

P 4

THE IMMOBILE CITY



Mobility and urban development in the Cuban capital

HAVANA TRANSPORTATION HUB | JELMER VAN ZALINGEN | 20/04/17

Area: 2.754.000 km²

Population: 39.170.000

Source: Worldbank (2015)

CUBA

A grayscale map of the Americas, showing North and South America. The island of Cuba is highlighted in a bright green color. The word "CUBA" is written in large, bold, black capital letters across the center of the highlighted island. The surrounding landmasses are shown in shades of gray, with the ocean in white.

CHANGING CONDITIONS



“WE REFORM, OR WE SINK”
Raul Castro (2006), Cuban President



SOME NEW DEVELOPMENTS



political reforms



economical system



tourism



self-employment



El Zagan

ARTE
CON

News

UK | World | Politics | Science | Entertainment | Pictures | Investigations | Brexit

Home > News

Jeep carrying Castro's remains broke down during funeral procession



Soldiers push the jeep and trailer carrying the ashes of the late Fidel Castro during his funeral procession. CREDIT: AP PHOTO/RODRIGO ABD

NEWS MOST VIEWED

1 Prince Harry br policy as he jets Meghan Markle Caribbean tour
06 Dec 2016, 5:20pm

2 Peter Vaughan, s of Thrones and l dies aged 93
06 Dec 2016, 3:18pm

3 Expert explains kangaroo punch zookeeper had d headlock
07 Dec 2016, 12:16am

4 Britain's most a train stations re one getting just passengers a year
06 Dec 2016, 6:03pm

5 Theresa May cal Europhile MPs c with Commons
07 Dec 2016, 7:13am



NOT RELIABLE



INSUFFICIENT



NEGLECTED CONDITION



THE PROBLEM



Havana: 2,2 million
Inhabitants

+



limited personal
car possession

+



full reliability on
public transport

+



collapse of transportation
facilities

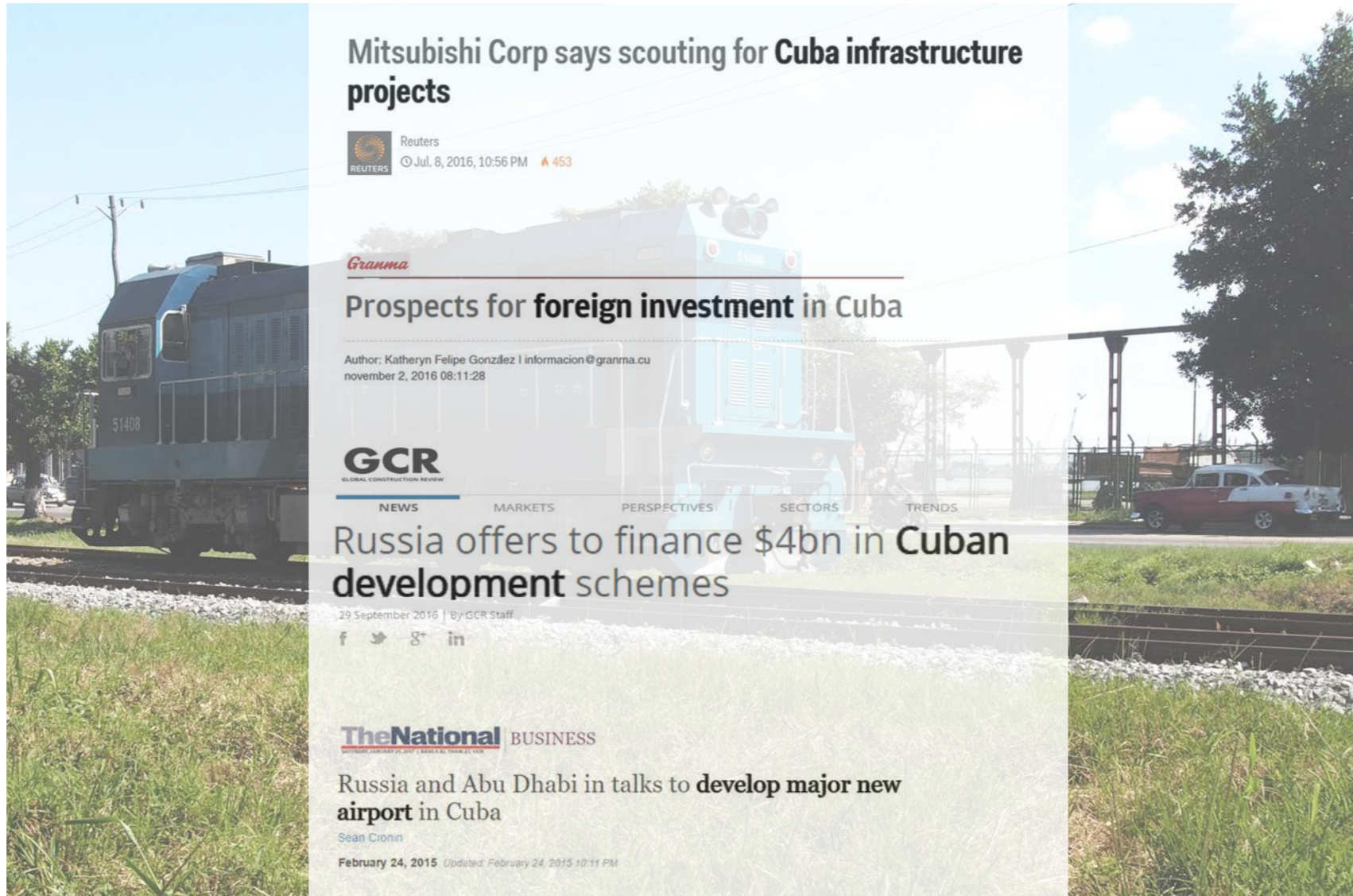
Research question:

How can Havana become a more **connected city with
a **high level of mobility**?**



ESTABLISCH A MODERN TRANSPORTATION HUB, TO DRASTICALLY
IMPROVE THE MOBILITY CONDITIONS

GLOBAL INTEREST TO INVEST IN CUBA'S INFRASTRUCTURE



WHAT WILL THE FUTURE BRING?



CHINESE INFRASTRUCTURE INVESTMENTS IN CUBA



MARIEL 2014: FIRST NEW RAILWAY LINE SINCE REVOLUTION



HYPOTHETICAL SCENARIO



2014

New railway line opened linking Havana with its new port of Mariel



2025

Chinese invest in new station for Havana to safe the train network and improve mobility



2035

Opening of new HABANA CENTRAL STATION



2050

First high speed line completed in Cuba that connects Havana with Santiago de Cuba

2018

Raul Castro resigns as ruling president, Cuba is ready for further opening up to the world

2022

All port activities are now moved outside the city, making the old port free for redevelopment

2028

Development of a tram line that connects the city center with the new redevelopments of the former port

2040

Profits from port redevelopments are injected to restore the crumbling city center

>2017 SIGNIFICANT INCREASE OF TOURISM IN HAVANA



**2020: SECOND NEW RAILWAY LINE NEEDED:
TO CONNECT THE AIRPORT WITH THE CITY**



IN ORDER TO PROVIDE IN THIS TREND:

NEW HAVANA

TRANSPORTATION HUB

HAVANA 2035



RESEARCH



Mobility in the capital

MOST MOBILITY PROBLEMS ARE A CONSEQUENCE OF THE SPECIAL PERIOD, TILL NOW THEY HAVE NEVER FULLY RECOVERED



The New York Times Late Edition
 New York Today, limited sun; perhaps a shower late. High 52. Tonight cooler. Low 40. Tomorrow, cloudy. High 50. Low 45. Details are on page 52.

VOL. CXXI... No. 48,809 Copyright © 1991 The New York Times NEW YORK, MONDAY, DECEMBER 9, 1991 50 CENT

DECLARING DEATH OF SOVIET UNION, RUSSIA AND 2 REPUBLICS FORM NEW COMMONWEALTH

Frantic Moves Came to Light In Days Before Maxwell Died
 As the Empire Was Crumbling
 A special report.

By STEVEN PROKESCH
 Special to The New York Times

LONDON, Dec. 8 — At the time of his mysterious death on Nov. 5, Robert Maxwell almost certainly knew he was about to be caught.

He had drained hundreds of millions of dollars from his two flagship public companies and from employee pension funds in a frantic attempt to keep his heavily indebted publishing empire afloat.

The auditors of the Maxwell empire, Coopers & Lybrand Deloitte, were to conduct their next regular audit of the pension funds in a couple of months. And Coopers would have quickly discovered the transactions, said a person very familiar with the details of a special financial examination of the empire conducted for the banks after Mr. Maxwell's death. He agreed to discuss the report only if his identity was not disclosed.

"Basically Grabbing Cash"

The Coopers team also found evidence that some of the diverted money went to The Daily News in New York to cover its losses. That raises more doubts about the future of the newspaper, which Mr. Maxwell acquired in March.

The maneuvering by Mr. Maxwell to prop up the private companies that controlled his empire "was doomed to failure," the person familiar with the publisher's report said.

"It wasn't a sophisticated fraud like the one I'm referring to the scam surrounding the Bank of Commerce," he said.

Mr. Maxwell was reportedly grabbing cash, and Coopers found it out within days of going in. "The Coopers team was led by Richard Stone, the partner in charge of the accounting firm's corporate fi-

Robert Maxwell

West Europeans Gather to Seek A Tighter Union

The Union Is Buried: What's Being Born?
 By CELESTINE BOHLEN

Gorbachev's Vain Pleas

Cuba's GDP in us\$

Take Over A-ARM
 Newborn Bureaucracy Inheriting Functions of Old Authority
 By SERGE SCHMEMMANN
 Special to The New York Times

MOSCOW, Dec. 8 — The leaders of Russia, Ukraine and Byelorussia declared today that the Soviet Union ceased to exist and proclaimed a "Commonwealth of Independent States" open to all members of the former union.

In a series of statements issued at a two-day meeting, the new governments declared their efforts to create a new union of states and called for a "coordinating" body to handle defense, foreign affairs and other matters that would have their seat in Moscow, the capital of Byelorussia, which decided to maintain the ruble as a common currency.

They declared that the "norms" of the former union ceased to exist at the moment of signing, and that the new commonwealth assumed all the national obligations of the Soviet Union, as well as control over its nuclear arsenal.

Gorbachev's Move

"The U.S.S.R. as a subject of international law and geopolitical reality ceases its existence," the leaders declared. (Text, page A8.)

The action essentially stripped President Mikhail S. Gorbachev of his official authority, and the immediate question was whether the tough and cautious Soviet leader would resist —

The New and the Old

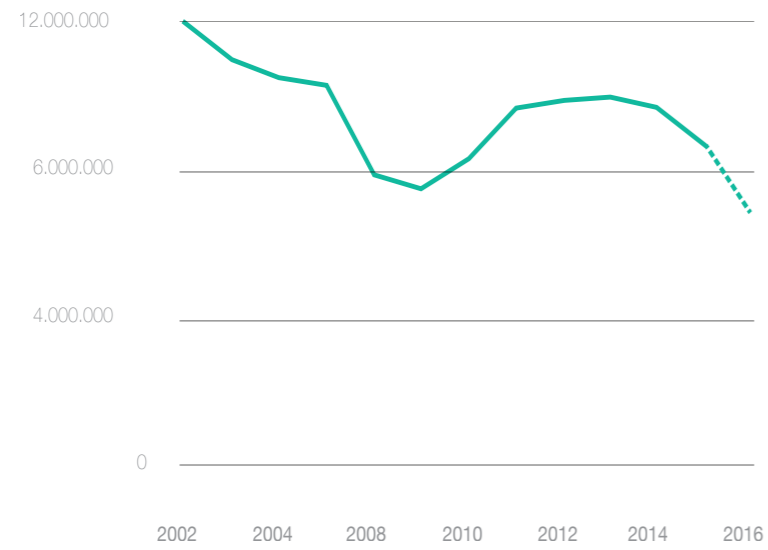
Source: The Statistical Yearbook, 1991-92, U.S.S.R. Press and Figure Annual, 1991

POPULATION		CONSUMER GOODS		AGRICULTURE	
January 1990	Others	Share of production 1988	Other	Share of total output, 1988	Other
Belarus 8 million	70.6 million	Belarus 6.8%	Belarus 6.8%	Belarus 21.4%	Belarus 4.4%
Russia 148 million	70.6 million	Russia 28.2%	Russia 28.2%	Russia 21.4%	Russia 4.4%
Ukraine 51.8 million	70.6 million	Ukraine 16.4%	Ukraine 16.4%	Ukraine 16.4%	Ukraine 22.1%
Byelorussia 10.3 million	70.6 million	Byelorussia 1.5%	Byelorussia 1.5%	Byelorussia 5.4%	Byelorussia 5.4%

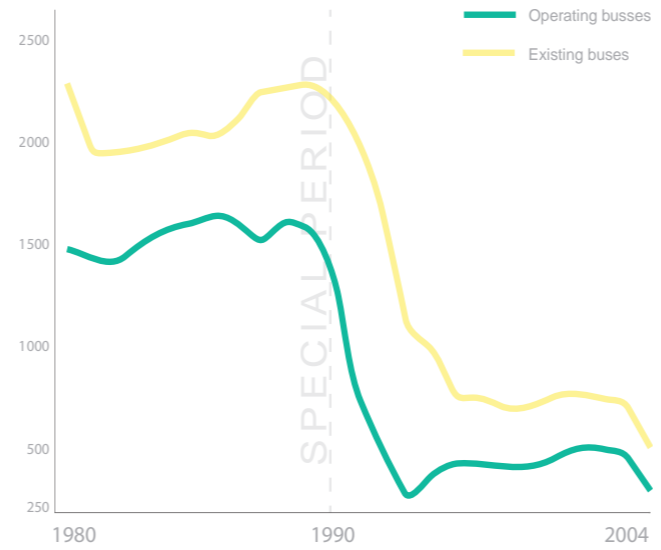
"We, the republic of Byelorussia, the Russian Federation and Ukraine... state that the U.S.S.R., as a subject of international law and geopolitical reality, is ceasing its existence."
 — Brest declaration, Dec. 8, 1991

Special period 1989 - now

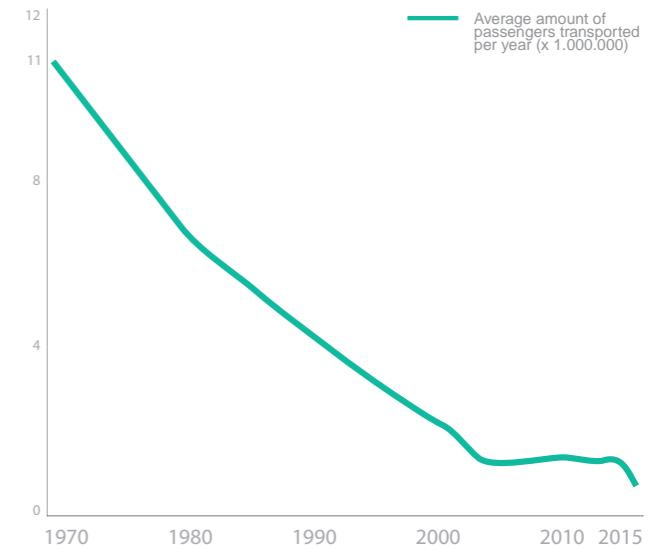
CONTINUES DECLINE OF MOBILITY



Train



Intercity-Bus



Ferry

4 MOBILITY PROBLEMS



Overall lack of maintenance



4 MOBILITY PROBLEMS



+



Overall lack of maintenance

Second-hand equipment

4 MOBILITY PROBLEMS



+



+



Overall lack of maintenance

Second-hand equipment

Scarcity of resources

4 MOBILITY PROBLEMS



Overall lack of maintenance

+



Second-hand equipment

+



Scarcity of resources

+

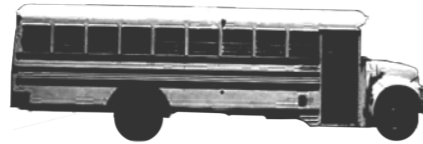


Logistic inefficiency

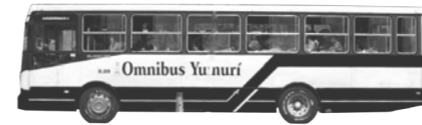




PROBLEMS AFFECT ALL MEANS OF TRANSPORTATION



Company buses
Yellow American school buses



Public bus system
Omnibus and Metro-bus



Train network



Taxi service
Yellow cab



Truck transport
Cuban local transport



Tourism Mobility
CUC-Taxi, Illegal taxi, Oldsmobile, Horse carriage and coco-taxi



Ferries
Local ferries to cross the bay



GETA
Grupo Especial de Transporte



Alemendrones
Collective taxi service

TRANSPORT DETAILS

13.1 - Pasajeros transportados por las empresas estatales especializadas *Passengers transported by specialized state enterprises*

Millones de pasajeros

CONCEPTO	2010	2011	2012	2013	2014	2015
Total	1 601,4	1 609,8	1 655,3	1 722,5	1 855,8	1 909,3
Ferroviario	8,3	9,7	9,9	10,0	9,7	8,7
Ómnibus	900,4	902,4	895,7	996,2	1037,4	1 140,4
De ello: Urbano	450,8	427,6	384,9	438,3	477,9	520,9
Suburbano	26,8	31,5	32,4	38,7	41,9	43,5
Interurbano	101,6	104,4	116,7	127,1	128,7	146,8
Fletes	88,4	90,7	91,8	99,6	100,2	108,3
Escolares	115,1	113,6	134,0	138,8	132	144,1
Turismo	11,0	12,0	11,5	14,1	15,2	15,1
Ómnibus centro de trabajo	63,4	62,4	62,7	62,9	58,2	61,1
Cooperativas de transporte	-	-	-	2,8	12,7	17,9
Taxi ^(a)	45,8	48,2	48,3	49,8	60,4	70,1
Marítimo de cabotaje y fluvial	0,3	0,3	0,3	0,3	0,3	0,3
Aéreo	1,2	1,1	1,2	1,2	1,3	1,4
Nacional	0,5	0,4	0,5	0,5	0,5	0,5
Internacional	0,7	0,7	0,7	0,7	0,8	0,9
Lanchaje	3,1	3,2	3,1	3,3	3,3	3,5
Medios alternativos	642,3	644,9	696,8	661,7	743,4	684,9

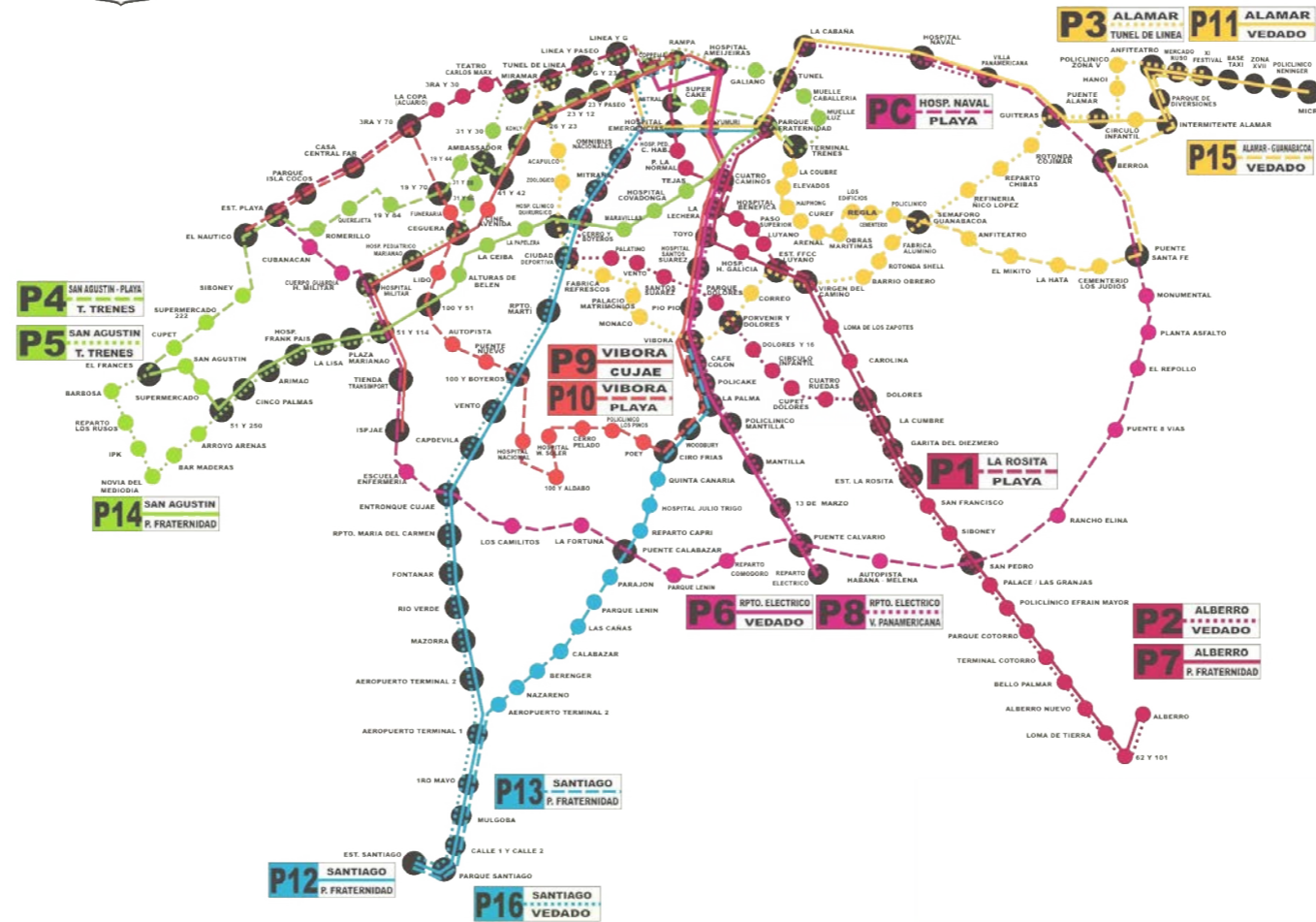
^(a) Incluye las transportaciones en taxi de turismo.

SOURCE: Oficina Nacional de Estadística e Información República de Cuba.

THE BUS SEEM THE ONLY RELIABLE SYSTEM



METROBUS ... por una ciudad mejor. RED DE LINEAS Y ESQUEMA DE PARADAS



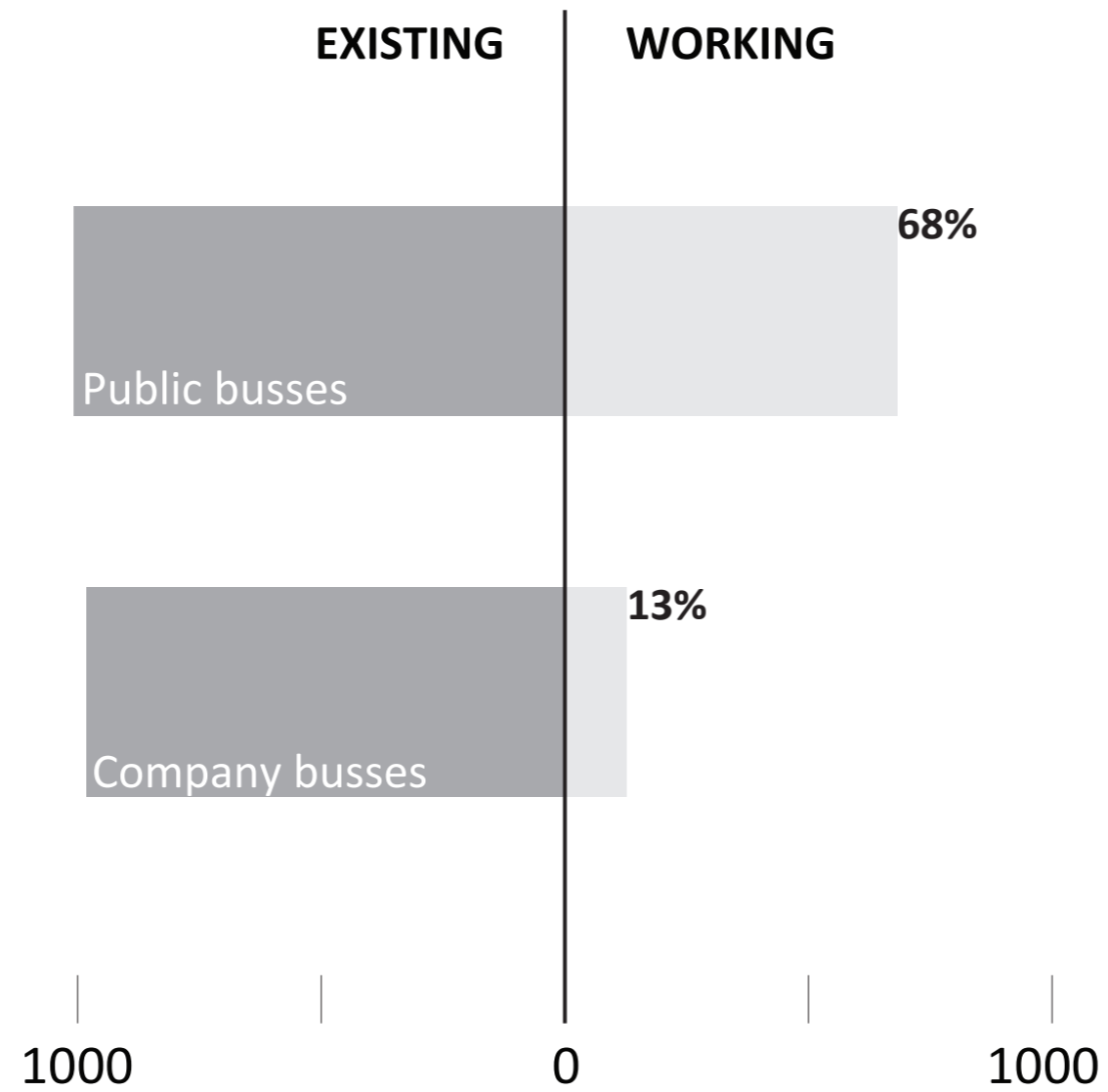
INSUFFICIENT



OVERCROWDED



THE PROBLEM



SOURCE: Oficina Nacional de Estadística e Información República de Cuba.

THE BEST AMONG THE WORST

8.700.000
mil. passengers



Company buses
Yellow American school buses



Train network



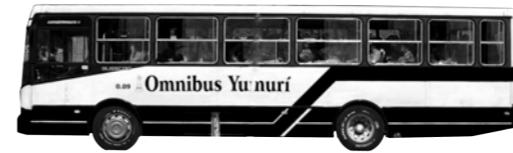
Truck transport
Cuban local transport



Ferries
Local ferries to cross the bay



GETA
Grupo Especial de Transporte



Public bus system
Omnibus and Metro-bus

1140.400.000
mil. passengers



Taxi service
Yellow cab

70.100.000
mil. passengers



Tourism Mobility
CUC-Taxi, Illegal taxi, Oldsmobile, Horse carriage and coco-taxi



Alemendrones
Collective taxi service

LOCAL CONDITIONS OF INFRASTRUCTURE

VIEJA

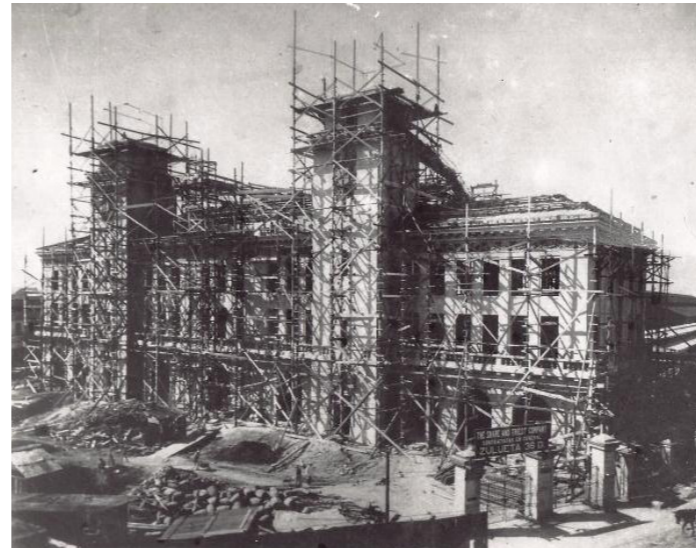
Area: 4,4 km²

Population: 87.560

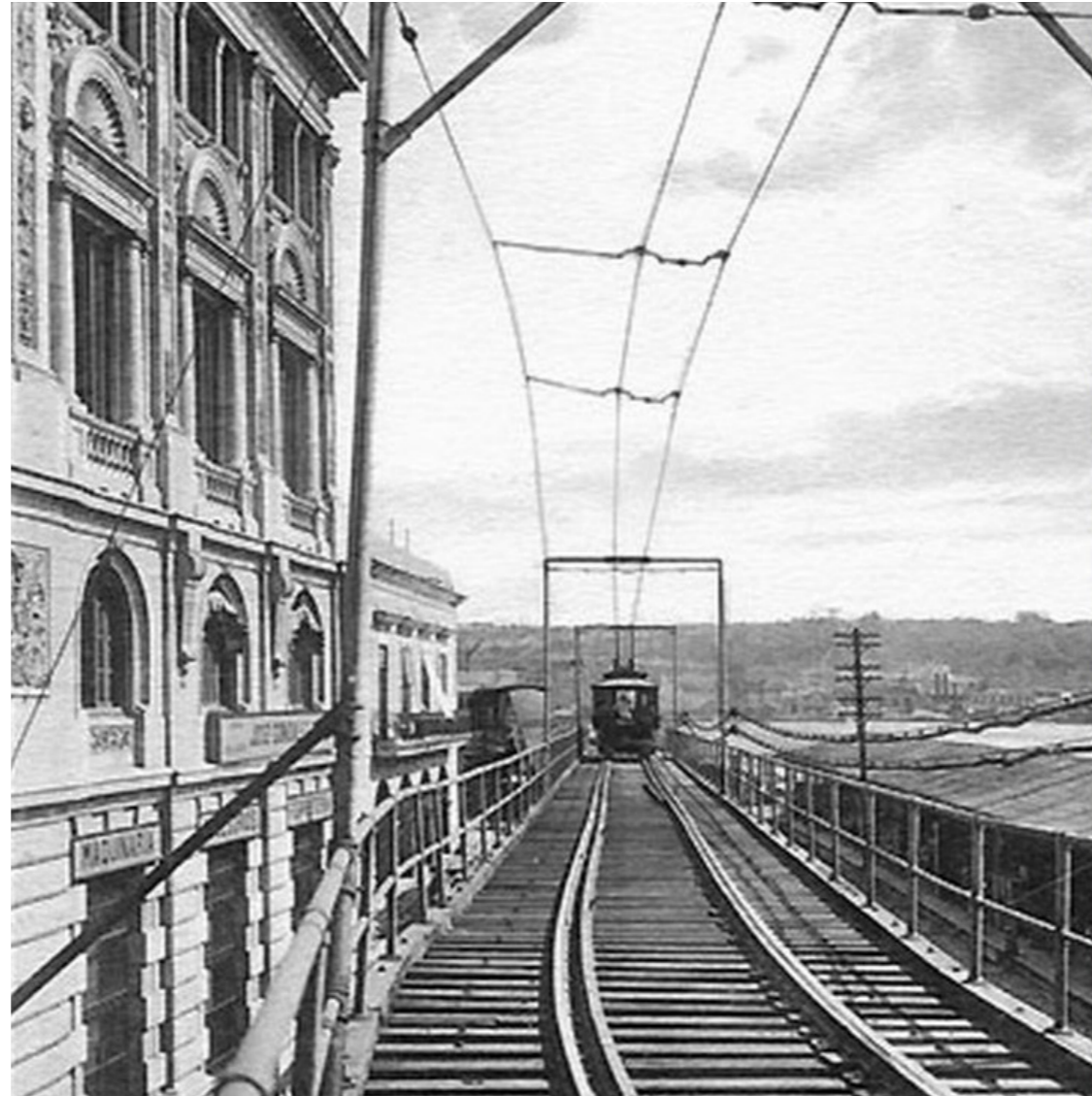
THE HAVANA CENTRAL TRAIN STATION



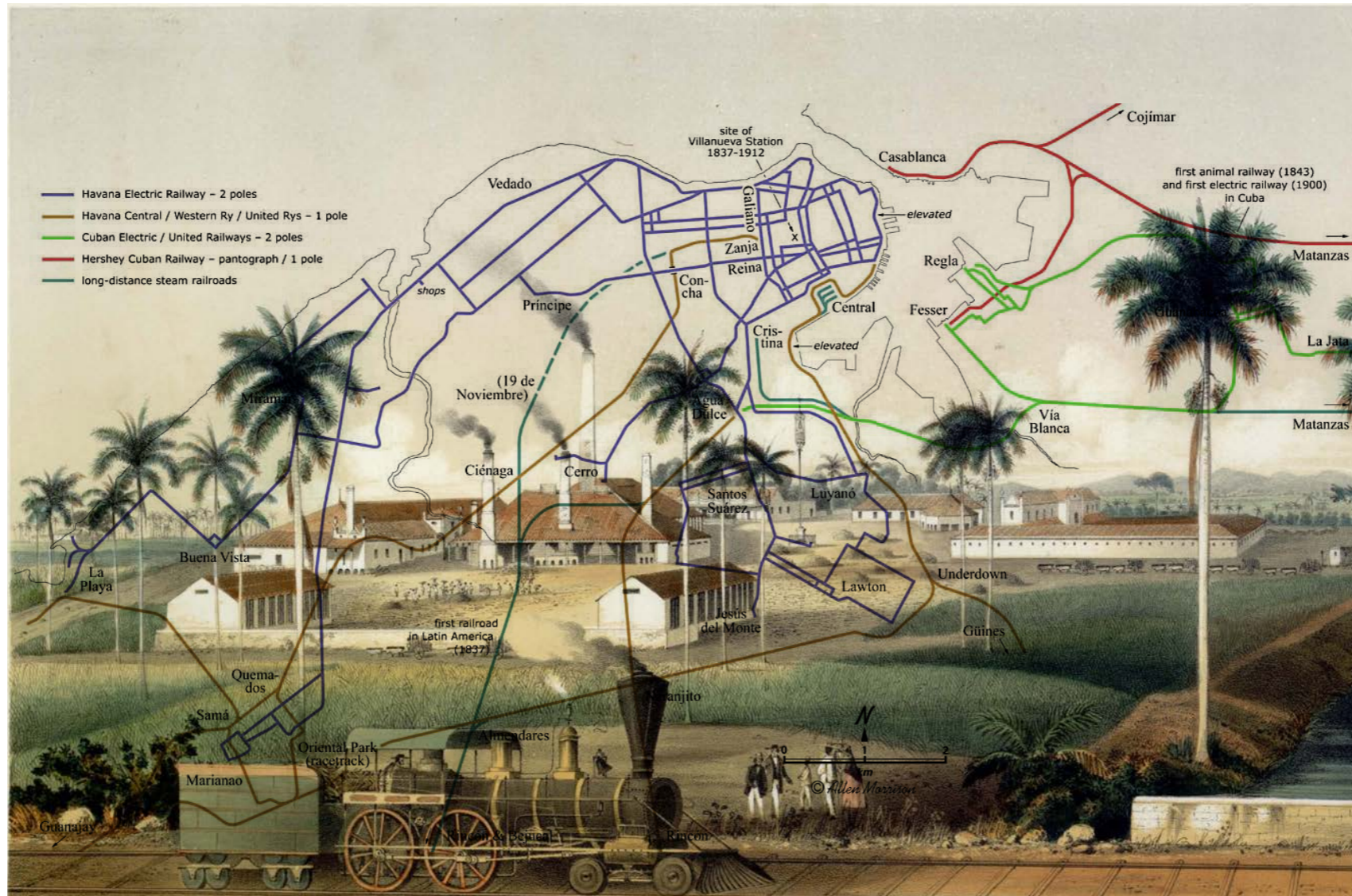
THE CROWN ON THE FLOURISHING TRAIN INFRASTRUCTURE



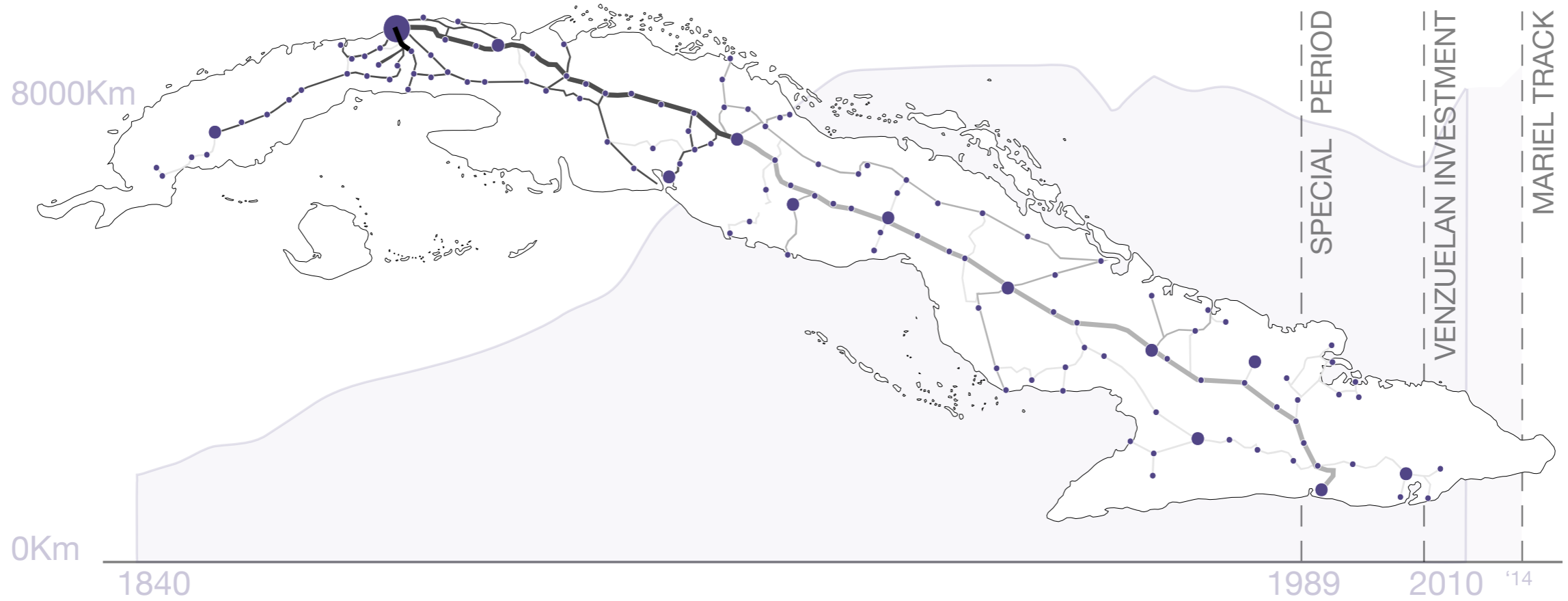
19TH CENTURY: THE GOLDEN AGE OF TRAINS IN CUBA



SUGAR INDUSTRY & THE CUBAN RAILROAD



+ 8000KM OF TRACKS



NOW...





6 meters






ABSENCE OF TRAIN



ABSENCE OF DEPARTURES

PIZARRA INFORMATIVA						
Tren	Origen	Hora de Salida	Estación	Destino	Hora de Llegada	Observaciones
11	Habana	18:15 Hr	Est/Coubre	Stgo de Cuba	10:05 am	Cada 4 días
15	"	18:53 Hr	"	Guatánamo	12:38 pm	" "
13	"	19:25 Hr	"	BYN/MZO	10:14 am / 11:50 am	" "
7	"	21:21 Hr	"	S.Spritus	08:05 am	Inter Diario
133	"	08:20 am	Est/Central	Guines	11:00 am	Diario
135	"	17:20 Hr	"	Artemisa	21:30 Hr	"
131	"	17:35 Hr	"	Los Palos	21:00 Hr	"
Observaciones: Los Lunes T#133 Taller por la mañana						
Los Domingos T#135 Taller todo el día						
Nota: Los trenes #71 Pinar del Rio Salew de Estación						
#73 Cienfuegos "19 de Noviembre"						



VALIDAS

DOMINGO

 9:30 AM

 1:10 PM

 1:20 PM

 8:30 AM

 1:30 PM

 7:30 PM

 7:30 AM

 1:30 PM

 6:00 PM

 7:05 AM

 3:05 PM

 10:20 AM

 5:20 PM

 7:55 AM

 4:45 PM

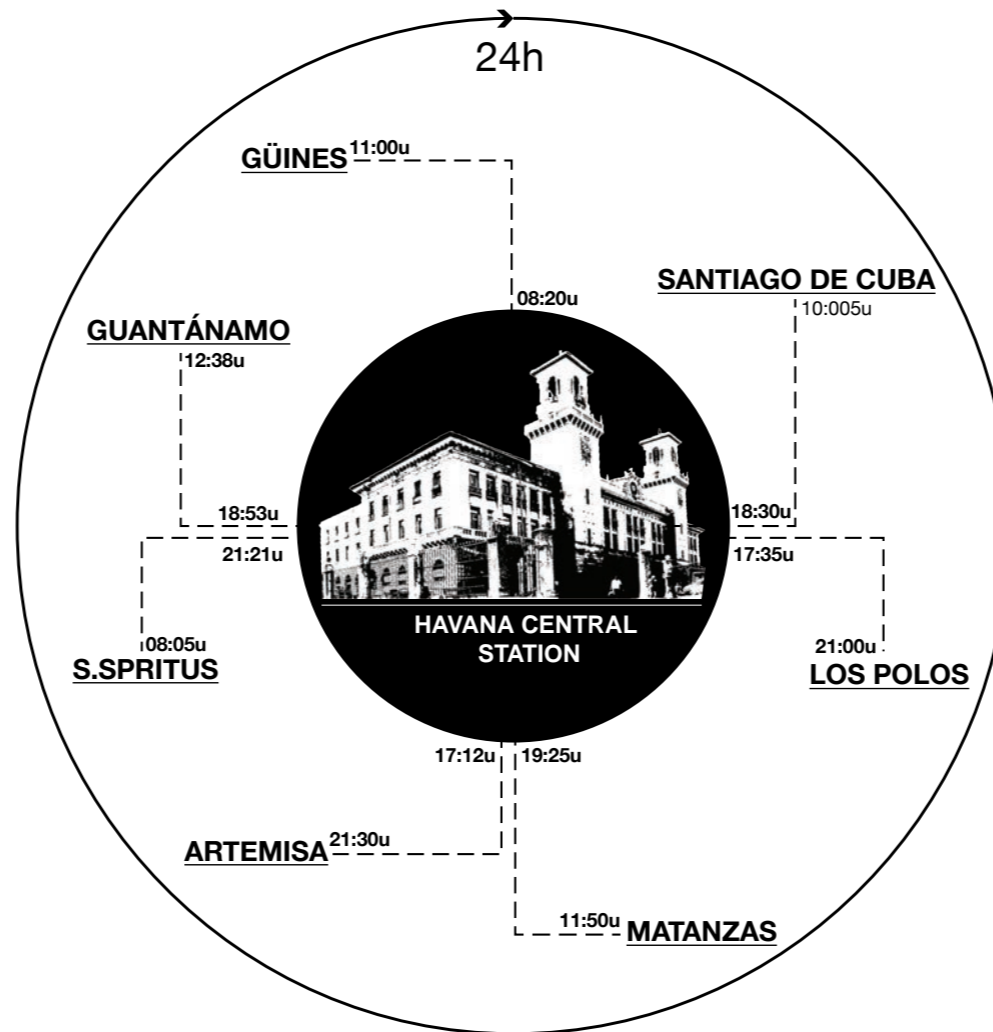
 6:25 AM

 1:25 AM

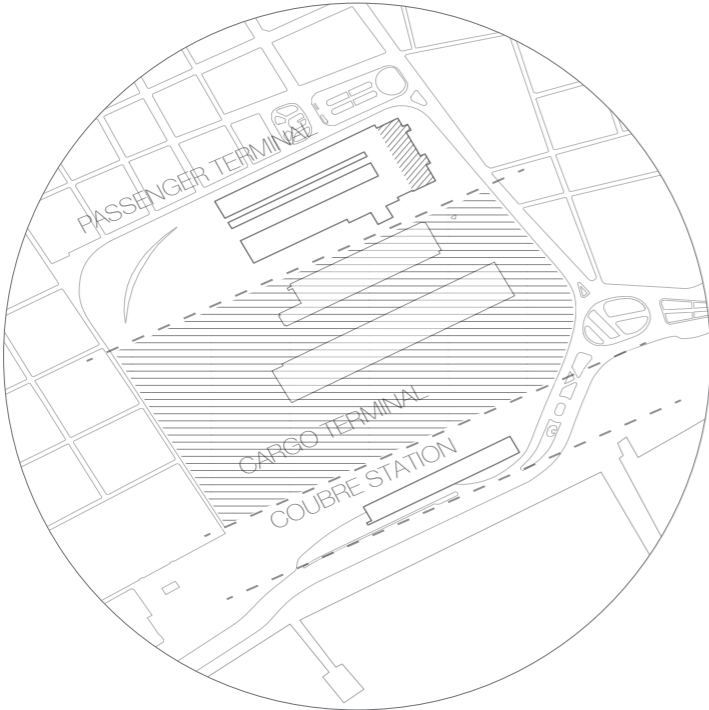
 3:25 PM

 7:25 PM

ONLY 7 DEPARTURES A DAY



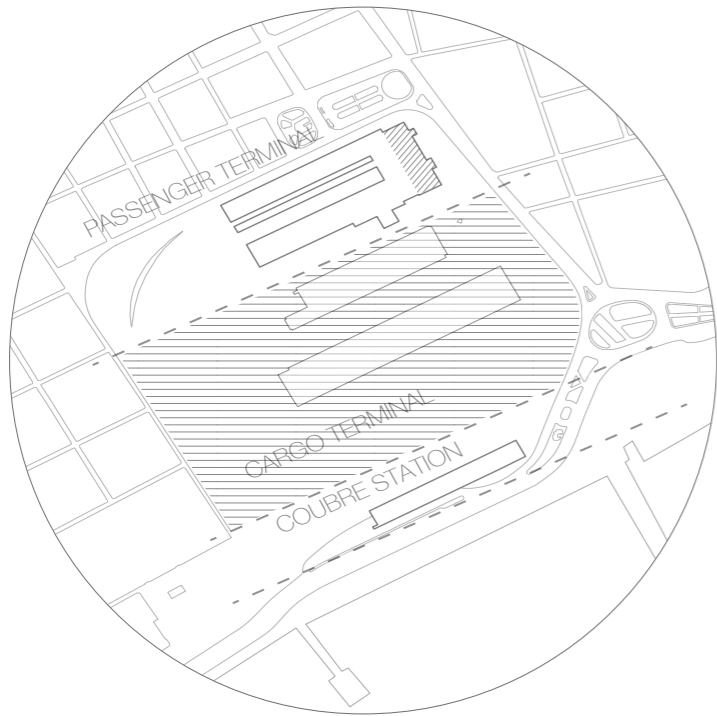
FLAWS OF HAVANA CENTRAL STATION



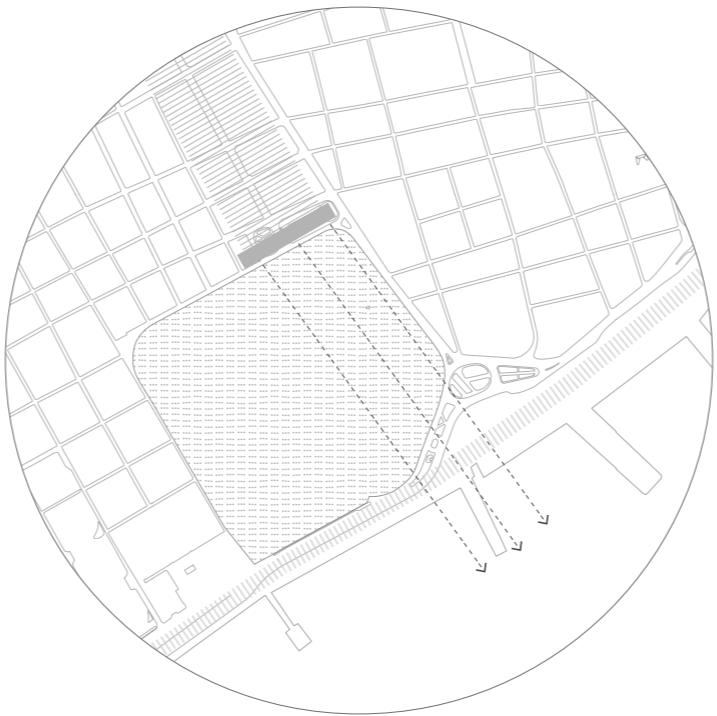
2/3 of the site has lost its function



FLAWS OF HAVANA CENTRAL STATION



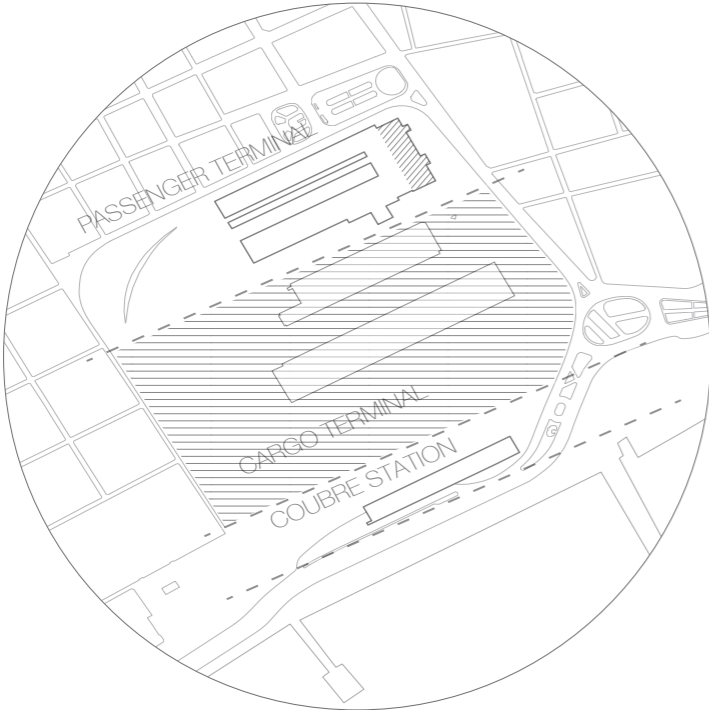
2/3 of the site has lost its function



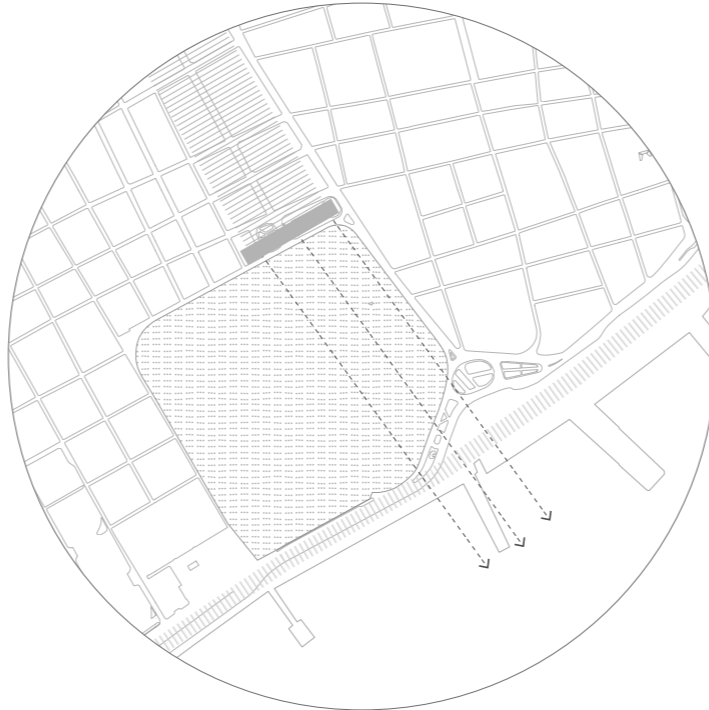
The station blocks the connection to the bay and obstruction for vehicle-flow



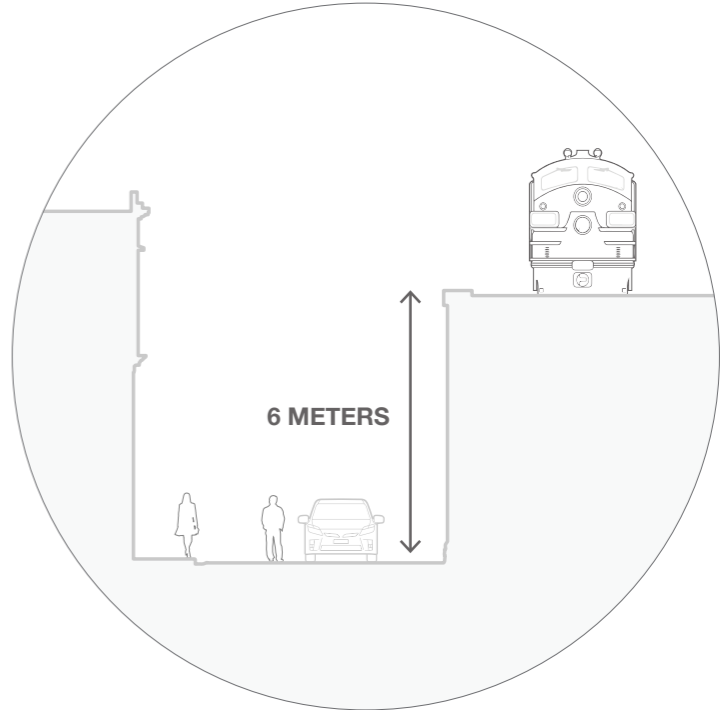
FLAWS OF HAVANA CENTRAL STATION



2/3 of the site has lost its function



The station blocks the connection to the bay and obstruction for vehicle-flow



Fenced off or elevated border, isolating itself from the surroundings

**IT SEEMS THAT WHAT WAS ONCE STATE-OF-THE-ART
HAS FALLEN INTO DISREPAIR**





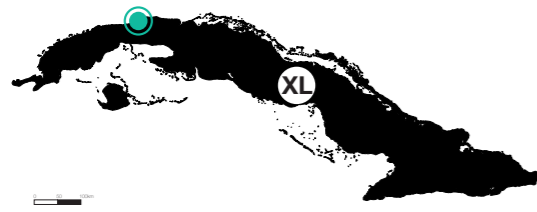
HAVANA IS A CITY OF IMMOBILITY

SITE ARGUMENT

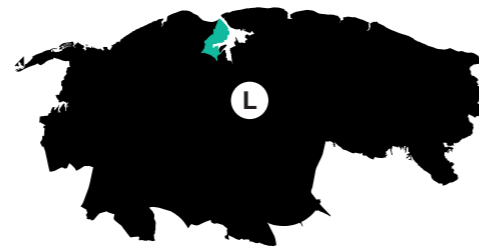


23° 7'19.52" N 82°21'33.02" W

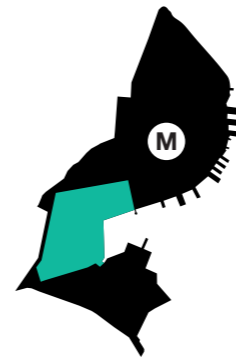
FOUR SCALES OF MOBILITY



CUBA
COUNTRY



HAVANA
REGION

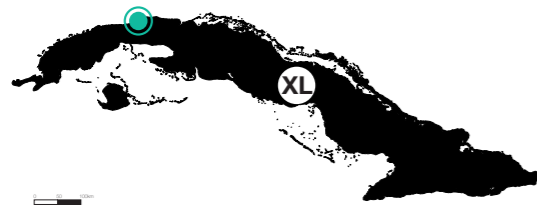


VIEJA
CITY DISTRICT



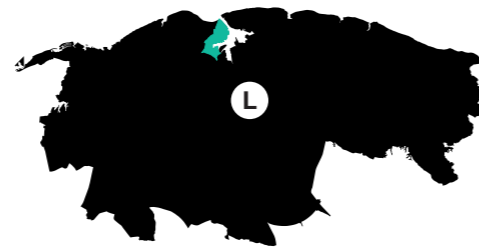
NEIGHBOURHOOD & SITE

FOUR SCALES OF MOBILITY



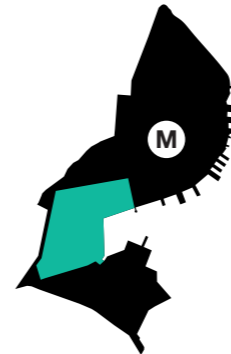
CUBA
COUNTRY

- intercity train connection
- intercity bus-lines
- ferry connection to Miami



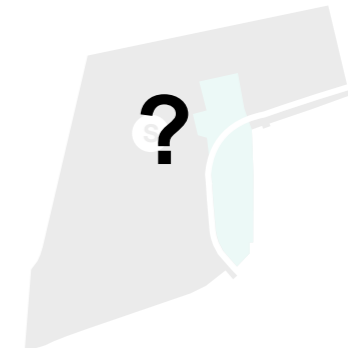
HAVANA
REGION

- mayor city bus-lines
- connection to the airport
- inner city train to two other stations in Havana



VIEJA
CITY DISTRICT

- ferry network across the bay
- centerpoint of all mobility lines



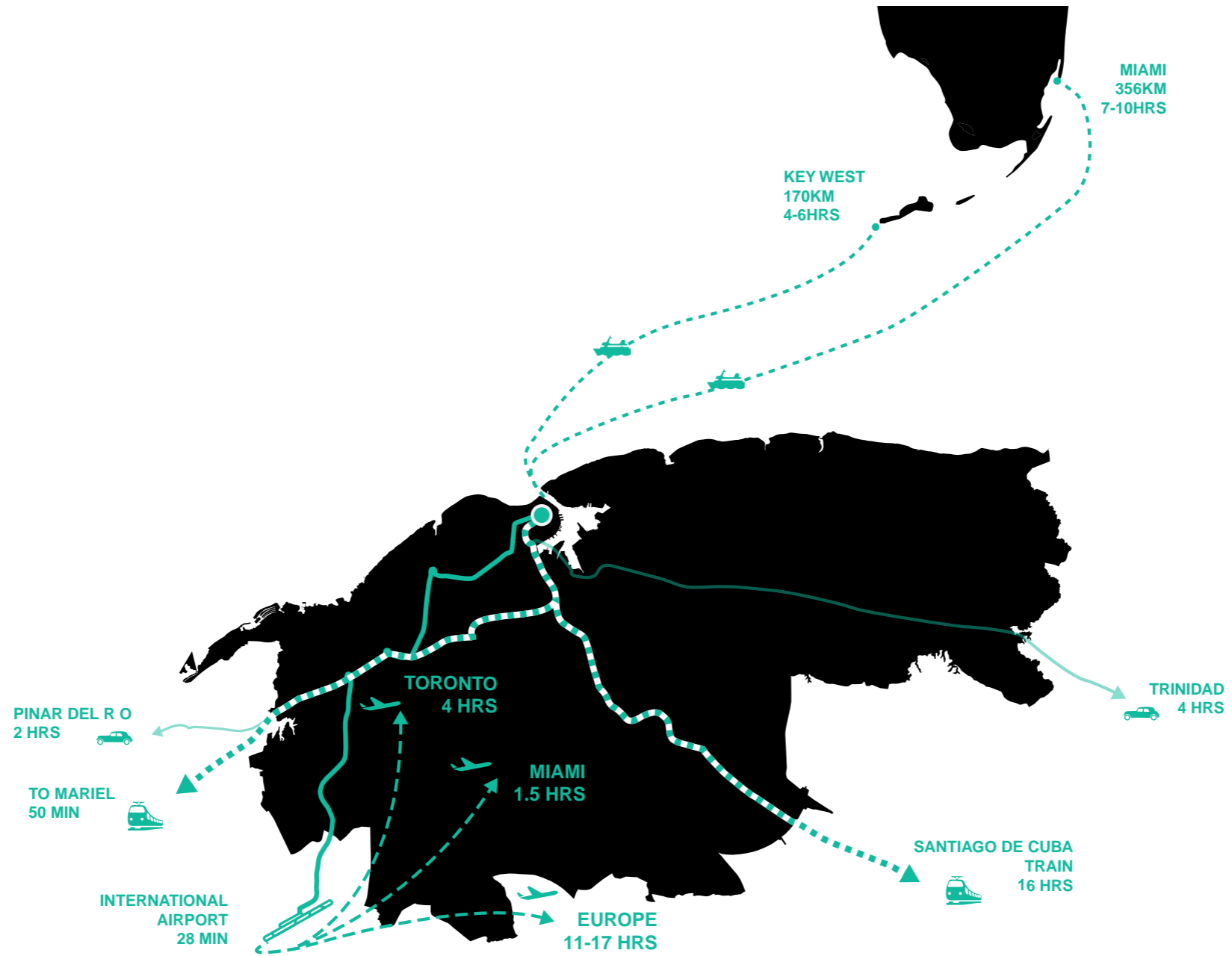
NEIGHBOURHOOD & SITE

- Transit hub that connects the different scales and transport-options

(INTER)NATIONAL CONNECTIONS



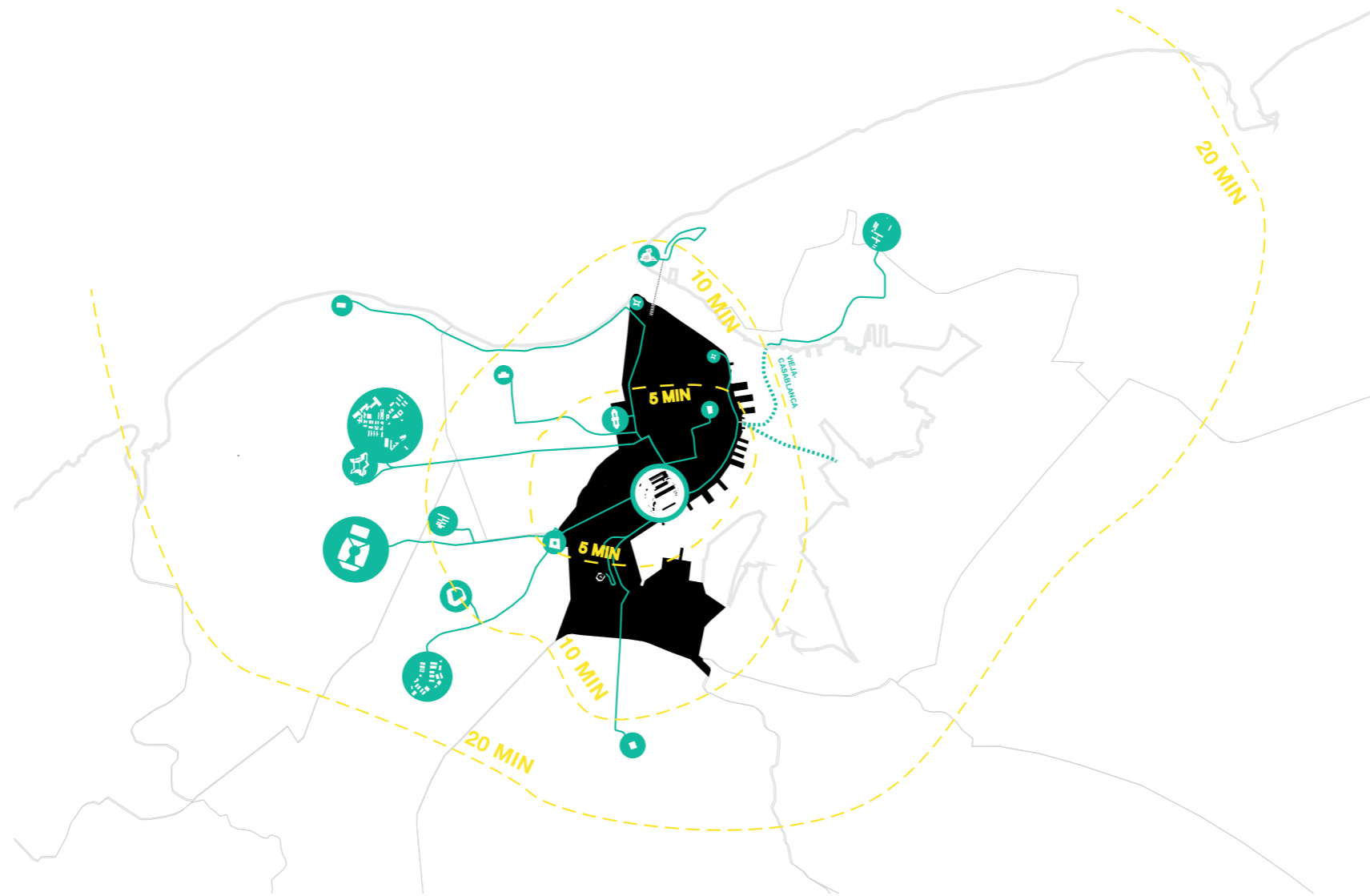
CUBA
COUNTRY





INNER-CITY CONNECTIONS

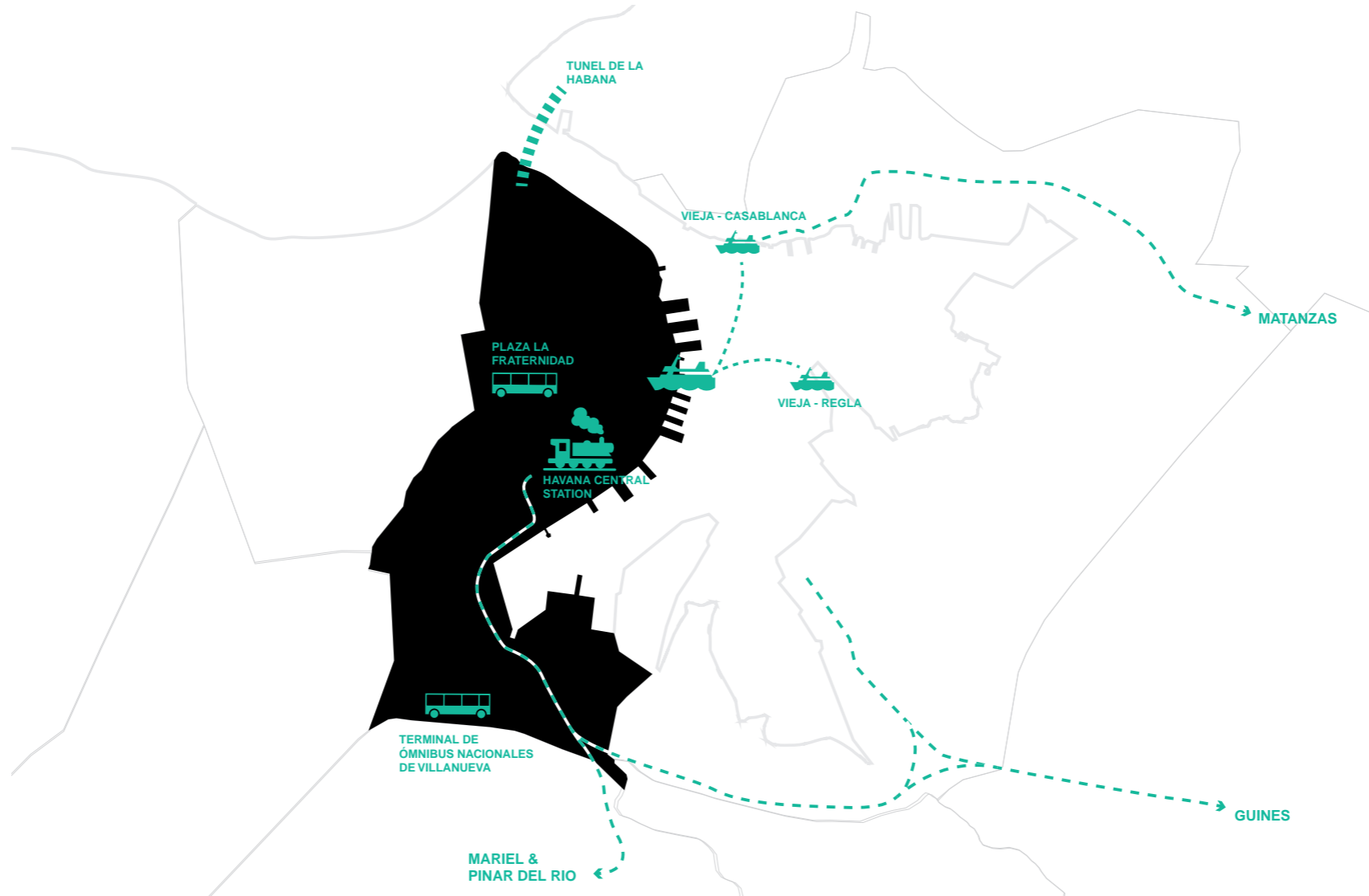
HAVANA
REGION



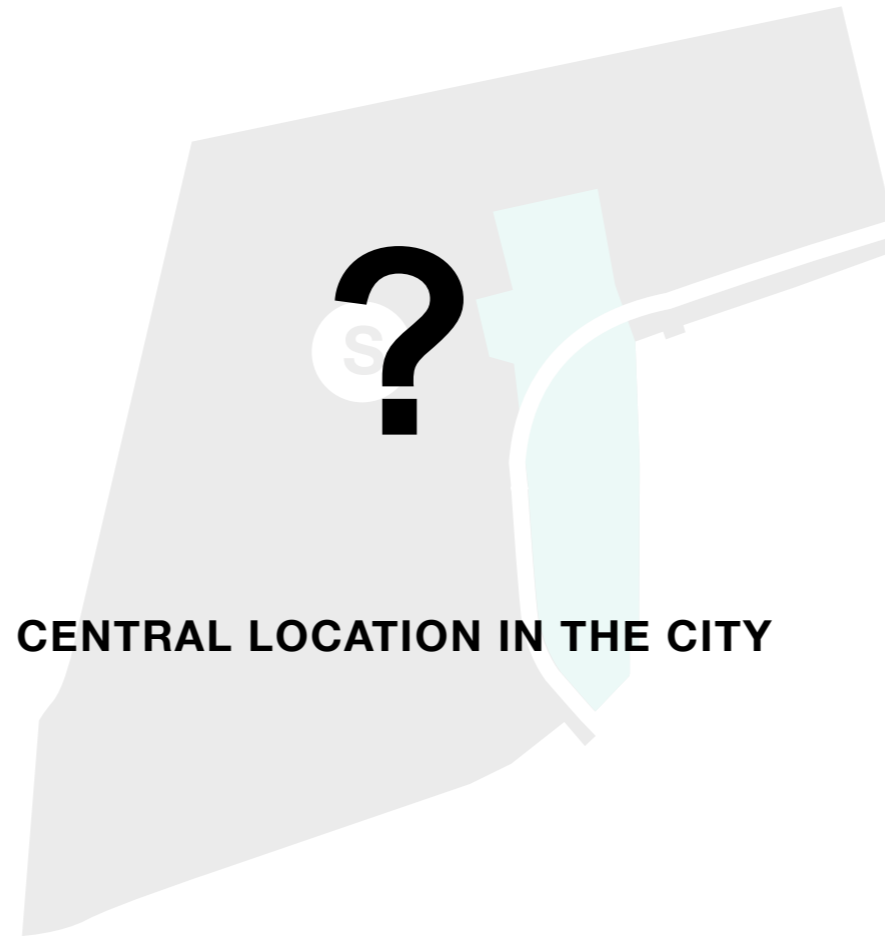


VIEJA
CITY DISTRICT

LOCAL TRANSPORT CONNECTIONS



NEIGHBORHOOD & SITE

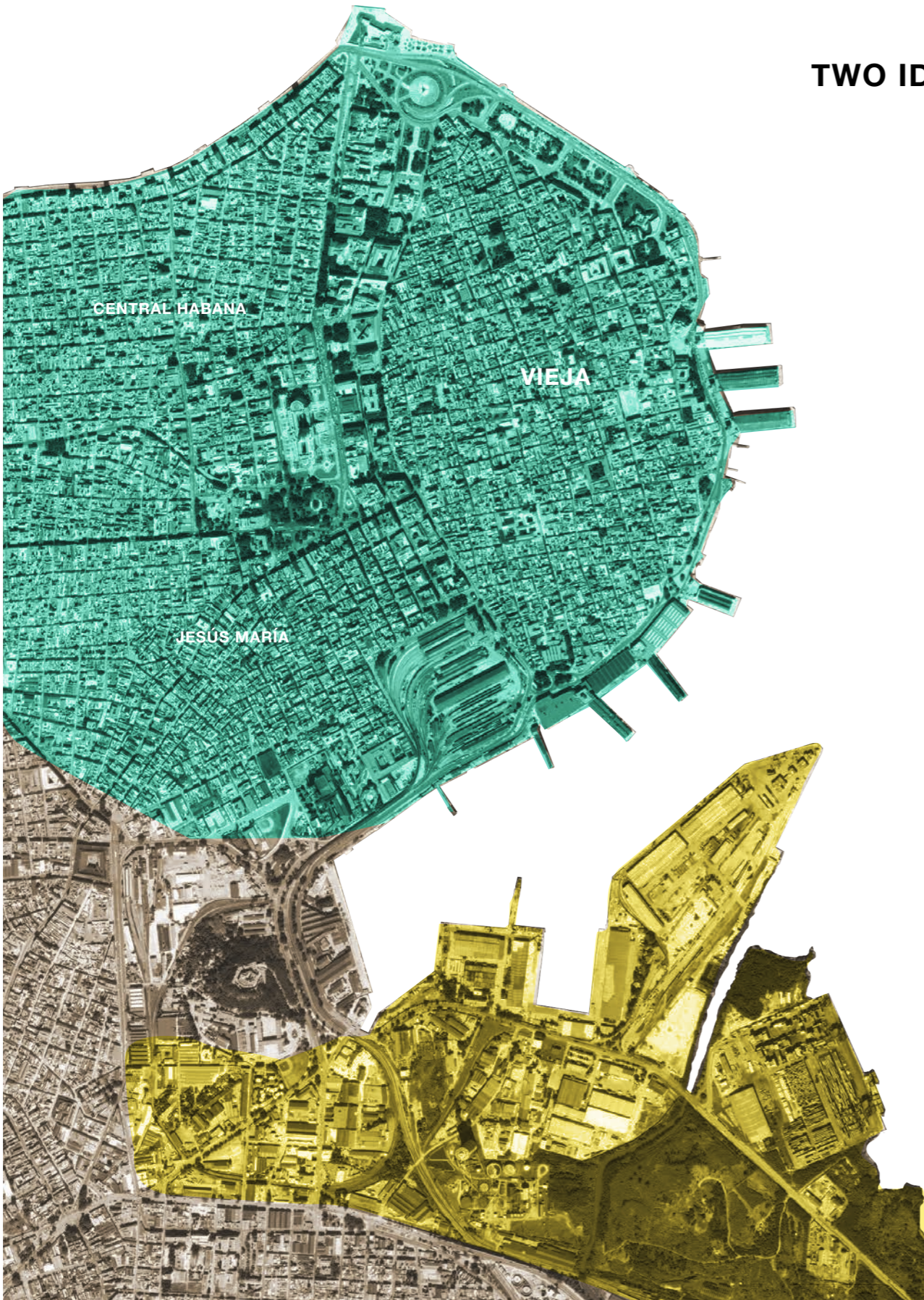


CENTRAL LOCATION IN THE CITY

VIEJA; THE HISTORIC CENTER



TWO IDENTITIES



HISTORIC CITY CENTER



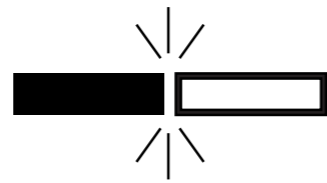
FORMER HARBOR AREA



STATION SITE REQUIREMENTS



excellent
accessibility



connected to existing
infrastrucutre



central location



natural landmark



connection to other
neighborhoods

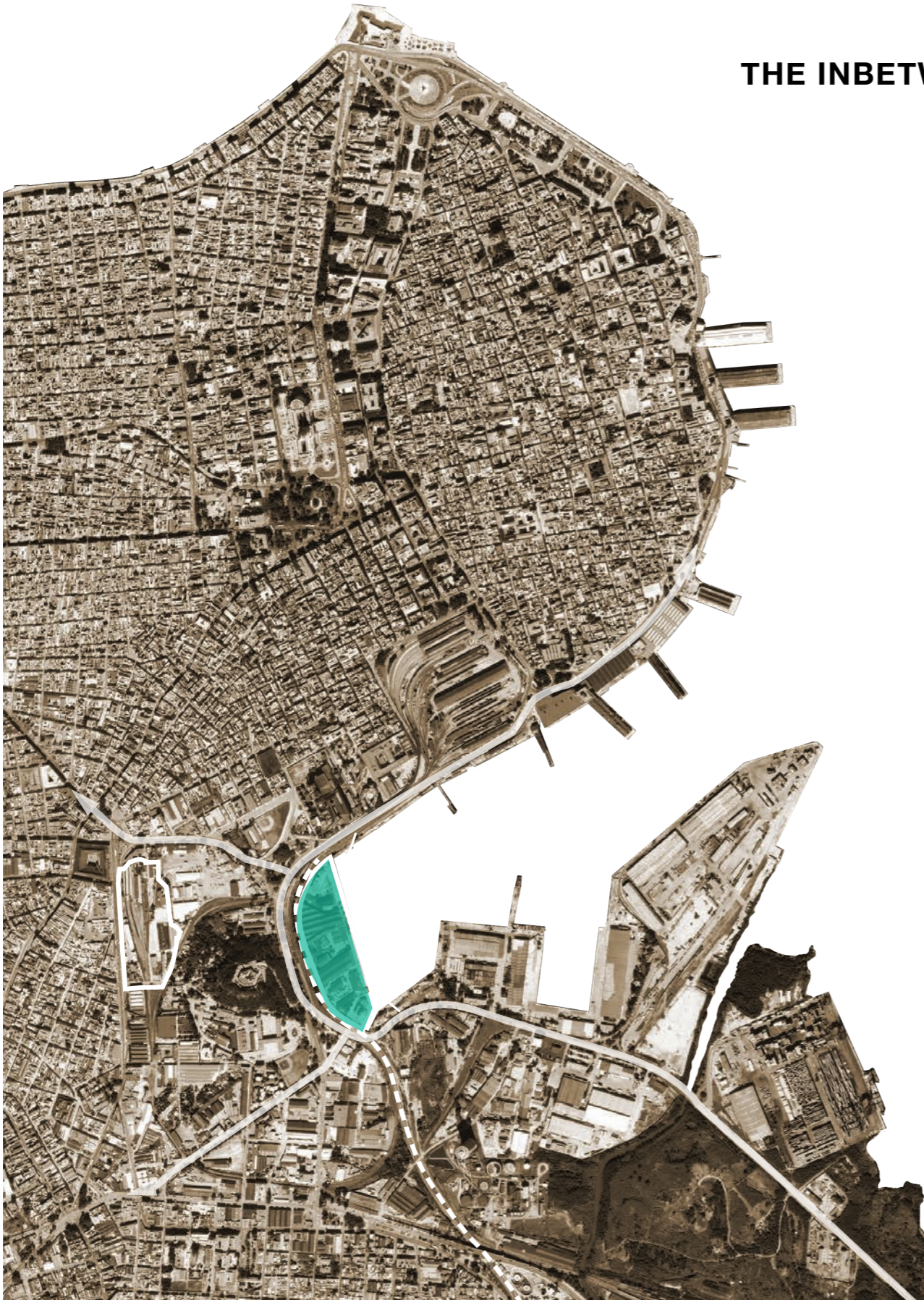
STATION SITE REQUIREMENTS



POTENTIAL SITES



THE INBETWEEN OPTION



Perfect location for a merge of water, road and rail infrastructure and connecting the two areas.

THE INBETWEEN OPTION



ATARÉS

6 HA



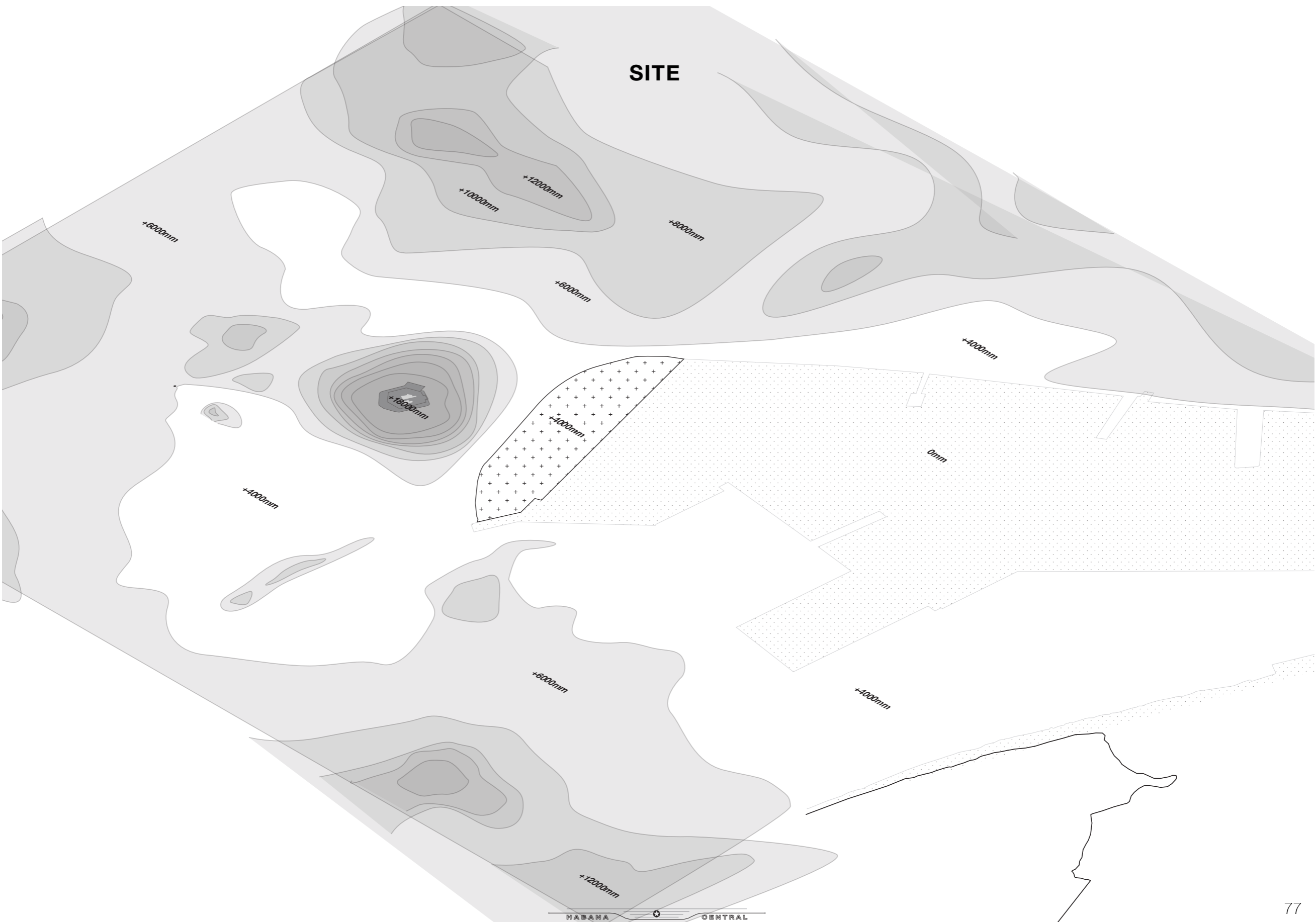
CASTILLO DE ATARÉS



1916



SITE



HOTSPOTS

CENTRAL HABANA

CITY MARKET

VIEJA (city center)

TRAIN MUSEUM

PRIMARY SCHOOL

POWER PLANT

MILITARY HOSPITAL

CASTILLO DE ATARÉS

PROVINCIAL POLICE

NATIONAL BUS TERMINAL

HARBOR AREA

TUBRE

+6000mm

+12000mm

+6000mm

+6000mm

+4000mm

+1000mm

+4000mm

0mm

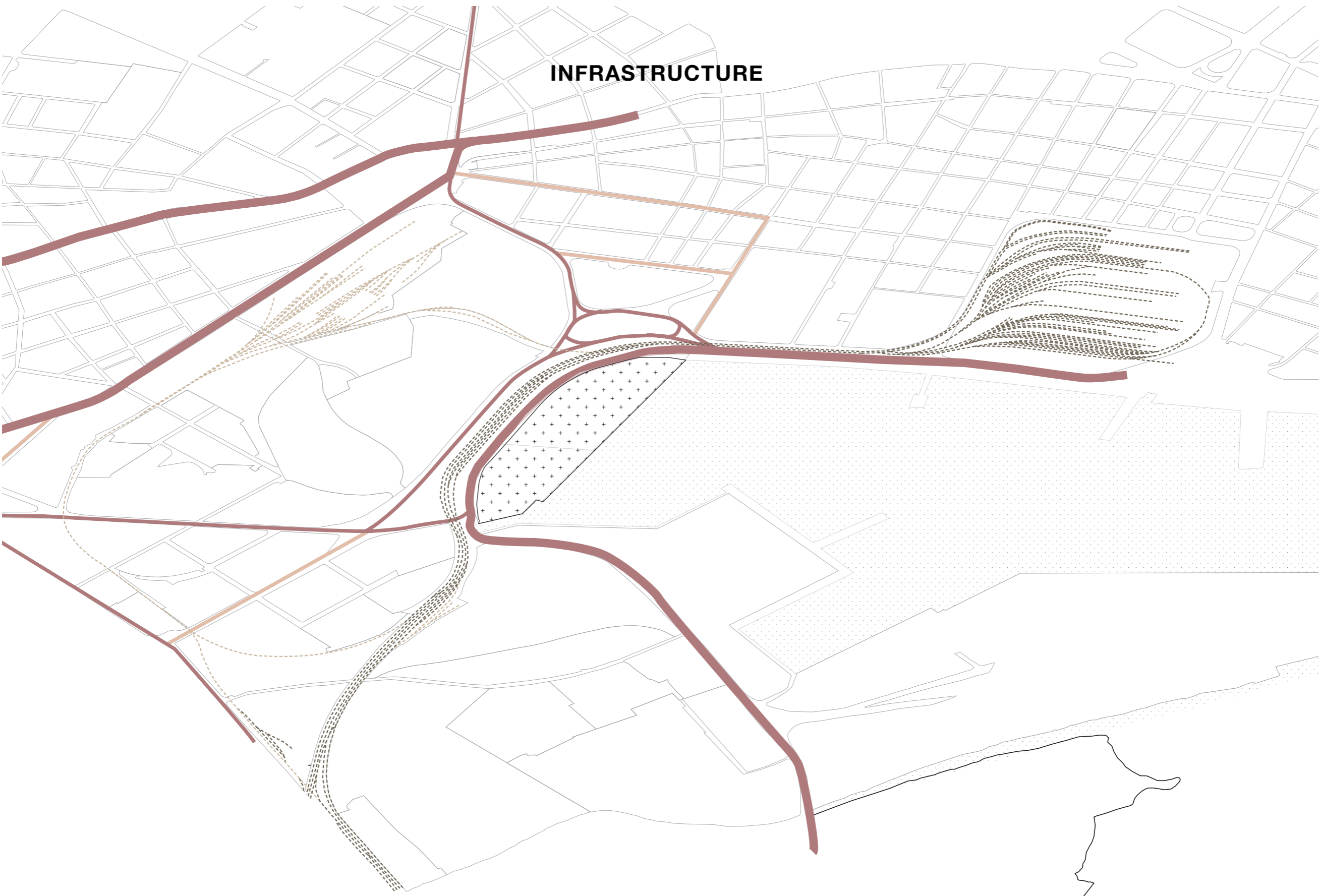
+4000mm

+6000mm

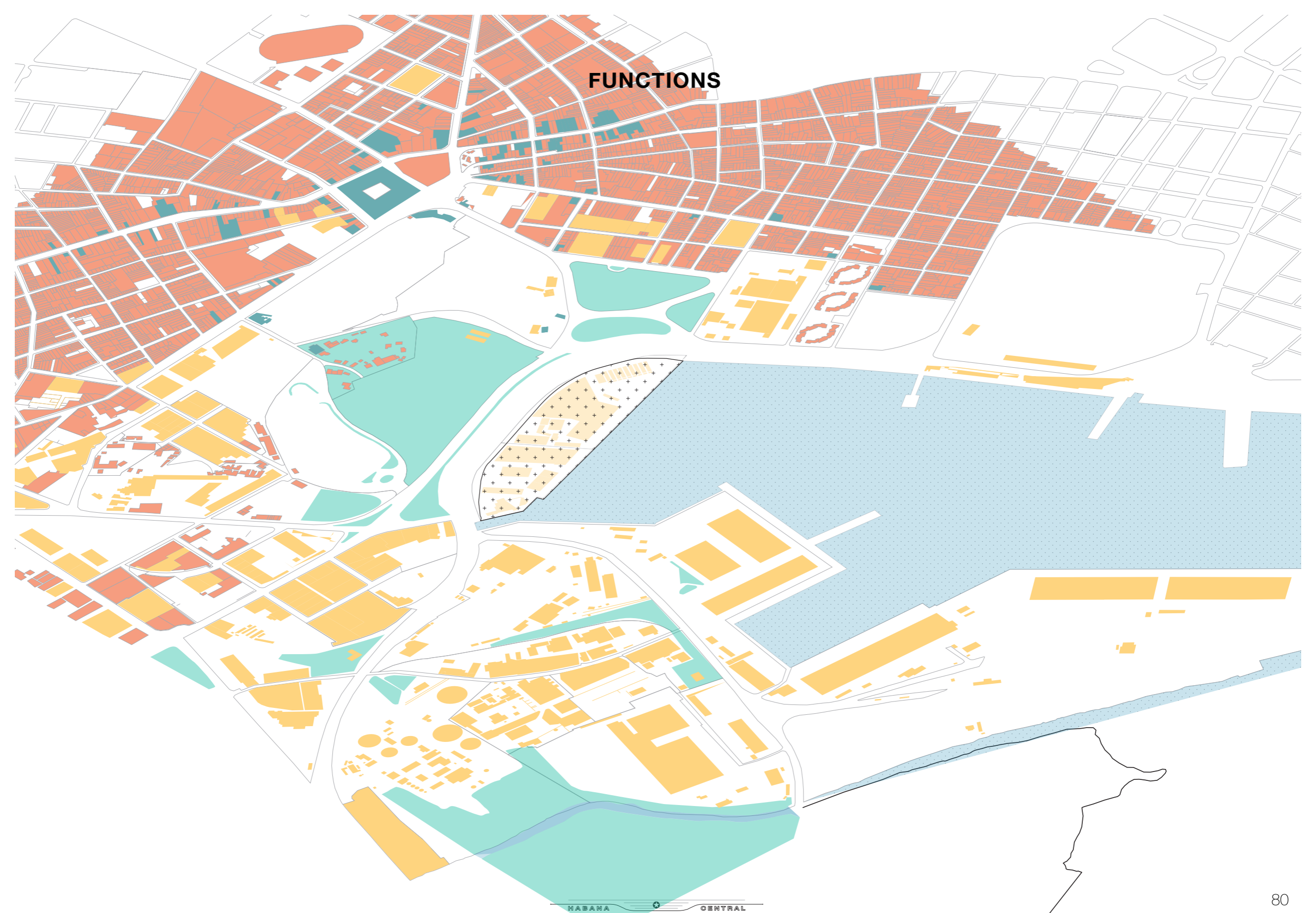
+4000mm

+12000mm

INFRASTRUCTURE



FUNCTIONS



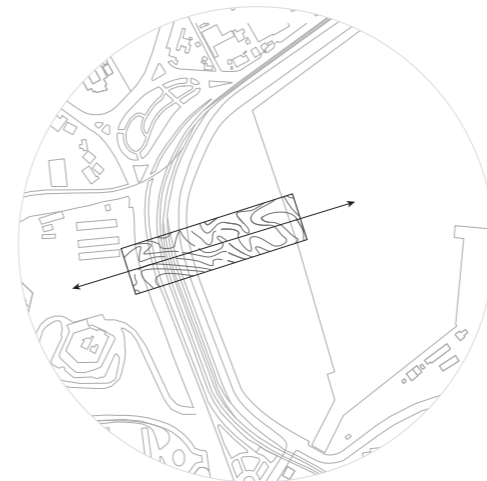
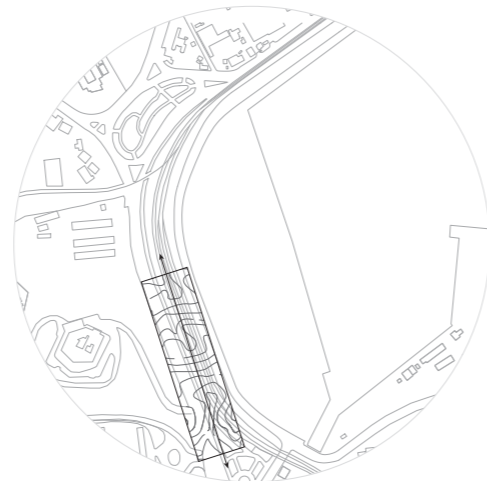
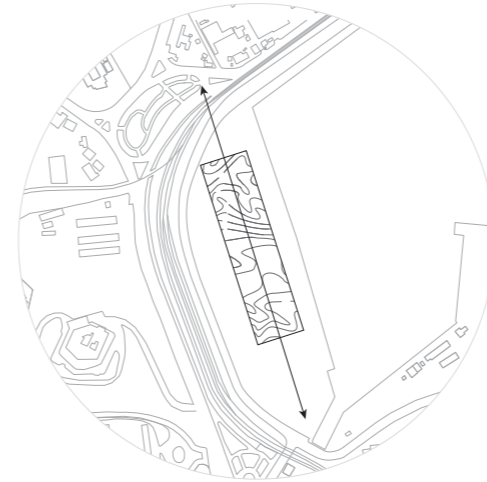
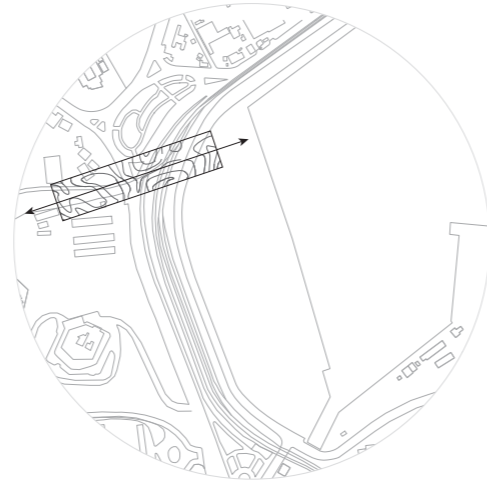
2017



33

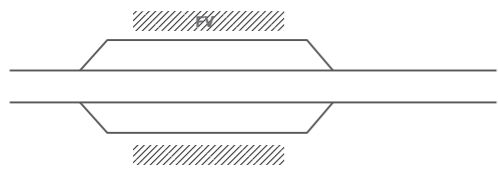
34

BUILDING ORIENTATION

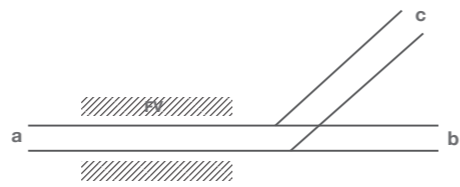


SITE VS TYPOLOGY

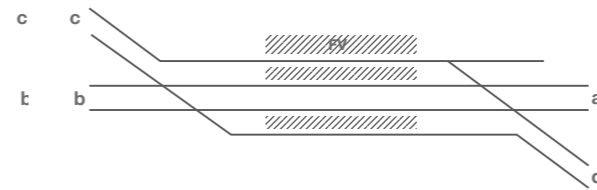




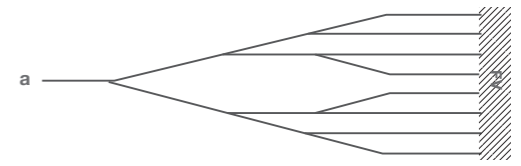
Running



Junction




Crossing



Terminus

Transit station

End station

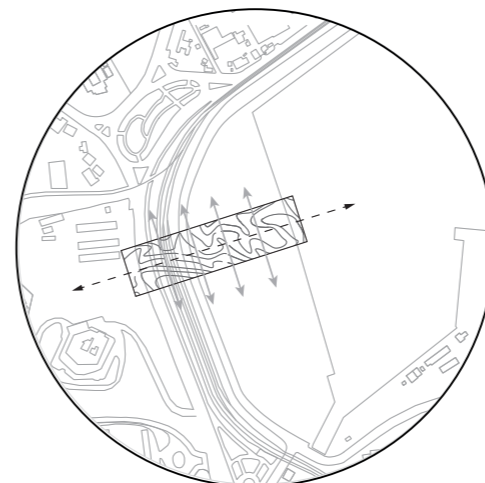
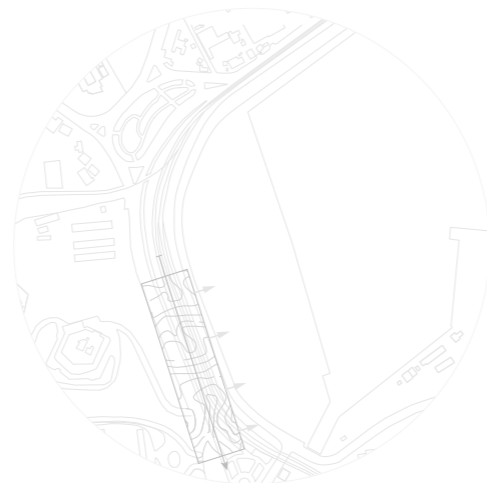
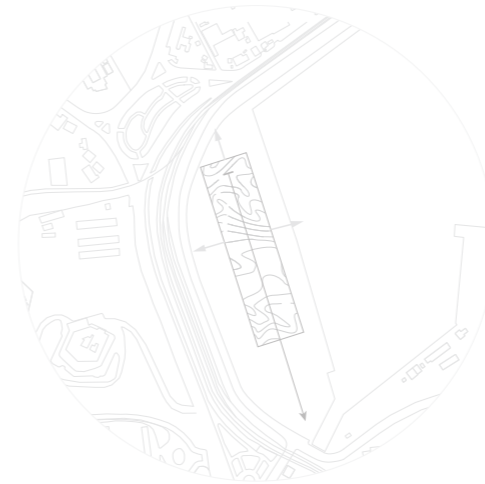
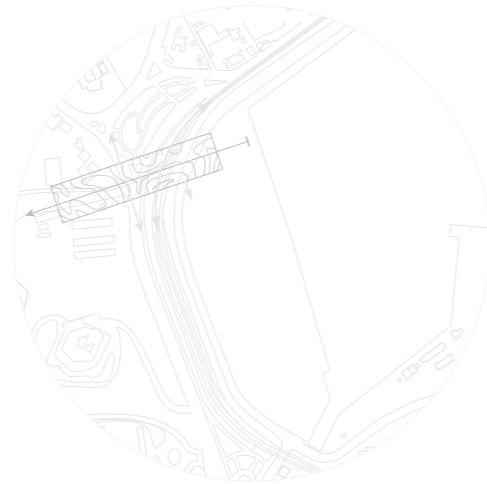
An aerial photograph of a large railway yard with numerous tracks curving and crossing. Several red signal lights are visible, some with labels like 'CY 26', 'CY 24', and 'CY 38'. A train with a red and blue front is on the right side. The text 'TERMINUS: ONE WAY IN = ONE WAY OUT' is overlaid in the center.

**TERMINUS:
ONE WAY IN = ONE WAY OUT**



- MORE TRACKS
- MORE PLATFORMS
- LESS EFFICIENT

CONCLUSION: TRANSIT STATION



Transit station

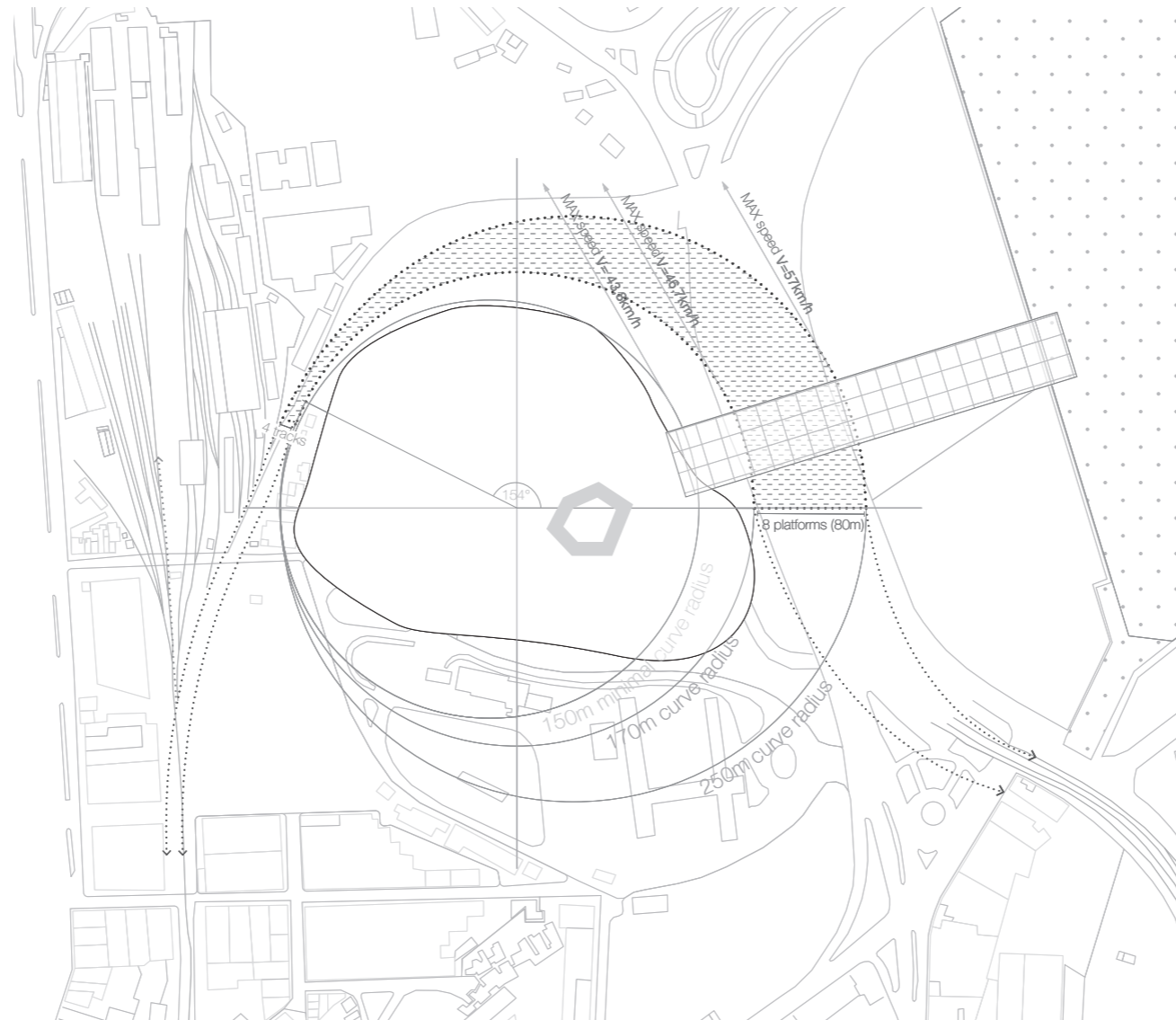
SITE POTENTIAL



PROPOSE: THE LOOP STATION



PROPOSE: THE LOOP STATION



European standard: R minimum = 150m
 R Atarés = 170m
 Speed coefficient (Xn) = 3,65

$$V_{MAX} = \text{Speed coefficient} \cdot \sqrt{(R - 6)}$$

$$V_{MAX} = 46,7 \text{ km/h}$$

* All numers relate to standard gauge track

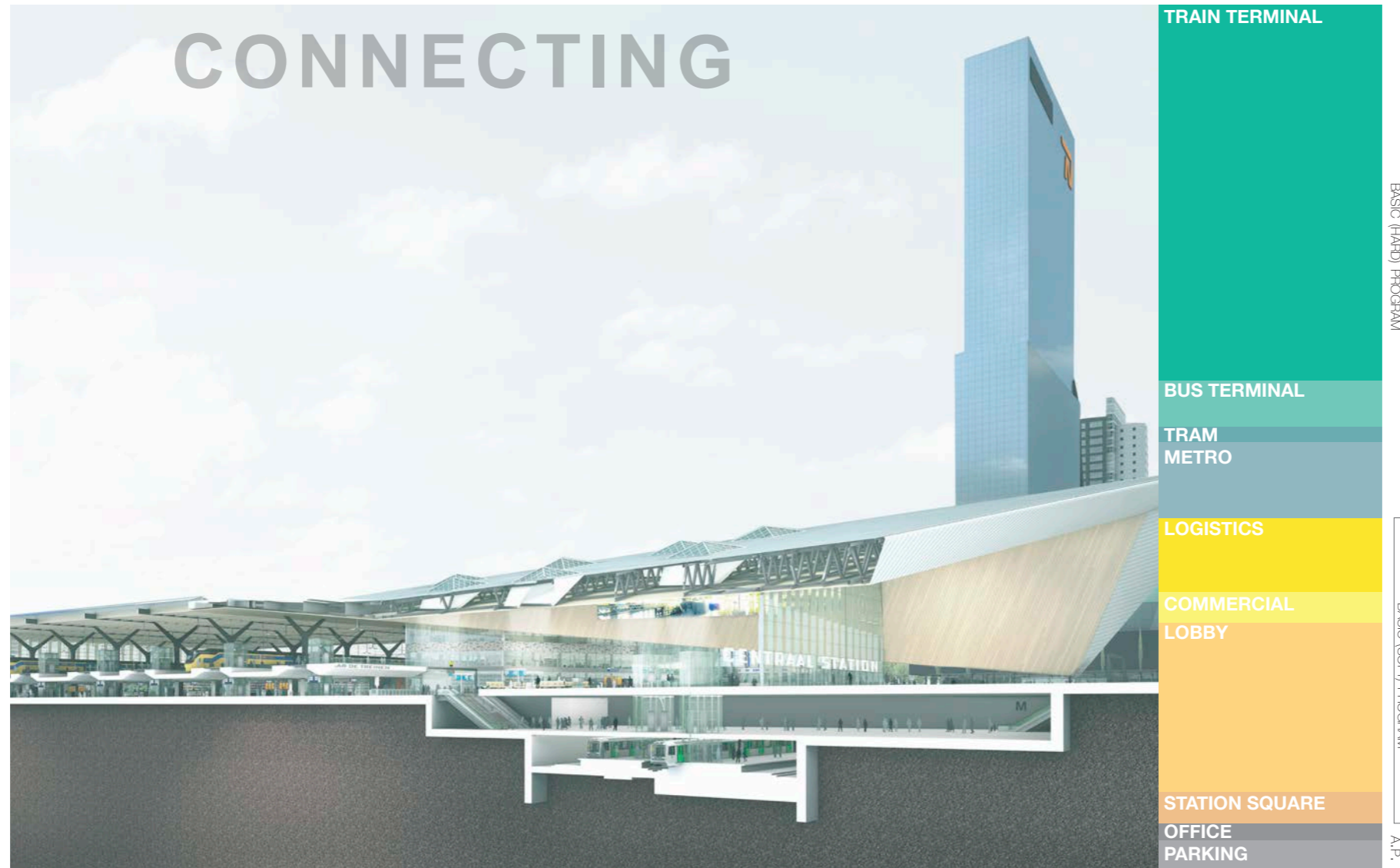
The loop station: *A hybrid typology, that combines the qualities of the transit station on a location designated for a terminus station.*

DESIGN



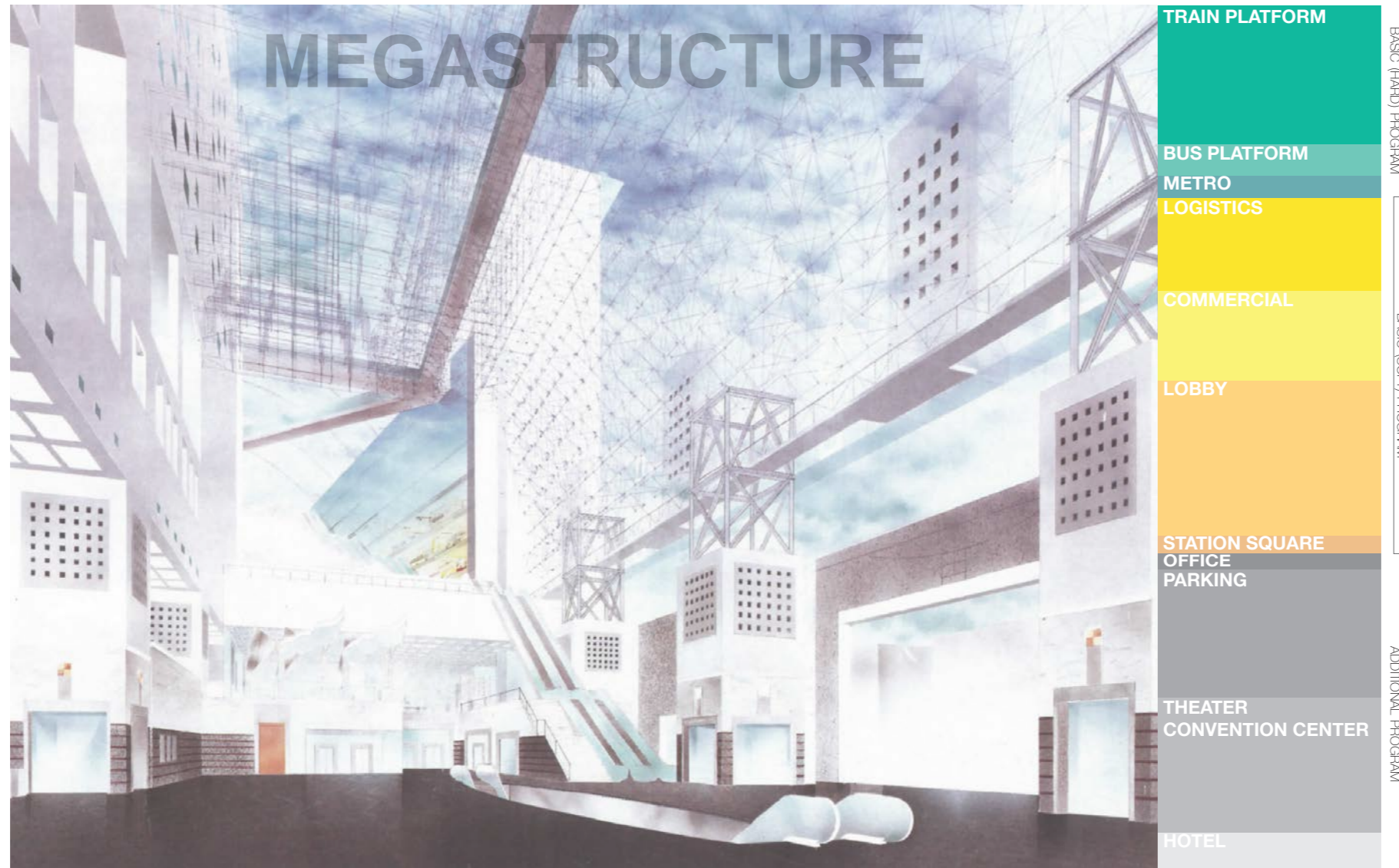
PROPOSAL

MODERN TRAINSTATIONS



Rotterdam Central station

MODERN TRAINSTATIONS



Kyoto station building

MODERN TRAINSTATIONS



Antwerpen Centraal

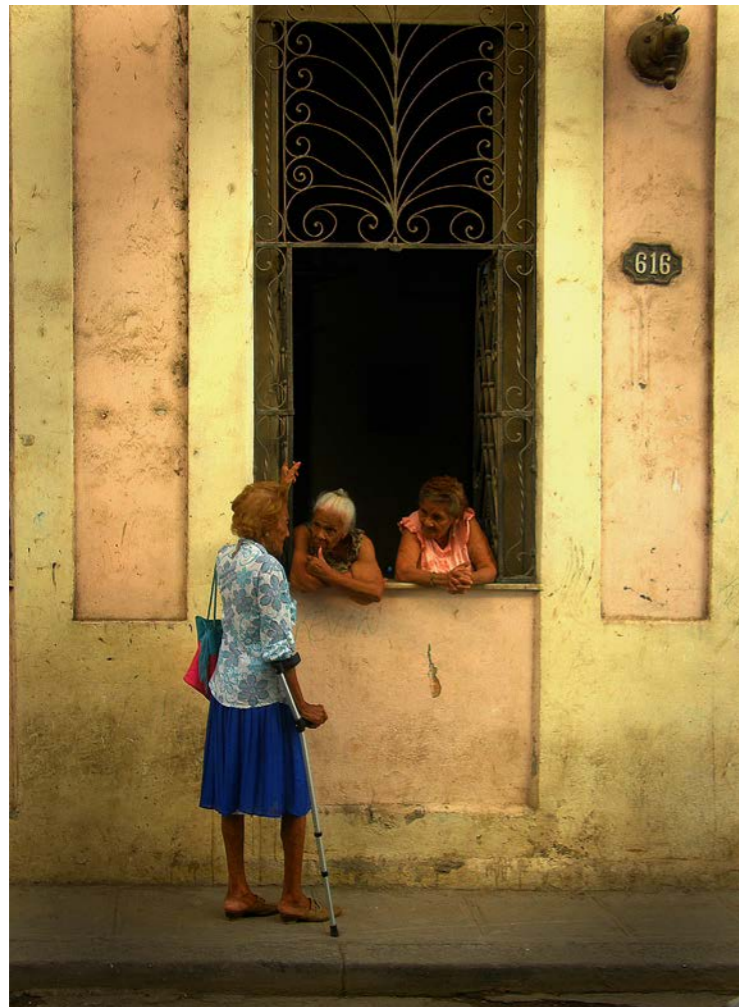
MODERN TRAINSTATIONS



Berlin Hauptbahnhof

INTERGRATION WITH THE CUBAN CONTEXT

Vibrant street culture

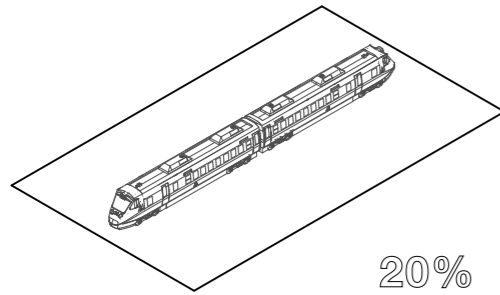


INTERGRATION WITH THE CUBAN CONTEXT

Commercial habits

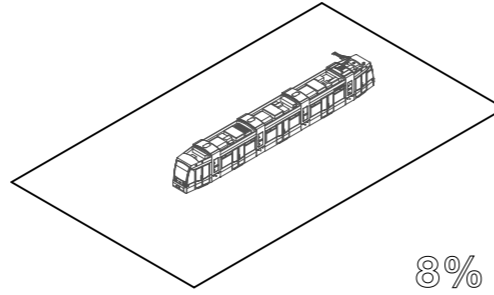


BASIC ELEMENTS OF A CONTEMPORARY STATION IN CUBA



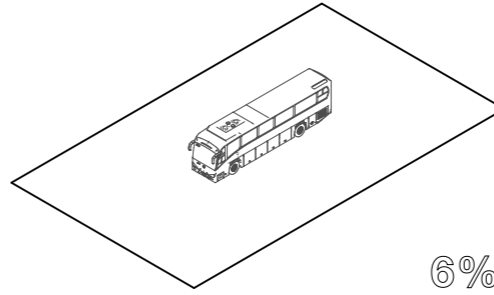
20%

Trains



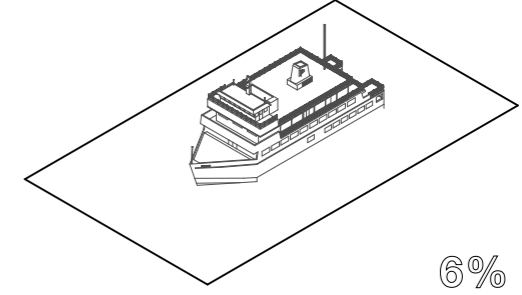
8%

Trams



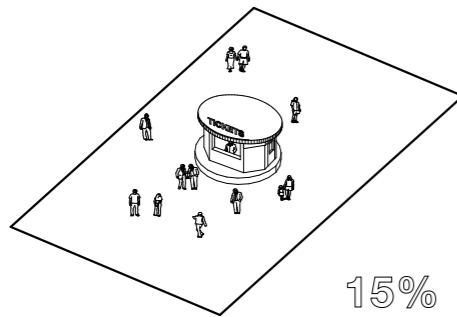
6%

Buses



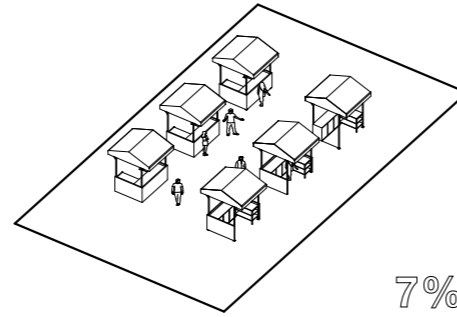
6%

Ferry's



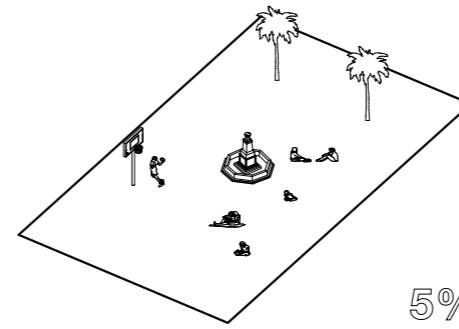
15%

Lobby



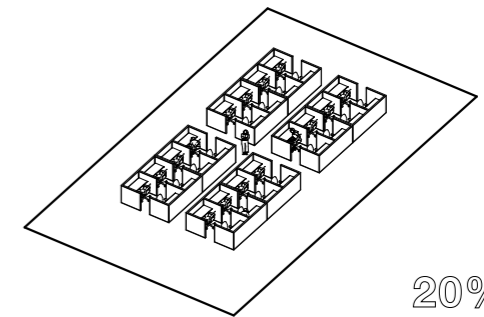
7%

Comercial



5%

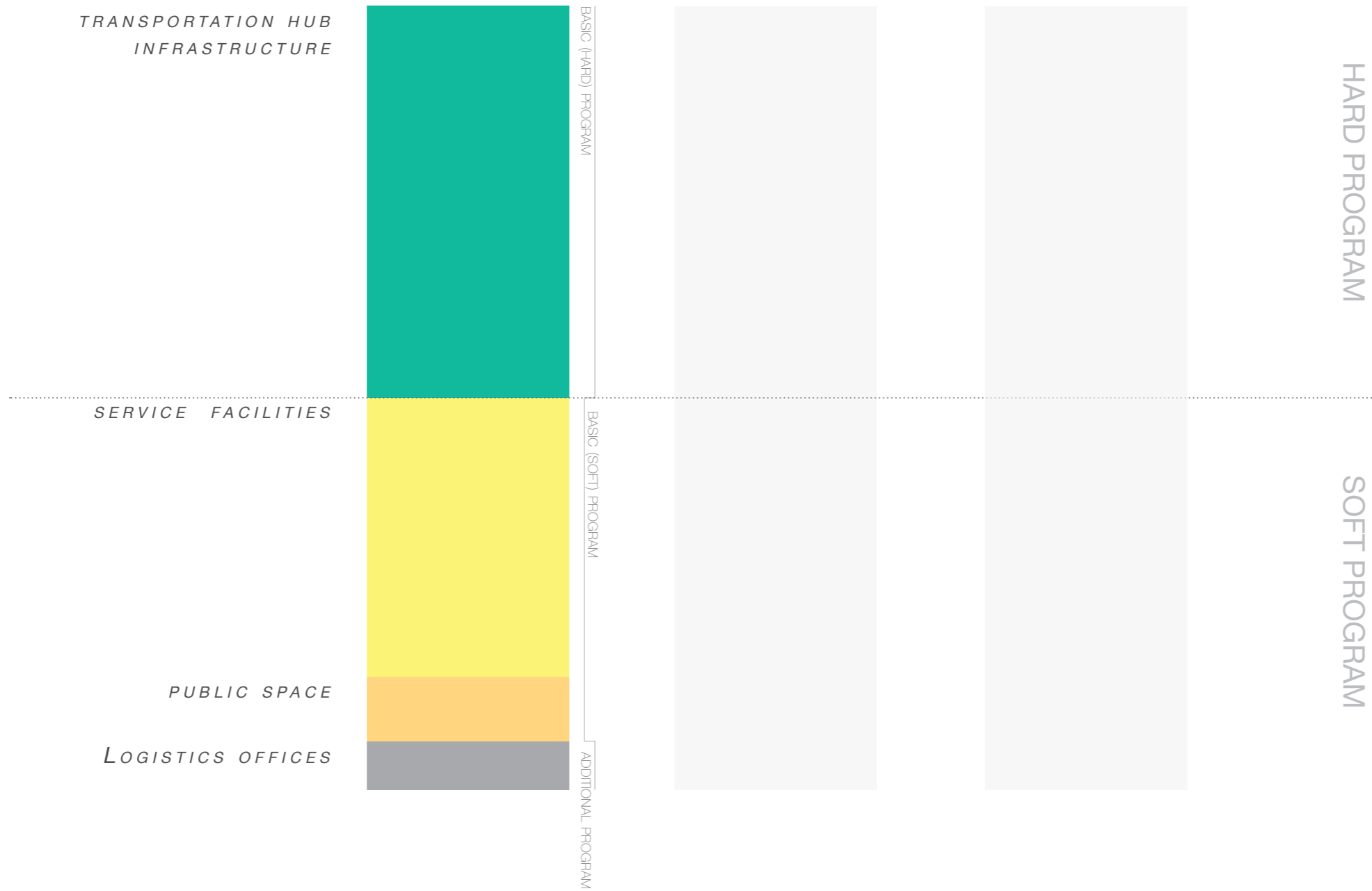
Station square



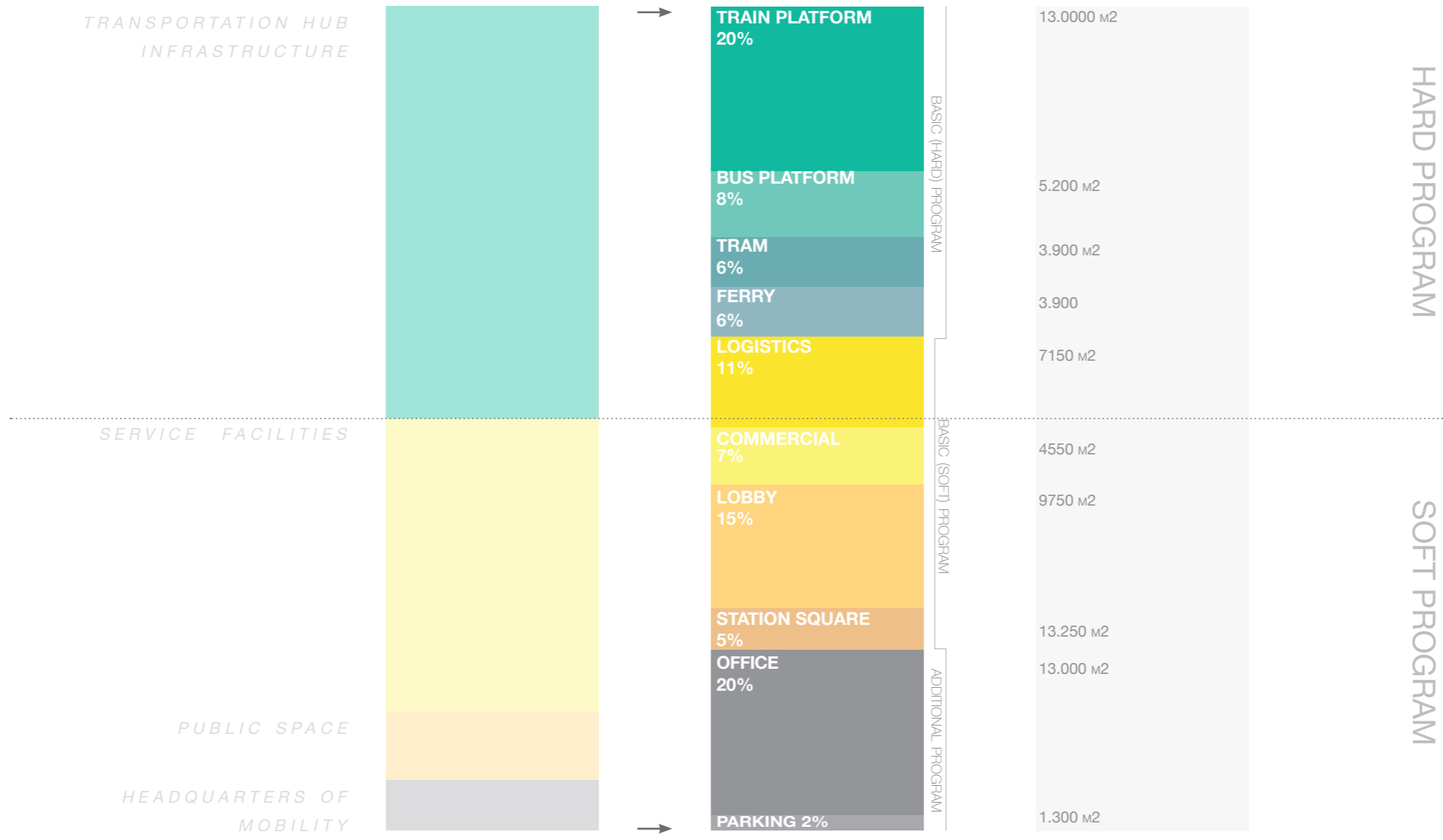
20%

Logistic offices

DESIGN PROGRAM



DESIGN PROGRAM



GFA = 31.100 m²

FOOTPRINT = 18.500 m²

STATION AREA = 64.400 m²

SCALE OF THE PROJECT



New Havana station



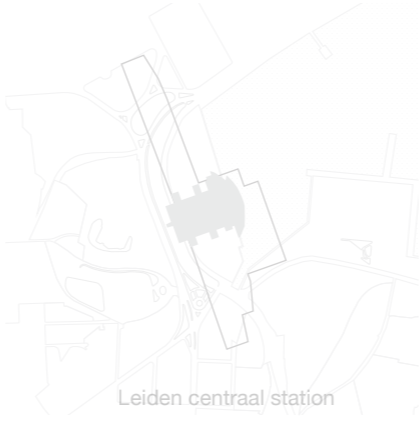
Havana central station



Helsinki Central railway station



grand central station



Leiden centraal station



Gare do Oriente



Michigan central station



Luz Railway Station



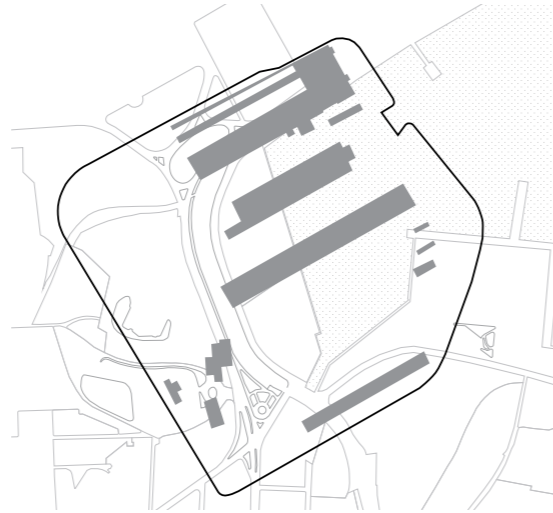
Gare de Lyon Saint-Exupéry

Post industrial stations

Modern stations

Post modern stations

SCALE OF THE PROJECT



CURRENT STATION

145.000 m²

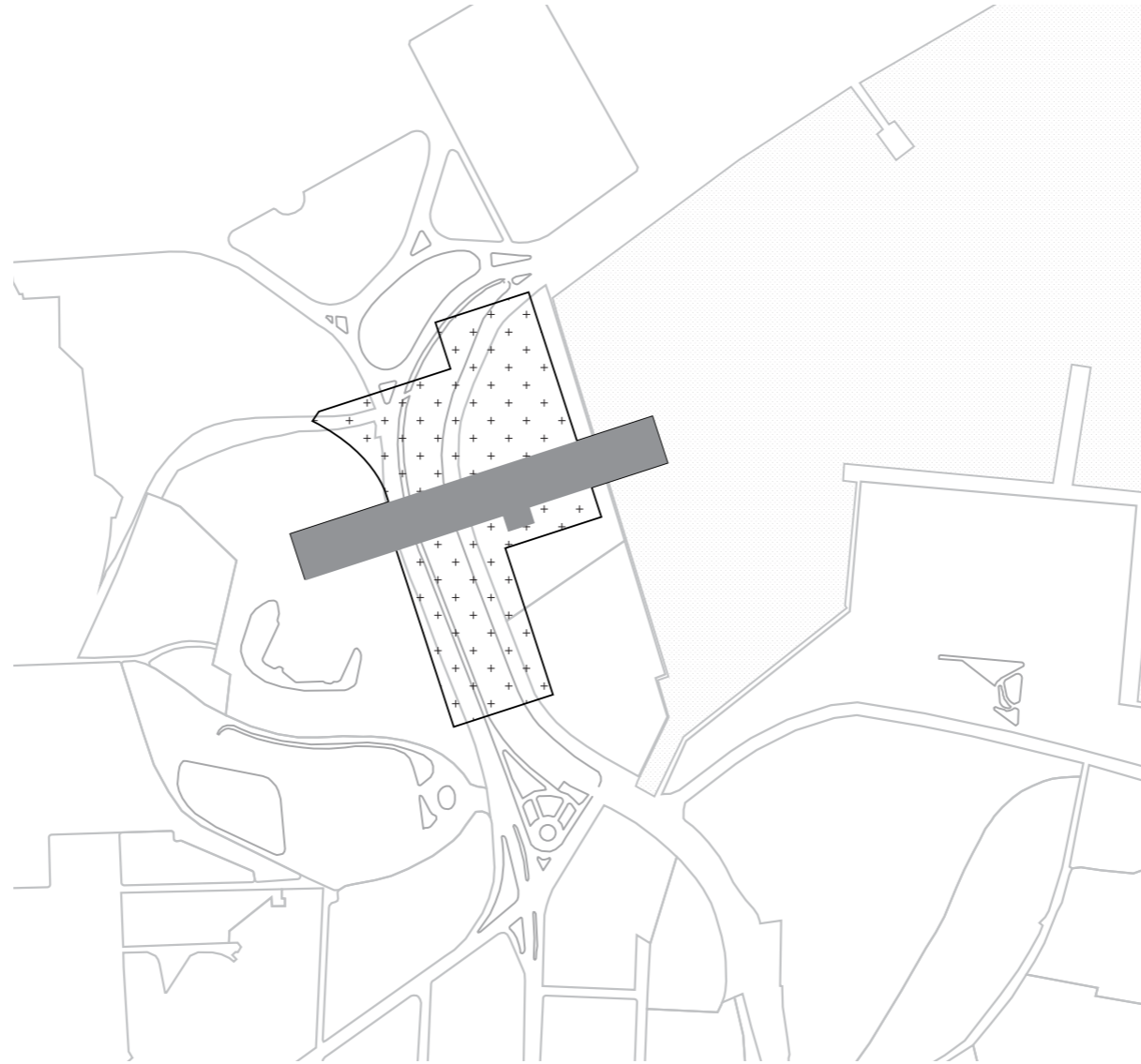


NEW HABANA CENTRAL

64.400 m²

NEW HABANA CENTRAL

64.400 m²



SPECIFIED PROGRAM

TRANSPORTATION HUB
INFRASTRUCTURE

SERVICE FACILITIES

PUBLIC SPACE

HEADQUARTERS OF
MOBILITY

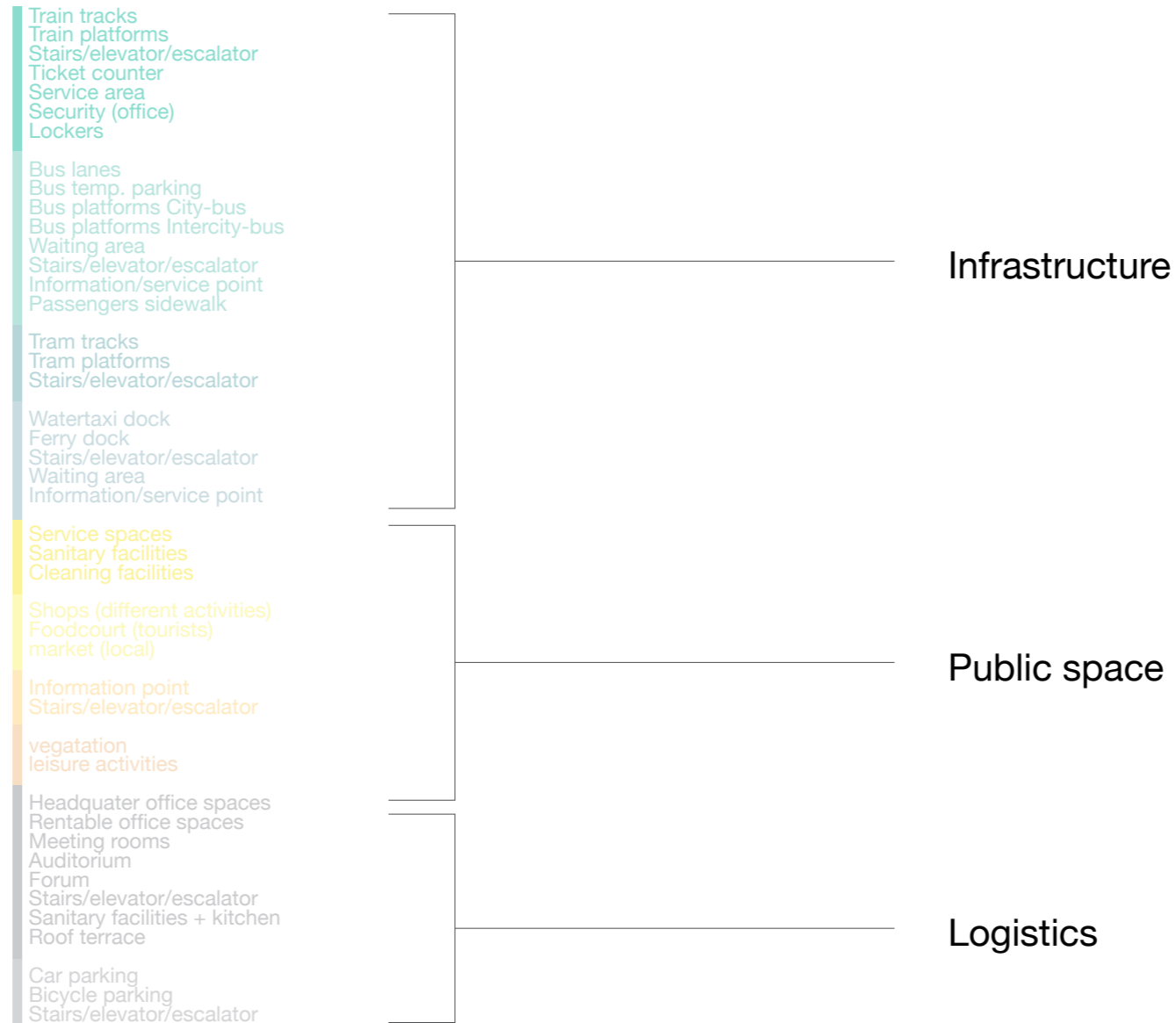


GFA = 31.100 m²

FOOTPRINT = 18.500 m²

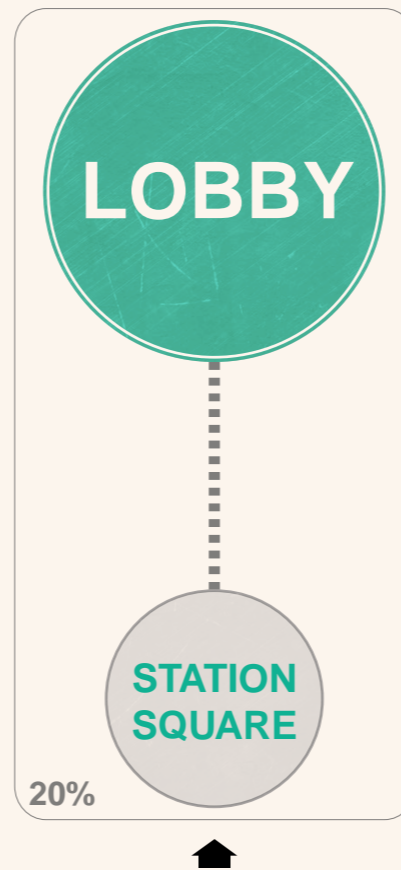
STATION AREA = 64.400 m²

3 ELEMENTS

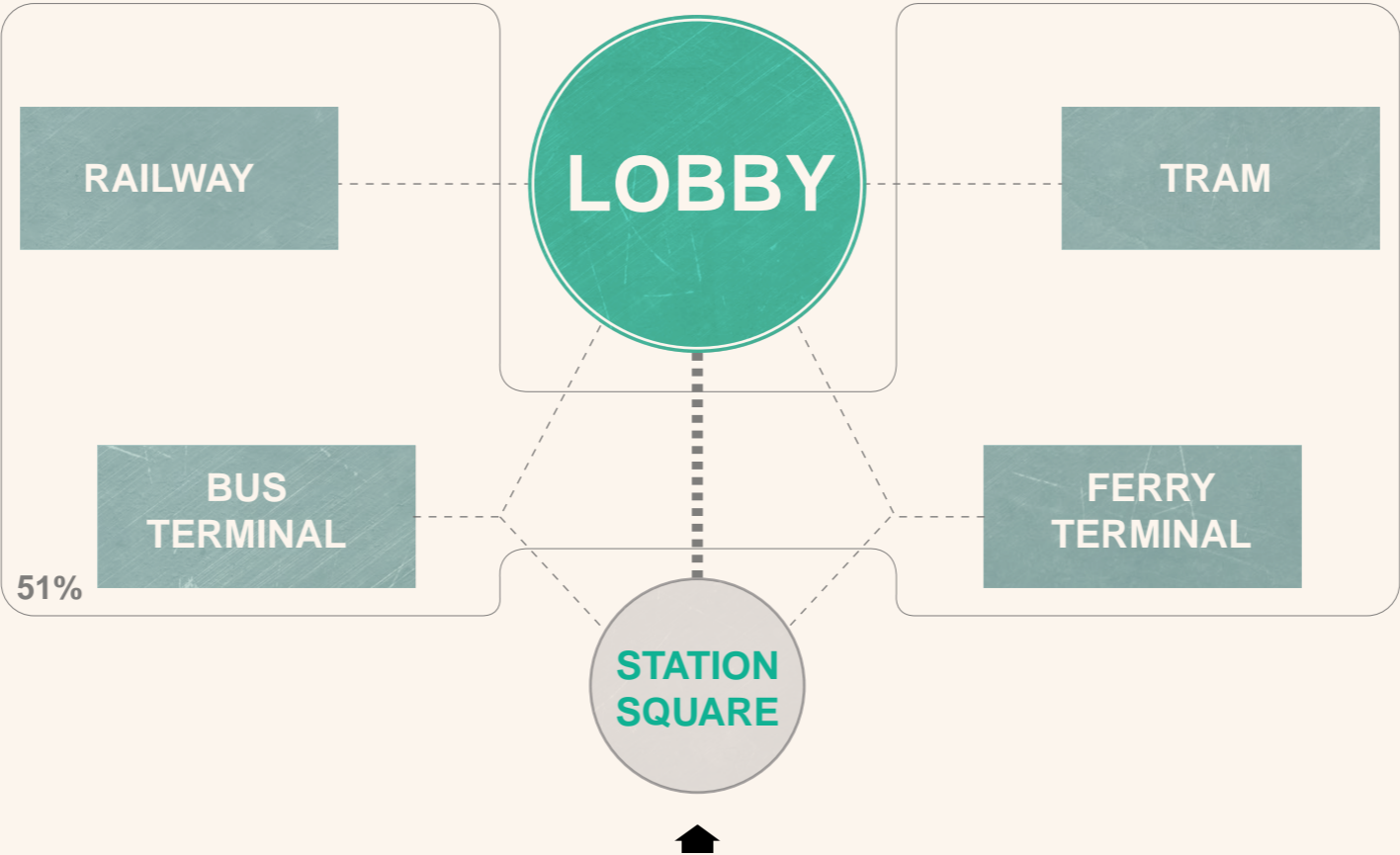


**TO CREATE A STRONG TRANSPORTATION TYPOLOGY THE BUILDING
APPEARS AND FUNCTION AS ONE GESTURE**

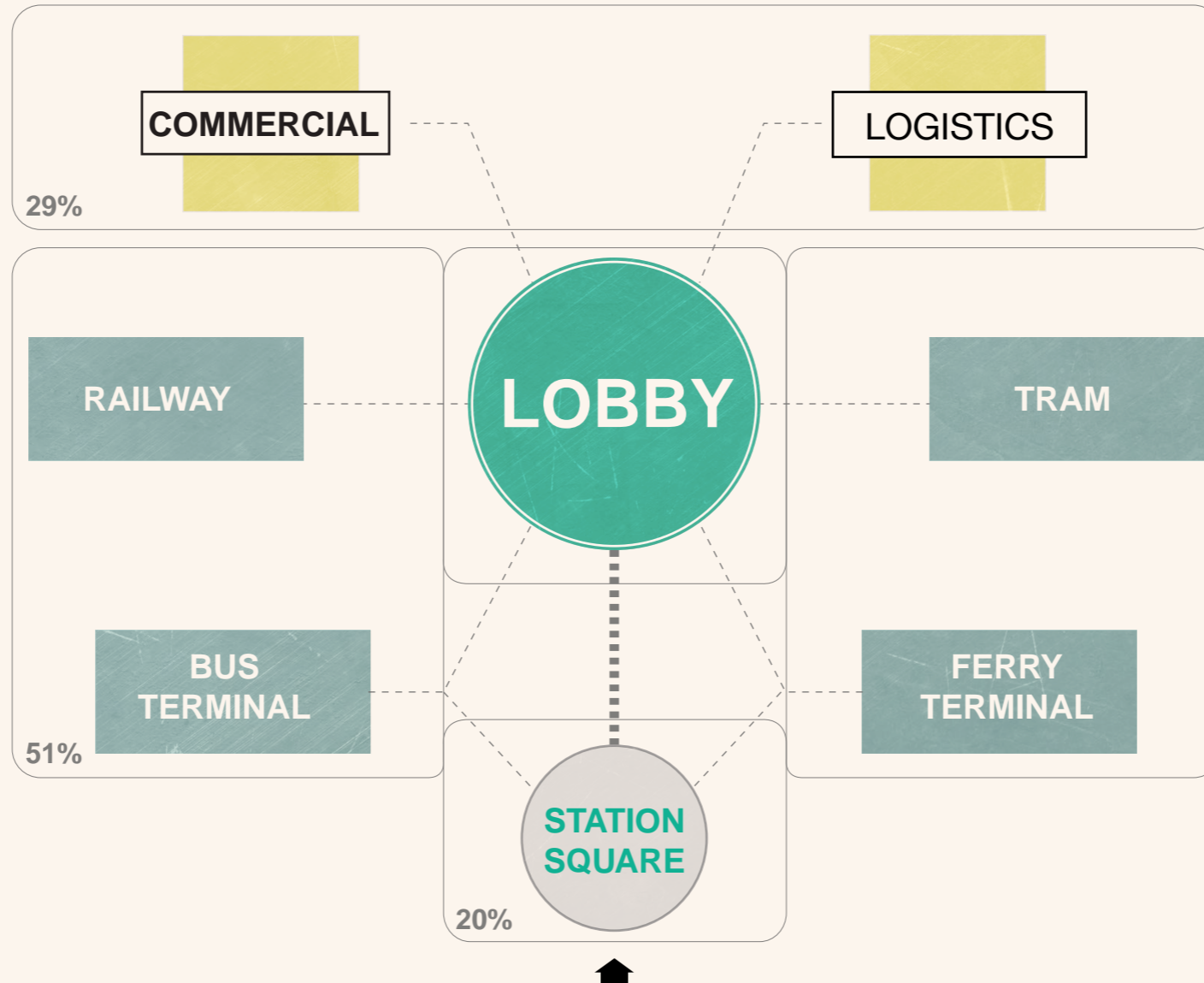
FUNCTIONAL SCHEME



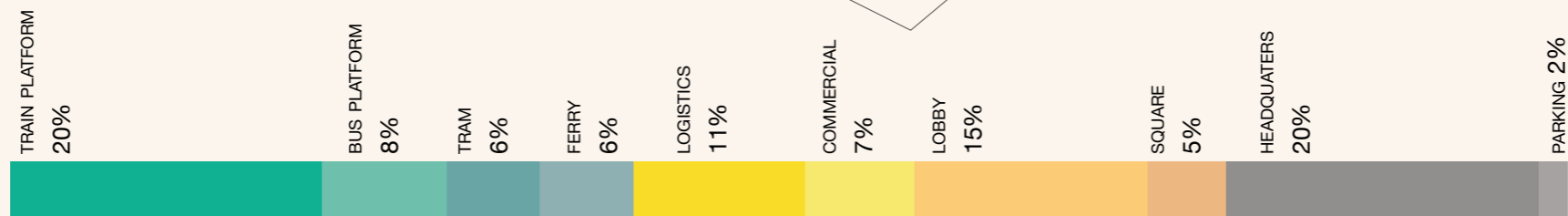
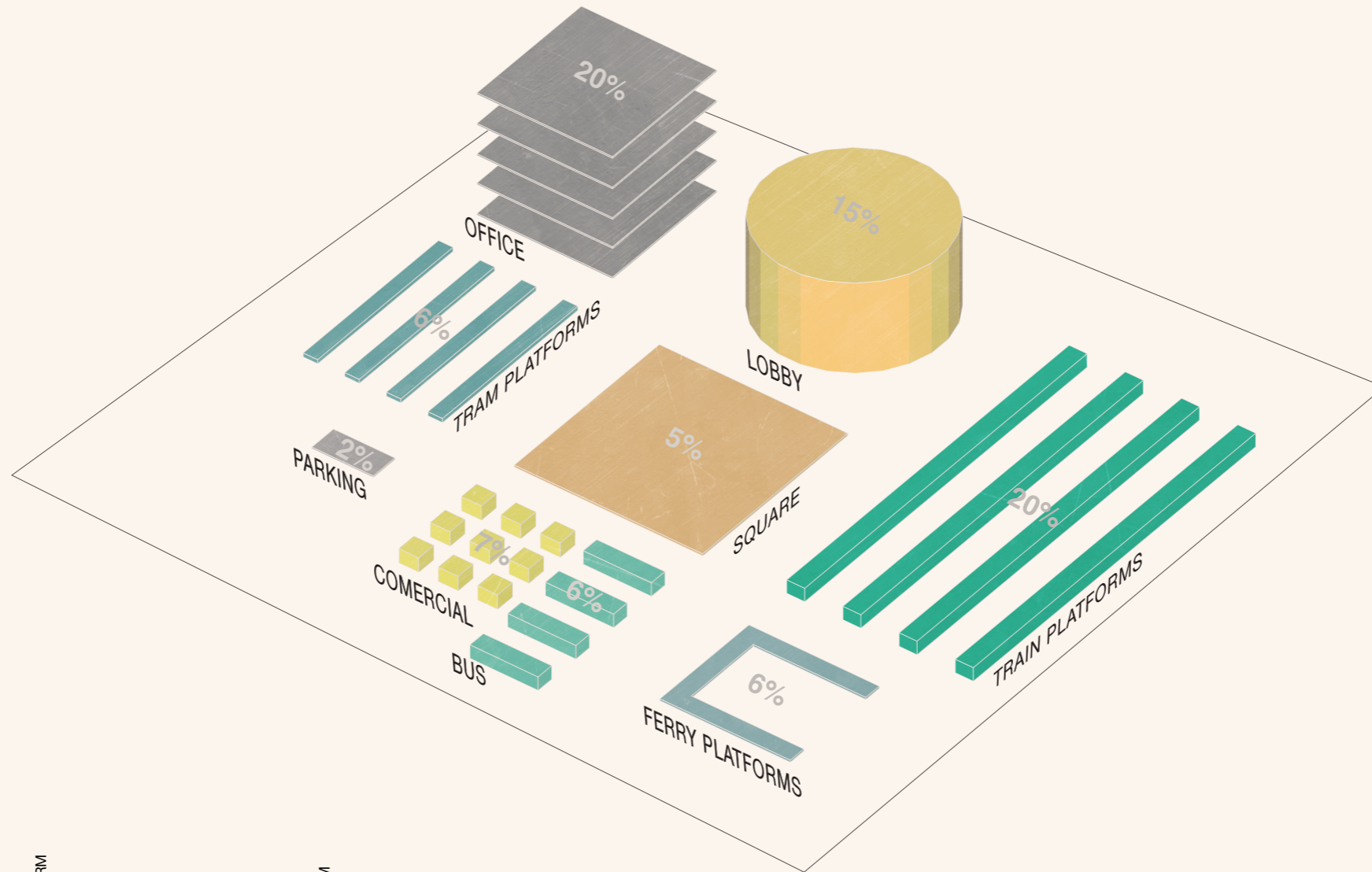
ESSENTIAL PROGRAM

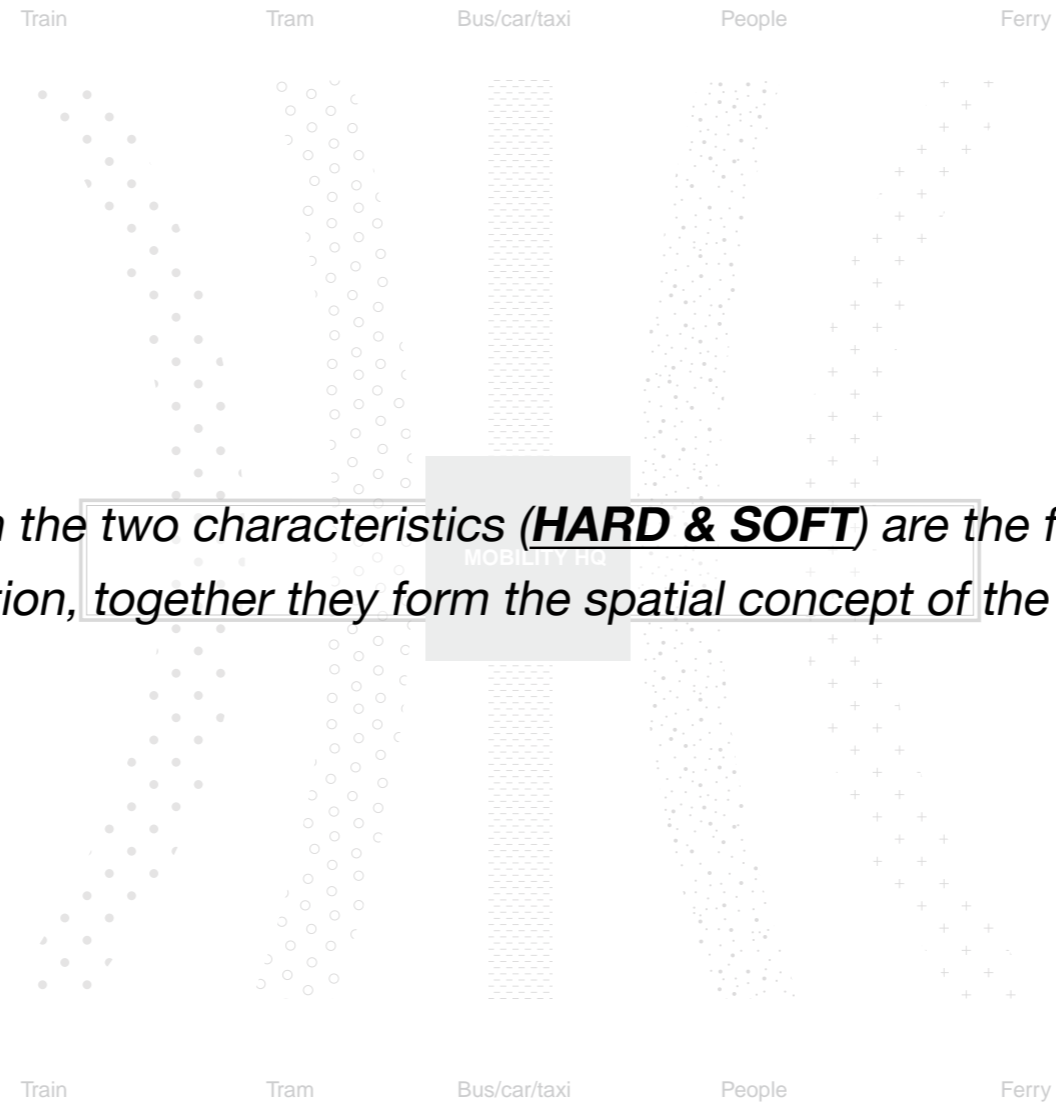


ESSENTIAL & ADDITIONAL PROGRAM



BASIC PROGRAMATIC ELEMENTS





*The difference between the two characteristics (**HARD & SOFT**) are the fundamental principle of the station, together they form the spatial concept of the project.*

FERROCARRILES DE CUBA



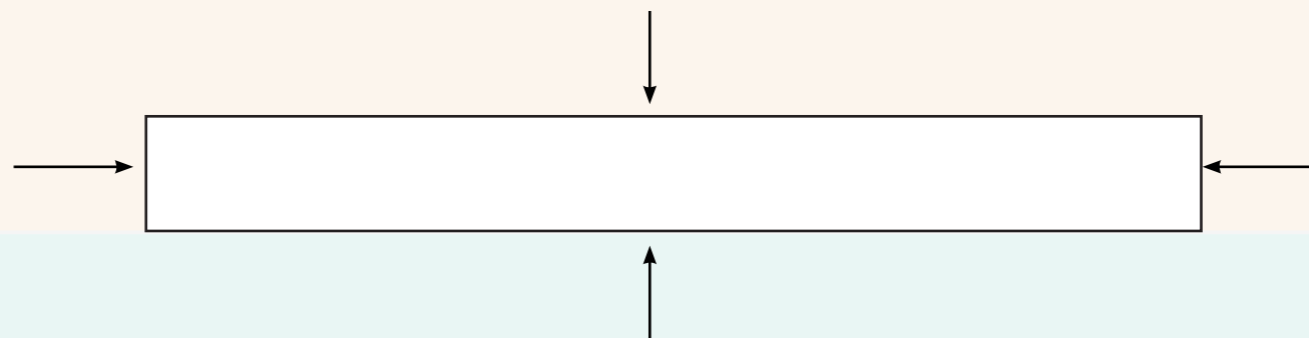
8333



*The design task is how to express this difference of the two characteristics **into one unified building**, while fulfilling the different spatial requirements needed for both.*

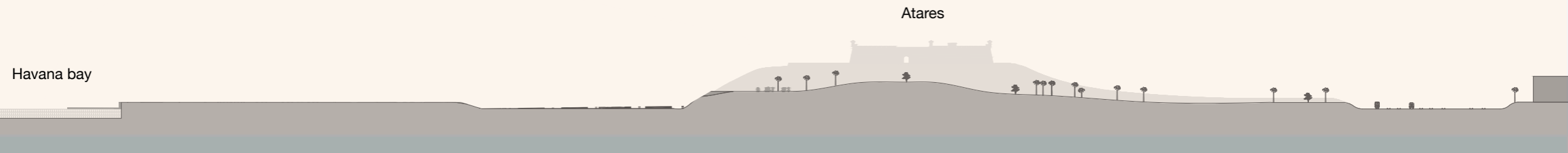


1. ONE BUILDING GESTURE



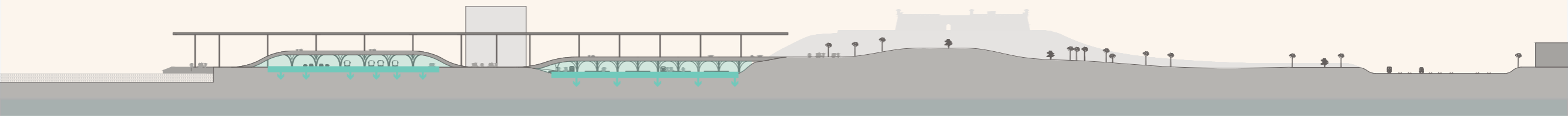
- **MERGING INFRASTRUCTURAL TYOLOGIES**
- **TRANSIT STATION TYPOLOGY**
- **EXPRESSION OF UNITY**

2. SITE CHARACTERISTICS



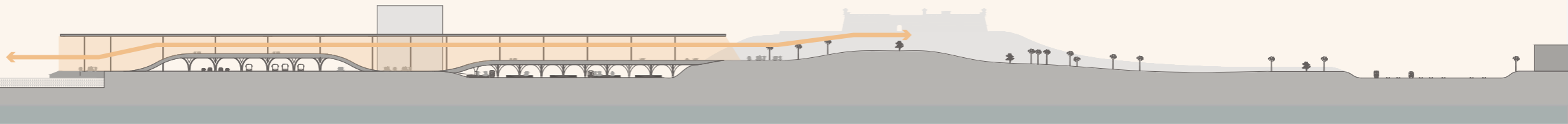
- **CONNECTOR BETWEEN THE OLD AND THE NEW CITY**
- **RESPONDING TO THE CONTEXT OF ATARÉS**

3. INFRASTRUCTURAL LAYOUT - FIRST CANOPY



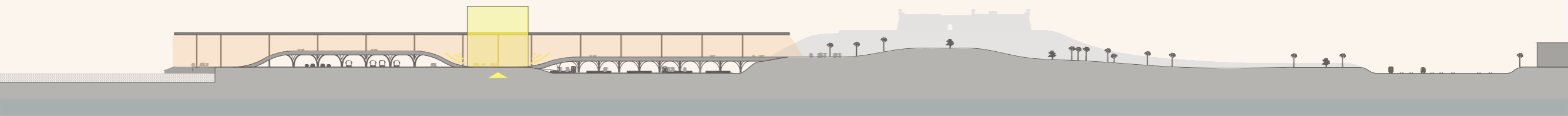
- THE HARD PROGRAM
- ALIGNED NEXT TO EACH OTHER

4. PUBLIC CONNECTOR - SECOND CANOPY



- FREEDOM OF TRANSFER
- CONNECTION OF THE BAY WITH THE HILL
- DIRECT VIEW ON THE MOVING INFRASTRUCTURE

5. REGULATED BY HQ OF MOBILITY

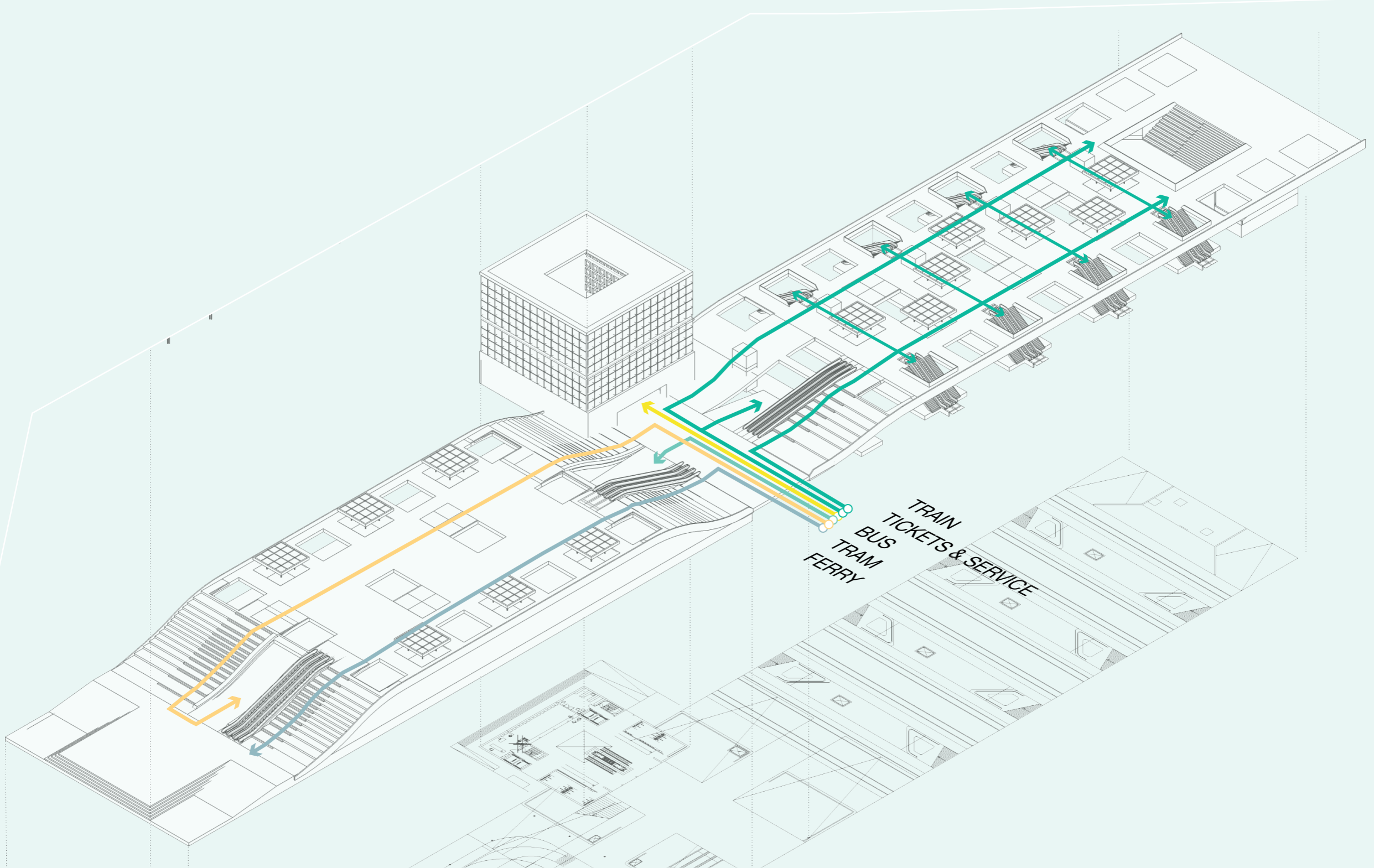


- CONNECTION THE TWO SPATIAL CHARACTERS
- EMBODIES THE CLOSED OF PROGRAM

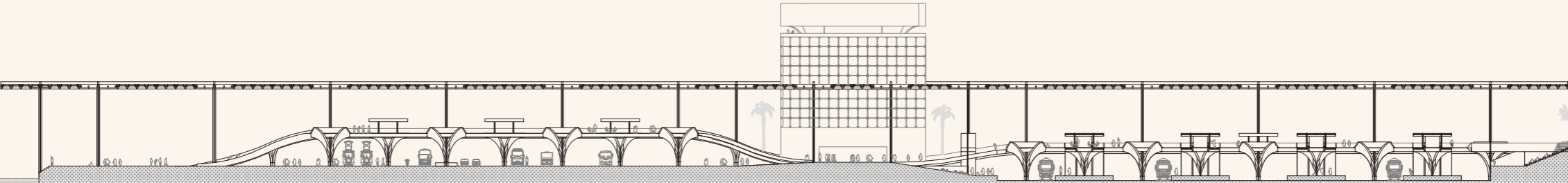
CIRCULATION



CIRCULATION

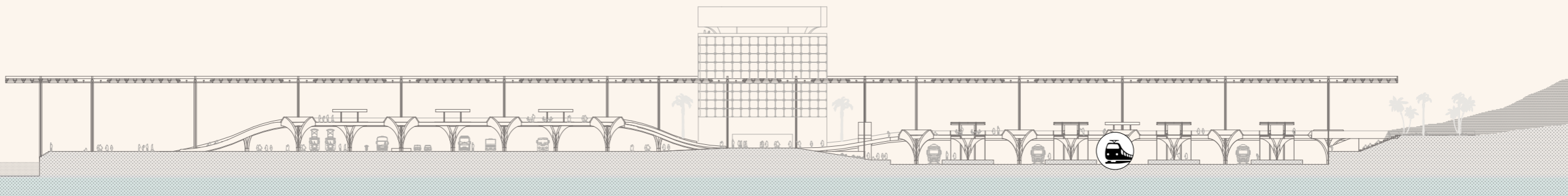


PROGRAM ARRANGEMENT



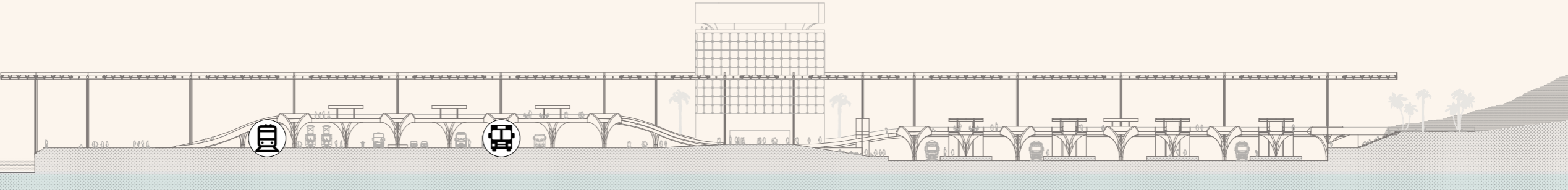
← local touristic

TRAIN



TRAIN

BUS & TRAM

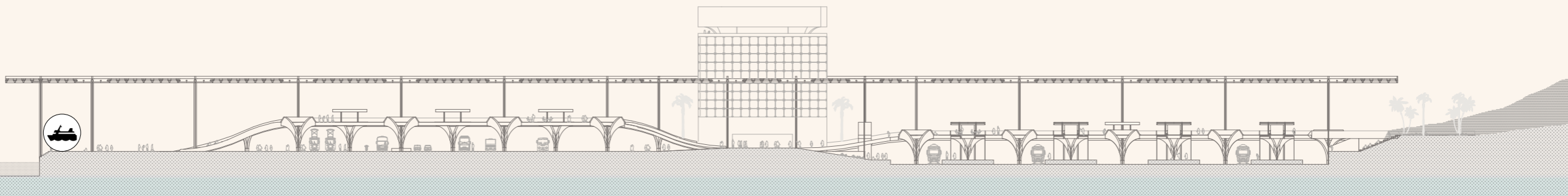


TRAM



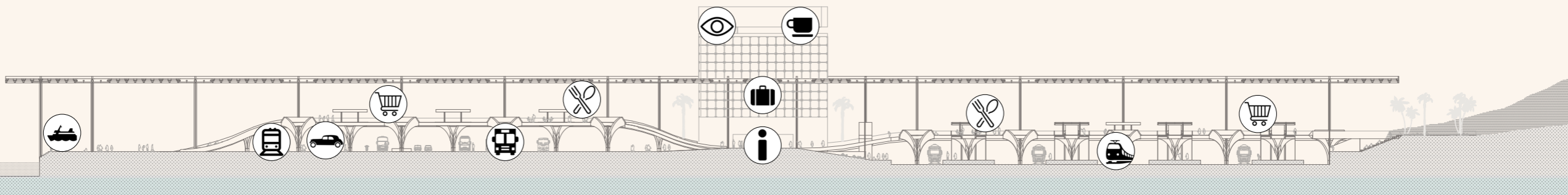
BUS

FERRY

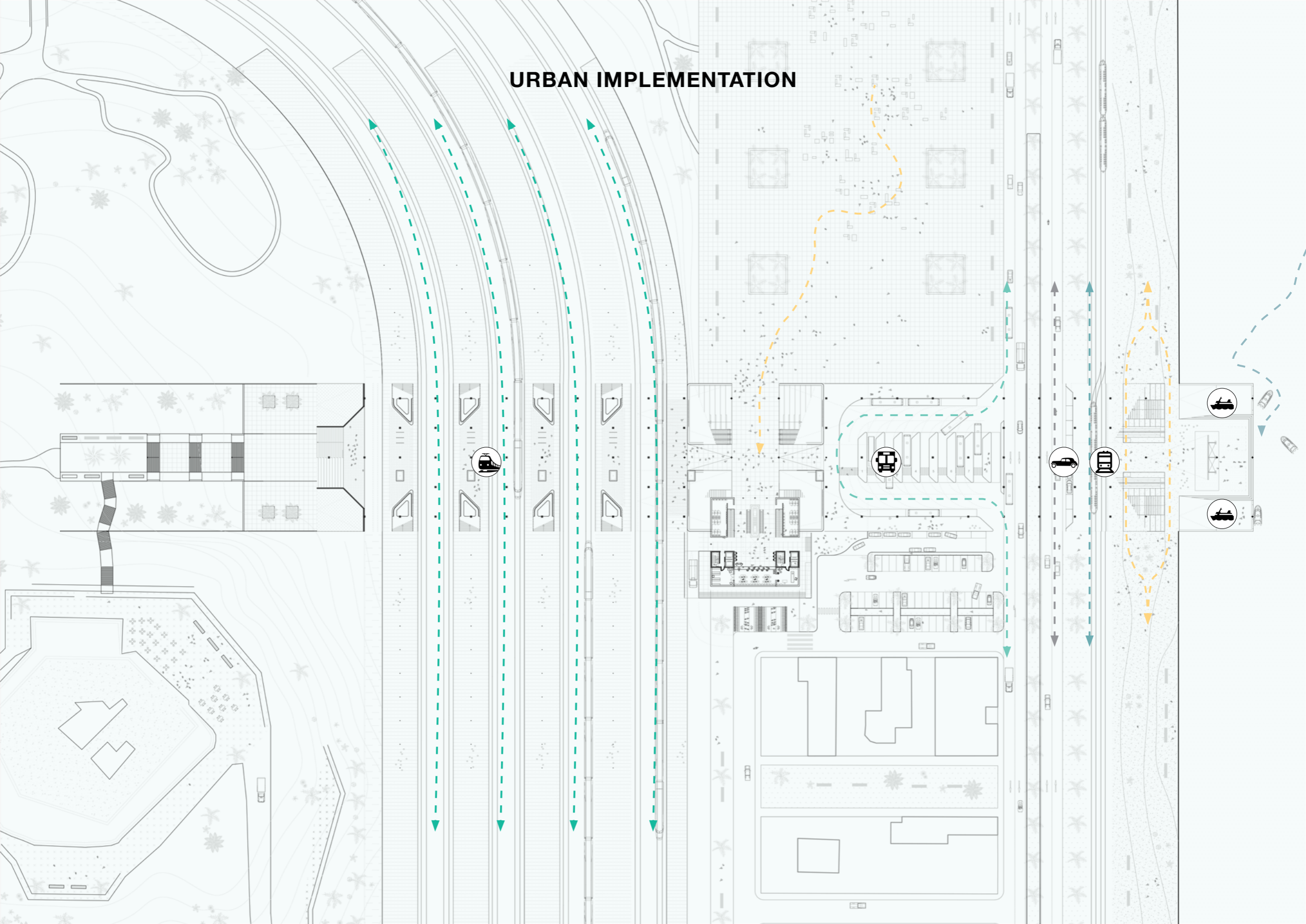


FERRY

SUPPORTING PROGRAM



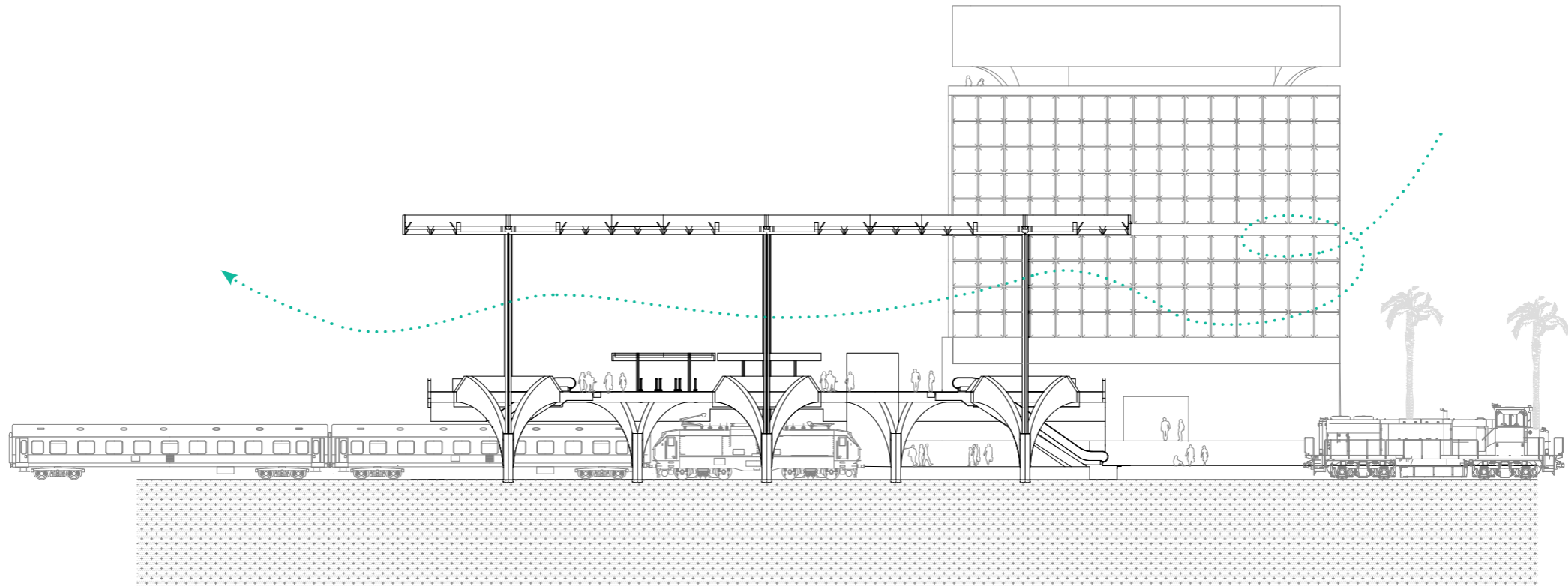
URBAN IMPLEMENTATION





PUBLIC PROGRAM

Eliminating the closed facades



EXPRESSION OF THE CUBAN OPEN CHARACTER



FADING BORDER IN & OUTSIDE



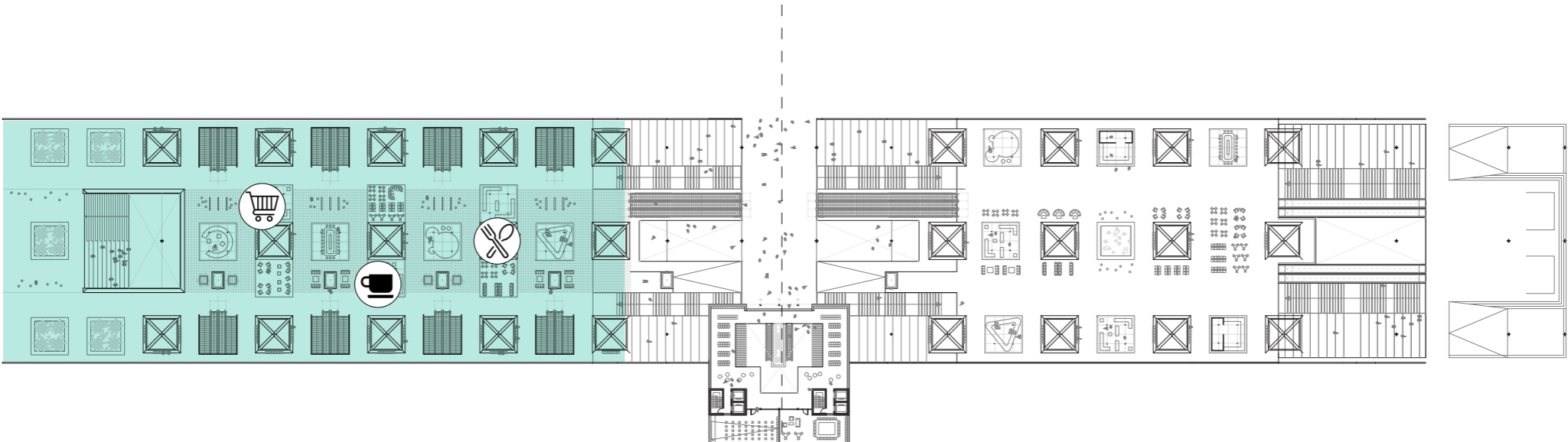
VIEW ON ARRIVAL

1
FIRST
SANTIAGO DE CUBA

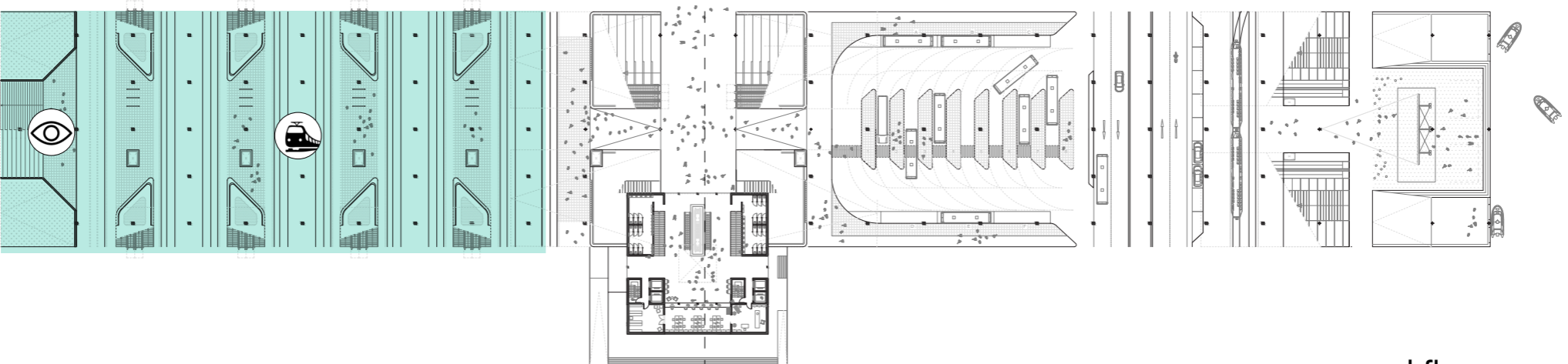
HAVANA CENTRAL



TRAIN TERMINAL



first floor

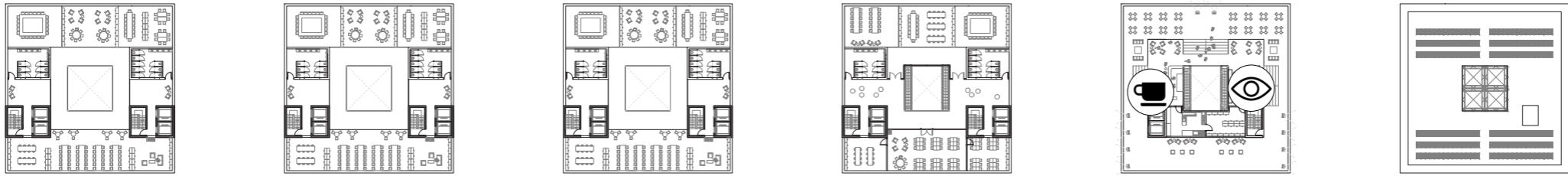


ground floor

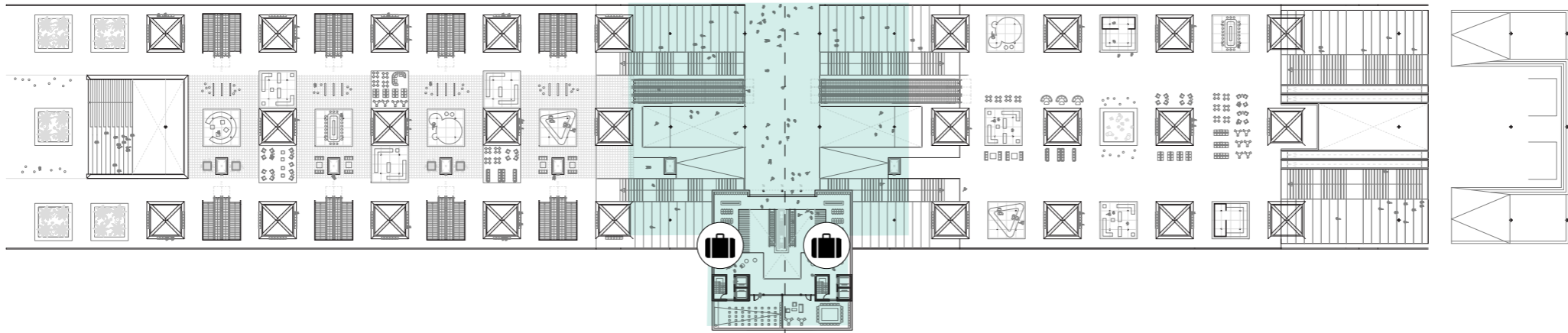
TRAIN TERMINAL



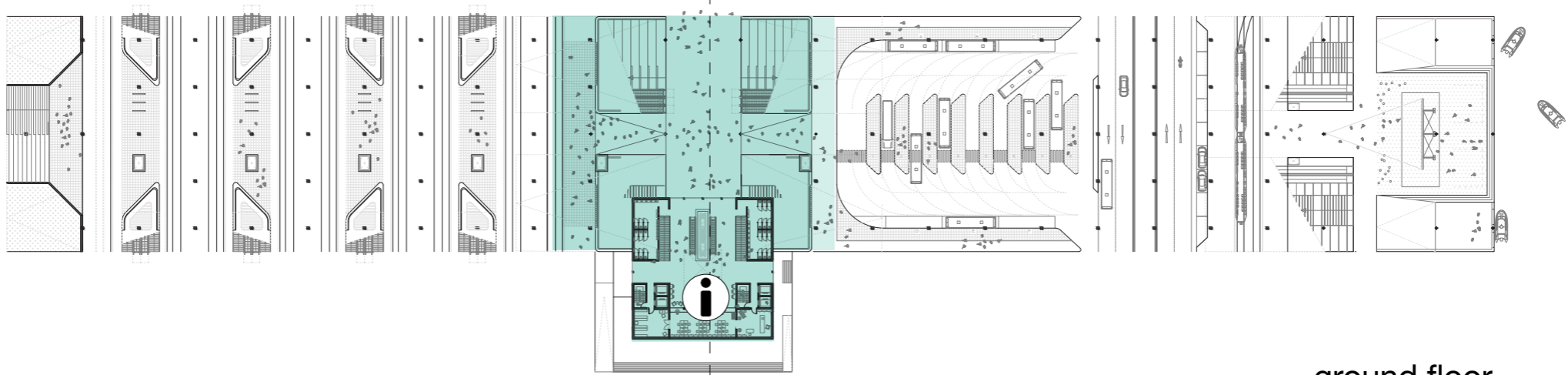
CENTRAL LOBBY & HQ



third - roof

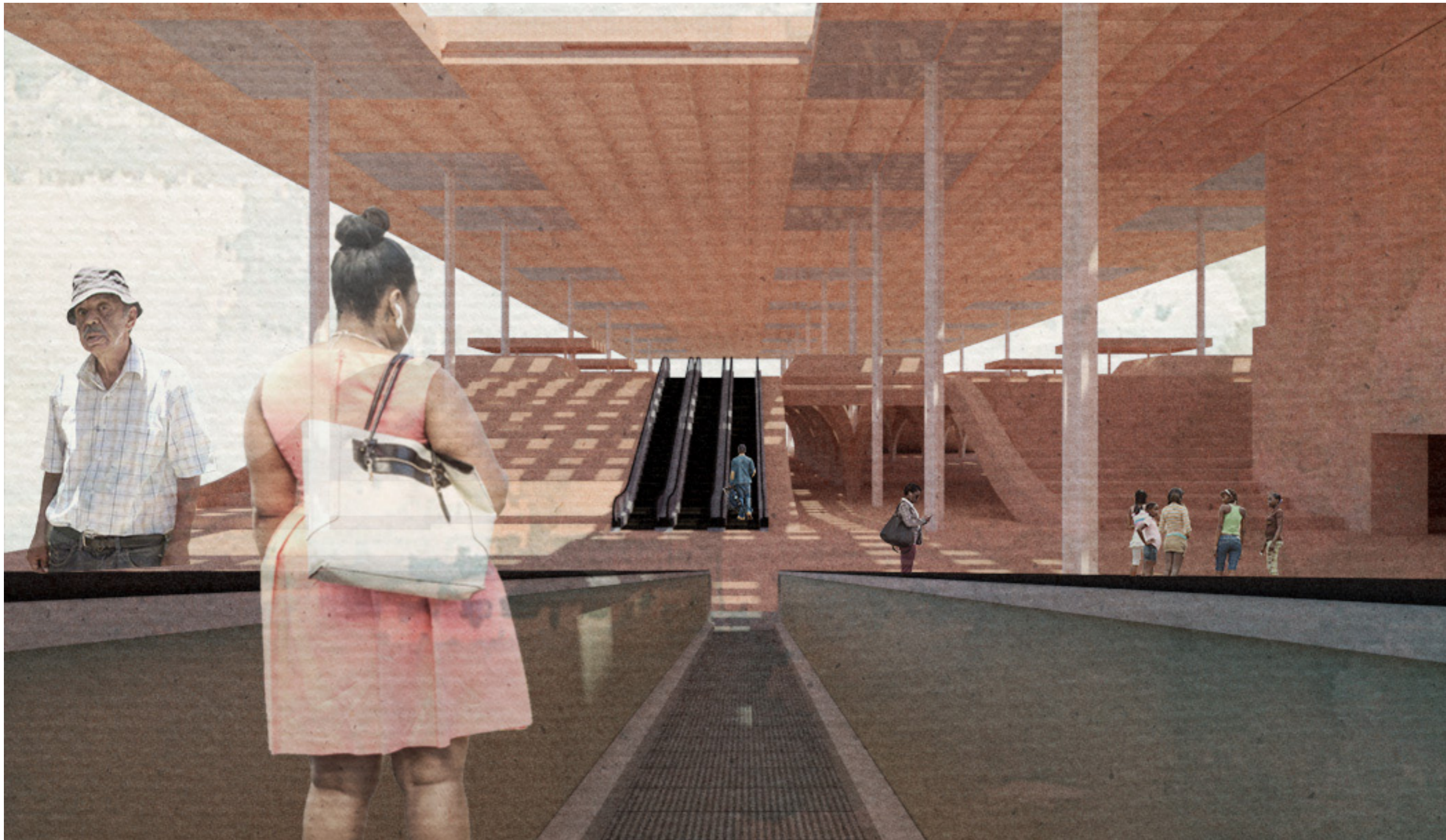


first floor

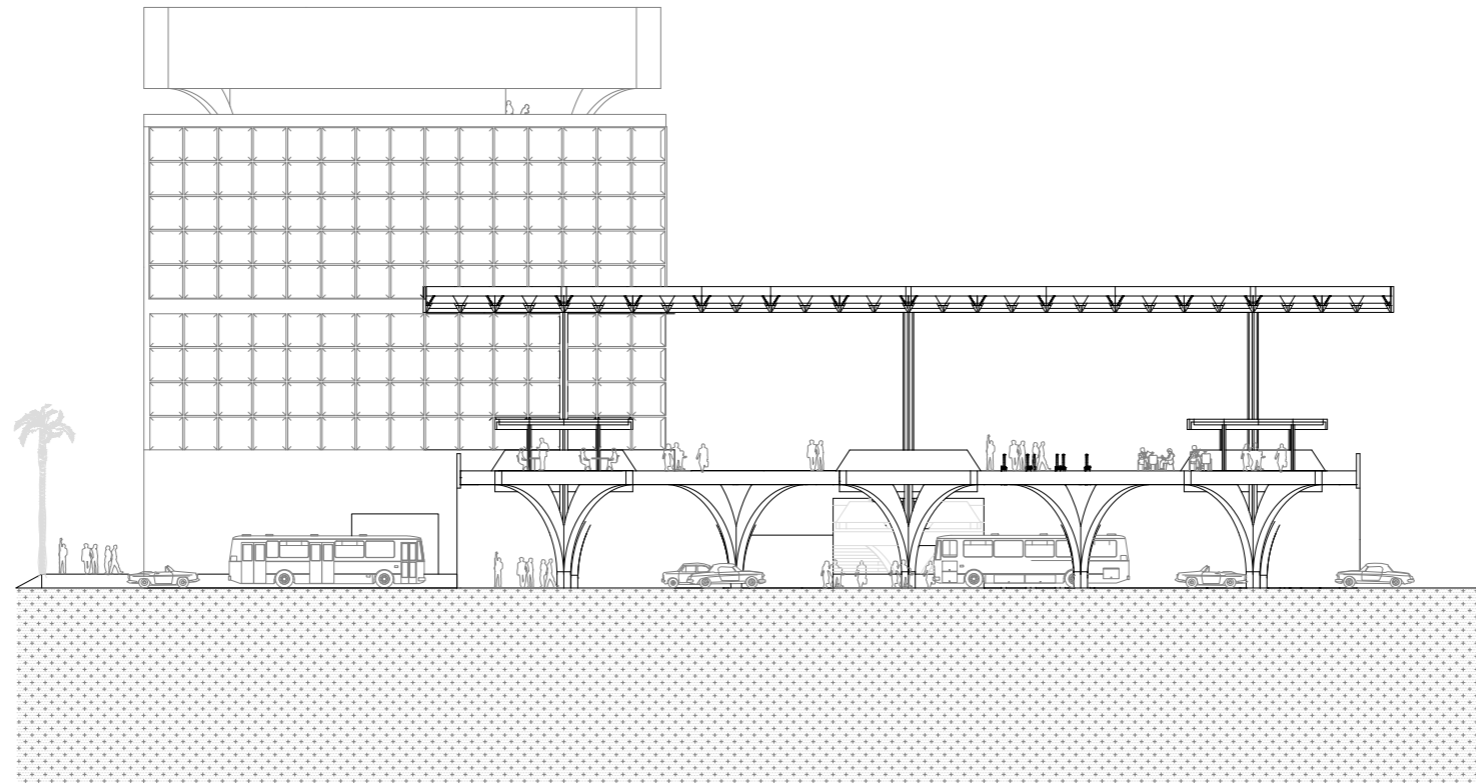


ground floor

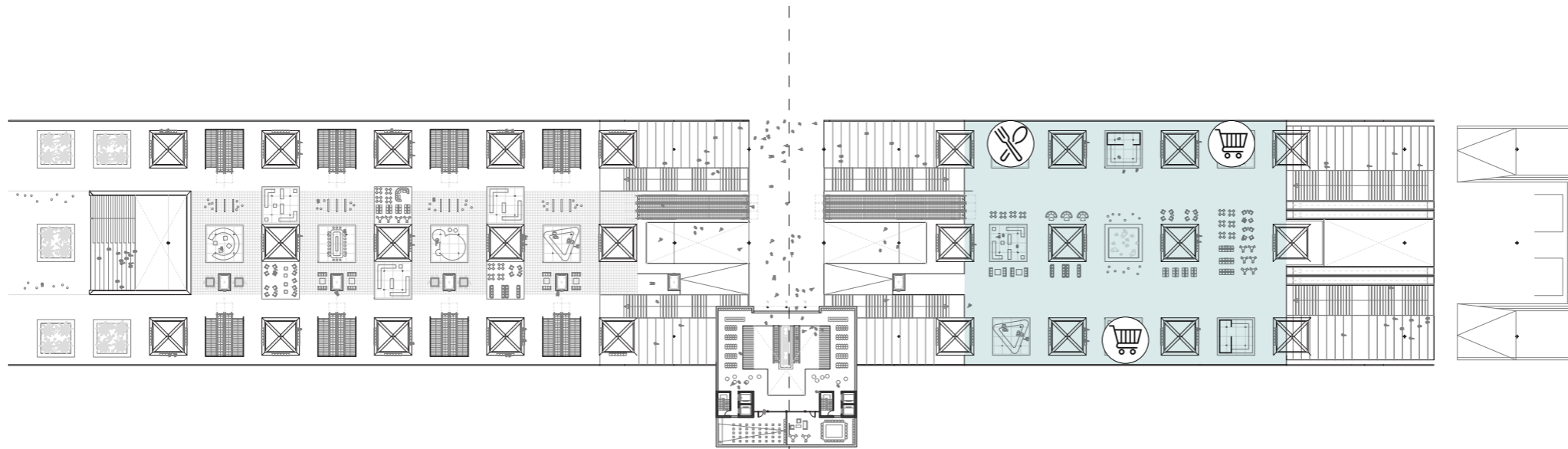
CENTRAL LOBBY



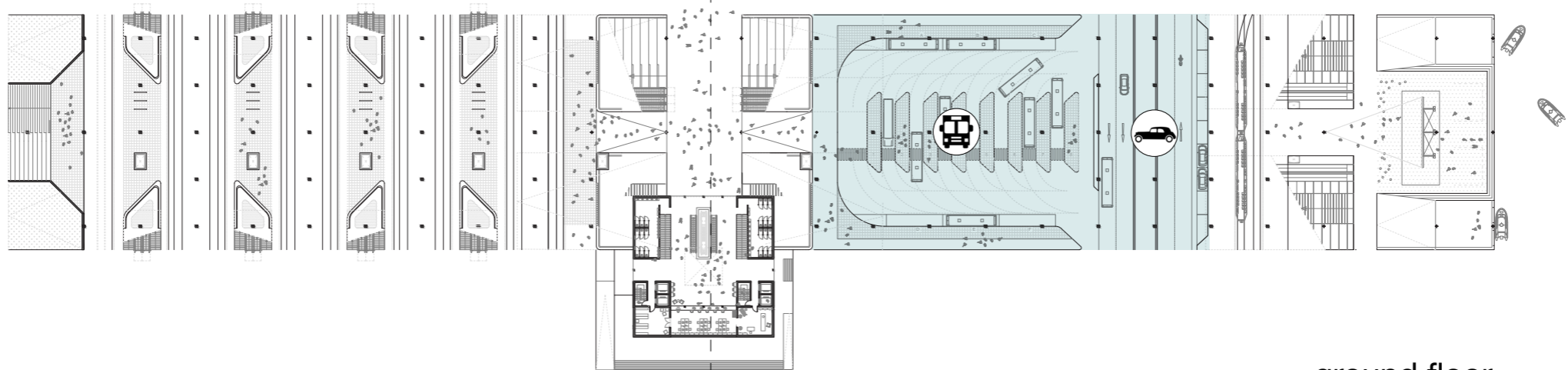
BUS TERMINAL



BUS TERMINAL

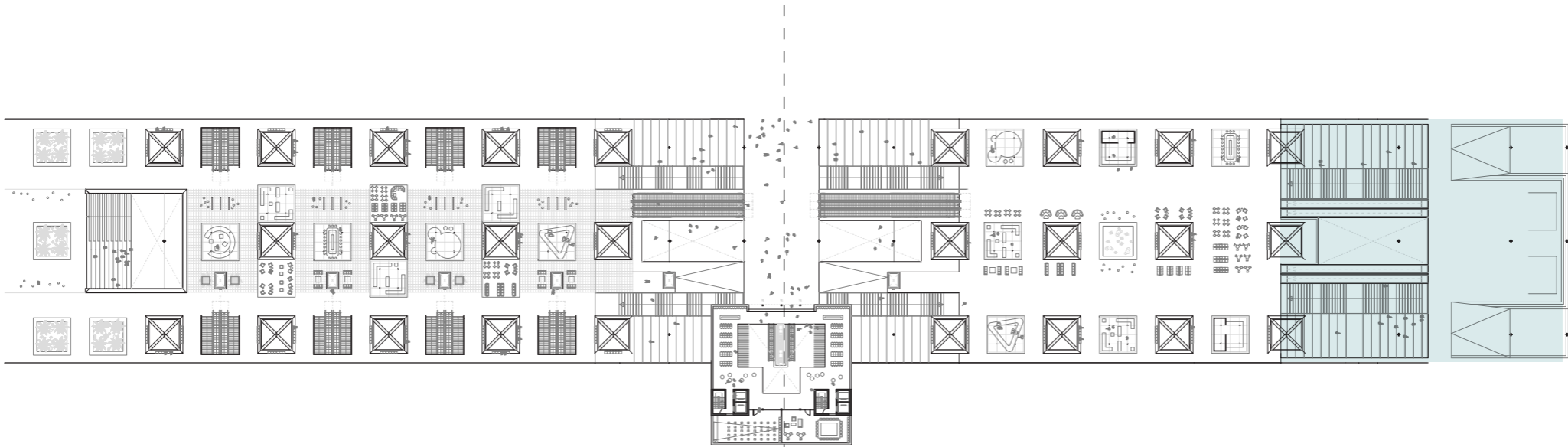


first floor

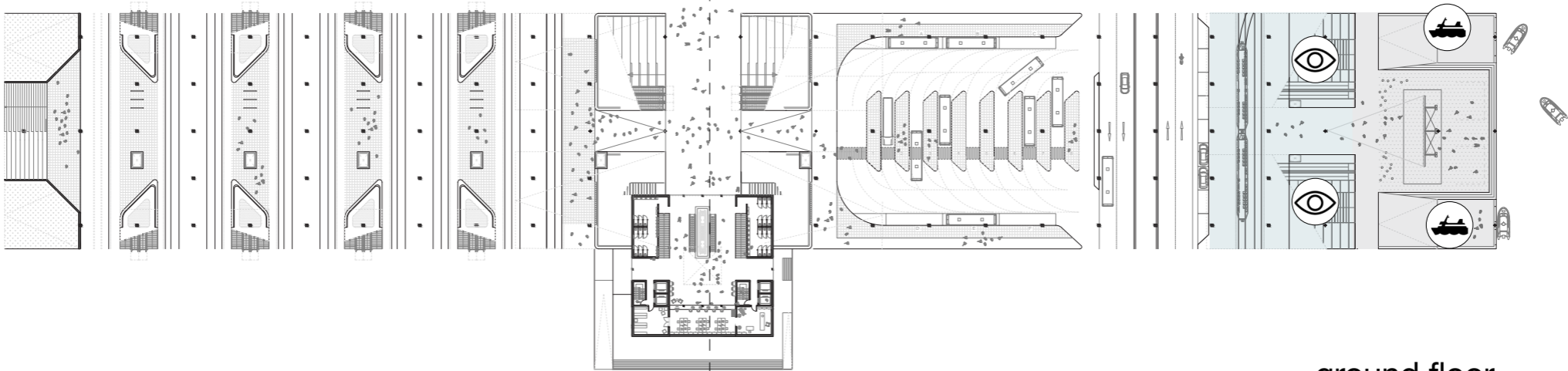


ground floor

TRAM & FERRY

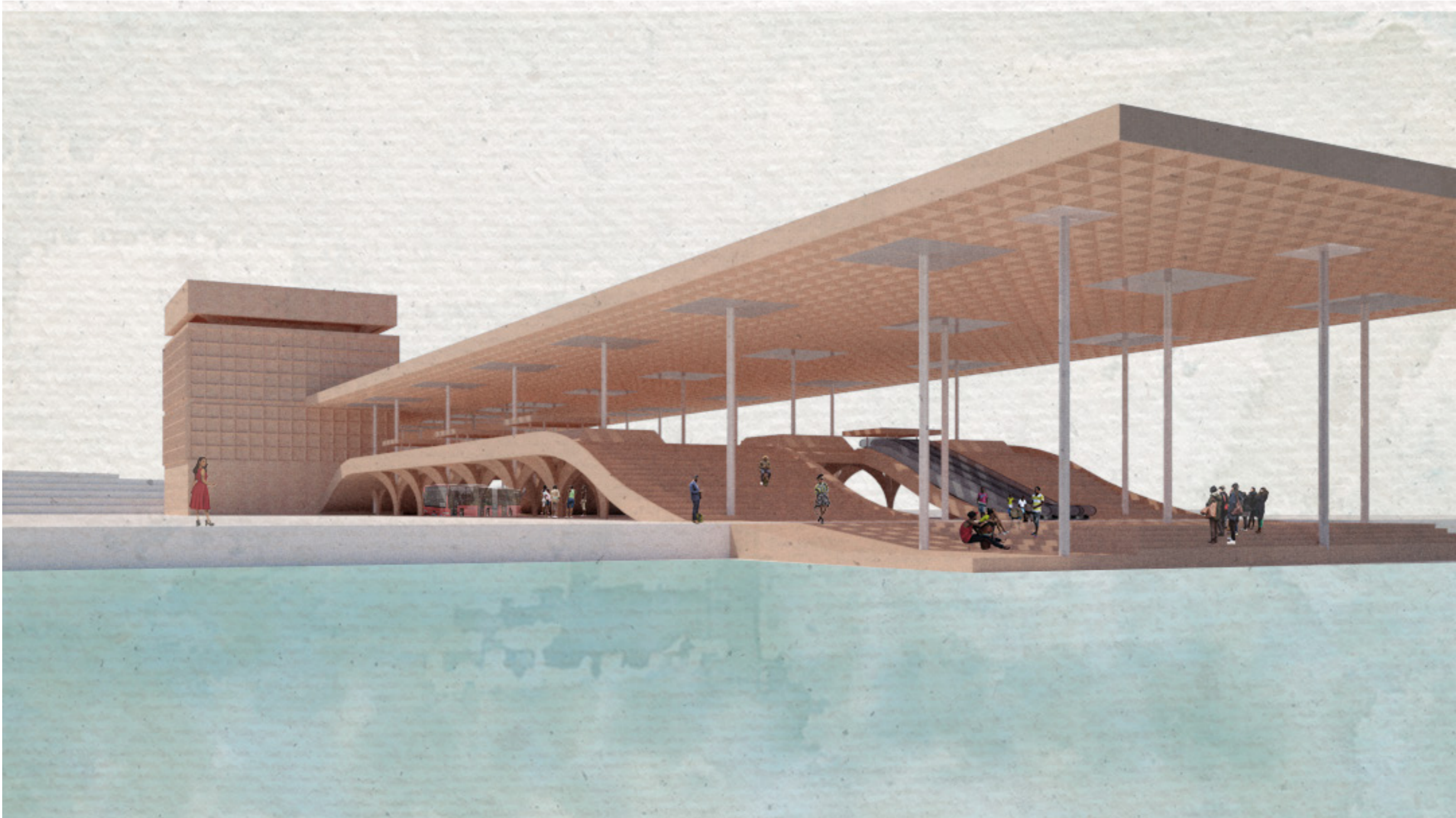


first floor



ground floor

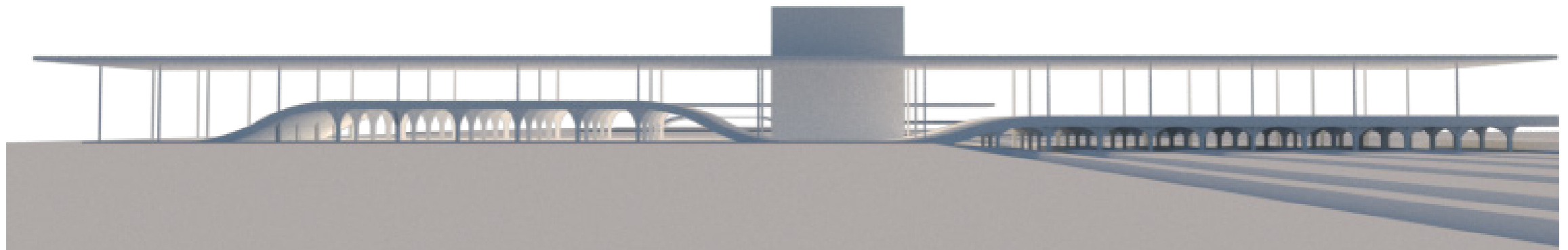
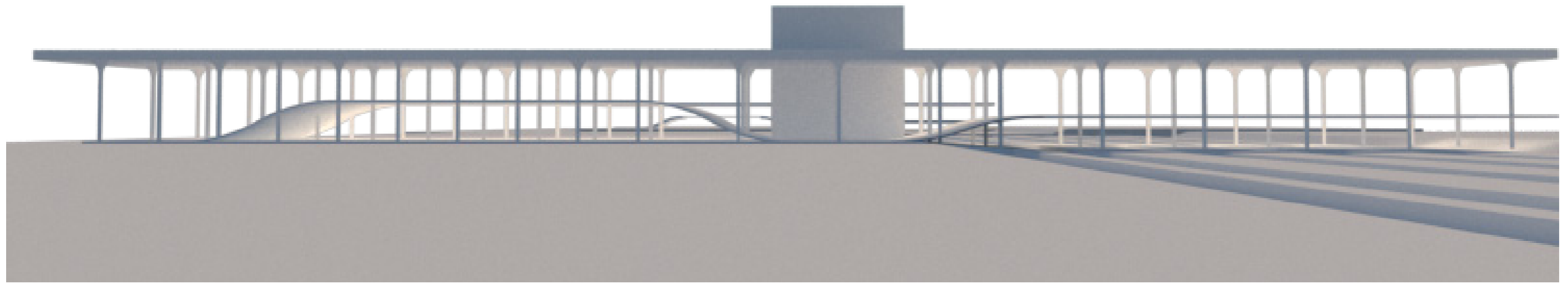
TRAM & FERRY



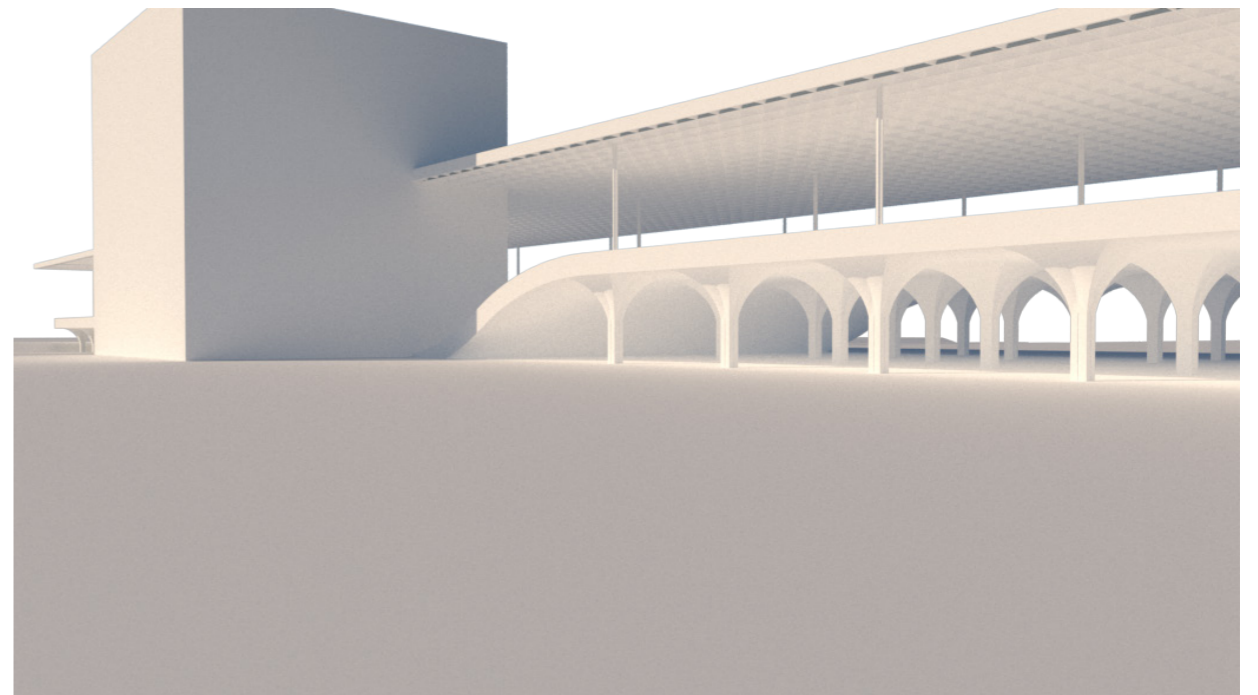
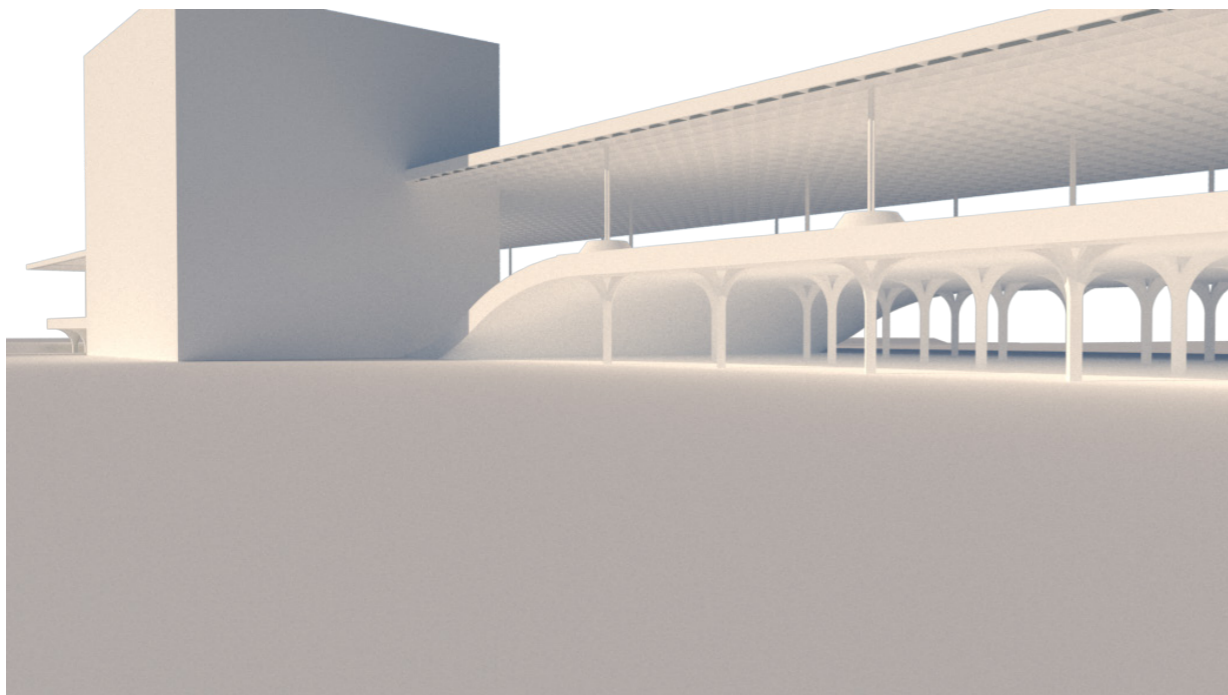
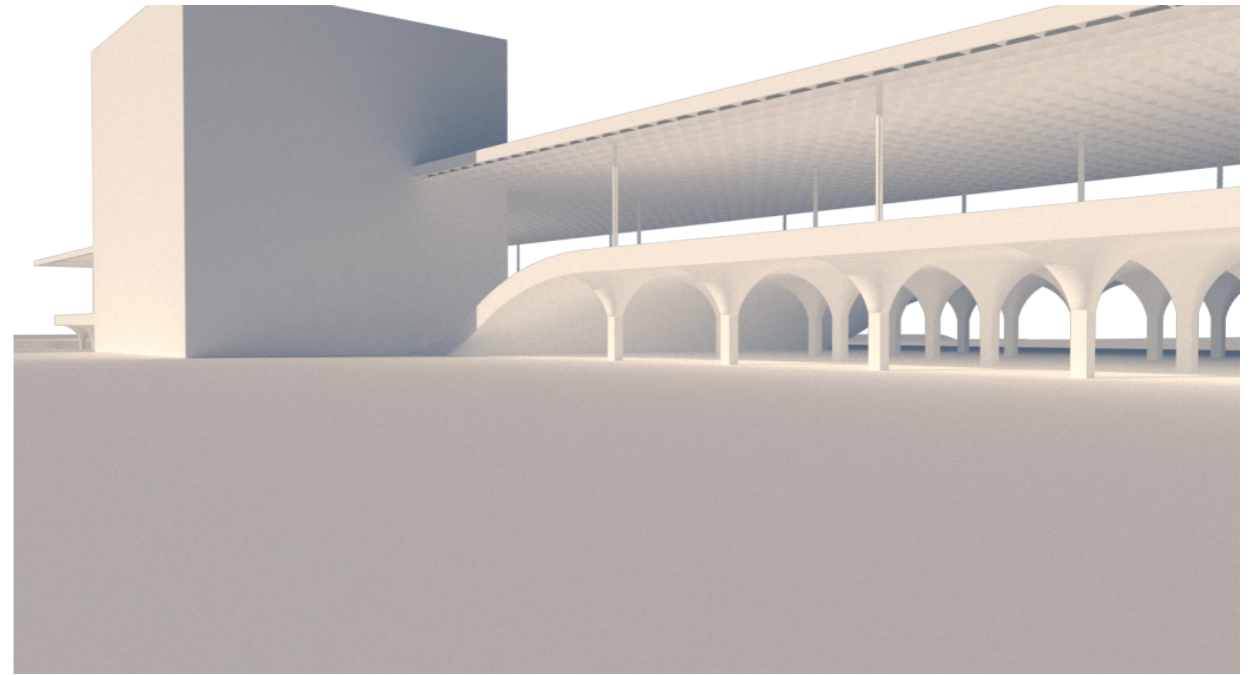
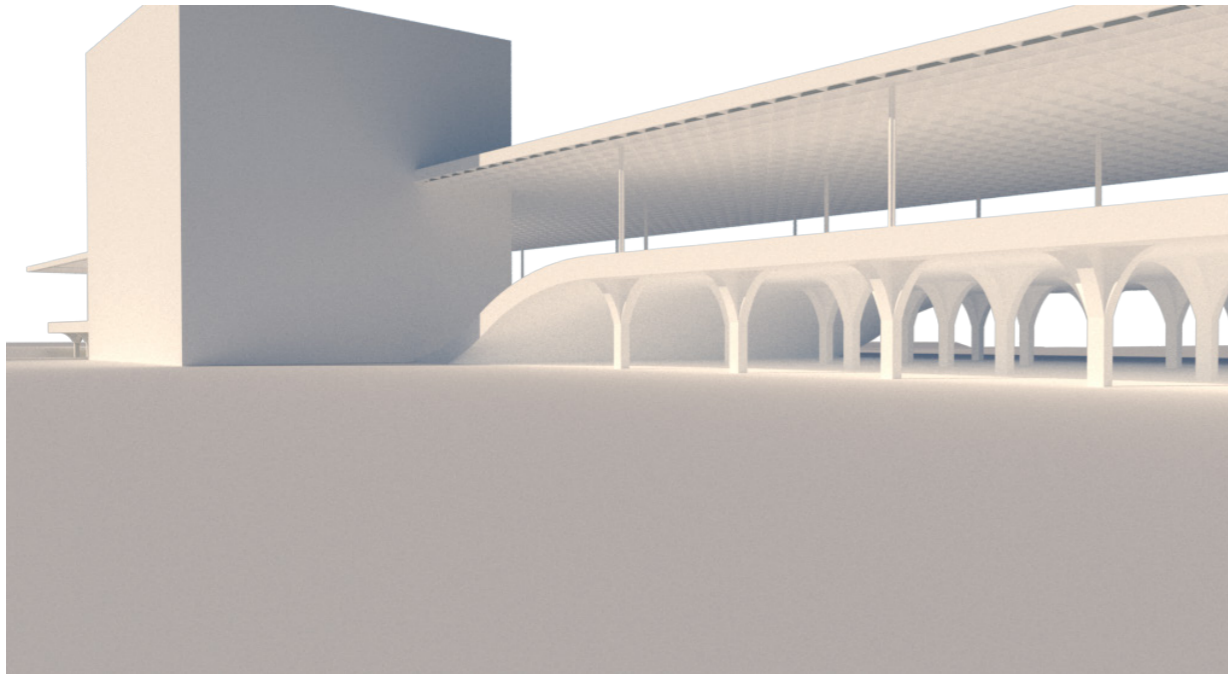
**...BY ELIMINATING THE FACADE,
THE STRUCTURE FORMS THE FACADE**

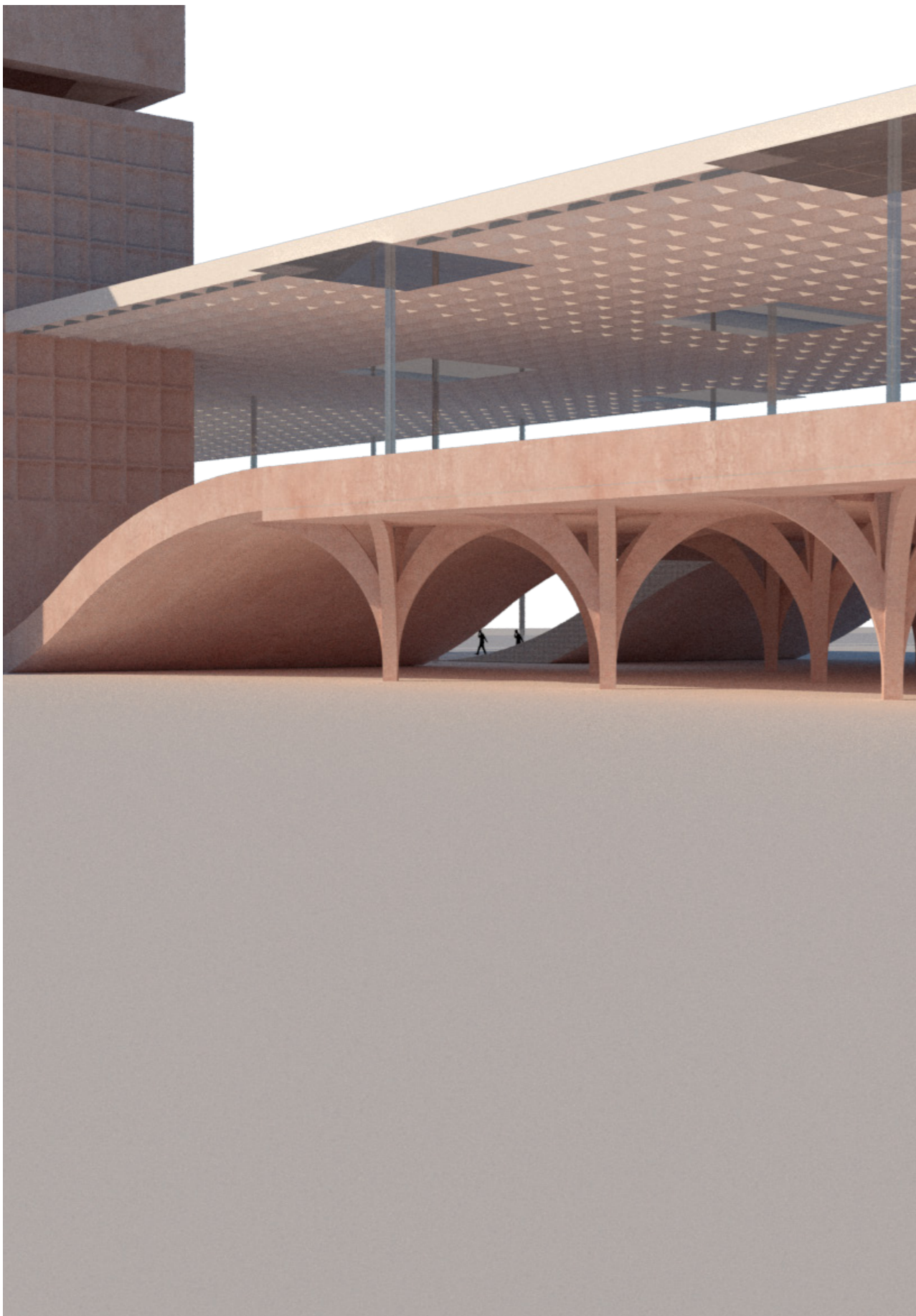


FACADE DEVELOPMENT

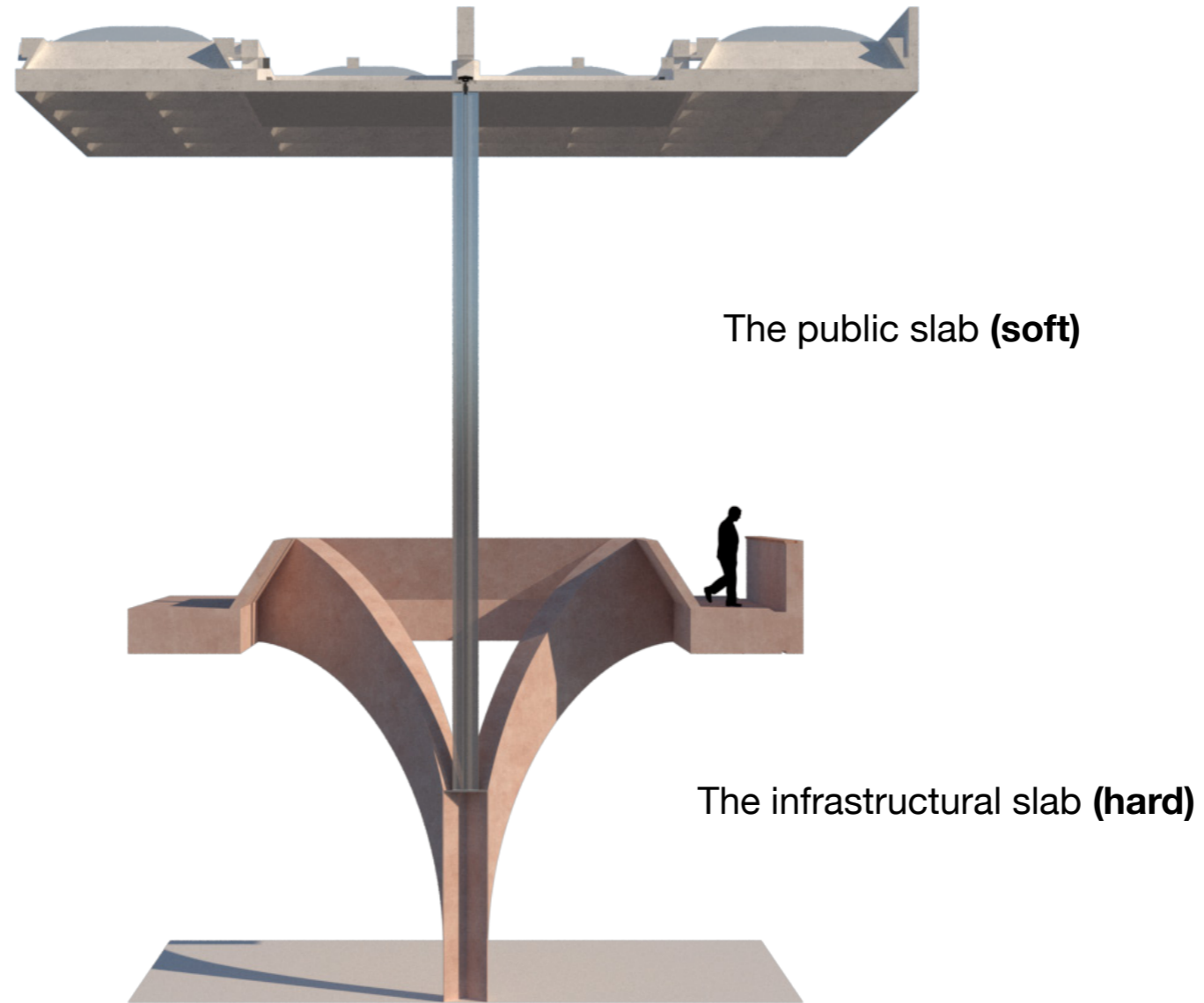


FACADE DEVELOPMENT

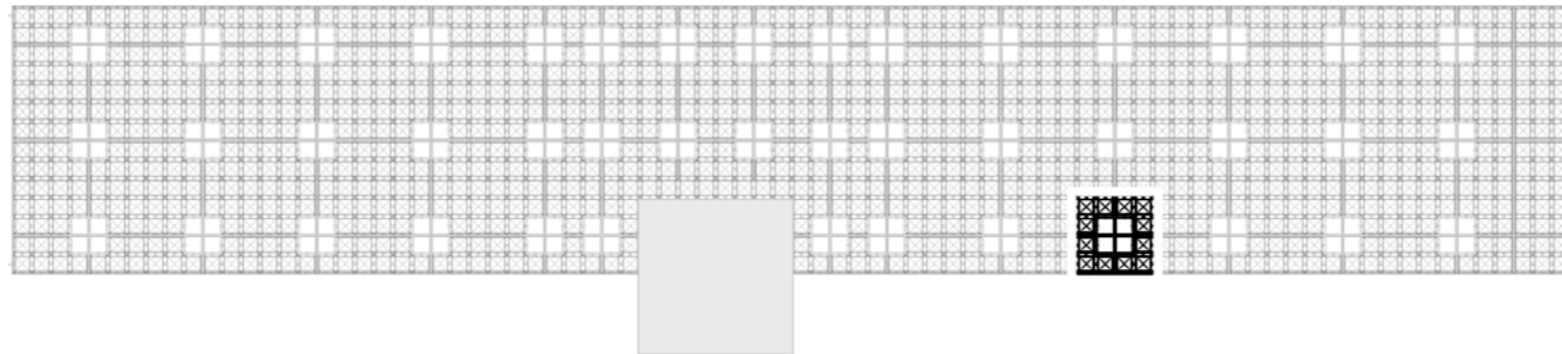




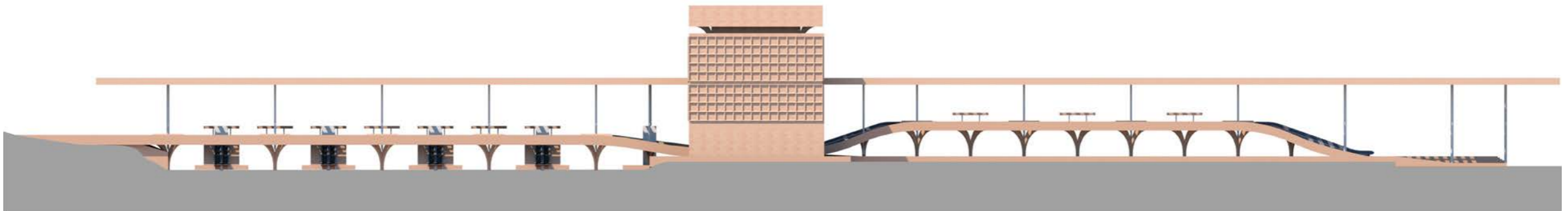
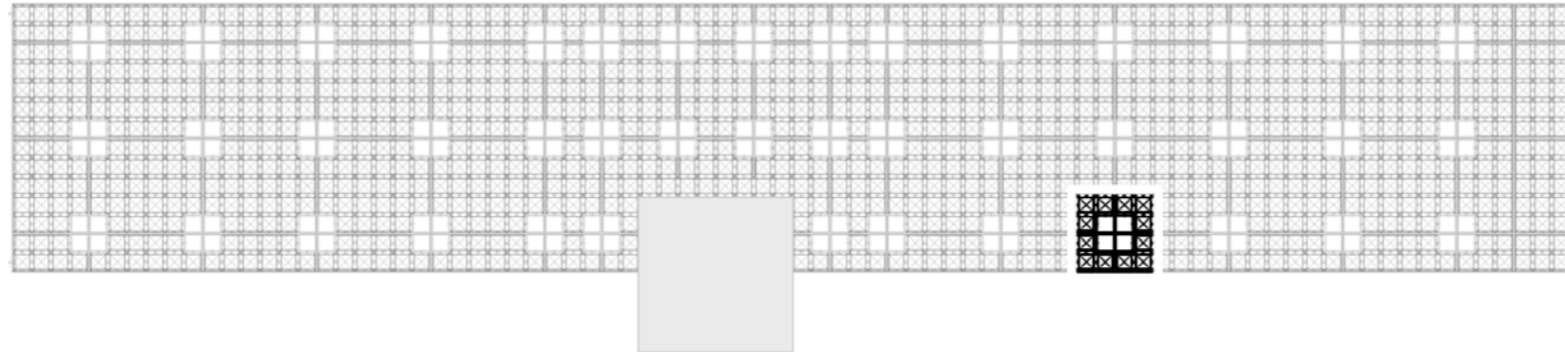
COLUMN AS EXPRESSION OF THE TWO CHARACTERISTICS



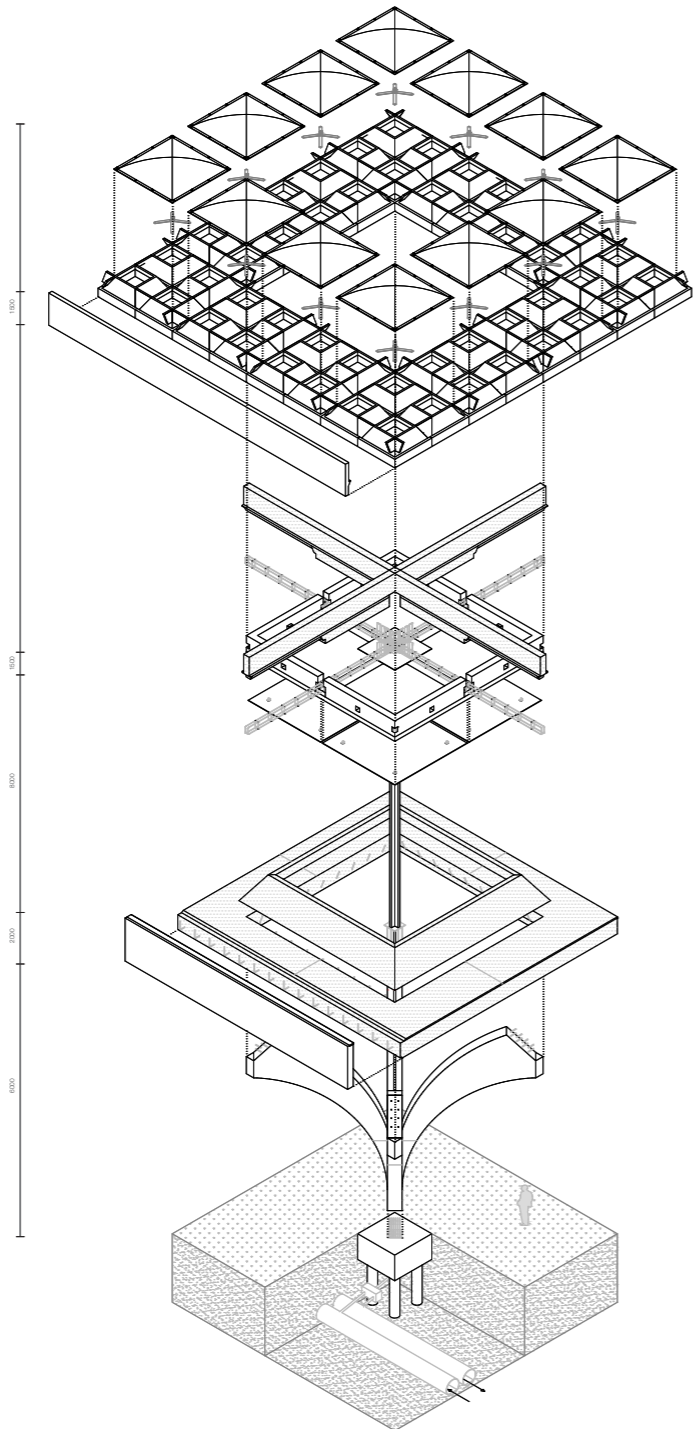
ONE REPETITIVE ELEMENT



ONE REPETITIVE ELEMENT

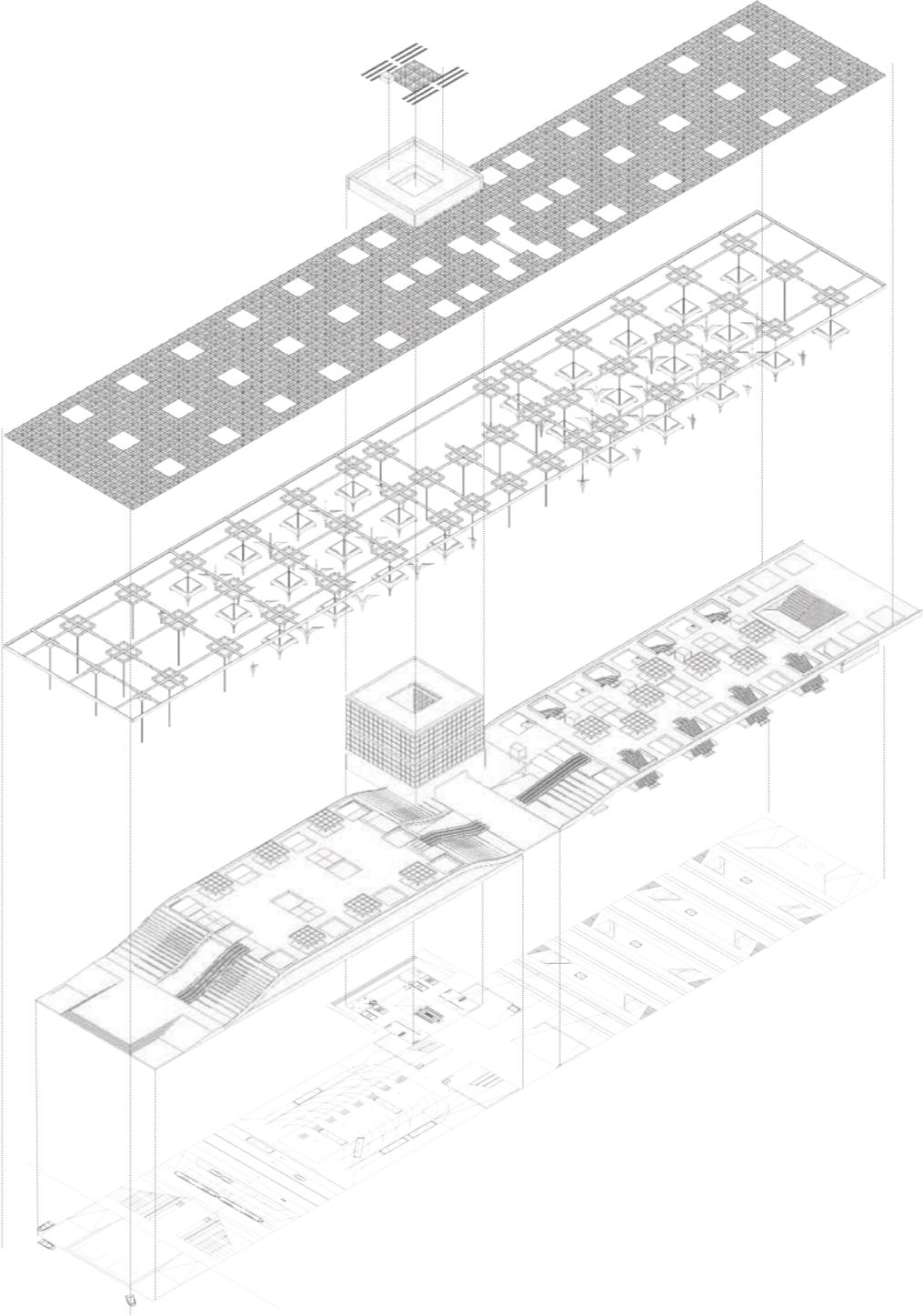


ONE CRITICAL ELEMENT:

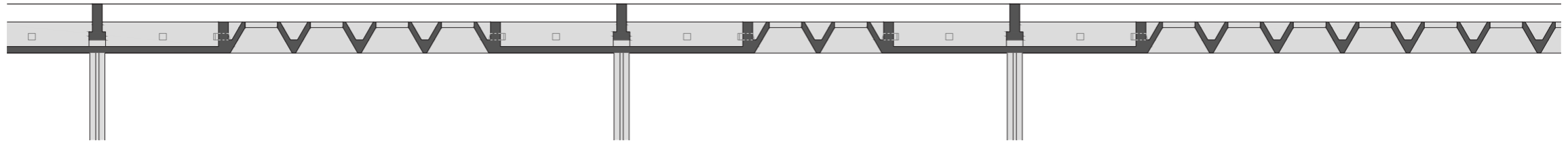


- Conceptual expression
 - Construction
 - Materialization
 - Climate
 - Lighting
- Visual connections

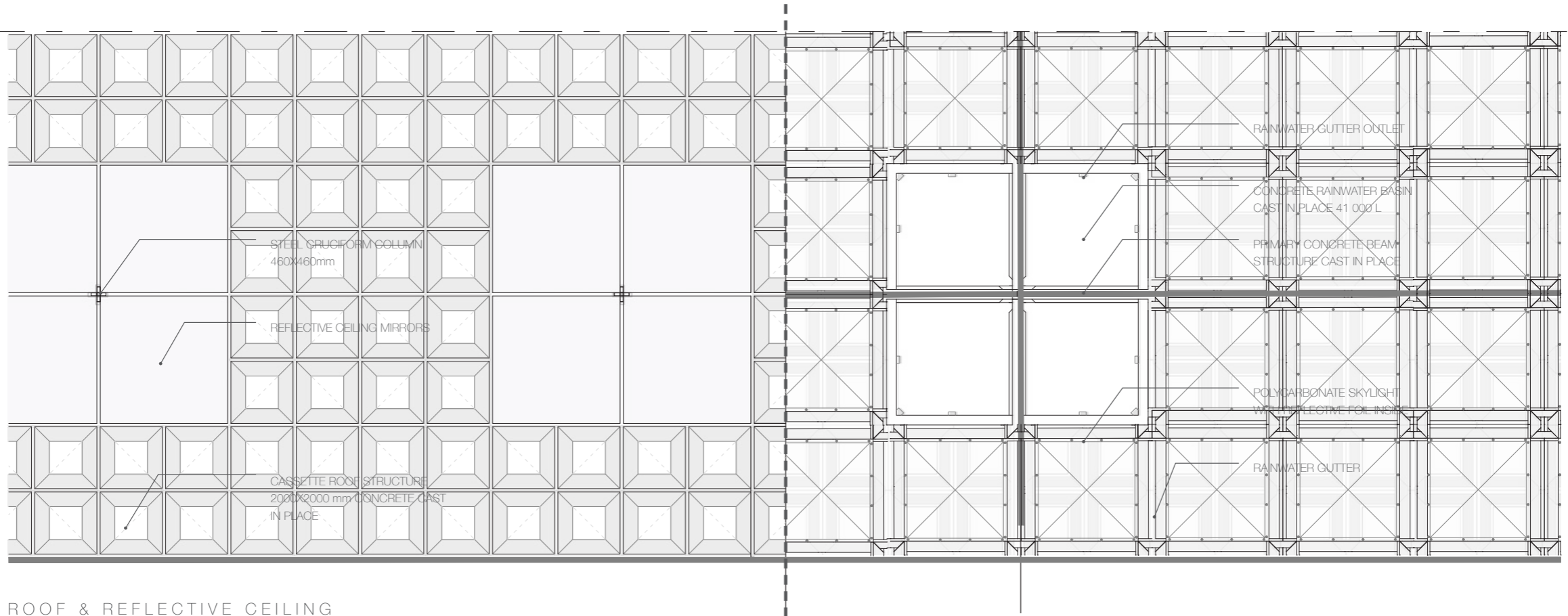
VERTICAL CONSTRUCTION



HORIZONTAL CONSTRUCTION

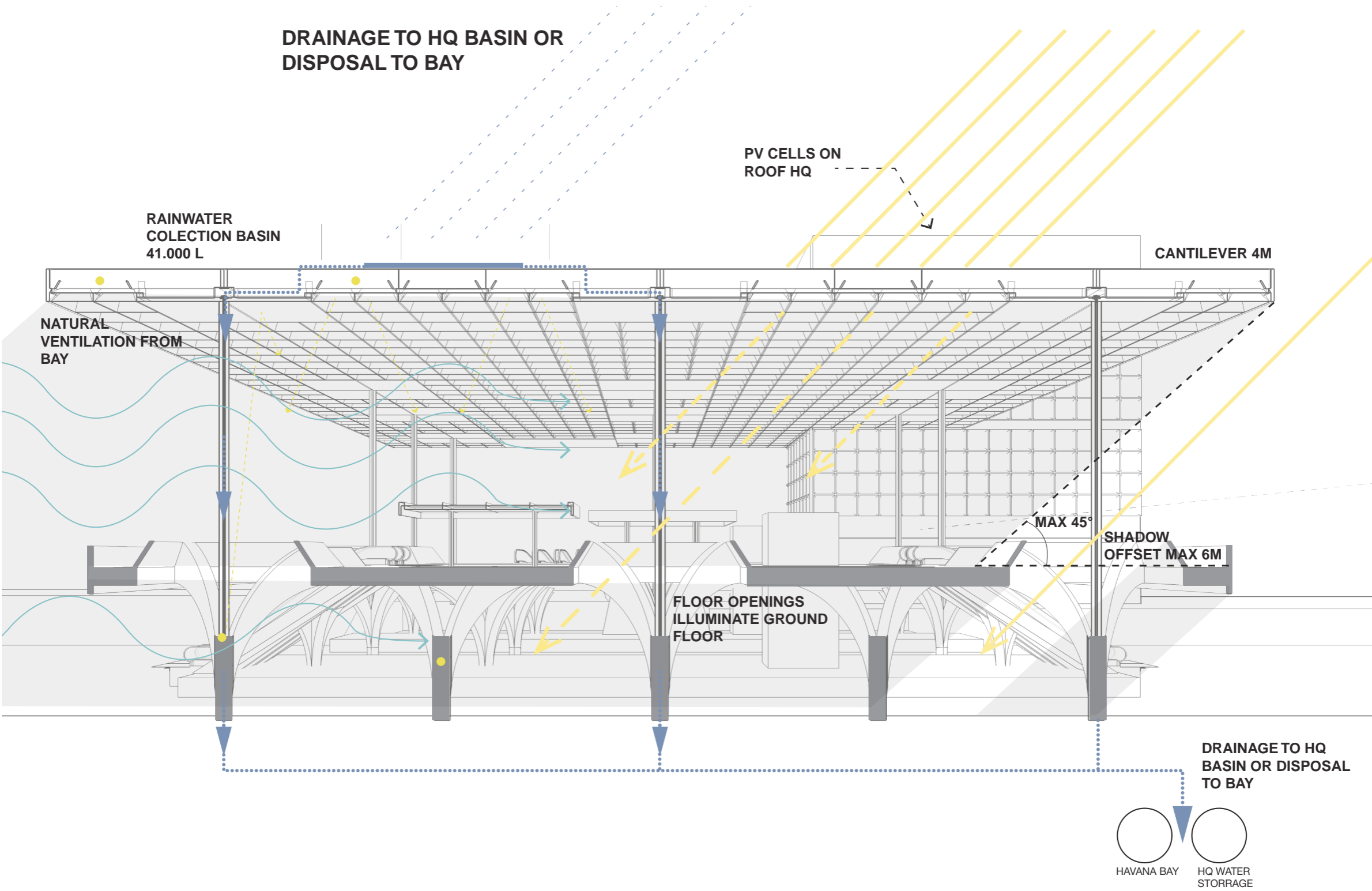


SECTION BUILDING CROP

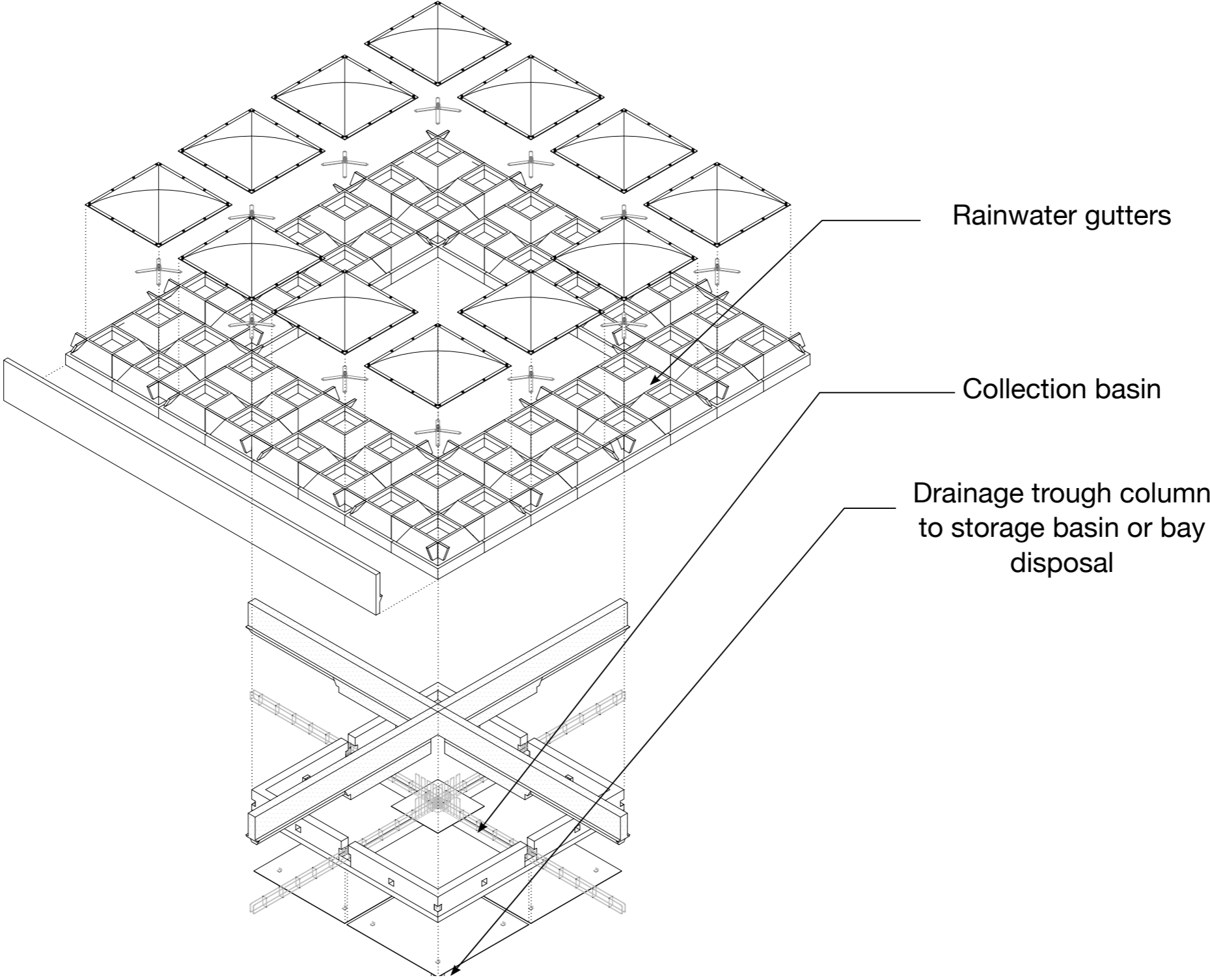


ROOF & REFLECTIVE CEILING

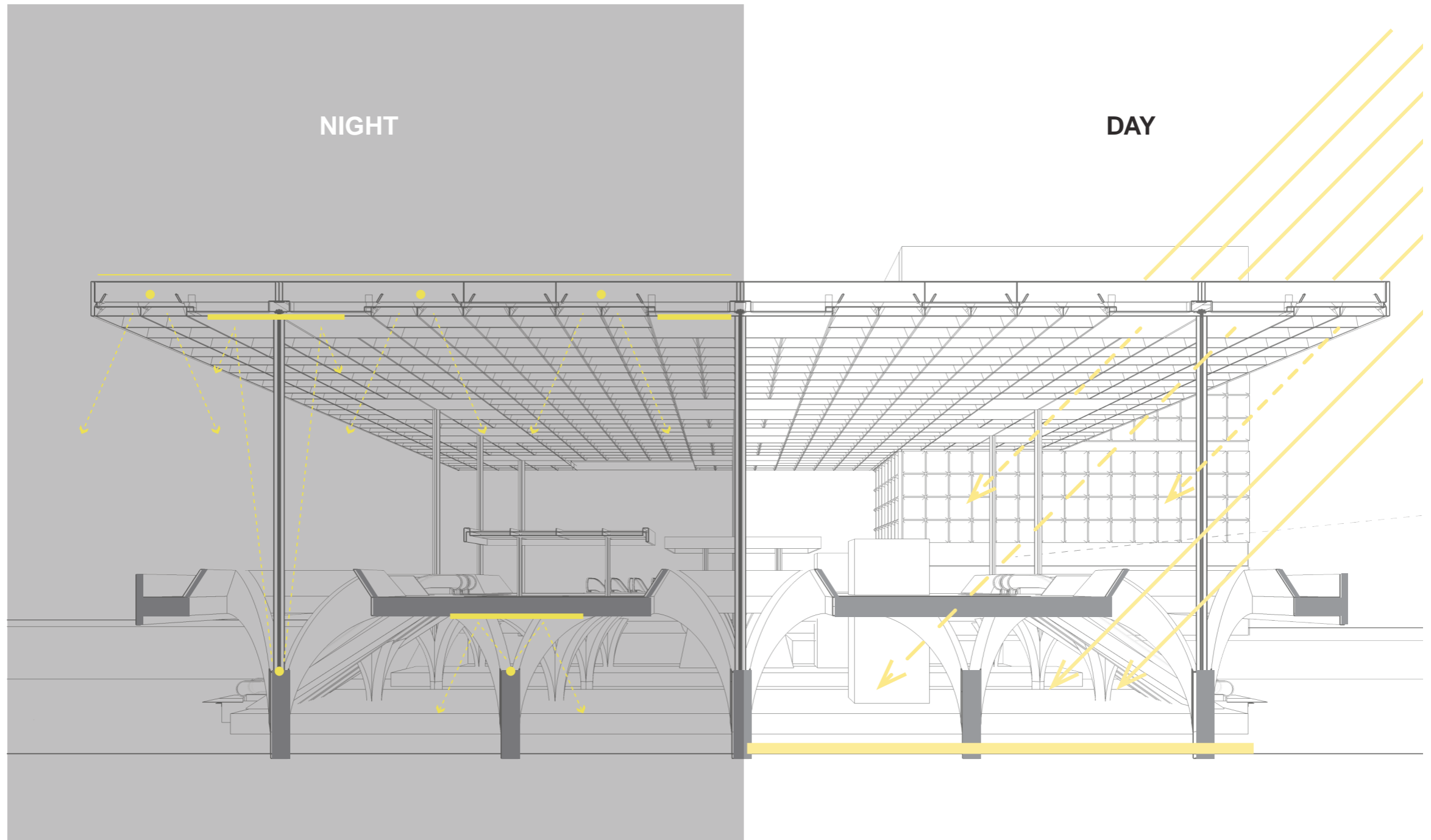
PASSIVE CLIMATE PRINCIPLE

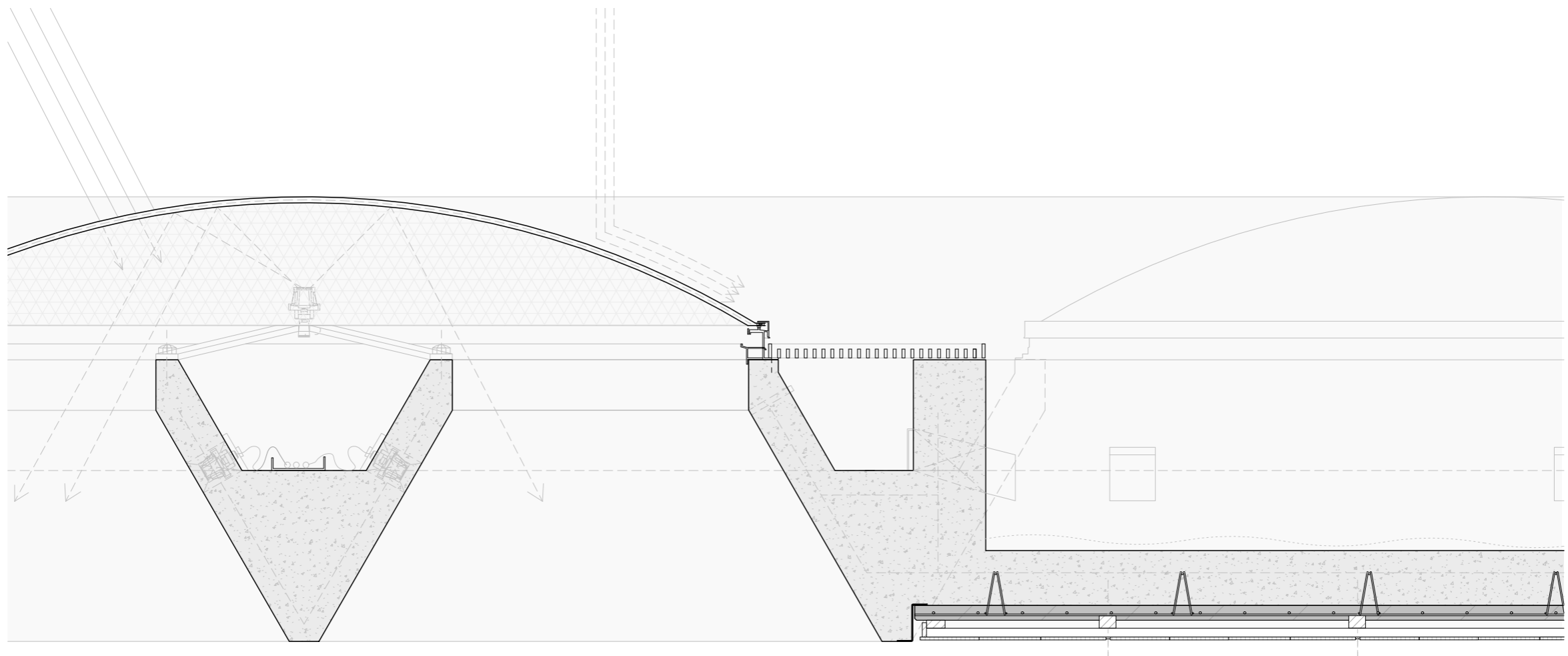


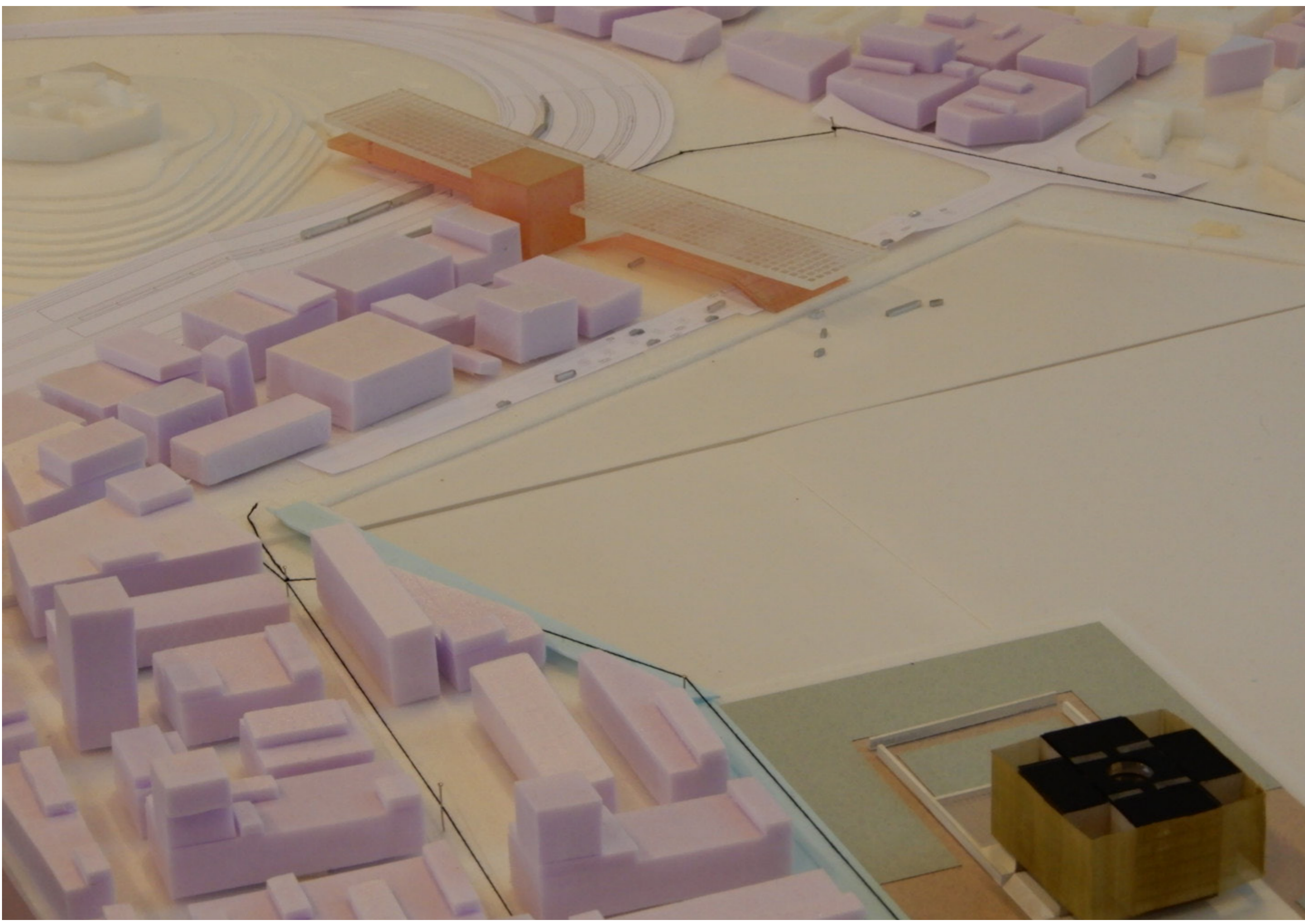
RAINWATER STORAGE



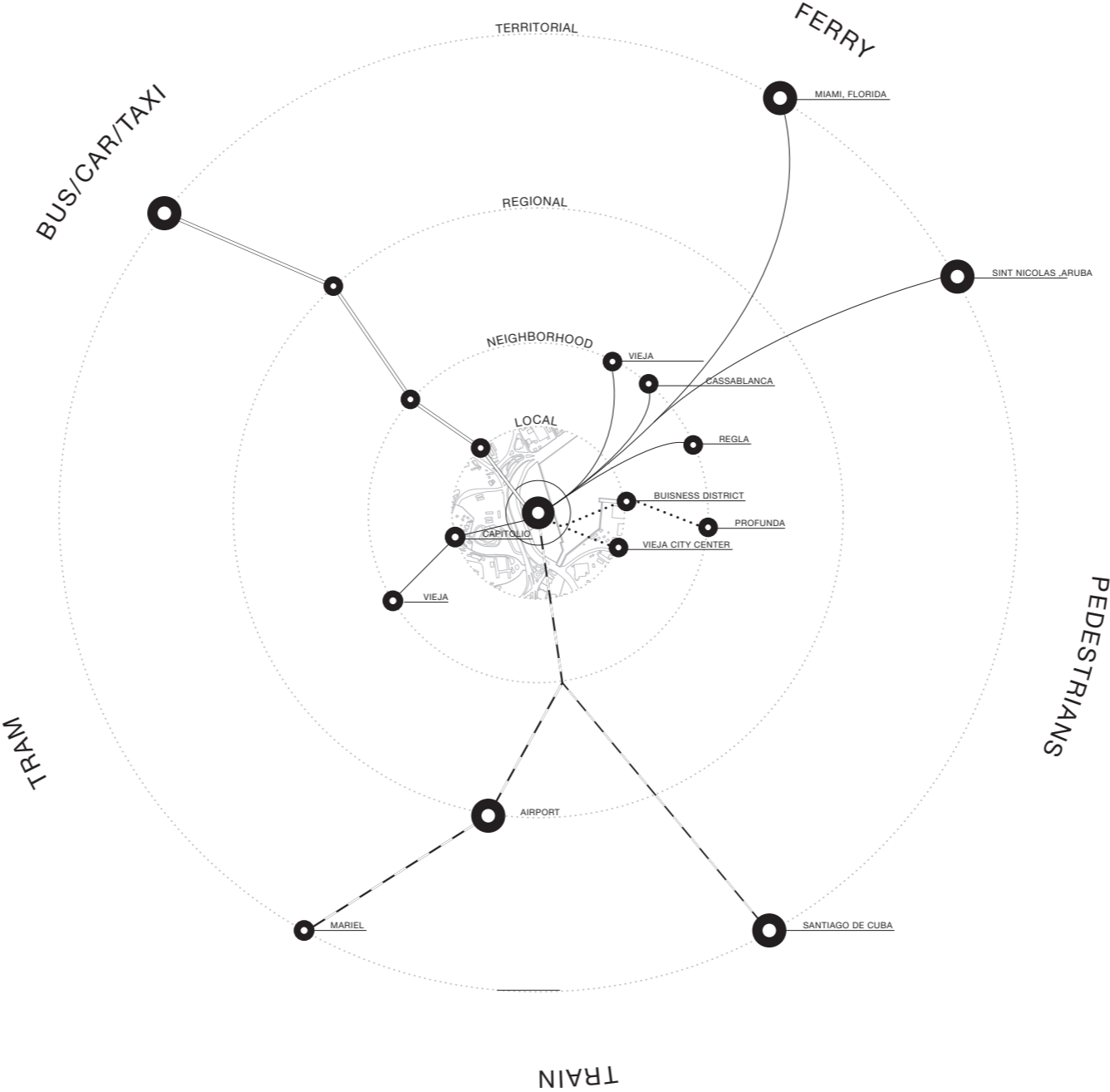
LIGHTING



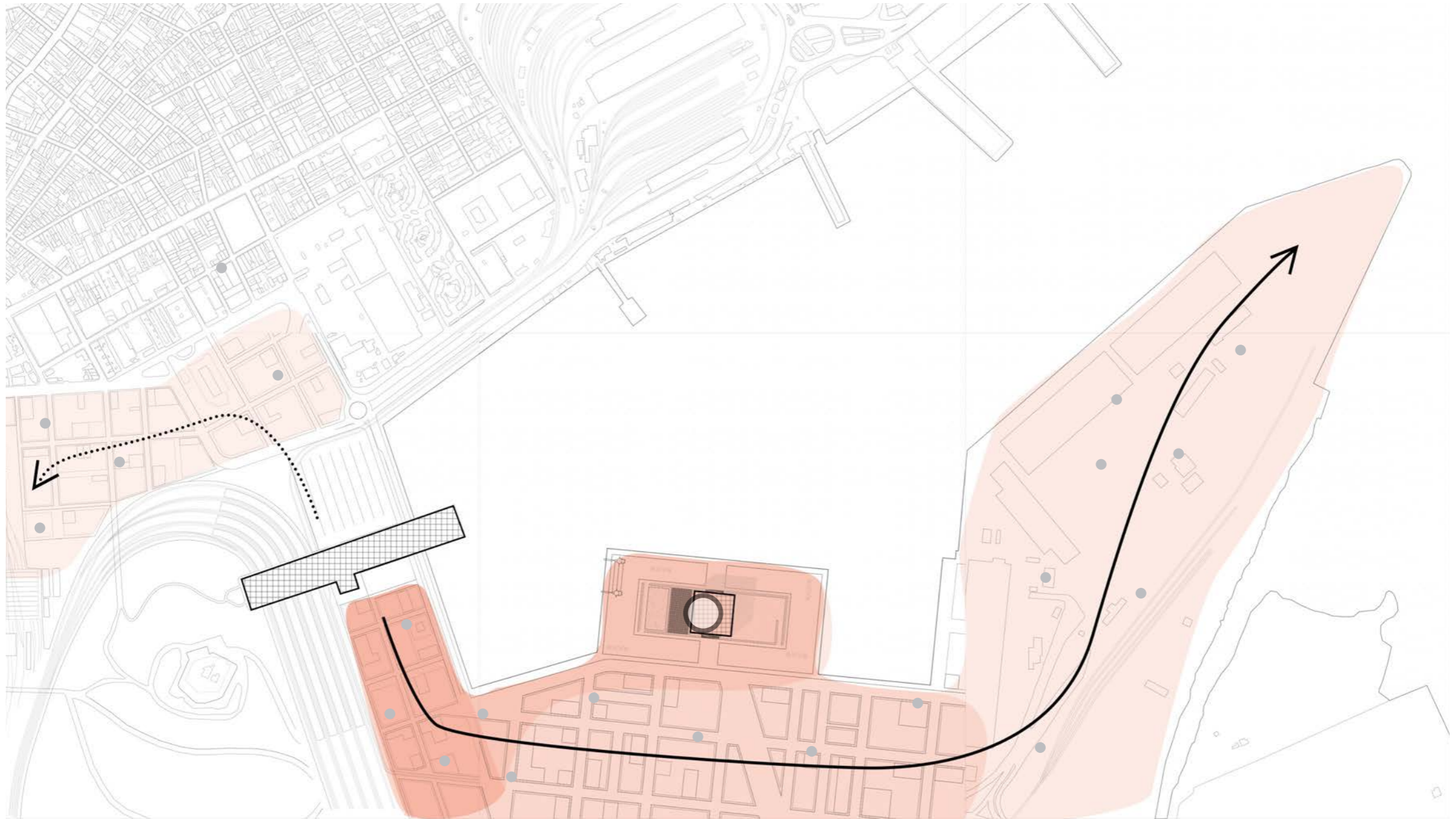




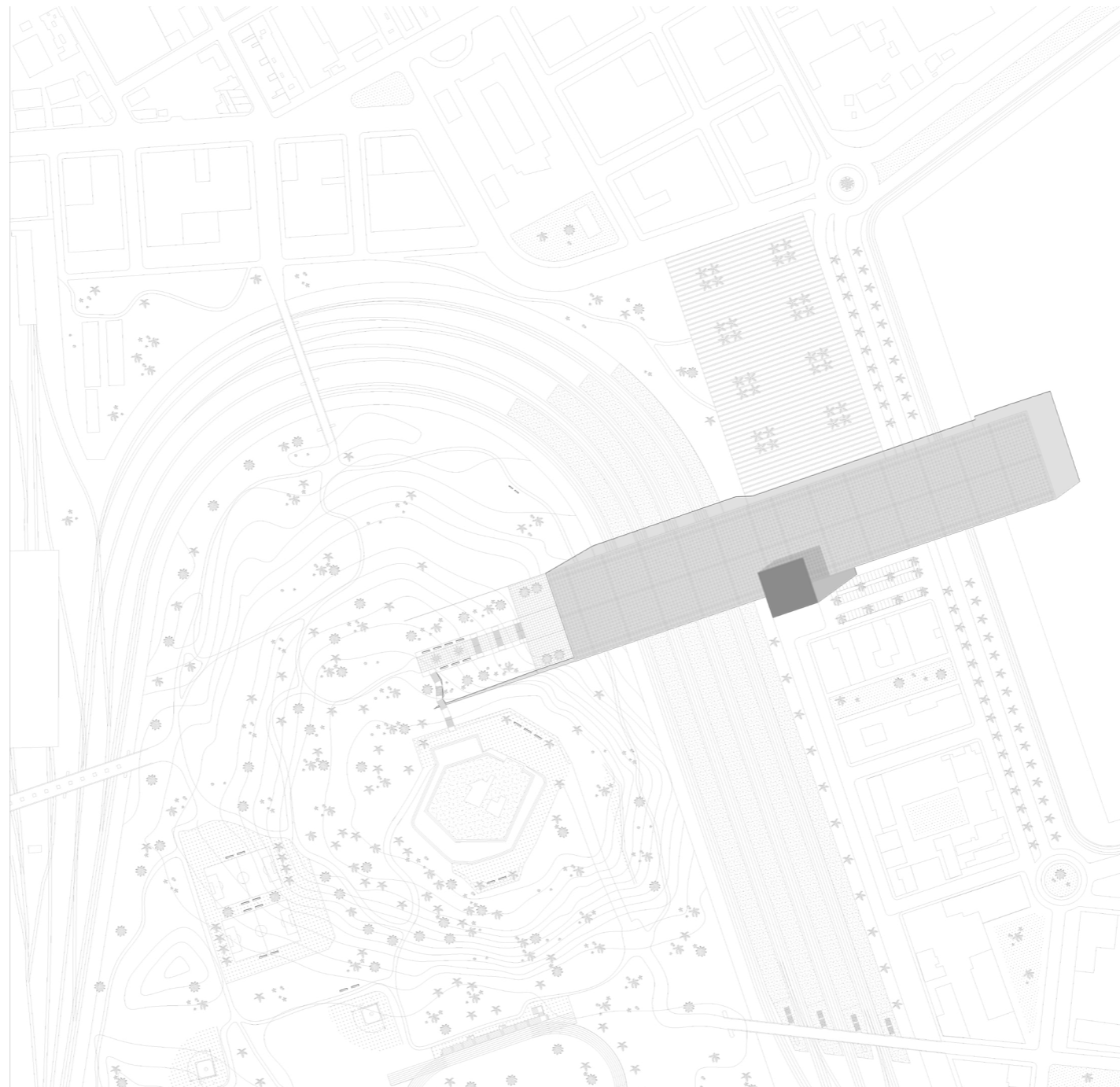
CONNECTION TO THE INFRASTRUCTURE



CONNECTION TO FUTURE DEVELOPMENTS



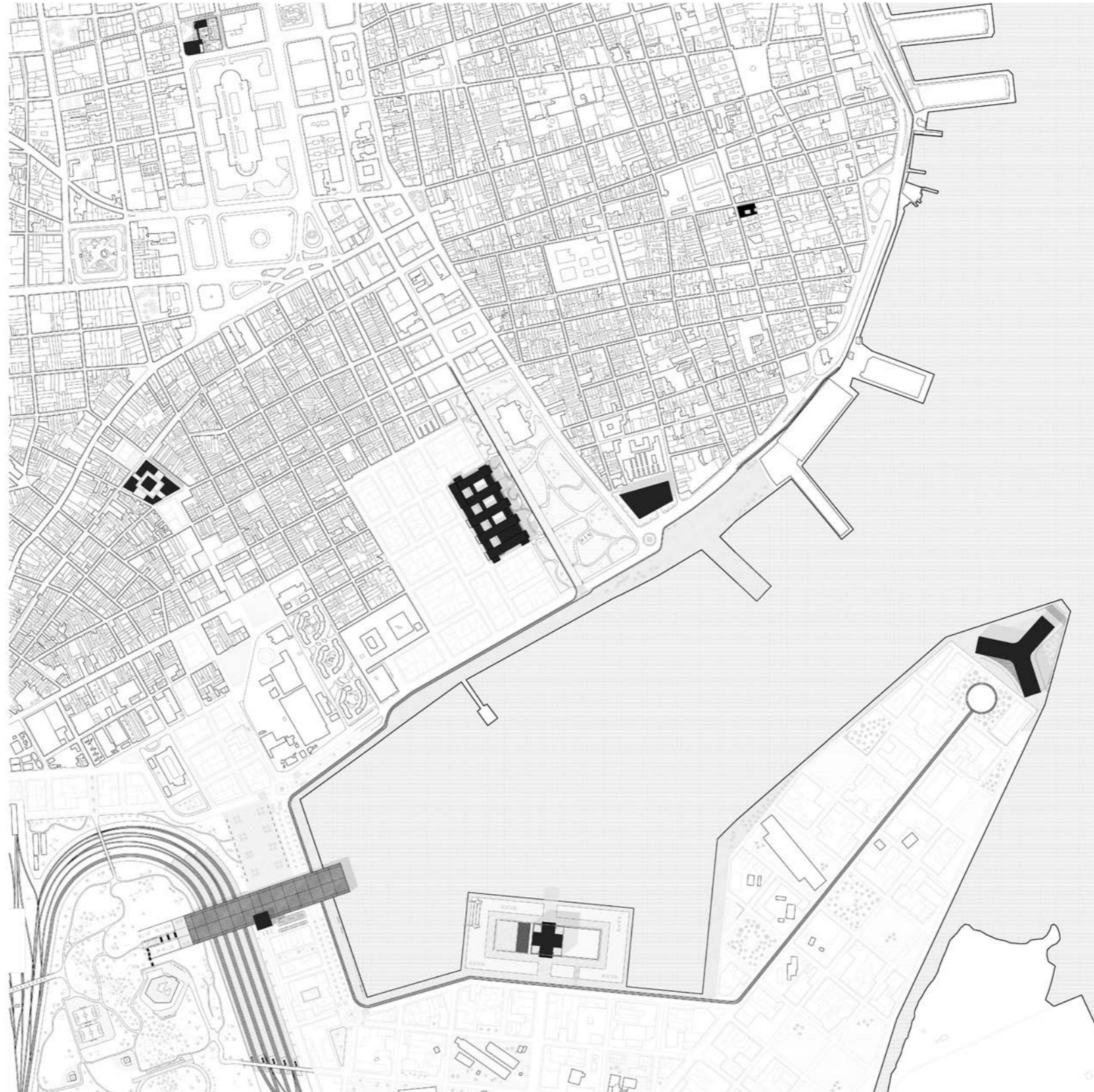
CONNECTION TO THE SURROUNDINGS



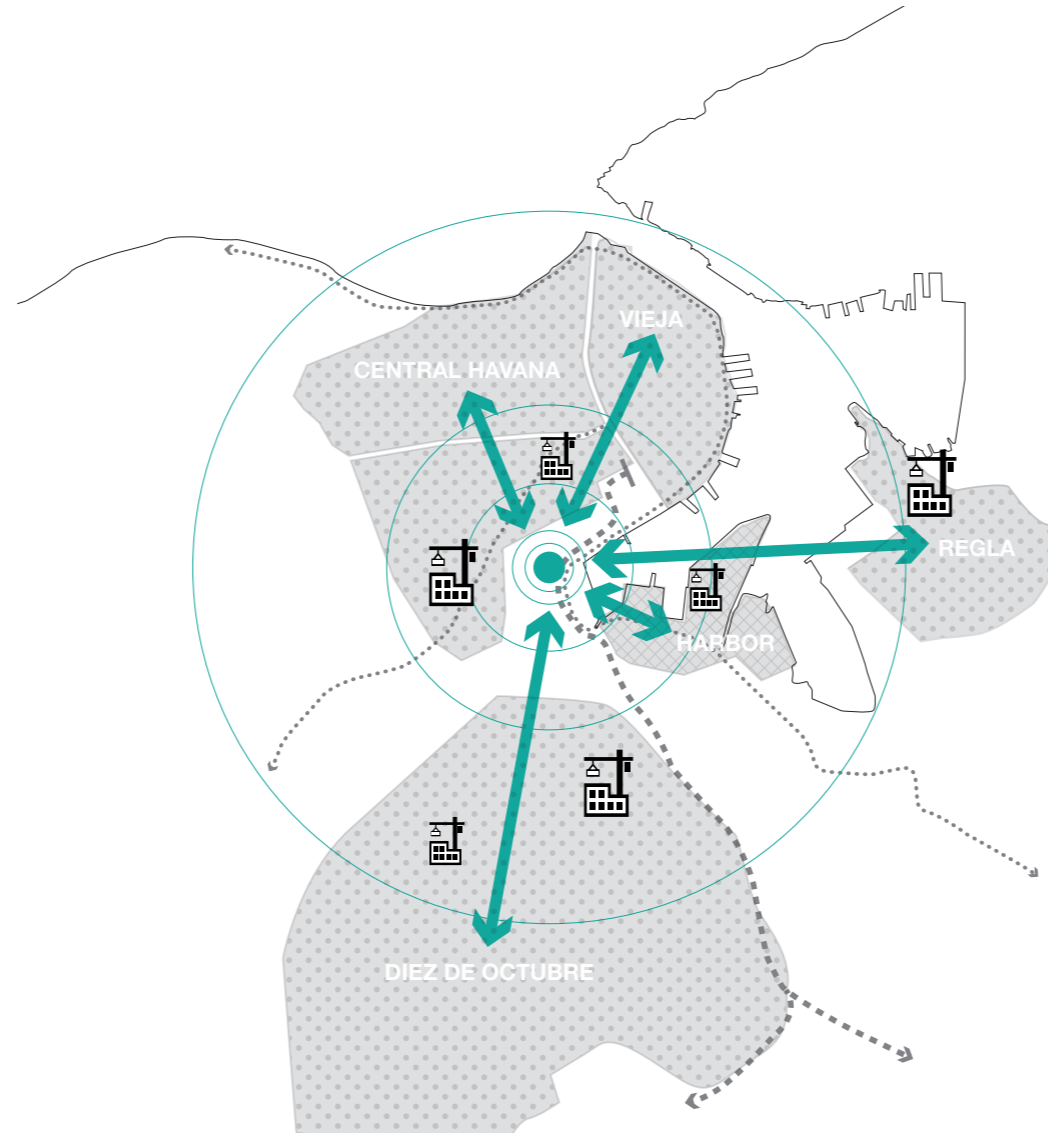
CONNECTION TO THE CITY



PLAN FOR HAVANA 2030



GOAL: TO CONNECT PEOPLE, PLACES AND INFRASTRUCTURE





APPENDIX

