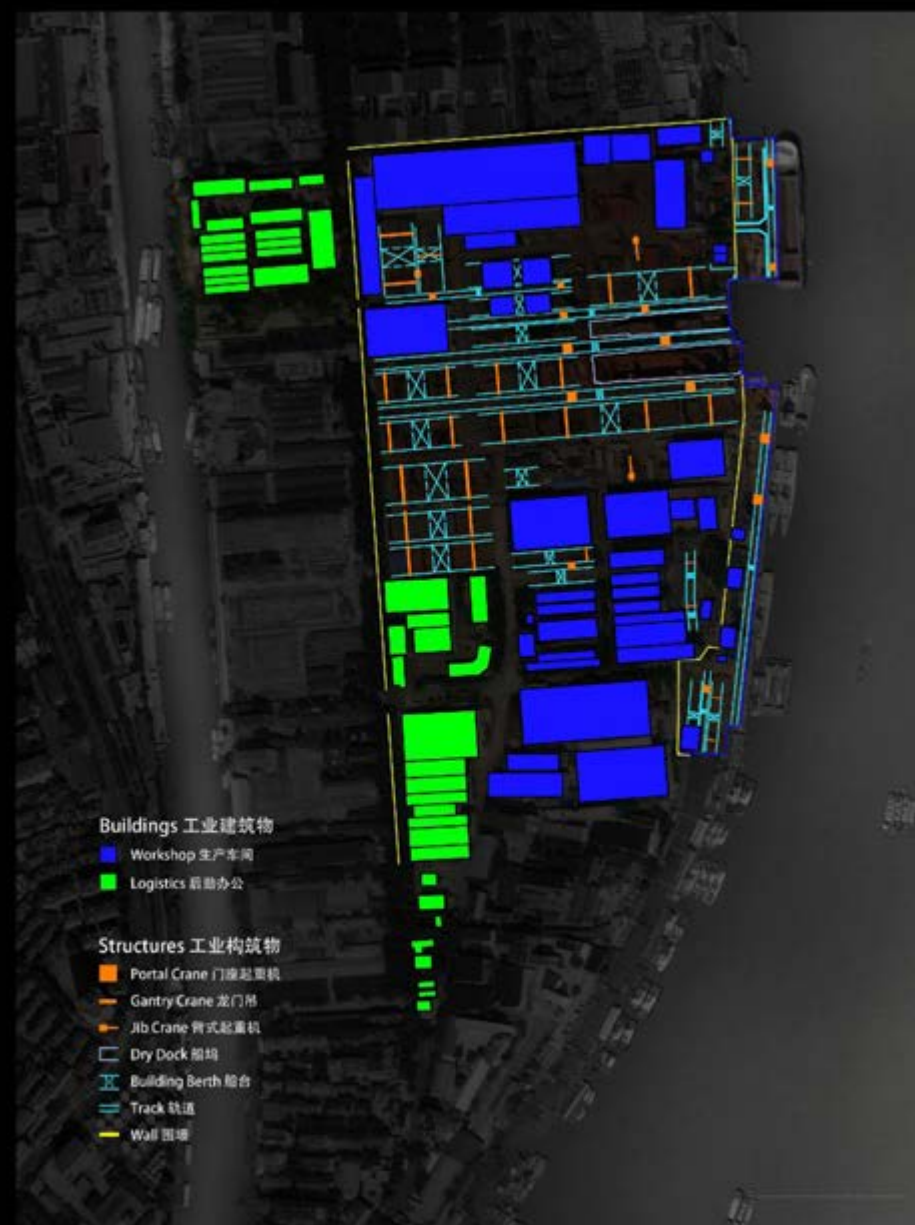
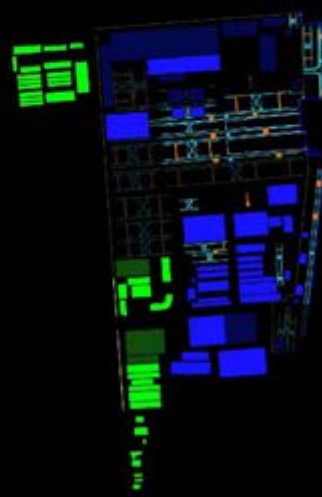
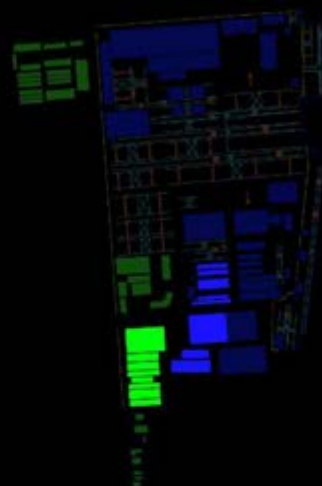
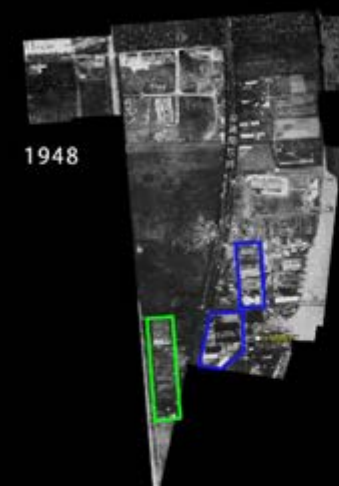
And the battles in the 21st century could be categorized into athletics and technological battles, and here is a list of the battling programs.
而在相对和平的 21 世纪的中国，战斗的定义已经转变。竞技场的“战斗竞技”项目将被分为运动竞技和头脑风暴。

2022.08.01

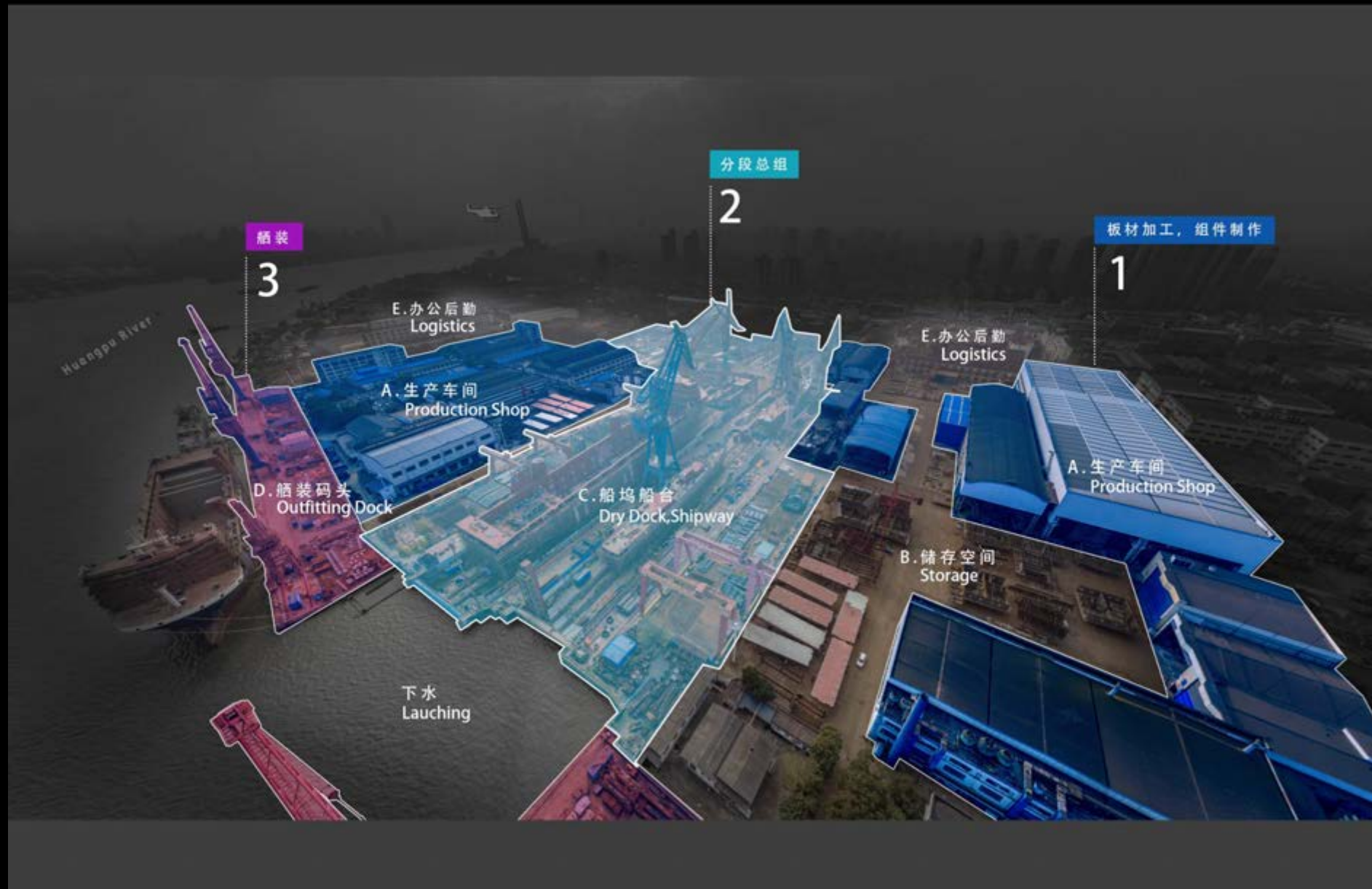
After our meeting, I decided to give her a try. So I took her inside the shipyard.

上次的谈话后，我决定让她试试，于是我带她参观了封闭许久的船厂。

Site Evaluation | Historical Growth

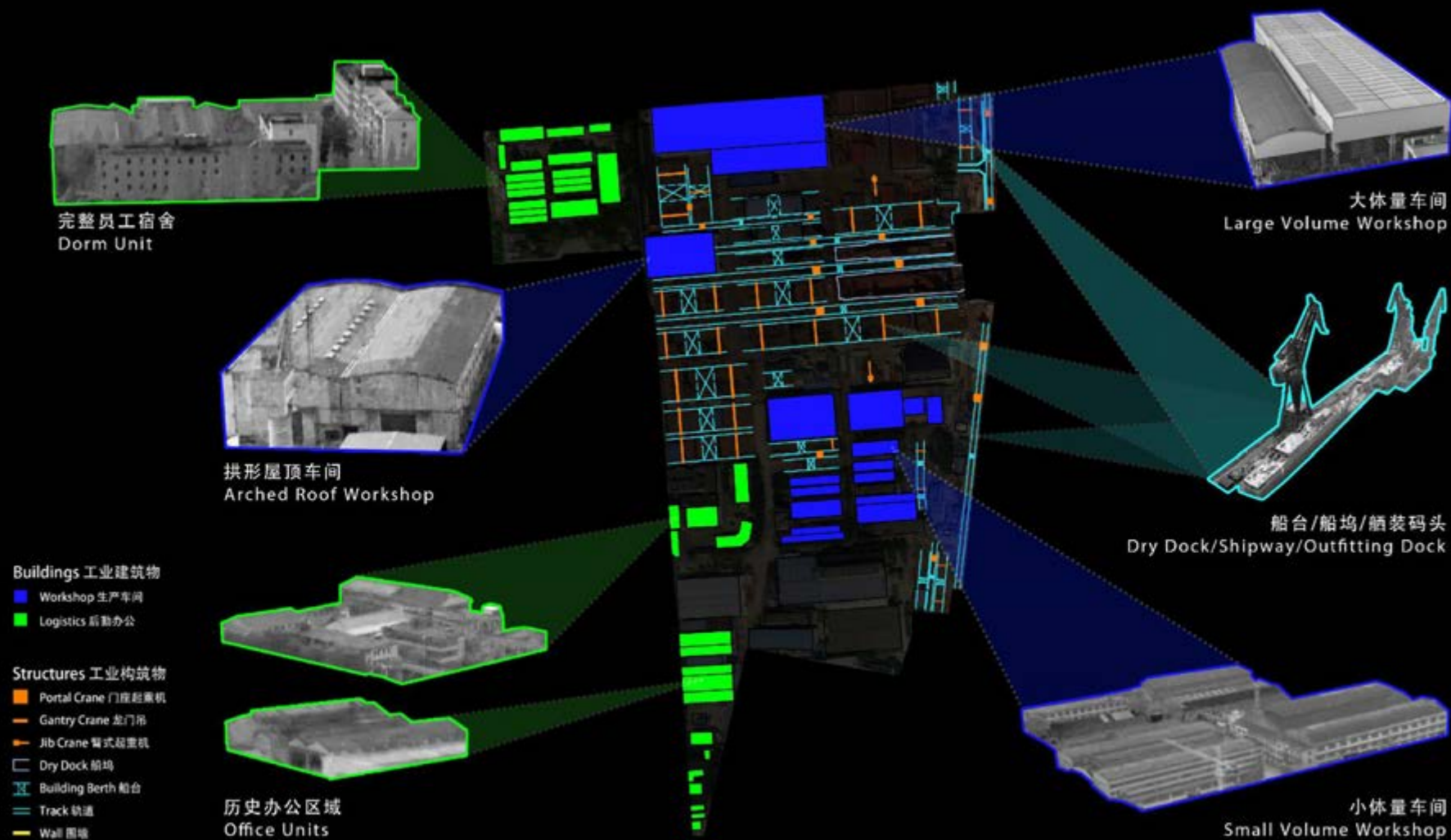


She mapped out the historical growth of the shipyard, and figured out the function of each buildings.
她仔细研究了船厂的建造和发展，明白了每个建筑和设备的历史功能。



Then the process of building a ship in the shipyard was also fascinating to know that you need to first build the small modules and make them into blocks before wiring the details. 也了解了许多有趣的造船流程，以及和造船厂空间布局的关系：造船就像搭积木，从小组件到大体块，最后再装一些零件。

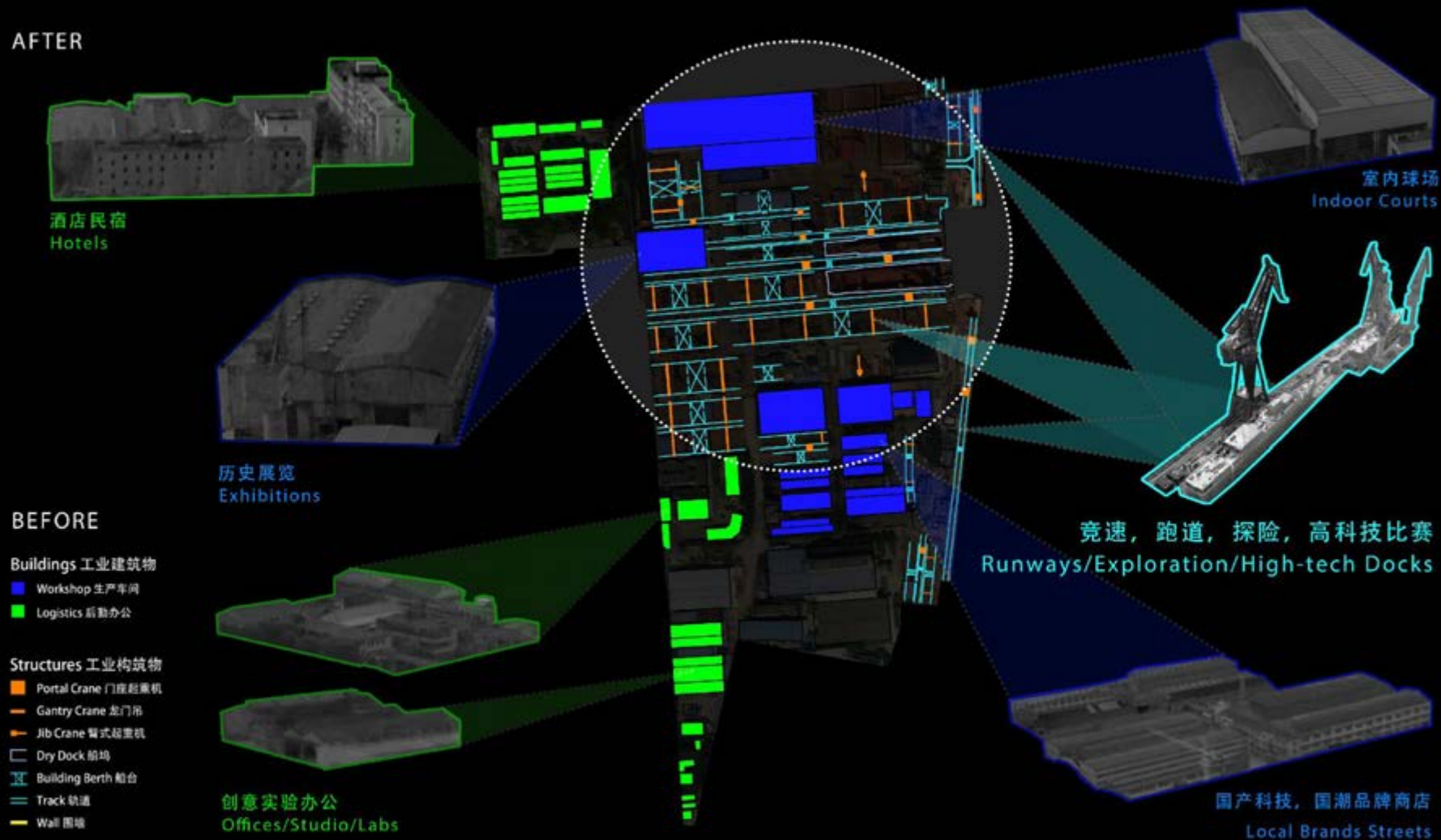
Site Proposal | Reused and Removed



After evaluating the conditions and the history of the buildings and structures, some are to be removed while the important ones reused.
在对场地现有建筑和工业设备的情况和历史价值进行了充分的分析后，有些建筑将被拆除，有些将被重新改造使用。

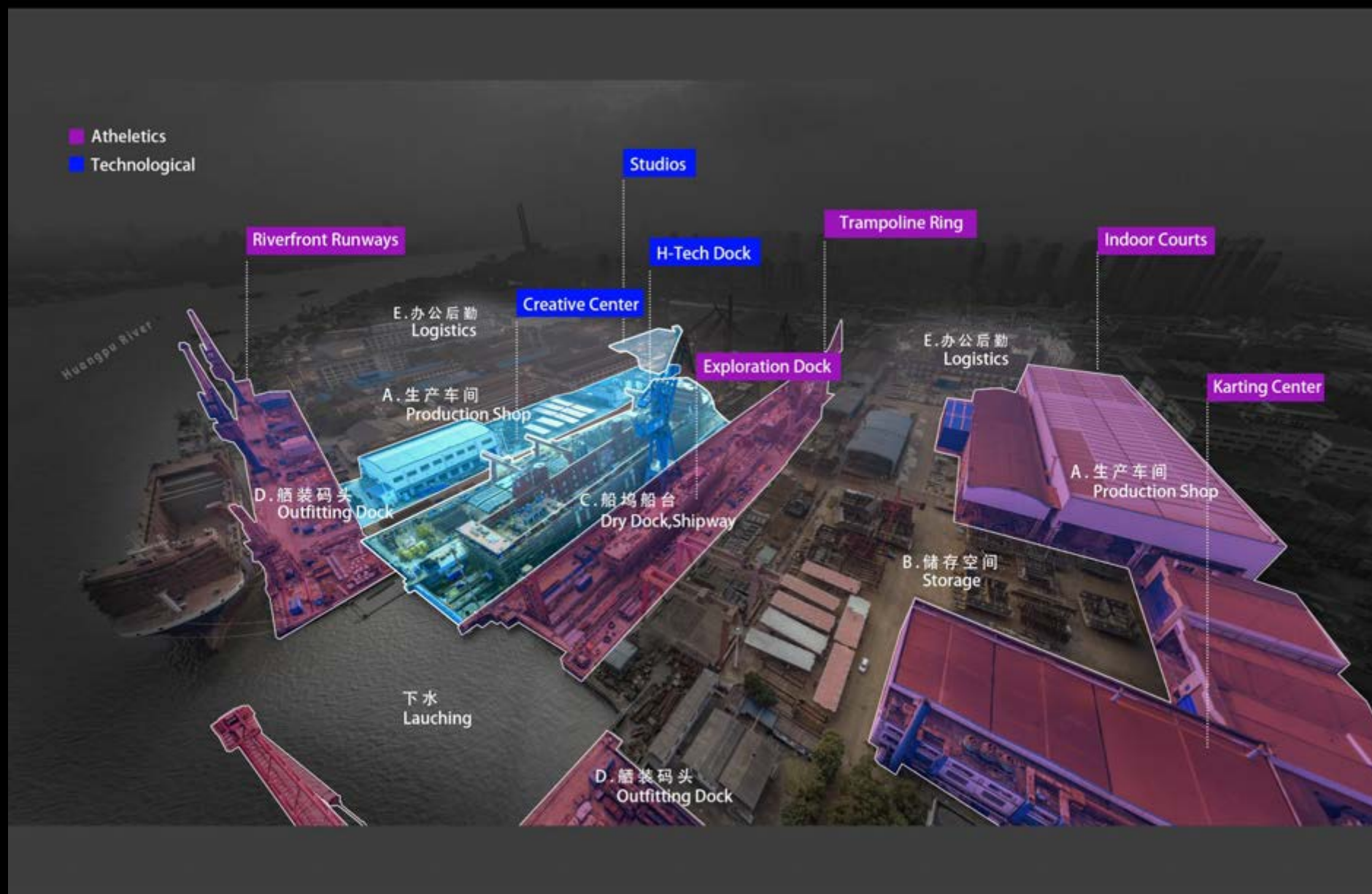
Site Proposal | Old and New Function

AFTER



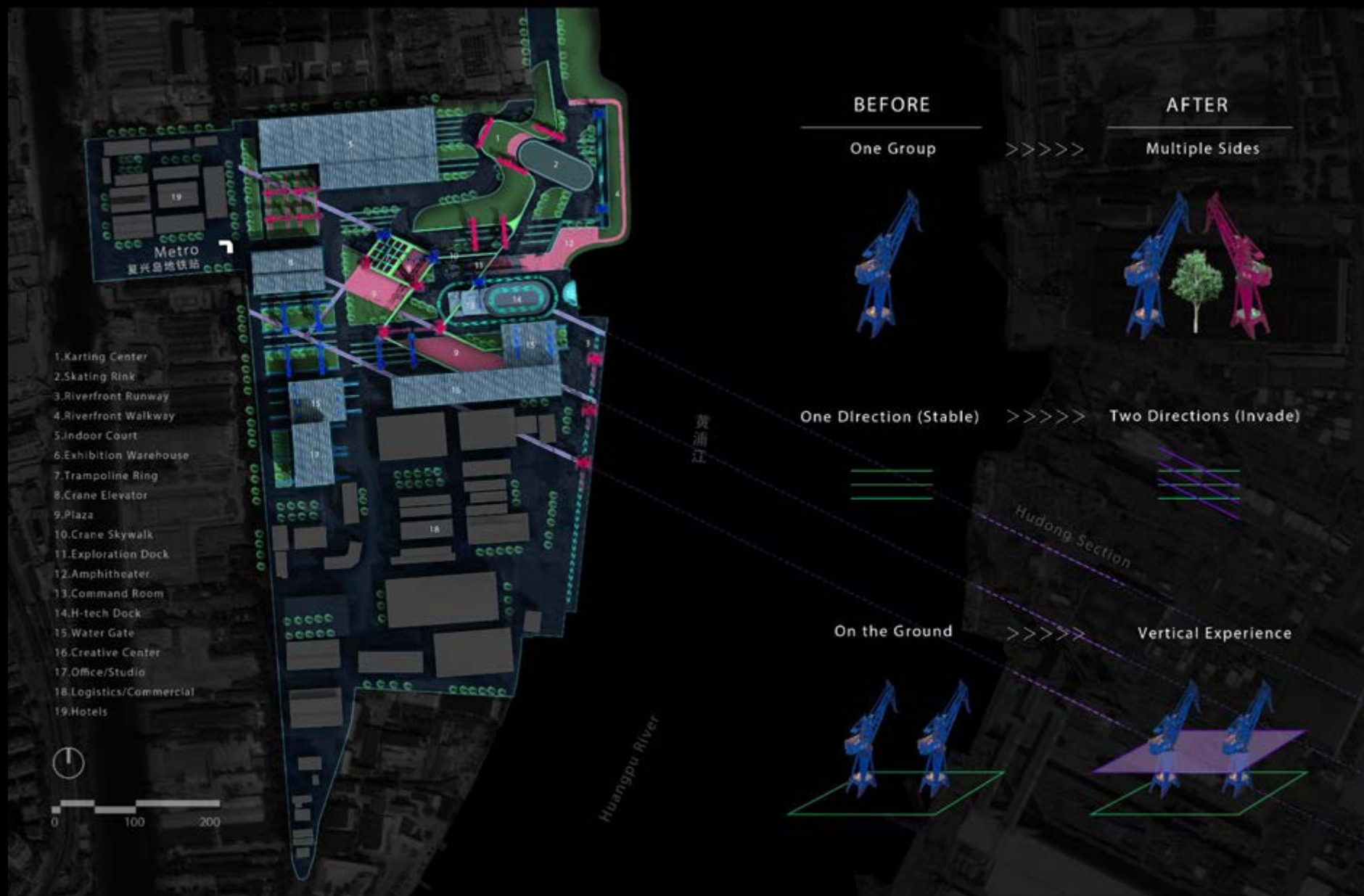
The battling programs are applied to the buildings and structures based on the volume and old functions, like tracks into runways. And the focus will be the docks.
根据旧建筑和设备的体积和使用功能，赋予了新的战斗竞技项目，比如将轨道改造为跑道。整个项目设计的重点也将是轨道附近的船坞和船台。

Site Proposal | Program Locations in the "Battlefield"



This is how the old shipyard looks from the bird-view with the new programs of "battles". Most athletics are on the north, while the techs on the south.
这是新竞技项目在旧船厂的具体位置，可以看到大部分运动竞技在北边（右侧），大部分头脑风暴项目在南边（左侧）。

"Battlefield" | Design Strategies



Finally, this is the "battlefield", which highlights the motion of battling by colors, textures, a new linear direction pointing towards Pudong shipyard, and vertical experience. 这就是未来的“竞技场”：除了项目，在设计策略上，通过颜色和材质的对比，一个新的路网方向（朝向沪东船厂），和立体空间体验来强调场所的“战斗竞技”。



2030.07.20

After 8 years of detail design and construction, the shipyard first opened to the public as "Battlefield".

今天曾祖父的船厂以“竞技场”的新样貌，第一次向公众开放。

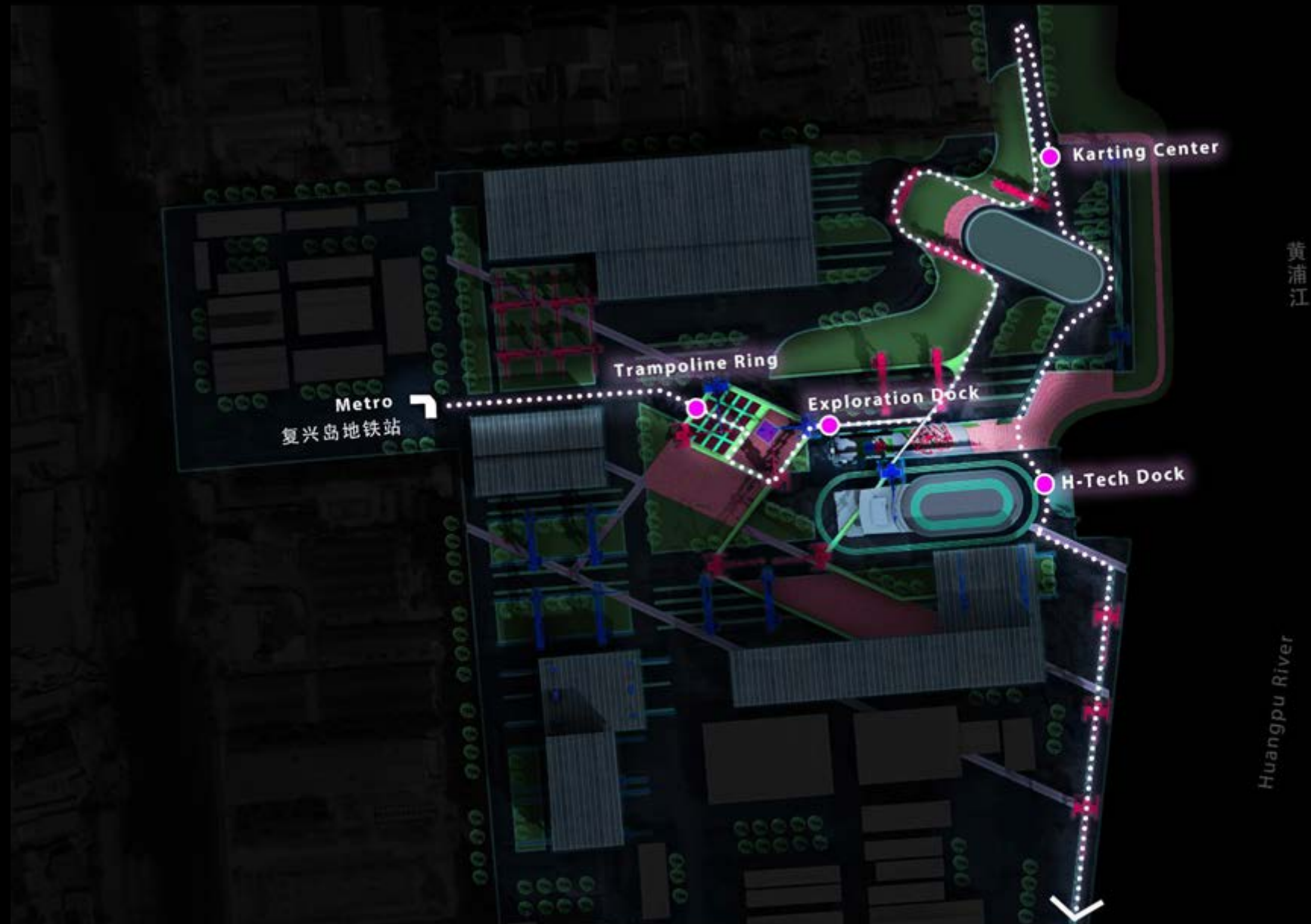


今天来了爷爷年轻时候工作的中华造船厂
现在叫 BATTLEFIELD
白天晚上不一样！！可以呆一天！
也太燃了吧！！！好多竞技项目高科技电
竞比赛什么的！
强推！！！！为我是中国人而骄傲！



1分钟前 删除

"Battlefield" | Main Entrance and Programs



This is my route for visiting the shipyard. I came by subway and enter the main entrance. I went to four main programs in total.
推荐给大家我去“竞技场”游玩的路线。我从地铁站出来，先来到了主入口，一共游览了四个主要项目。

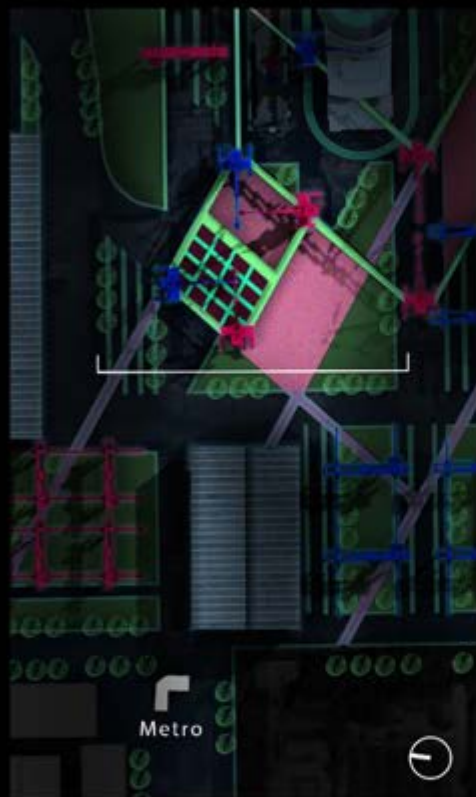
"Battlefield" | Trampoline Ring



The first one is the "Trampoline Ring", which is near the main entrance.
第一个项目是高空蹦床台，离入口最近。

"Battlefield" | Trampoline Ring

PLAN



Skywalk (7m)

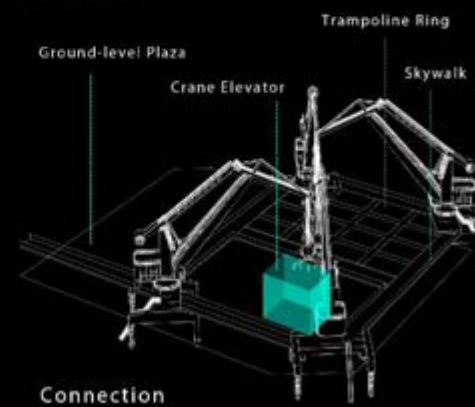
Ground Level



BEFORE

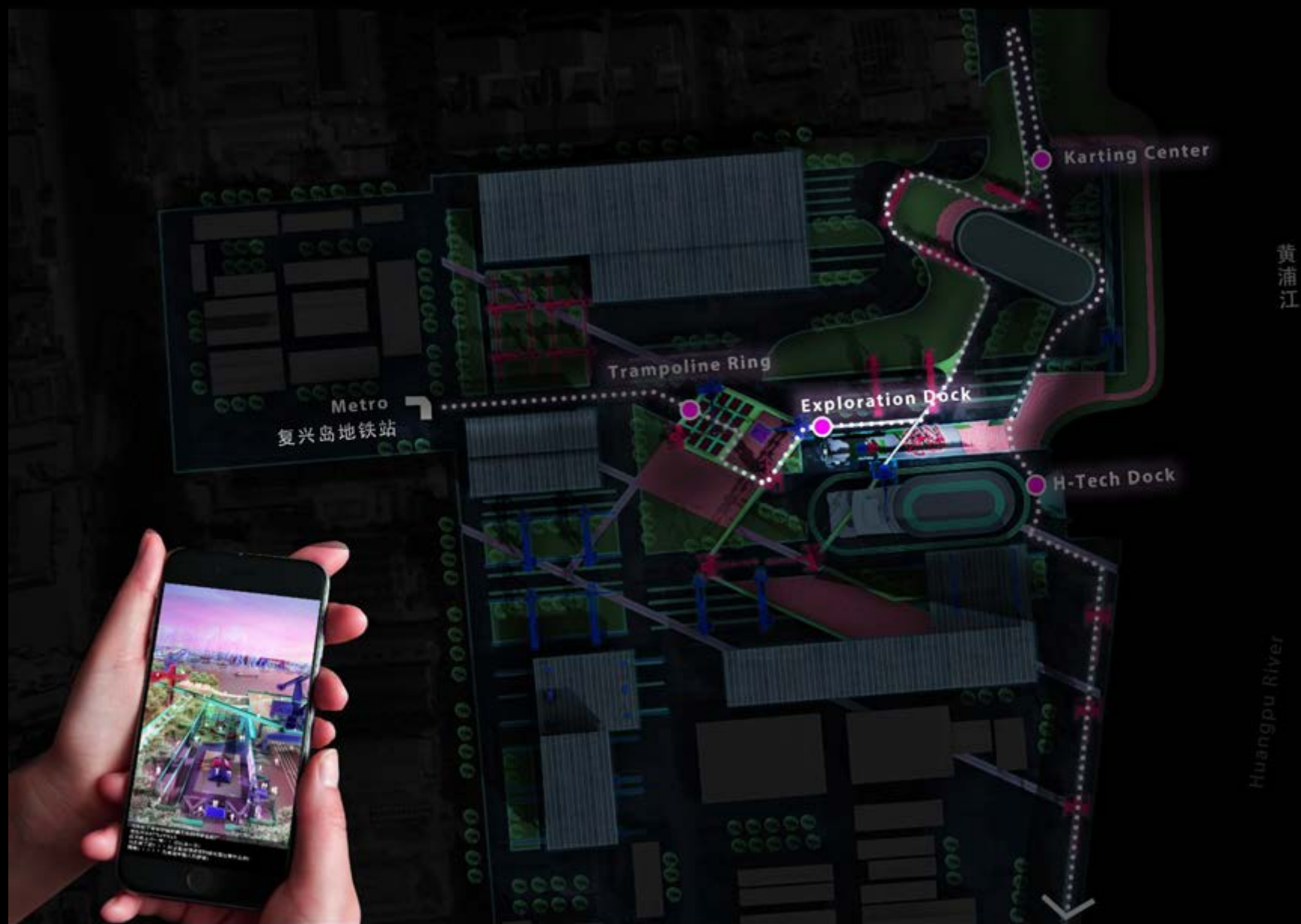


AFTER



The "Trampoline Ring" used to be four big individual cranes, now connected by a skywalk 7 meters above the ground. You can go up by stairs or crane elevators.
高空蹦床台以前是四个独立的门座式起重机，现在通过高空廊道相连，离地面有 7 米高，除此之外还可以通过楼梯和起重机直升梯到达。

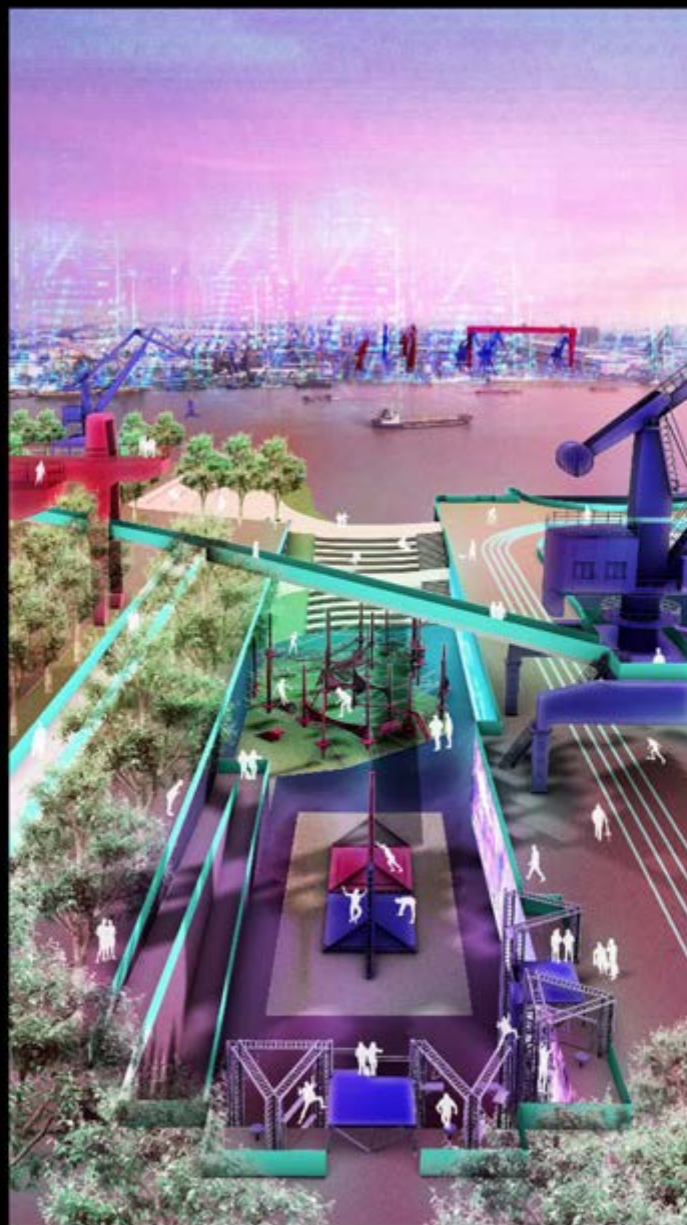
"Battlefield" | Exploration Dock



The second one is the "Exploration Dock", which is one of the two old docks near the Huangpu River, the smaller one.
第二个是探险船坞，曾经是沿江两个船坞中小的那一个。

"Battlefield" | Exploration Dock

PLAN

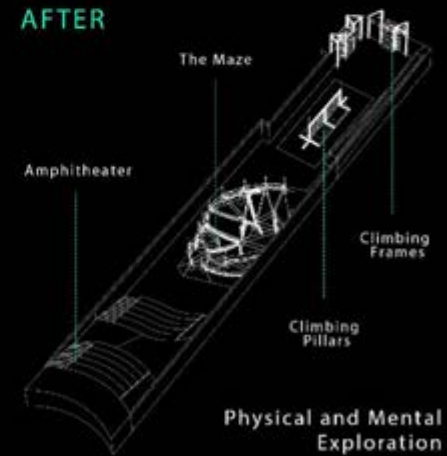


BEFORE



Ship and Dry Dock/
Empty Sunken Dock
(18m x 128m x 6m)

AFTER



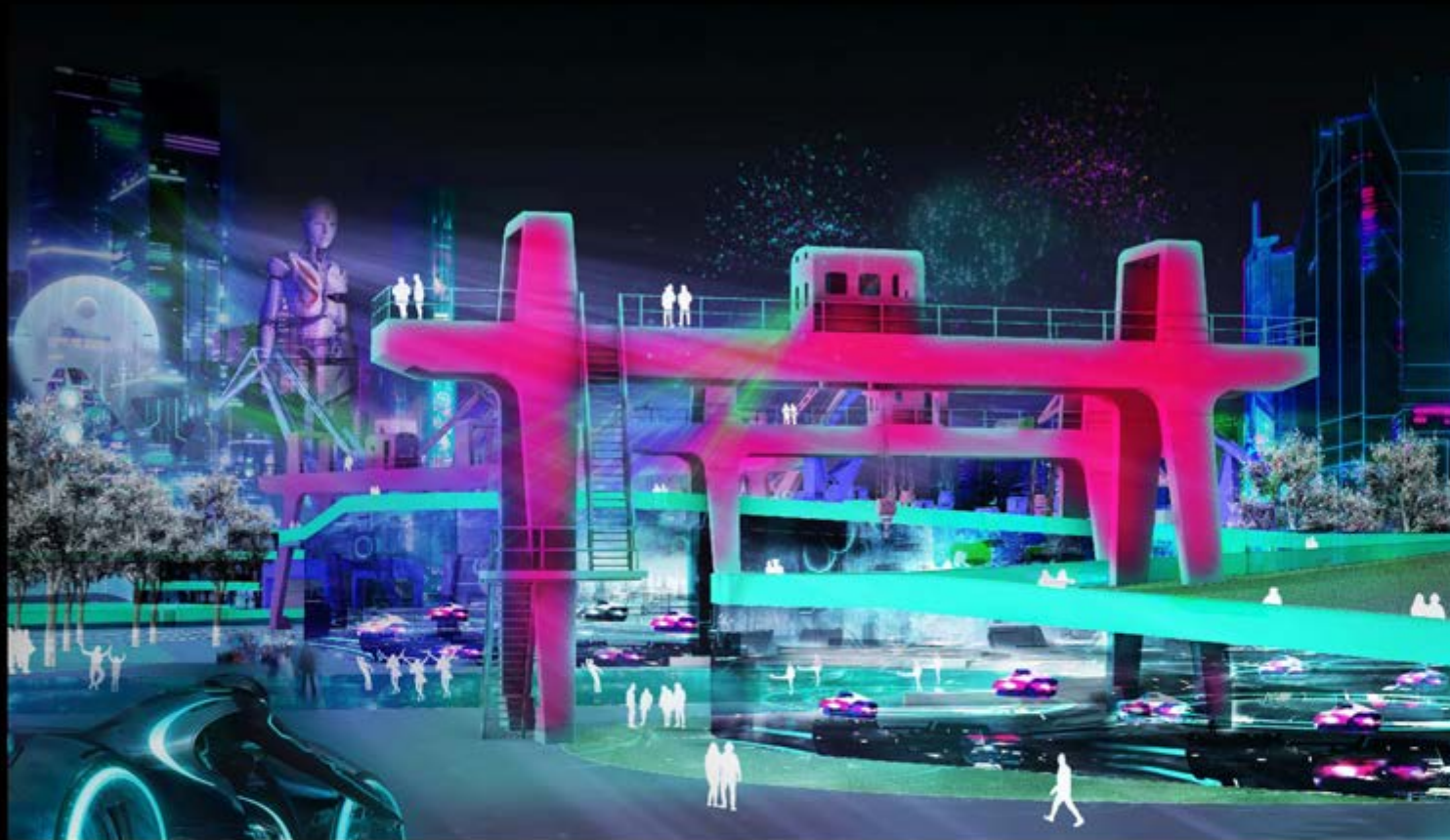
This dock provides several sets of athletics facilities mimicing the old metal structures, like climbing frame, for people to explore their physical and mental potential.
这个船坞模仿了船在建造时骨架的模样，提供了许多可攀爬的设施，为人们提供挑战身体与心理极限的刺激感。

"Battlefield" | Karting Center



The third one is the "Karting Center", which is a earth-covered architecture near the river.
第三个项目是卡丁车场，是一个江边的覆土建筑。

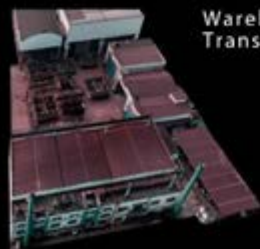
"Battlefield" | Karting Center



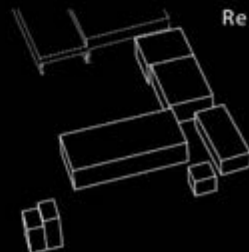
PLAN



BEFORE



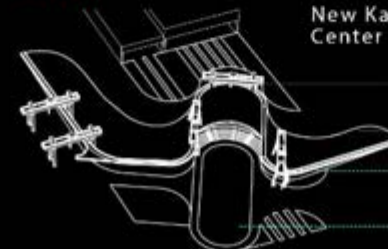
Warehouse/
Transport Equipments



Removed



AFTER



New Karting
Center

Gantry Crane and Skywalk

Earth Covered
Building

Vertical Karting Center

Skating Rink

The Karting Center used to be warehouses, transport equipments, and a few tracks. Now it has inherited the speed, providing vertical experiences indoors and outdoors.

这个卡丁车场曾经是仓库用地，有一些运输设施和轨道。现在它继承了“速度和运输”功能，提供室内室外的立体空间体验。

"Battlefield" | H-Tech Dock



The last one, my favorite one, is the "H-Tech Dock", which is the bigger old dock near the Huangpu River.
最后一个也是我最喜欢的一个，叫做高科技船坞，是较大的那个船坞。

"Battlefield" | H-Tech Dock



PLAN



BEFORE

Ship and Dry Dock

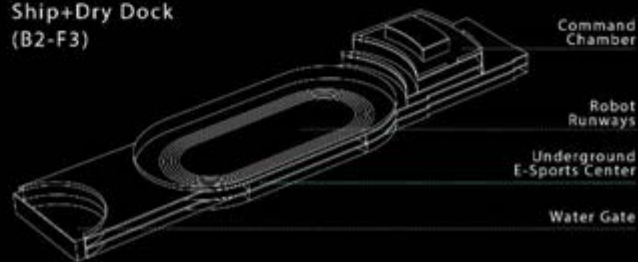


Empty Sunken Dry Dock
(30m x 150m x 6m)



AFTER

Ship+Dry Dock
(B2-F3)



Command Chamber

Robot Runways

Underground E-Sports Center

Water Gate

This dock is now combined with the old function and spatial design of a warship that it contains a commander chamber, robot runway, and underground e-sports center.
这个船坞一共五层，结合了军舰的结构和空间功能，将船嵌入船坞，提供了“指挥室”，“机器人跑道”和一个地下电竞空间。



PLAN



BEFORE

Ship and Dry Dock

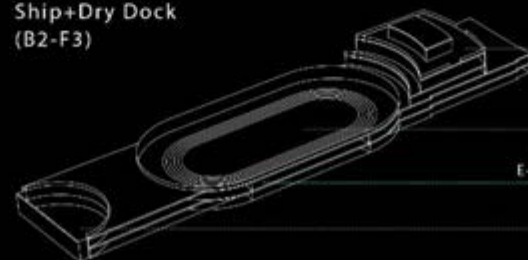


Empty Sunken Dry Dock
(30m x 150m x 6m)



AFTER

Ship+Dry Dock
(B2-F3)



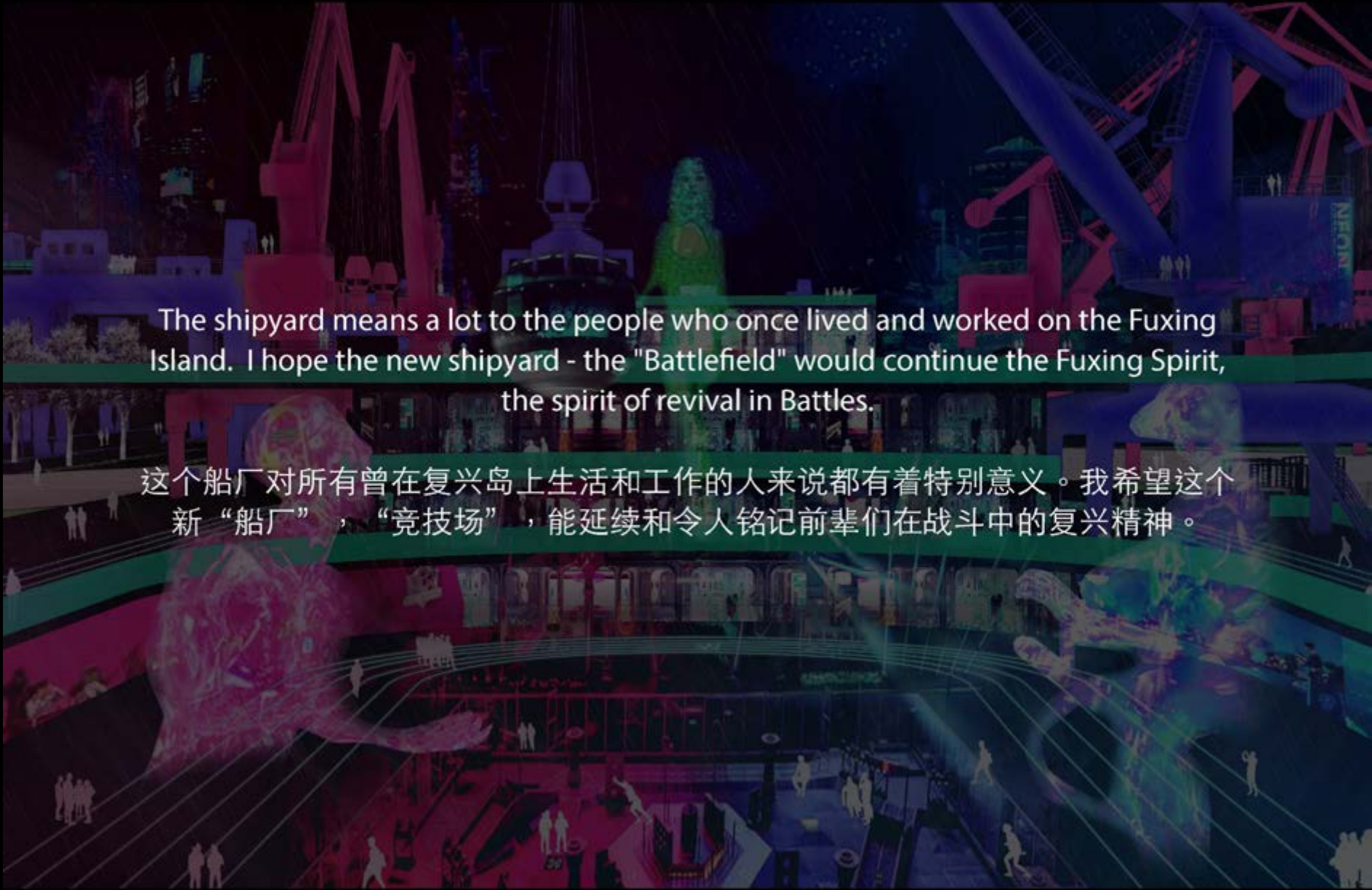
Command Chamber

Robot Runways

Underground E-Sports Center

Water Gate

The dock always hosts robot and e-sports competitions, which showcase the advanced technology and creativity of our nation. And it makes me really proud.
许多机器人和电竞比赛时常在这个高科技船坞举办，体现了我国当代科技水平的发展和年轻人的智慧，让我为国家感到自豪。



The shipyard means a lot to the people who once lived and worked on the Fuxing Island. I hope the new shipyard - the "Battlefield" would continue the Fuxing Spirit, the spirit of revival in Battles.

这个船厂对所有曾在复兴岛上生活和工作的人来说都有着特别意义。我希望这个新“船厂”，“竞技场”，能延续和令人铭记前辈们在战斗中的复兴精神。

"BATTLEFIELD"

- Hudong Zhonghua Shipyard-

Ruoyuan Chen

2021 SWA SUMMER
STUDENT PROGRAM

SHANGHAI, CHINA

URBAN RESILIENCE

EXPLORING THE HUANGPU RIVER
NORTHWEST BUND WITH A NEW
URBAN FABRIC



Ziyao Wang

2021/08/20

Incubator × Attractions



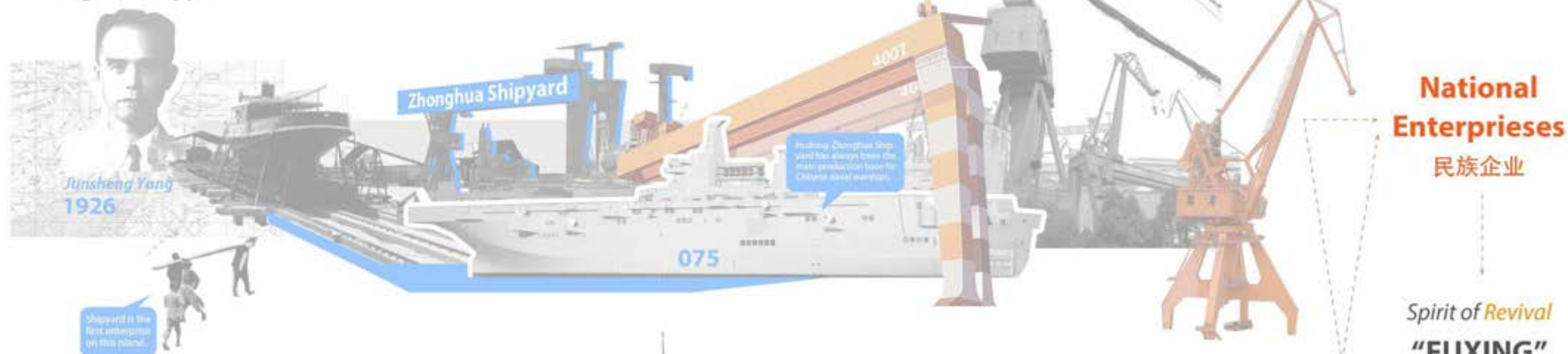
Flashing MARKET

This is a "market" where new ideas gathered and people can exchange their thoughts.

这是一个汇集了许多新的“点子”与“想法”，并可以为这些想法的交流提供机会的“集市”。

HISTORICAL TIMELINE

Zhonghua Shipyard



National Enterprises
民族企业

Spirit of *Revival*
"FUXING"
Spirit

Shanghai Fish Market



Marine Industry
海洋业

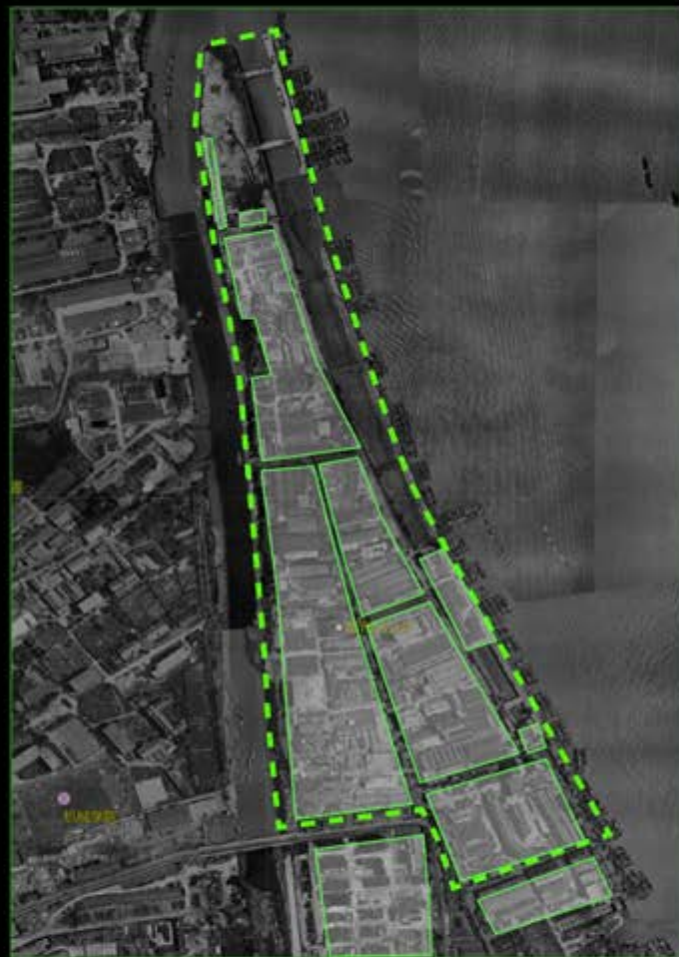
This national marine enterprises demonstrate the Fuxing Spirit in 20th, which is the spirit of revival.

从鱼市场历史发展中可以看到 20 世纪的中国人的“复兴精神”。

HISTORICAL FOOTPRINT



1948



1979

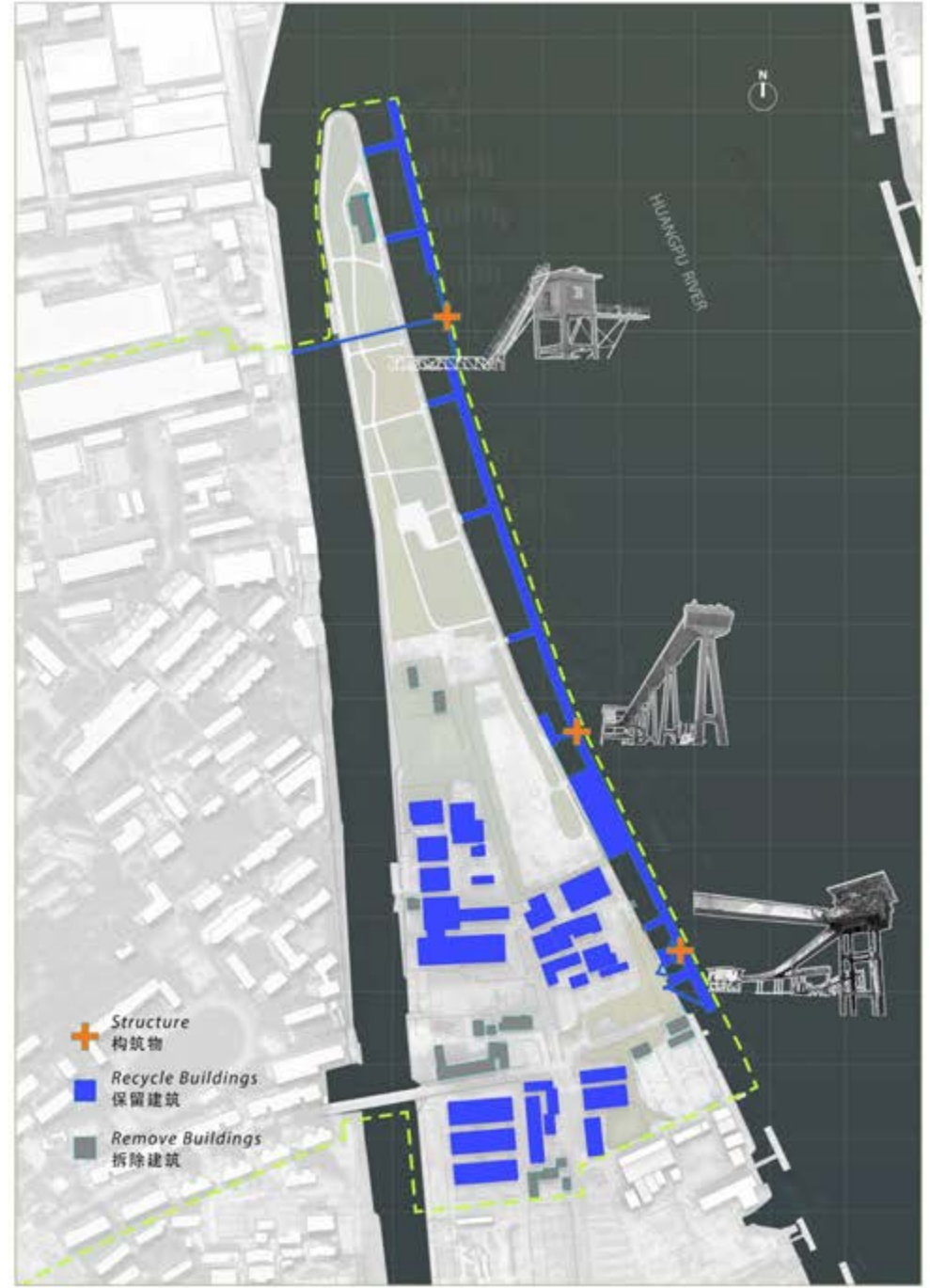


2019

After the decline of the fishing industry in Shanghai in the late 1980s, the fish market closed forever, most of the buildings were destroyed, and the place was occupied by other businesses.

八十年代末，上海渔业衰落，鱼市场关闭，大部分建筑被拆除。



[illegible]

NATURAL LINE & INDUSTRIAL HERITAGE LINE



Fuxing Island, an undeveloped area, is the intersection of the riverfront green line and the industrial heritage line.

It is a "bridge" to connect the nature space and the industry space.

复兴岛是滨江绿带与工业遗迹带的交汇点，是串联杨浦区工业与自然的桥梁。

GROUP OF USERS



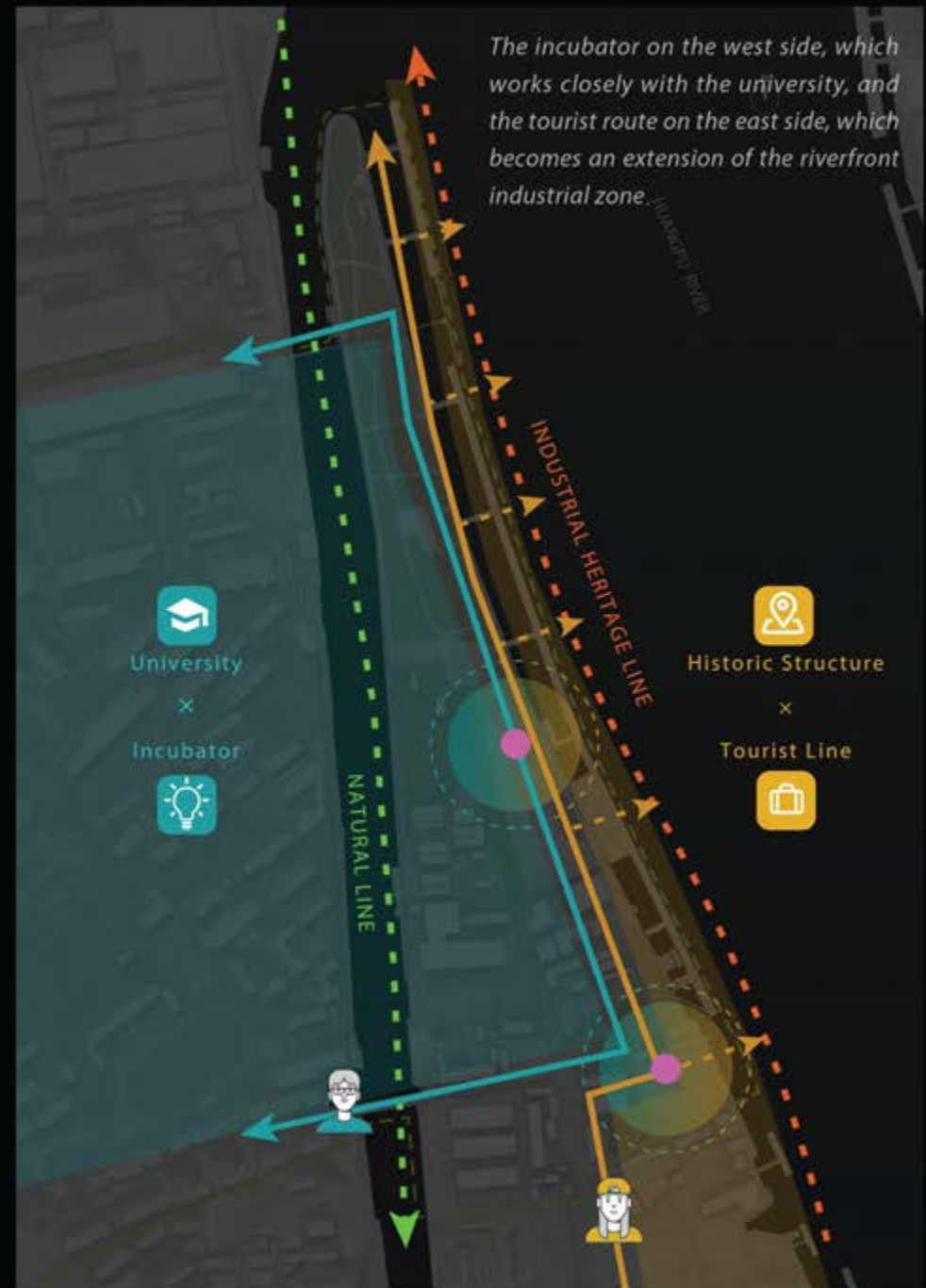
Fuxing Island is close to Universities and located on the tourist belt of Yangpu Riverfront. The Shanghai government has defined the Yangpu district as a technology district, which attracts many Internet companies to move in.

复兴岛紧邻大学，同时位于杨浦滨江的旅游带上。上海政府将杨浦区定位成科技区，因此吸引了许多互联网企业的入驻。



Fish Market demonstrated the Fuxing Spirit of 20th Century. The Fuxing Spirit of 21st Century, should be inherit by us - the current generation.

复兴岛上的民族企业代表了 20 世纪的复兴精神，而 21 世纪的复兴精神应该由我们这一代人继承与发扬。

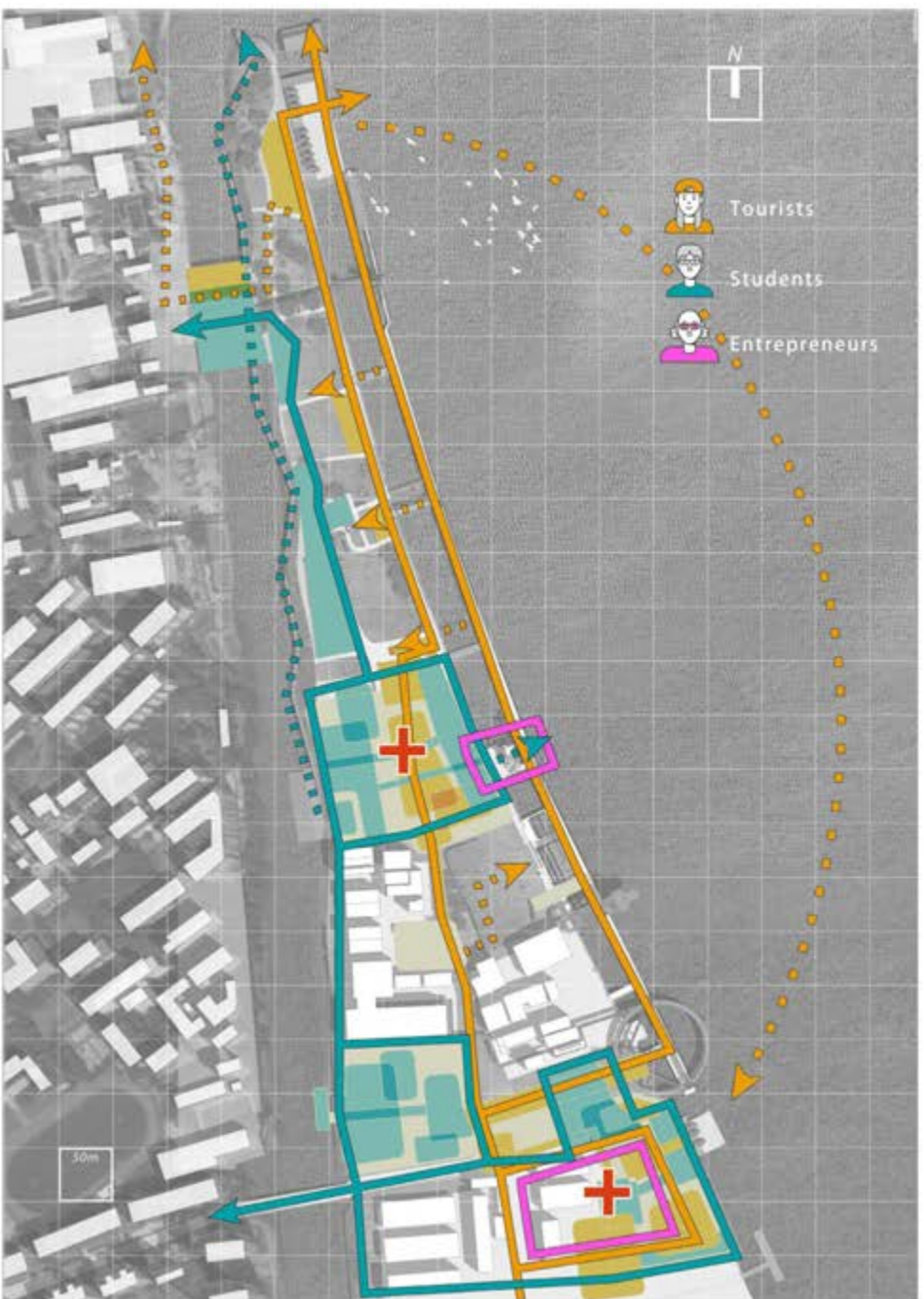


UNIVERSITY × INCUBATOR



I extended one main road of the University and build a bridge to allow students access to the site directly. The incubator is an extra-curricular teaching base for the university, which provided plenty of laboratories and testing spaces which is related to the university's important majors. 我延长了上海理工大学的一条主路，让学生可以直接进入场地。岛上的孵化基地是大学科研基地的延伸，为相关学科提供额外的科研、创业场所与试验场地。

- Laboratory
- Physical Laboratory
- Meeting Room/Classroom
- Indoor Testing Space
- Model Building Space
- Exhibition Hall
- Biological Laboratory



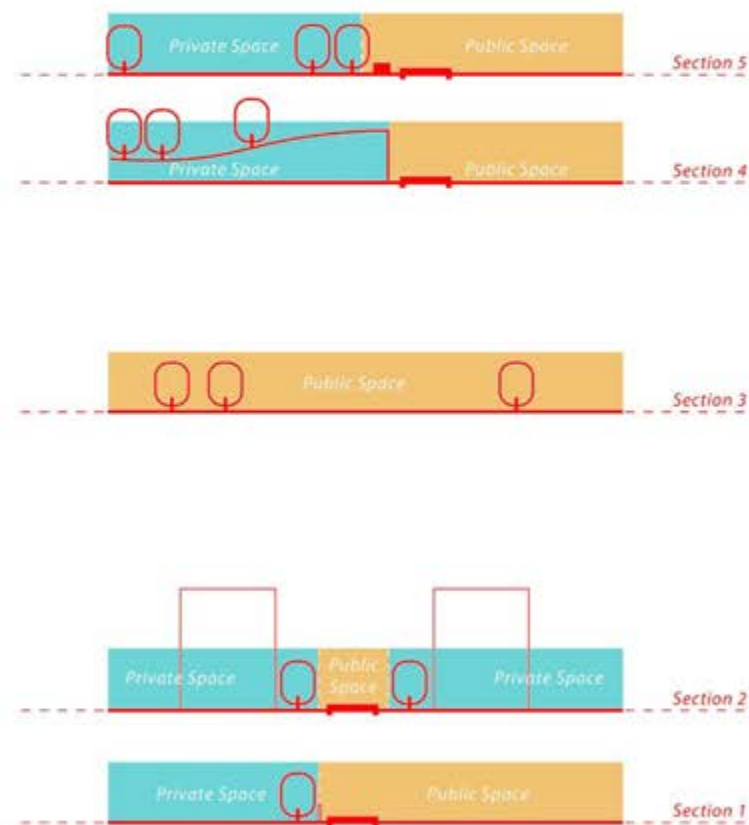
MASTER PLAN & ROUTES OF USERS

PRIVATE & PUBLIC SPACE



Two type of areas are separated by setting up walls, planting trees and building earth sheltered architecture to form a height difference.

通过设立围墙、种植树木、修建覆土建筑等方式分隔两个区域。



A. Laboratory
Testing Ground

B. Viewing Platform
Rooftop Garden
Skywalk

C. Flashing Plaza
Flashing Theater
Flashing Market

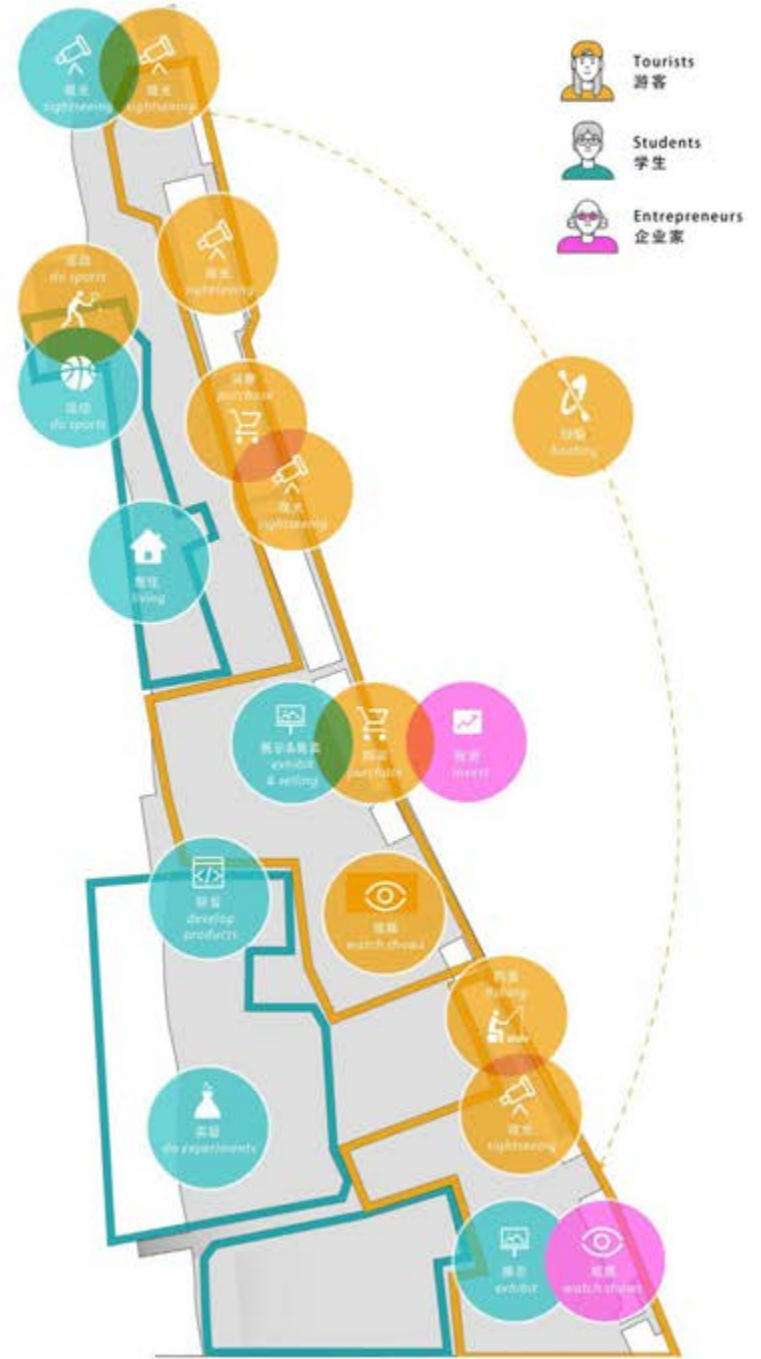
D. Monument
Dormitory
Green Space

E. Birds Tower

F. Sports Field
Birdge

G. Kayak
Viewing Platform

50m



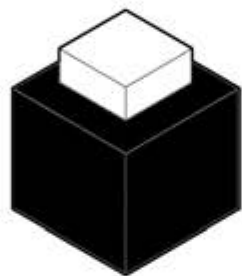
TRANSFORMATION STRATEGY



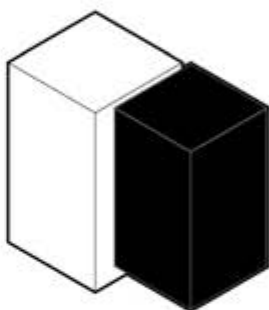
new



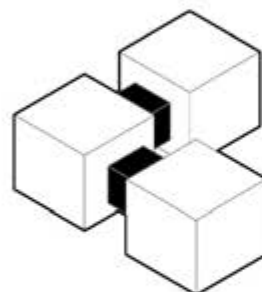
original



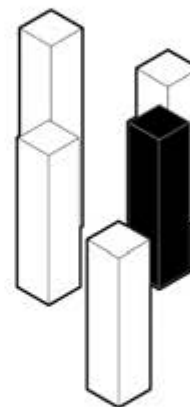
encircle



duplicate



link

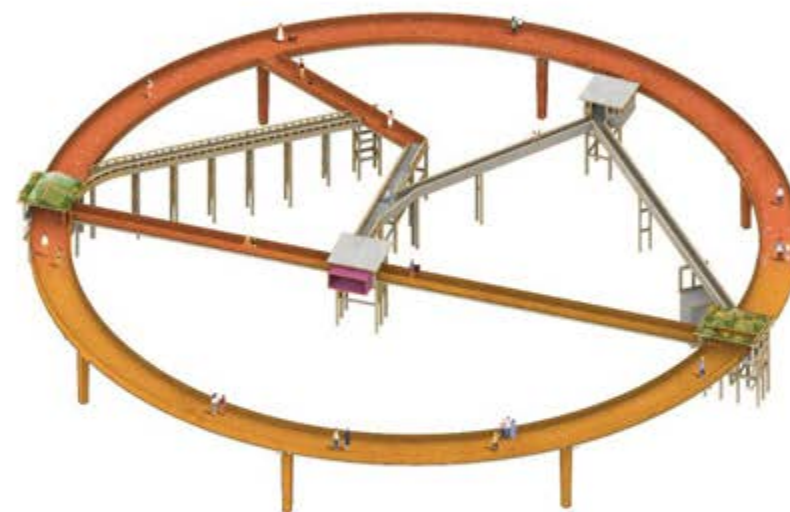


split

TRANSFORMATION STRATEGY



Ice Bridge



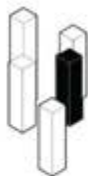
Viewing Platform

Viewing Platform
观景圆环



Walking along the viewing platform, you can see flying birds,
boaters and fishermen, and also views of the entire Huangpu River.
走在环形的观景走廊上，可以看到飞翔的海鸟，划船与钓鱼的人群，以
及整个黄浦江的景色。

TRANSFORMATION STRATEGY



Tourist



Student



Entrepreneurs



Fishmarket Building



Flashing Market

Flashing Market
点子集市



Tourist



Student



Entrepreneurs

Flashing Market 点子集市

This is my graduation project,
I'll show you how to play it.
这是我的毕业设计作品。我来教
你它的使用方法。

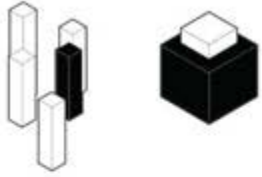
It's really interesting,
where can I buy it?
真的很有意思，我在哪里
可以买到它？

Thank you for
investing in my
products!

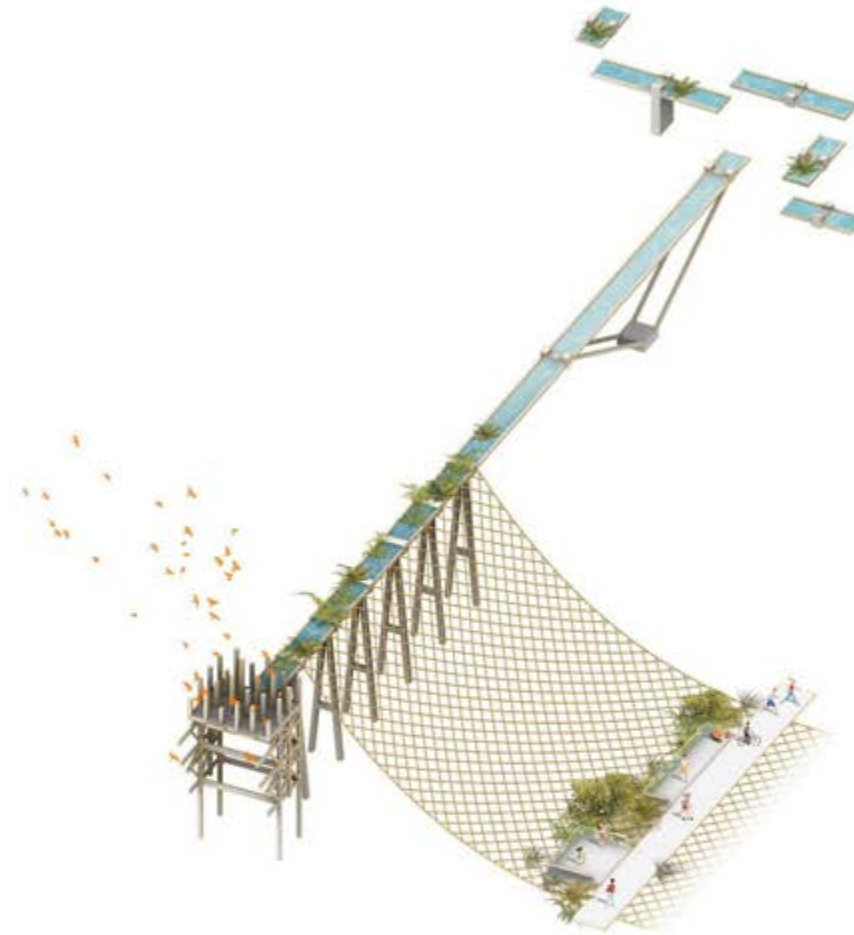
Students and starts up can set up exhibitions and selling products they developed. They also have the opportunities to exchange ideas with visitors and entrepreneurs from all fields and even attracting investment.

学生与创业青年在框架建筑内悬挂展板、布置展览，同时出售自己研发的产品，也可以借此机会与来自天南海北的游客交流，同时，企业家也会加入讨论，并对有商业价值的产品进行投资。

TRANSFORMATION STRATEGY

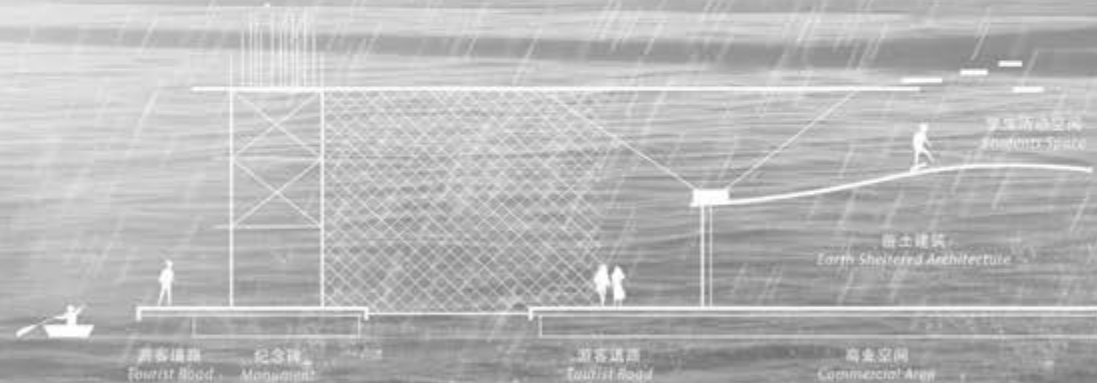


Transporter Bridge



Monument

Monument
纪念碑



The Monument can tell old stories. I hang a fishing net outside the original structure to recall the historical memory of the fish market. I extended the transport bridge and split it into many small parts, representing the disappearance of the fish market.

纪念碑讲述着鱼市场的旧故事。悬挂的渔网代表着鱼市场的繁荣，构筑物破碎、分解的末端则代表了鱼市场的消失。



TRANSFORMATION STRATEGY



Footbridge



Birds Tower
鸟塔



Actitis hypoleucos
青脚鹬

Little Egret
苍鹭

Lanius cristatus
红尾伯劳

Charadrius alexandrinus
环颈鸻

Calidris subminuta
长趾滨鹬

Fuxing Island is located on the East Asia-Australia migration path.
The bridge goes from University to the Huangpu River through different habitats. Humans look at birds, and birds also look at humans.
这座桥穿越树林、绿地、草滩与湿地，从上海理工大学一路延伸到黄浦江。
人类观察鸟儿，鸟儿也在观察着人类。



Floodwall



Wetland

On the side near the university, I raised the current green space to create some Earth Sheltered Architectures and natural grass slopes. Also I remove the floodwall and transform the shore into wetlands to cope with storms.

在靠近大学的一侧，我抬高了现状绿地，形成层层叠叠的覆土建筑与自然草坡，同时拆除防汛墙，将岸边改造成湿地以应对自然风暴。



This place becomes the backyard of the university, where students can loosen up. Some couples are walking on the bridge and some students are making final records of their experiments.

这是大学的后花园，学生在这里的状态是轻松愉悦的。夜深了，一些情侣在桥上散步，一些学生正对自己的实验做着最后的记录。

AERIAL VIEW

上海理工大学

University of Shanghai for Science and Technology



2021 SWA SUMMER
STUDENT PROGRAM

SHANGHAI, CHINA

URBAN RESILIENCE

EXPLORING THE HUANGPU RIVER
NORTHWEST BUND WITH A NEW
URBAN FABRIC



2021 SWA SUMMER
STUDENT PROGRAM

SHANGHAI, CHINA

URBAN RESILIENCE

EXPLORING THE HUANGPU RIVER
NORTHWEST BUND WITH A NEW
URBAN FABRIC

RECAP



2021 SWA SUMMER
STUDENT PROGRAM

SHANGHAI, CHINA

URBAN RESILIENCE

EXPLORING THE HUANGPU RIVER
NORTHWEST BUND WITH A NEW
URBAN FABRIC

