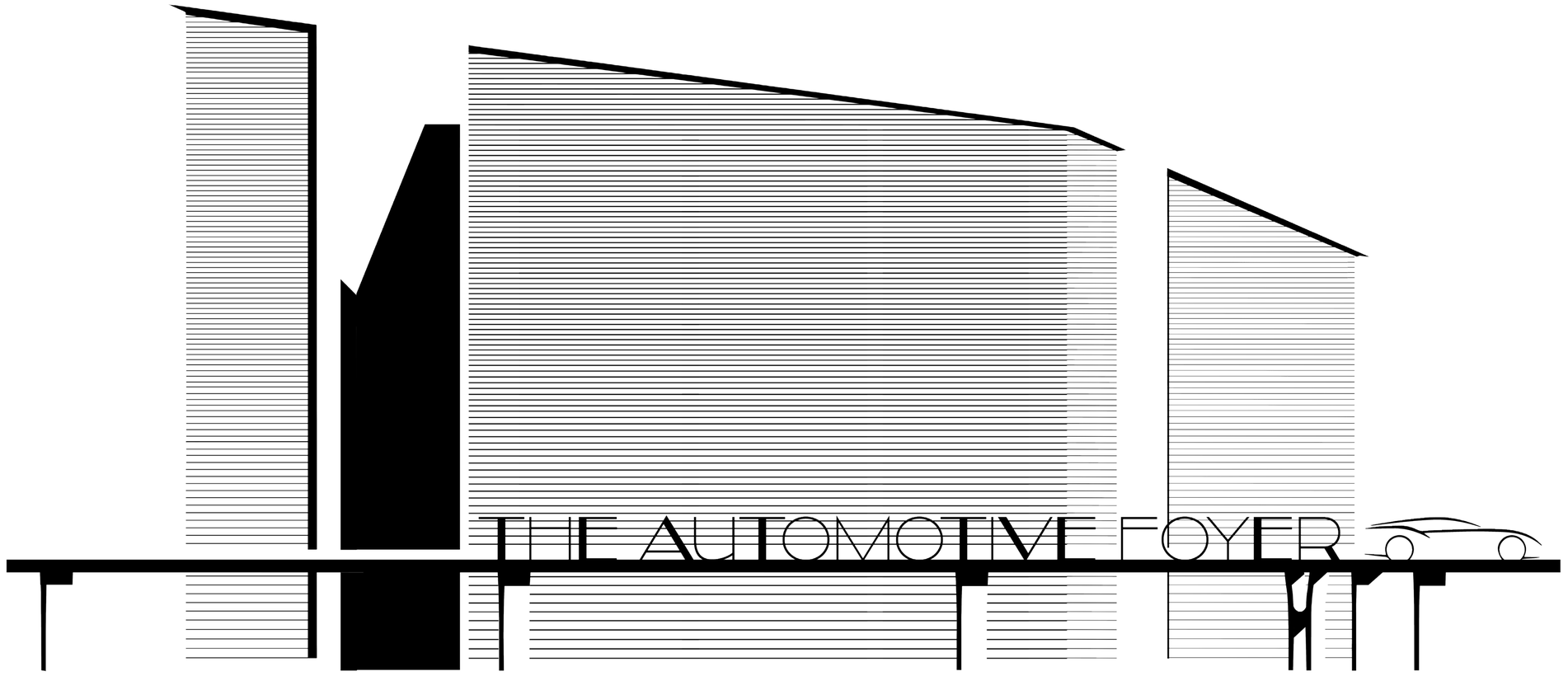
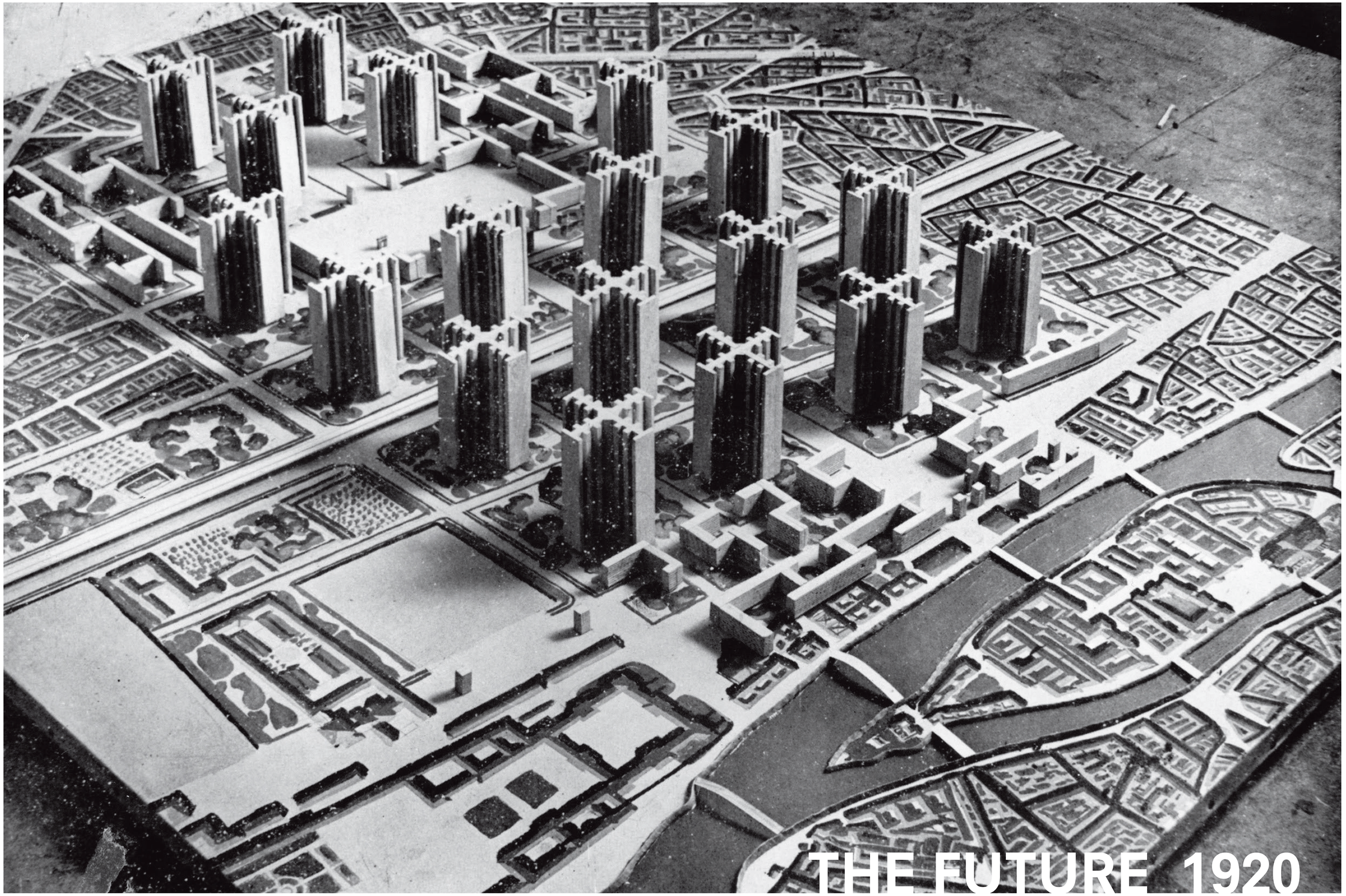


W.B.J. (WIM) VAN HEESWIJK

A FANTASTIC FUTURE ?

AMSTERDAM

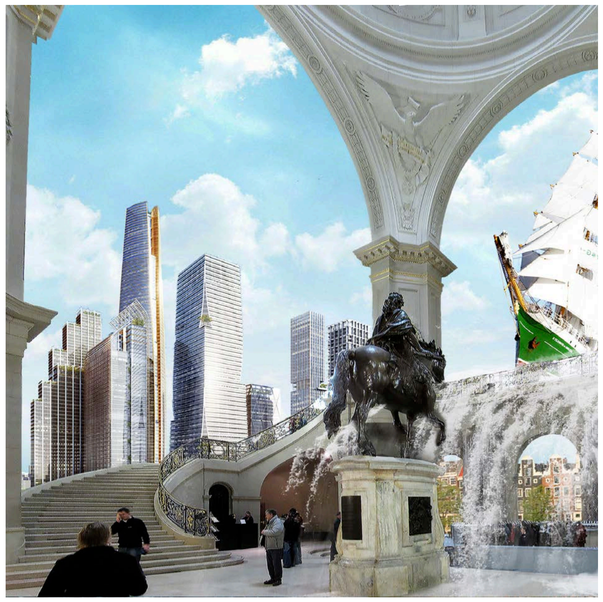
THE FUTURE 1870


THE FUTURE 1920

VLZ 6000-00
THE FUTURE 2018

A NEW FOYER

MOTIVE



AN URBAN FOYER

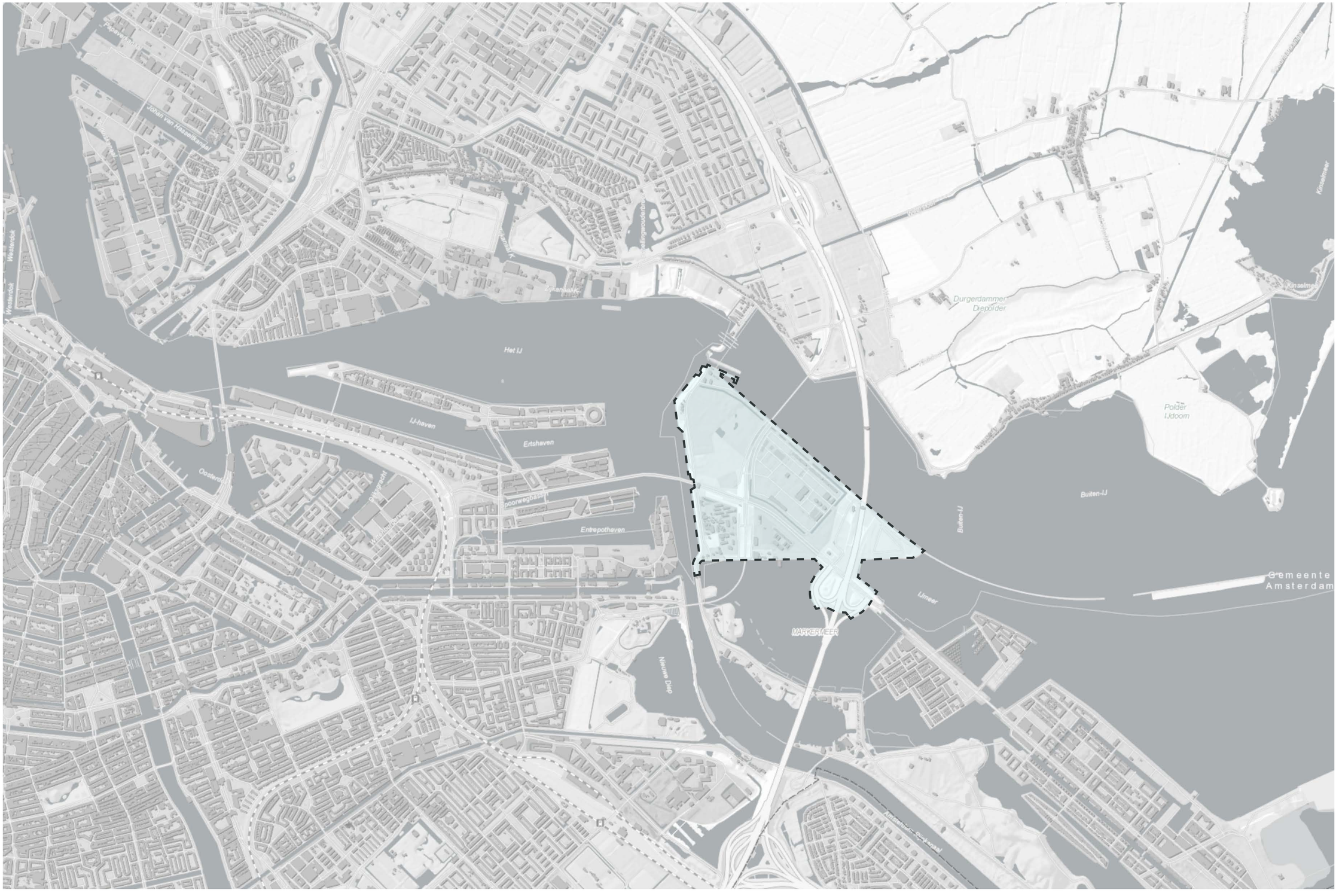
RESEARCH

AN AUTOMOTIVE FOYER

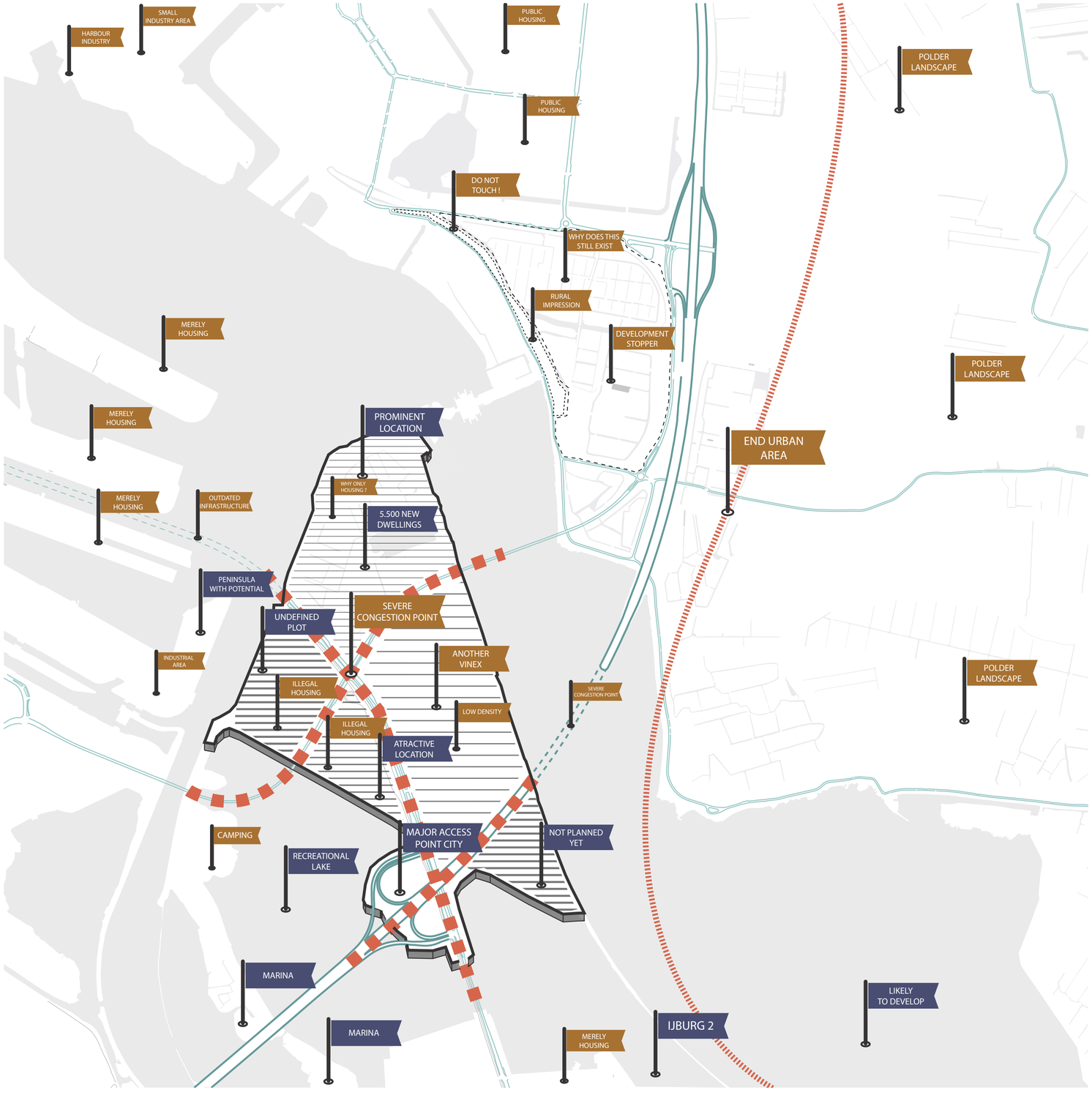
DESIGN TOPIC

THE AUTOMOTIVE FOYER

DESIGN PROPOSAL


Het IJ
IJ-haven
Ertshaven
Entrepothaven
Spoorwegdijk
Nieuwe Diep
MARKERMEER
IJmeer
Buiten-IJ
IJdoom
Durgerdammer Polder
Kinselmeer
Gemeente Amsterdam
Johan van Hasseltkanaal
Westerdok
Oosterdok
Zeeburgereiland
Amsterdam-Rijnkanaal

CP


HARBOUR INDUSTRY
SMALL INDUSTRY AREA
PUBLIC HOUSING
PUBLIC HOUSING
POLDER LANDSCAPE
DO NOT TOUCH !
WHY DOES THIS STILL EXIST
RURAL IMPRESSION
DEVELOPMENT STOPPER
MERELY HOUSING
POLDER LANDSCAPE
MERELY HOUSING
PROMINENT LOCATION
END URBAN AREA
WHY ONLY HOUSING ?
MERELY HOUSING
OUTDATED INFRASTRUCTURE
5.500 NEW DWELLINGS
PENINSULA WITH POTENTIAL
SEVERE CONGESTION POINT
UNDEFINED PLOT
INDUSTRIAL AREA
ANOTHER VINEX
POLDER LANDSCAPE
ILLEGAL HOUSING
SEVERE CONGESTION POINT
LOW DENSITY
ILLEGAL HOUSING
ATRACTIVE LOCATION
CAMPING
MAJOR ACCESS POINT CITY
NOT PLANNED YET
RECREATIONAL LAKE
MARINA
LIKELY TO DEVELOP
MARINA
MERELY HOUSING
IJBURG 2

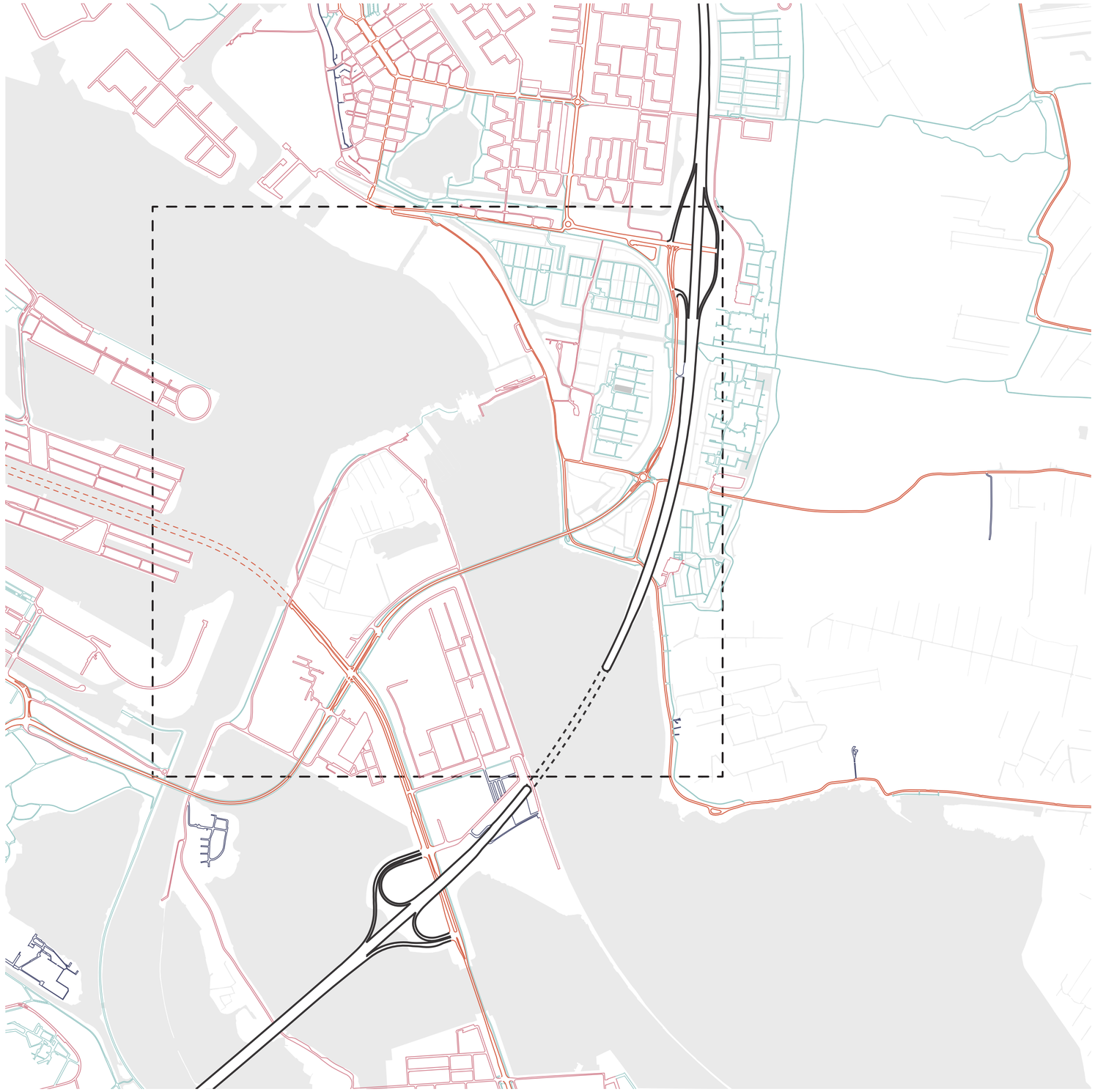
CP

OPTION 1

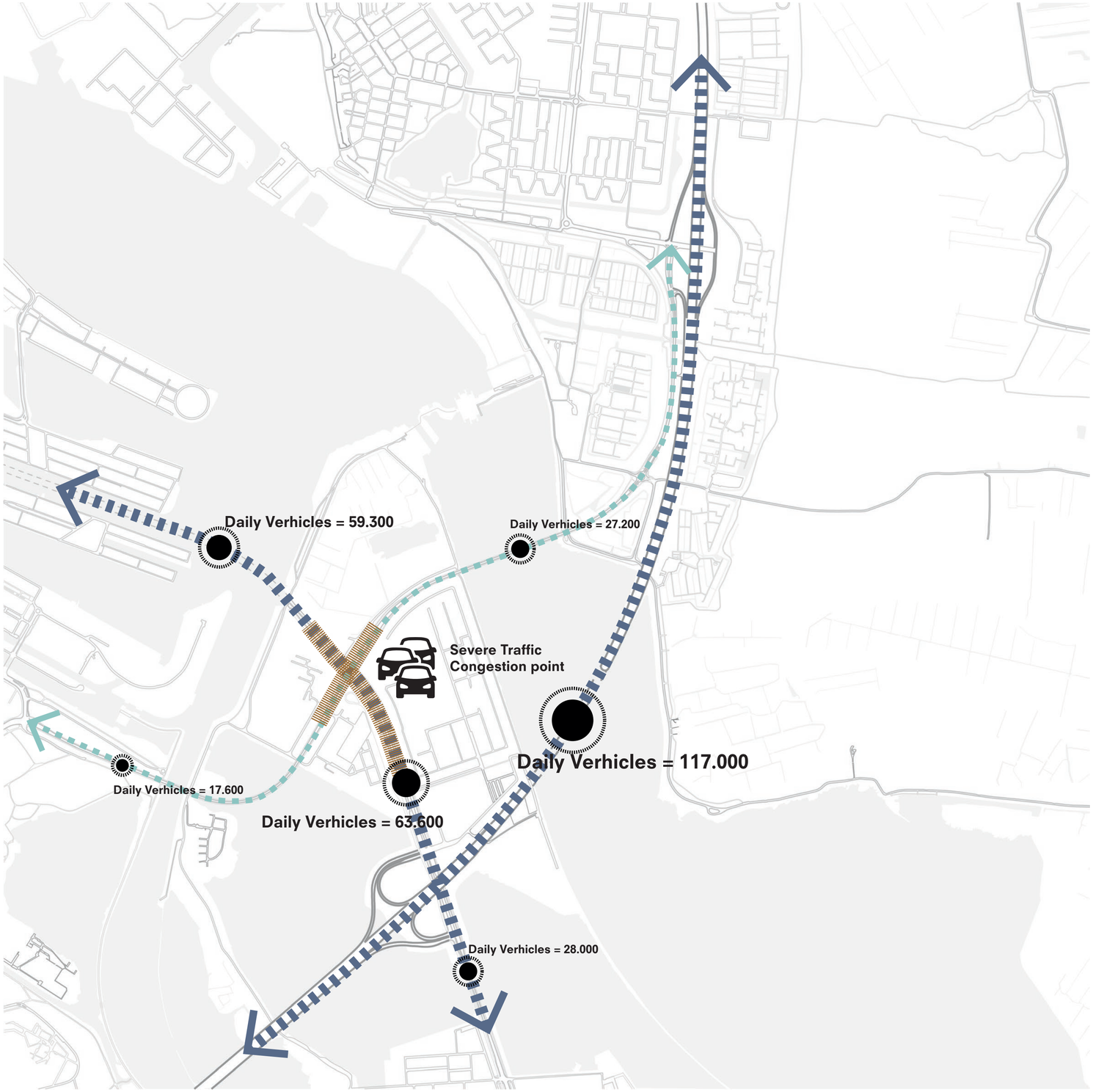
OPTION 2

CP

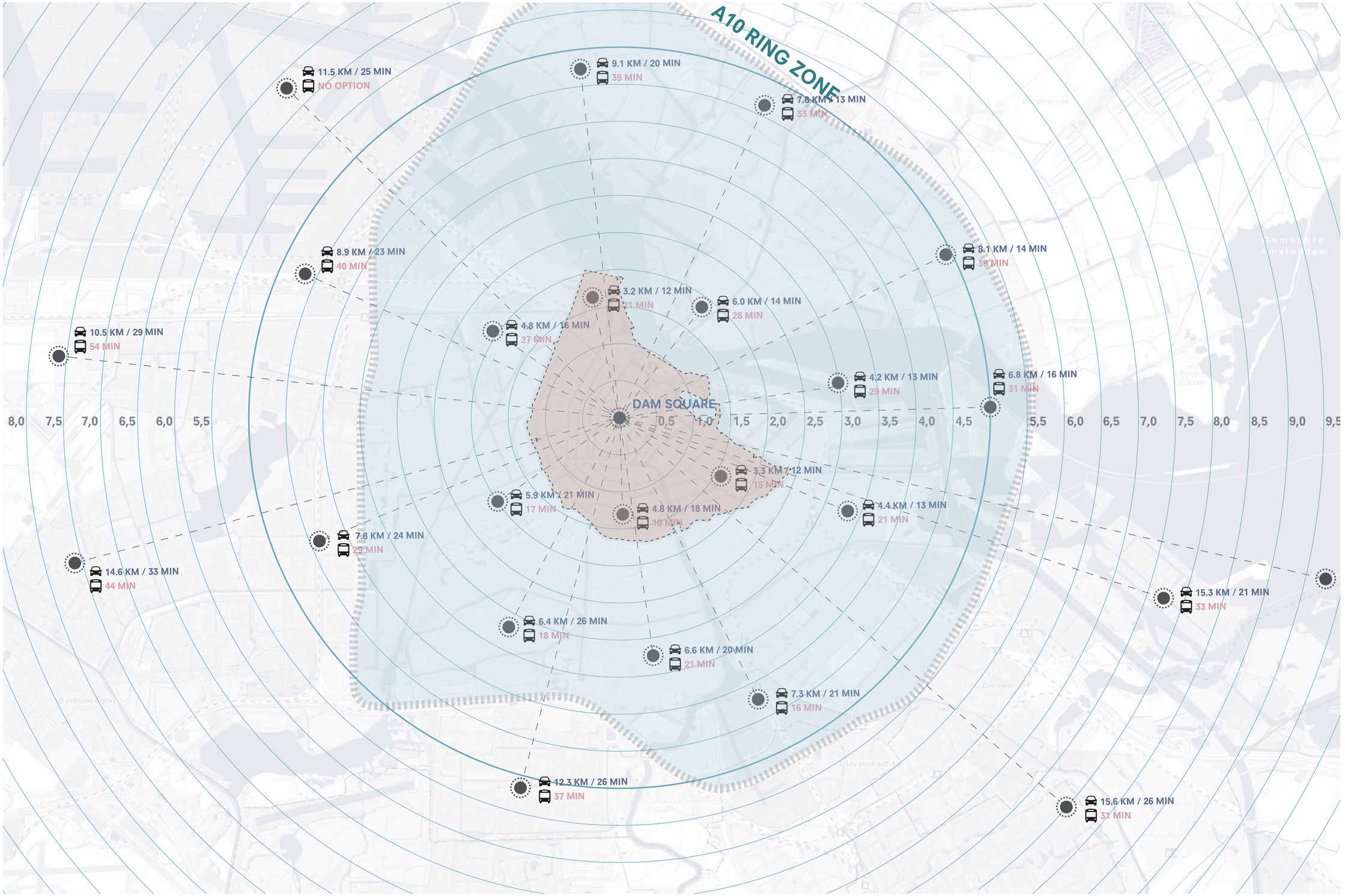
SITE ANALYSIS



CP

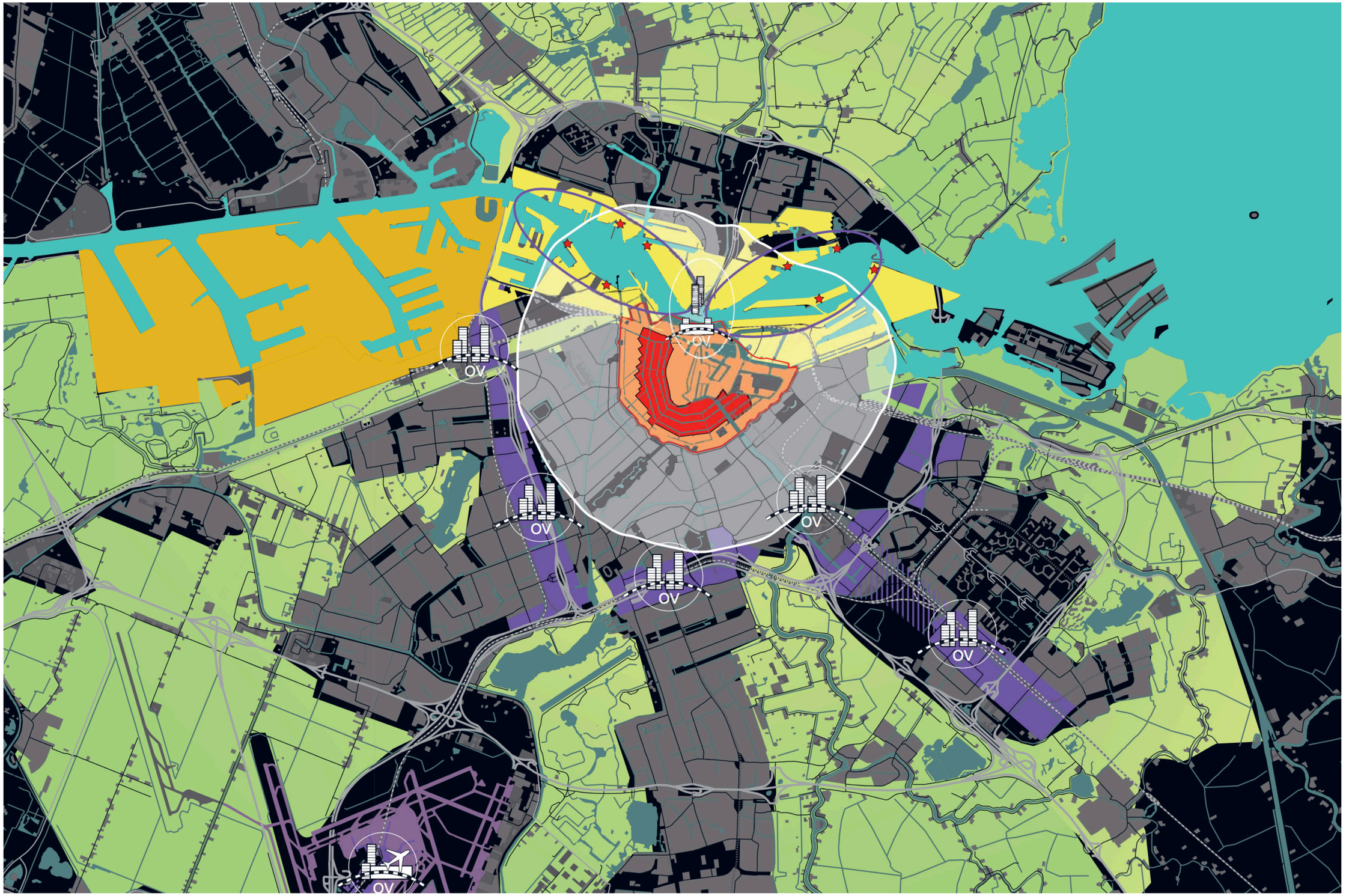

Daily Verhicles = 59.300
Daily Verhicles = 27.200
Severe Traffic
Congestion point
Daily Verhicles = 117.000
Daily Verhicles = 17.600
Daily Verhicles = 63.600
Daily Verhicles = 28.000

CP


A10 RING ZONE
DAM SQUARE
11.5 KM / 25 MIN
NO OPTION
9.1 KM / 20 MIN
39 MIN
7.8 KM / 13 MIN
33 MIN
8.9 KM / 23 MIN
40 MIN
8.1 KM / 14 MIN
39 MIN
3.2 KM / 12 MIN
21 MIN
6.0 KM / 14 MIN
28 MIN
10.5 KM / 29 MIN
54 MIN
4.8 KM / 16 MIN
27 MIN
4.2 KM / 13 MIN
29 MIN
6.8 KM / 16 MIN
31 MIN
3.3 KM / 12 MIN
15 MIN
5.9 KM / 21 MIN
17 MIN
4.8 KM / 18 MIN
18 MIN
4.4 KM / 13 MIN
21 MIN
7.8 KM / 24 MIN
29 MIN
14.6 KM / 33 MIN
44 MIN
15.3 KM / 21 MIN
33 MIN
6.4 KM / 26 MIN
18 MIN
6.6 KM / 20 MIN
21 MIN
7.3 KM / 21 MIN
16 MIN
12.3 KM / 26 MIN
37 MIN
15.6 KM / 26 MIN
31 MIN
8,0 7,5 7,0 6,5 6,0 5,5
0,5 1,0 1,5 2,0 2,5 3,0 3,5 4,0 4,5 5,5 6,0 6,5 7,0 7,5 8,0 8,5 9,0 9,5

CP

CP


OV
OV
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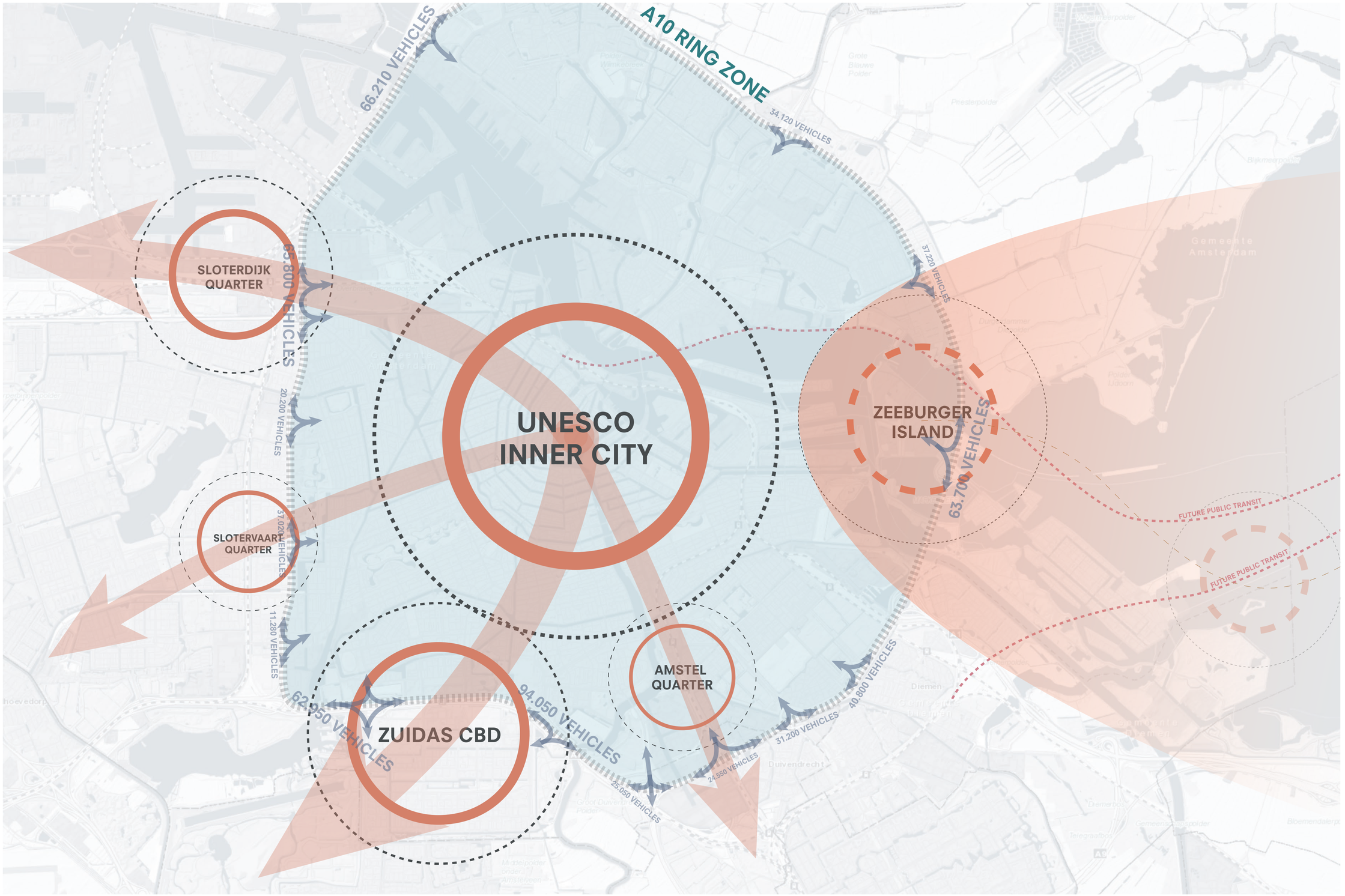

A10 RING ZONE
66.210 VEHICLES
34.120 VEHICLES
37.220 VEHICLES
SLOTERDIJK QUARTER
65.800 VEHICLES
20.200 VEHICLES
UNESCO INNER CITY
ZEEBURGER ISLAND
63.700 VEHICLES
FUTURE PUBLIC TRANSIT
FUTURE PUBLIC TRANSIT
SLOTERVAART QUARTER
37.020 VEHICLES
11.280 VEHICLES
AMSTEL QUARTER
ZUIDAS CBD
62.950 VEHICLES
94.050 VEHICLES
25.050 VEHICLES
24.550 VEHICLES
31.200 VEHICLES
40.800 VEHICLES

MARKEROOG ISLANDS
NEW INFRASTRUCTURE
NEW INFRASTRUCTURE
MULTIPLE PROPOSALS
IJBURG 2 DEVELOPMENT
ZEEBURGER ISLAND

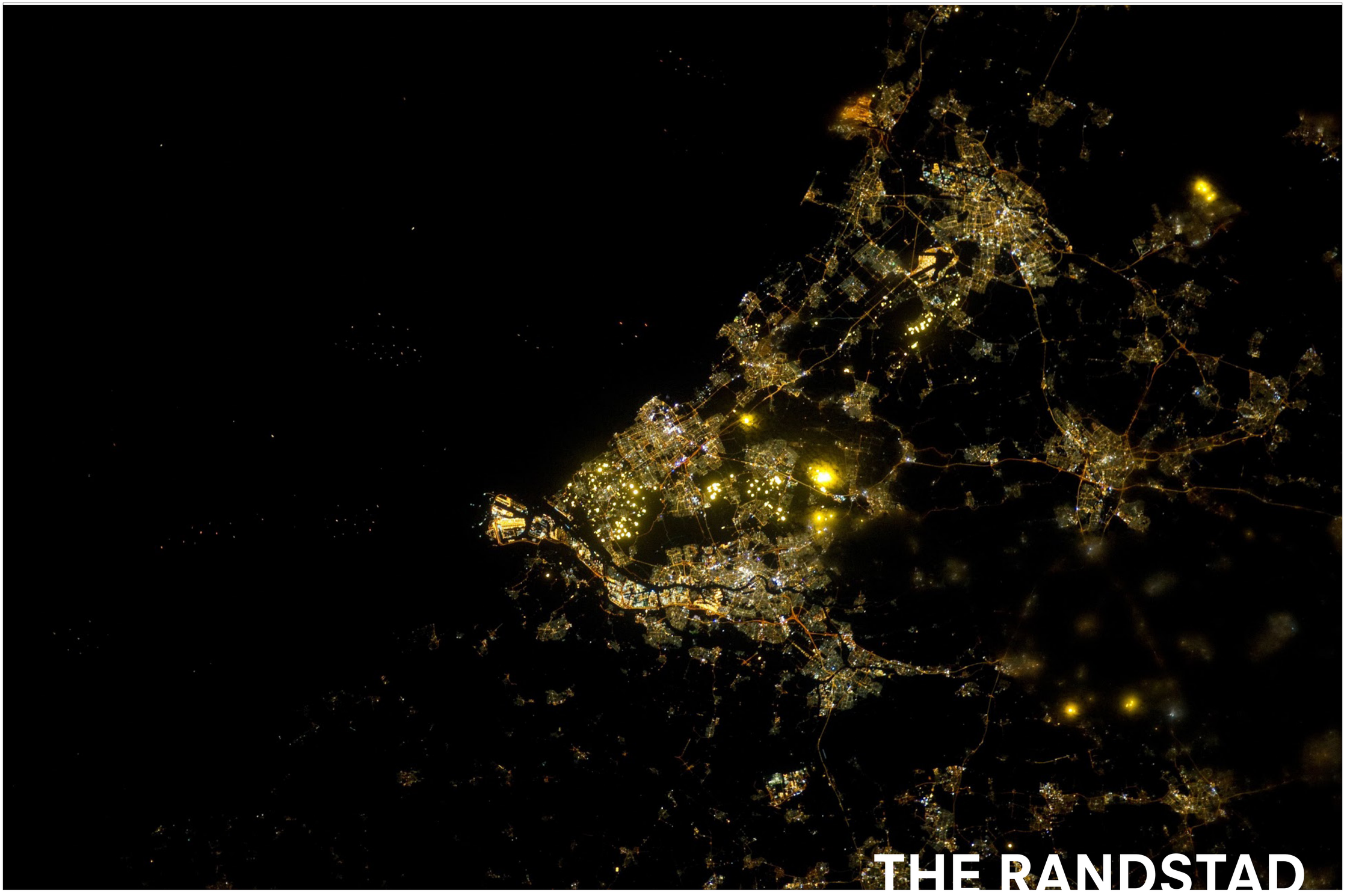
How Could Zeeburgereiland become a Key Player within the Urban Development of Amsterdam and the Region?

CP

RESEARCH

AN URBAN FOYER

XXXL



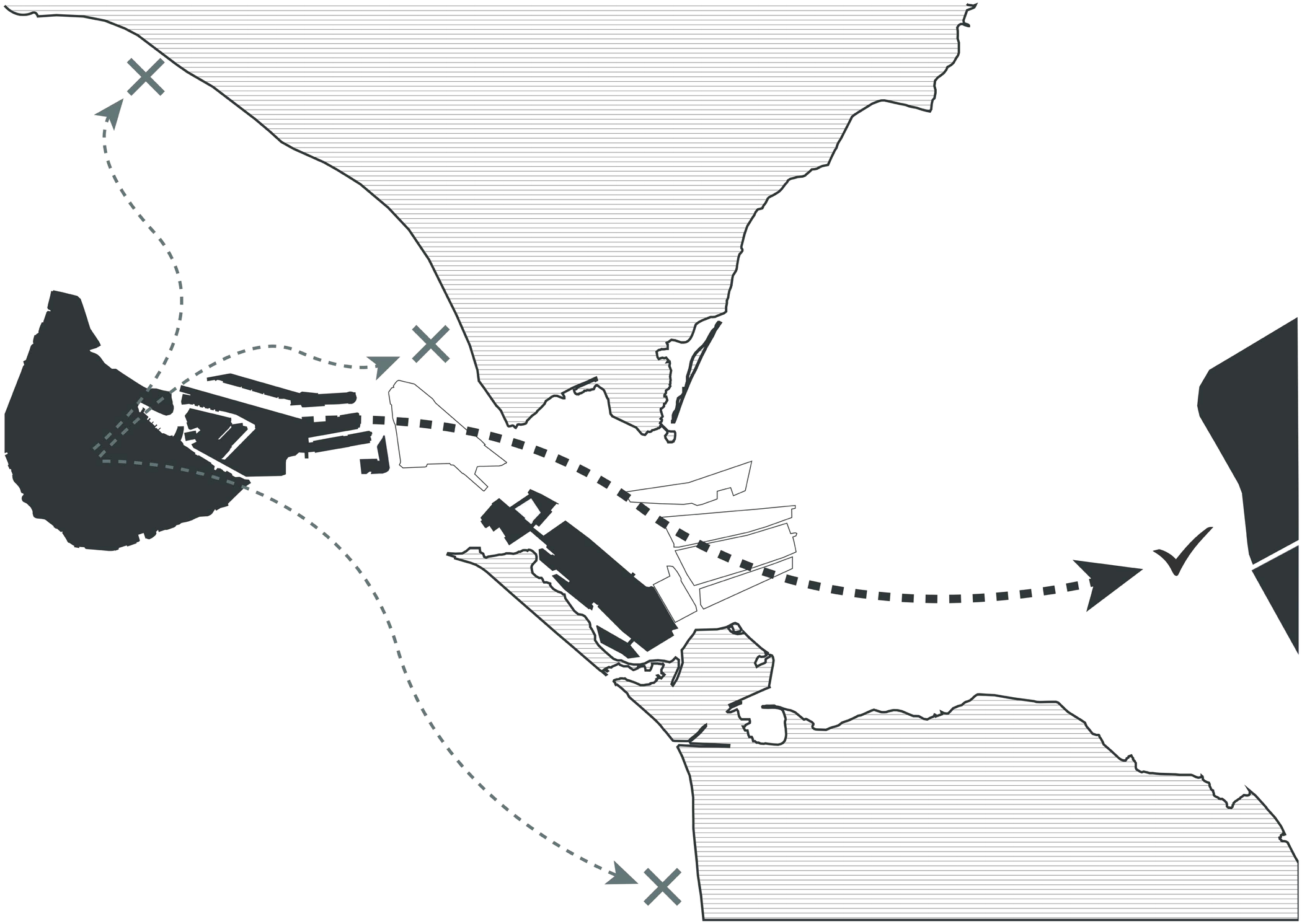
CP

CP

Primary Urban Area
Secondary Urban Area
Protected Natural Area
Barrier
Urban Development Direction
Research Area Zeeburgereiland
IJMUIDEN
HAARLEM
AMSTERDAM
OOSTVAARDERSPLASSEN
ALMERE
HILVERSUM
APELDOORN
LEIDEN
THE GREEN HEART
THE HAGUE
DELFT
UTRECHT
THE VELUWE
ROTTERDAM
BUFFERZONE MAJOR RIVERS

XXL

CP



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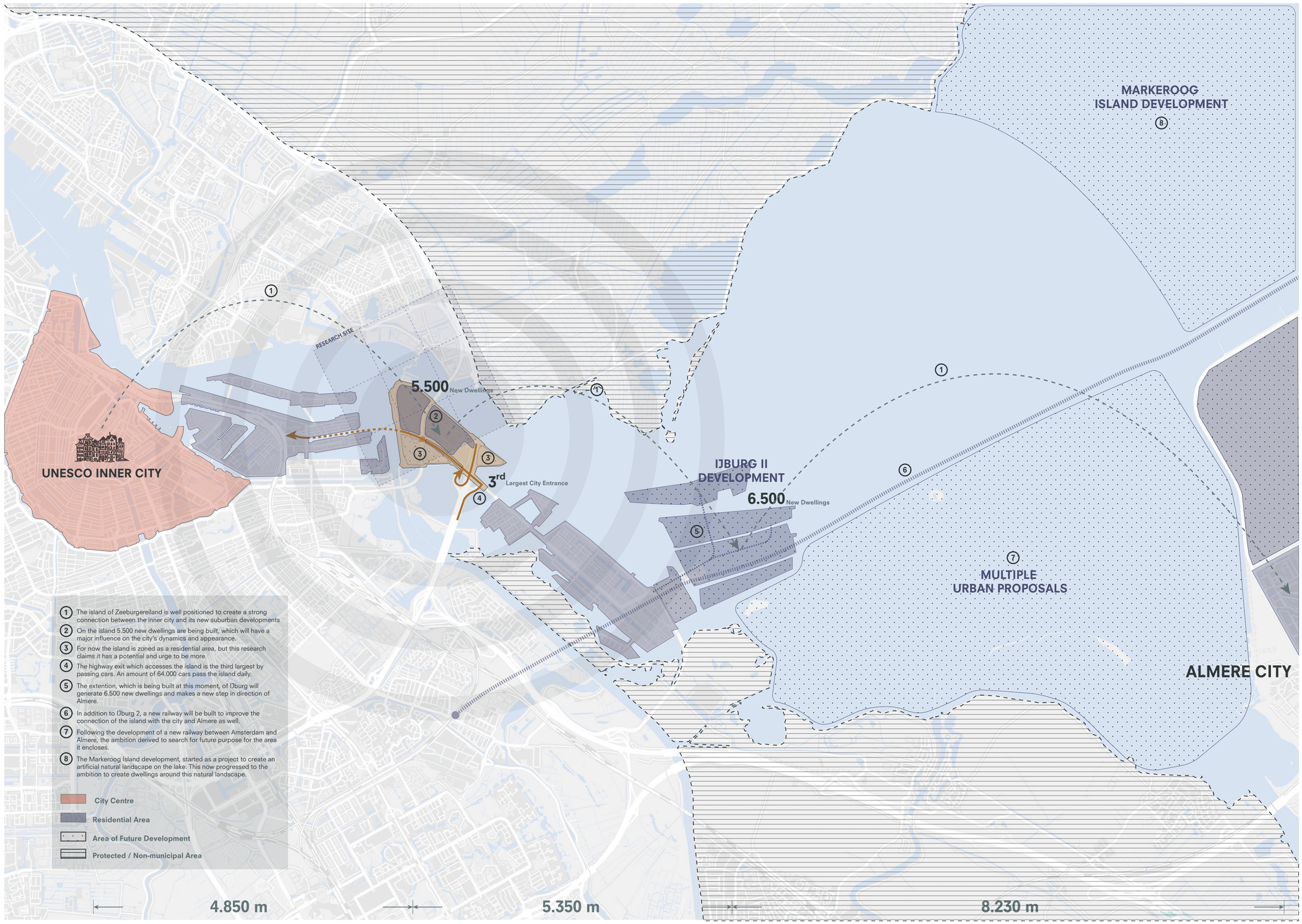
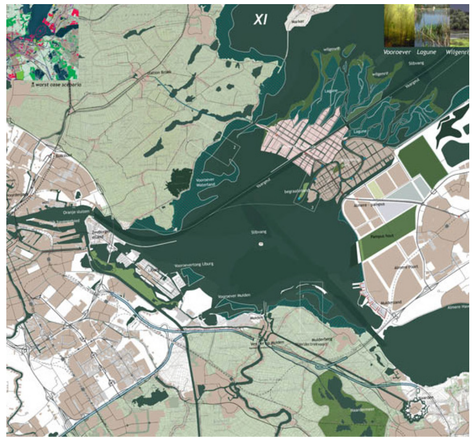
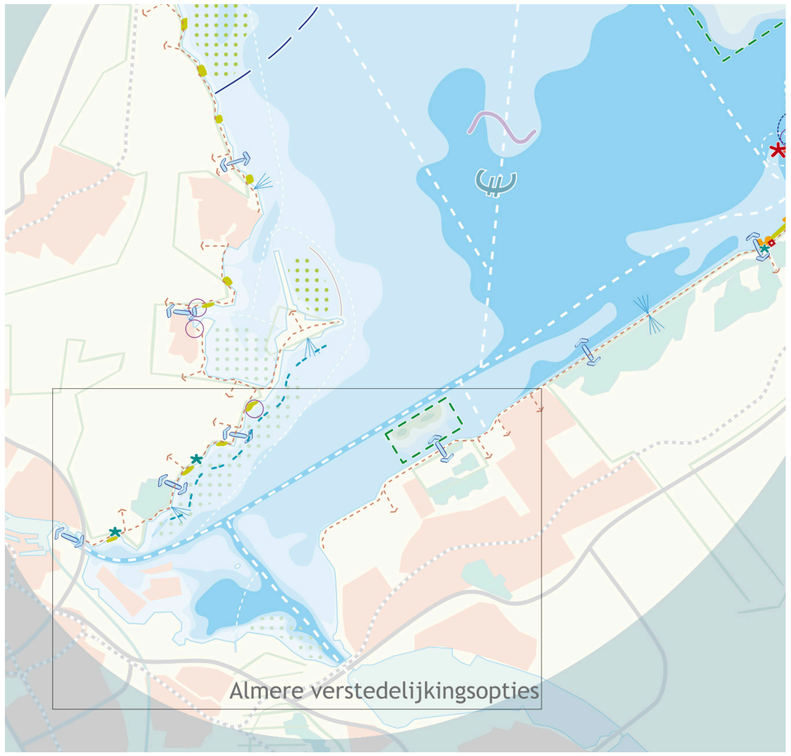

MARKEROOG
ISLAND DEVELOPMENT
8
1
RESEARCH SITE
5.500 New Dwellings
2
3
3
UNESCO INNER CITY
3rd Largest City Entrance
4
IJBURG II
DEVELOPMENT
6.500 New Dwellings
6
5
7
MULTIPLE
URBAN PROPOSALS
ALMERE CITY
1 The island of Zeeburgereiland is well positioned to create a strong connection between the inner city and its new suburban developments
2 On the island 5.500 new dwellings are being built, which will have a major influence on the city's dynamics and appearance.
3 For now the island is zoned as a residential area, but this research claims it has a potential and urge to be more.
4 The highway exit which accesses the island is the third largest by passing cars. An amount of 64.000 cars pass the island daily.
5 The extention, which is being built at this moment, of IJburg will generate 6.500 new dwellings and makes a new step in direction of Almere.
6 In addition to IJburg 2, a new railway will be built to improve the connection of the island with the city and Almere as well.
7 Following the development of a new railway between Amsterdam and Almere, the ambition derived to search for future purpose for the area it encloses.
8 The Markeroog Island development, started as a project to create an artificial natural landscape on the lake. This now progressed to the ambition to create dwellings around this natural landscape.
City Centre
Residential Area
Area of Future Development
Protected / Non-municipal Area
4.850 m
5.350 m
8.230 m

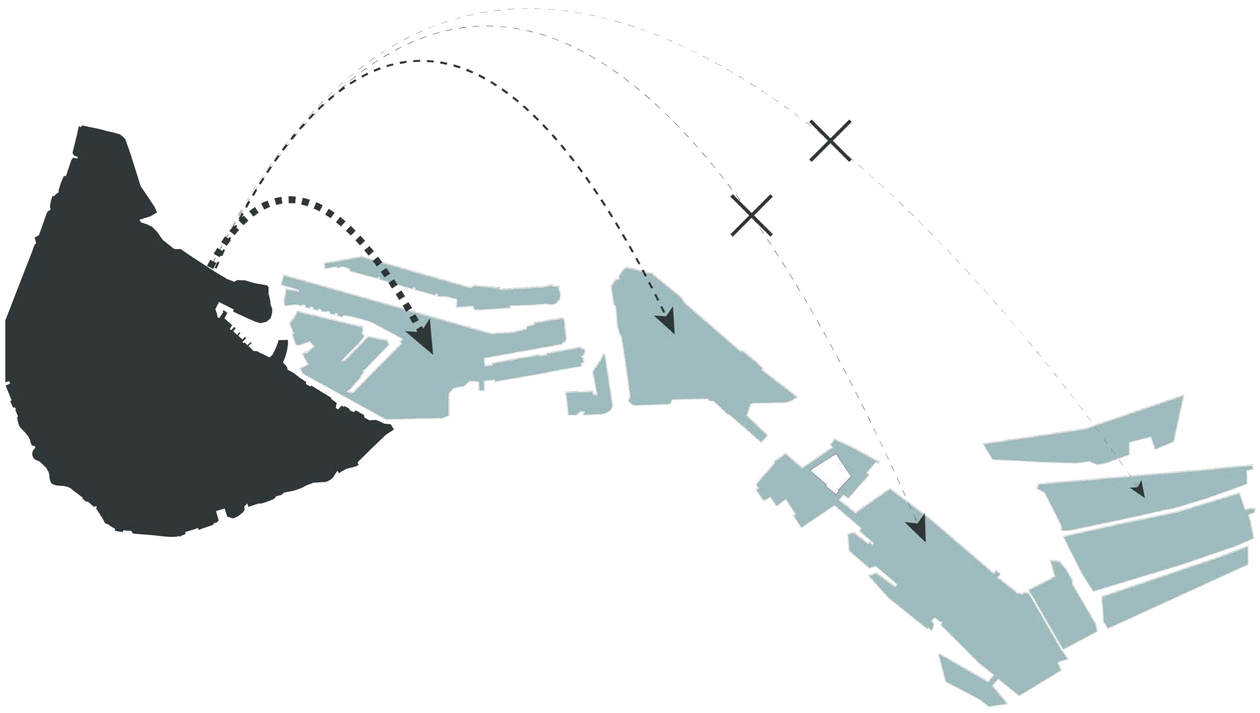

XI
Vooroever
Lagune
Wijgensr
Ijburg
Muiderberg

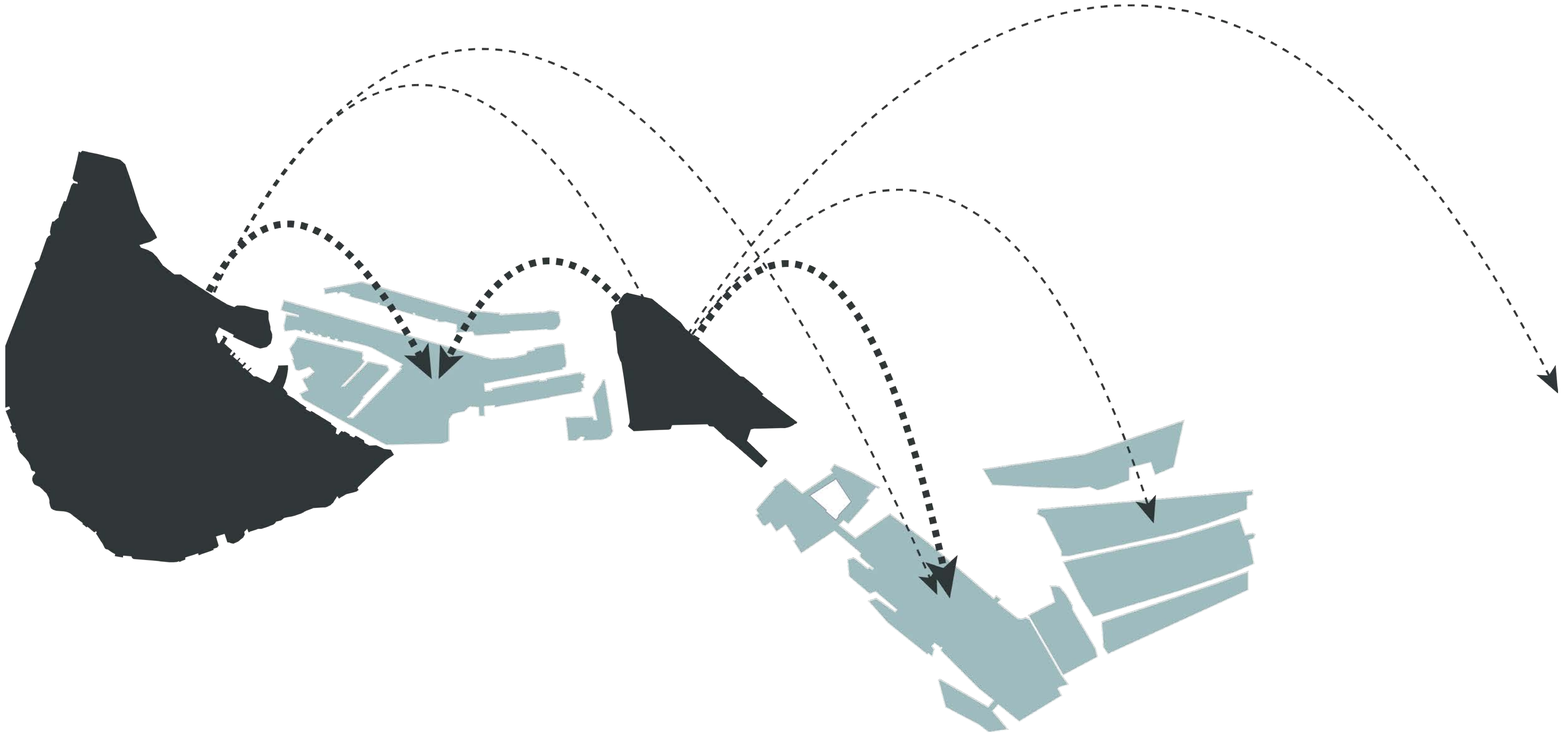

Almere verstedelijkingsopties

Muiden
NIEUW PAMPUS
Pampus
TERDAM
IJMEER
Muiderberg

FUTURE

Island
Almere Pampus
Pampus
Forest
IJburg
Recreational IJmeer bay
Diemer
Vijfhoek
Muiden
Muiderberg





CP

Degree of proximity

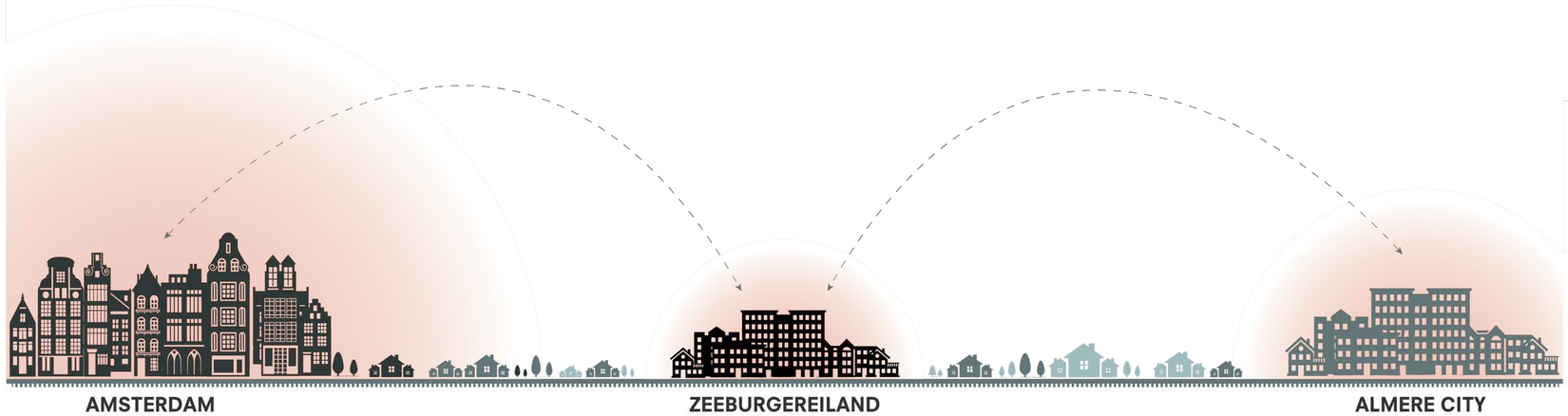
Influence direct surrounding

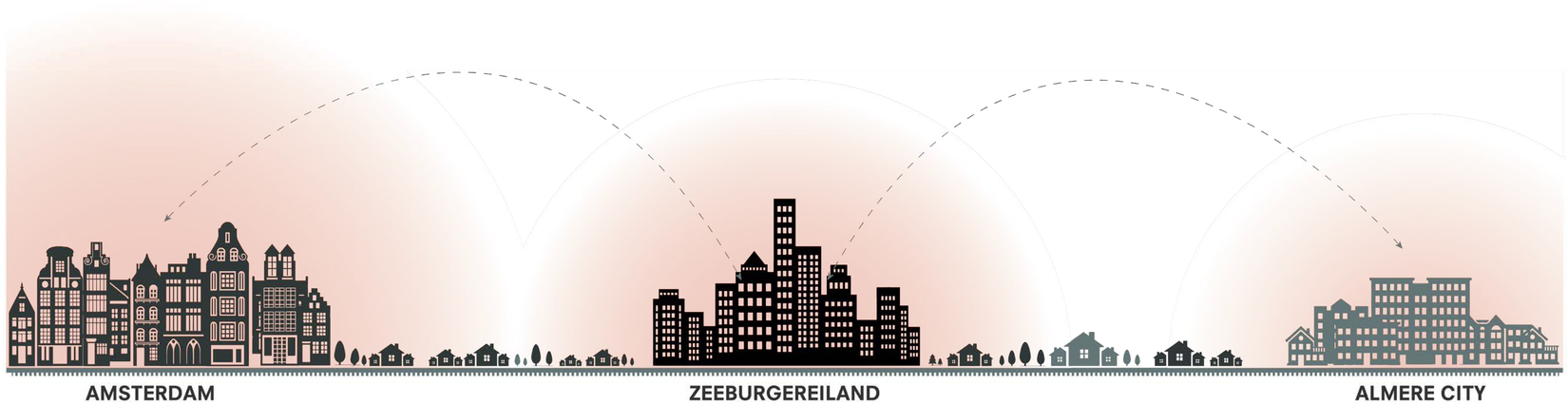
Residential neighbourhood

Major City Centre

Large residential area / small city

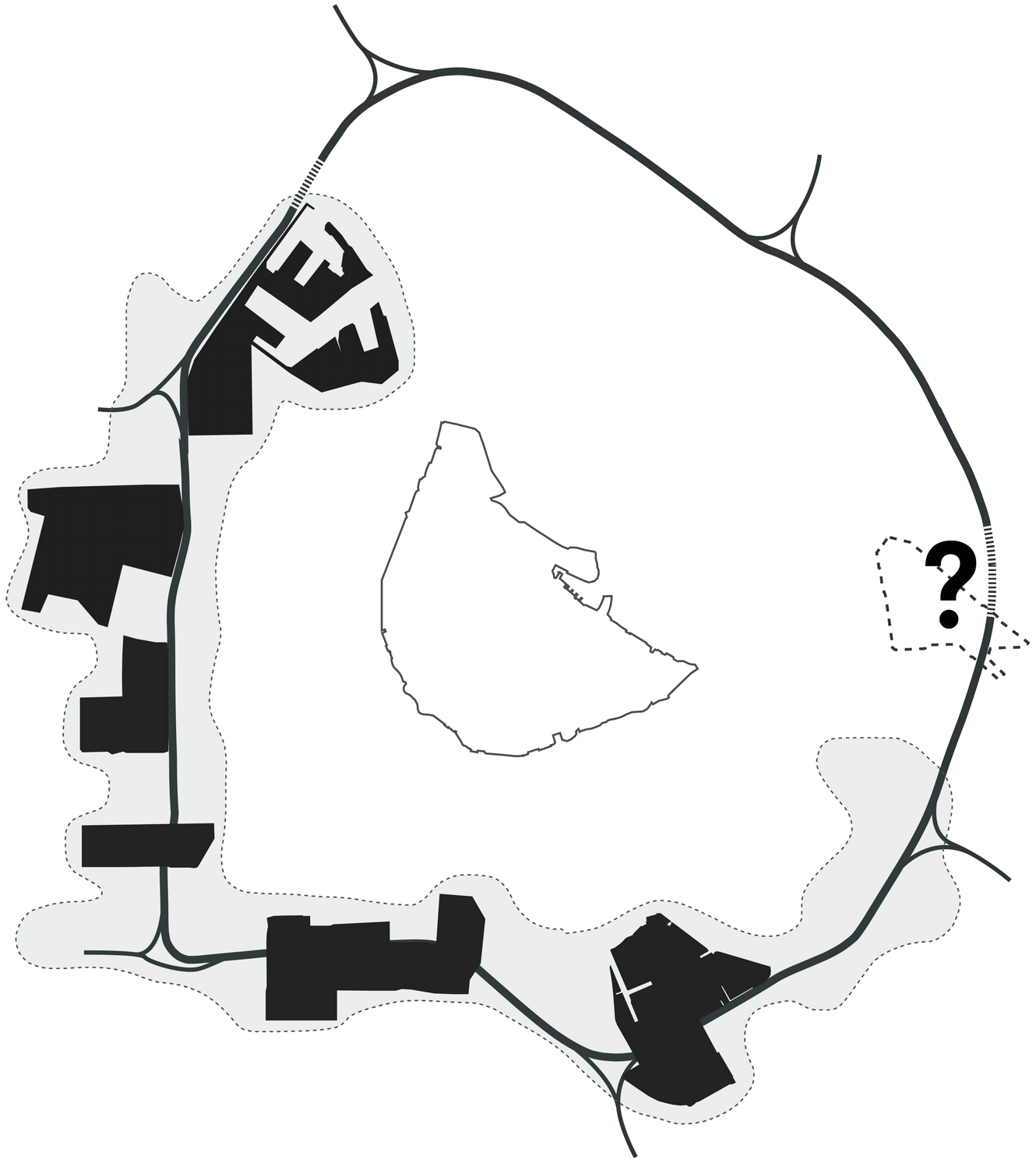
Historic City centre Amsterdam

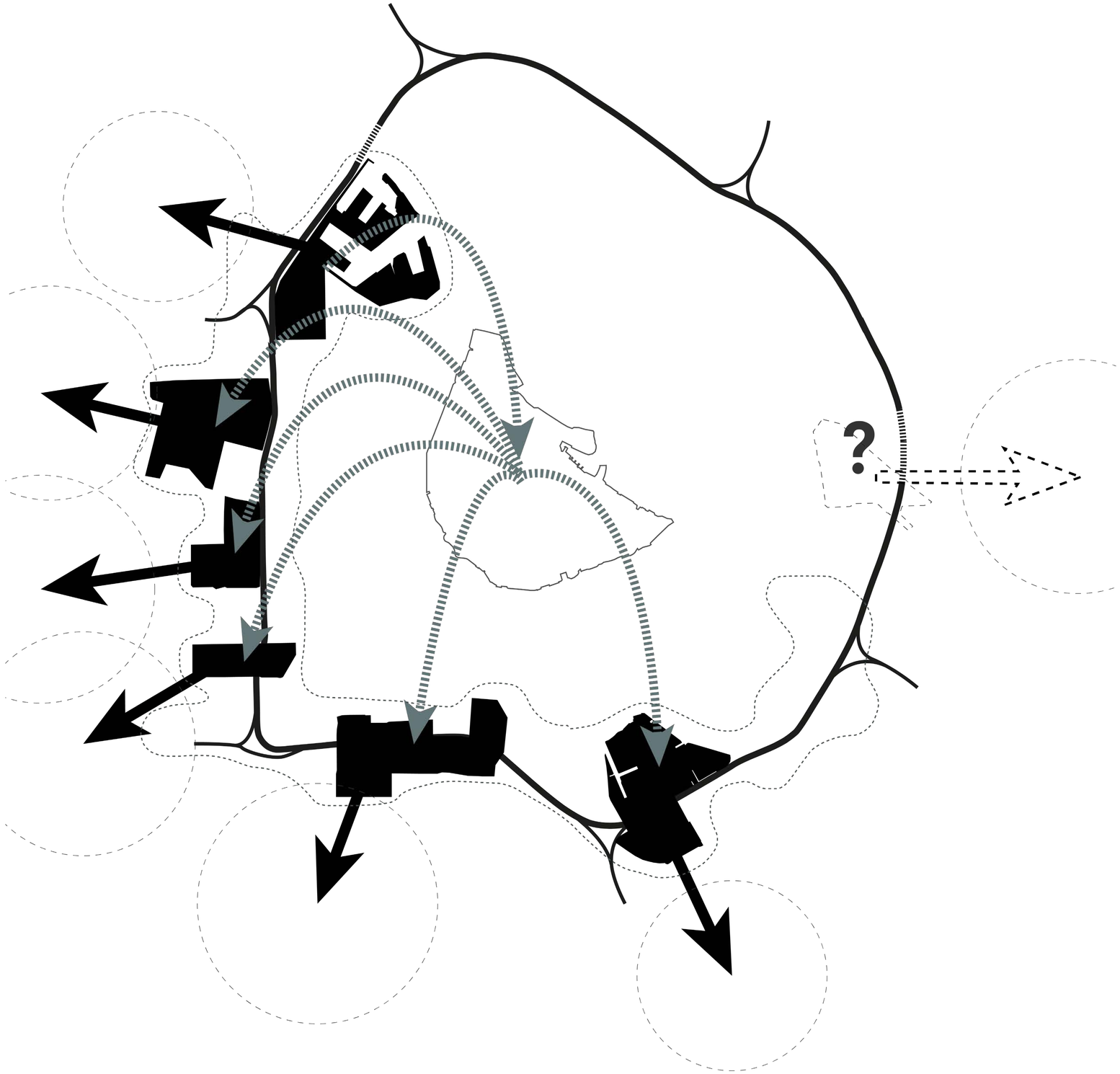




XL

CP


?
CP



New City Centre Area

Designated 'Metropolitan' Areas

Focus Area for urban development

Ring Road A10

Research Area Zeeburgereiland

1 ZUIDAS CBD

2 AMSTEL QUARTER

3 SLOTERDIJK

4 HOUTHAVENS

5 SLUISBUURT

92.900 VEHICLES/DAY

114.100 VEHICLES/DAY

227.500 VEHICLES/DAY

148.600 VEHICLES/DAY

200.400 VEHICLES/DAY

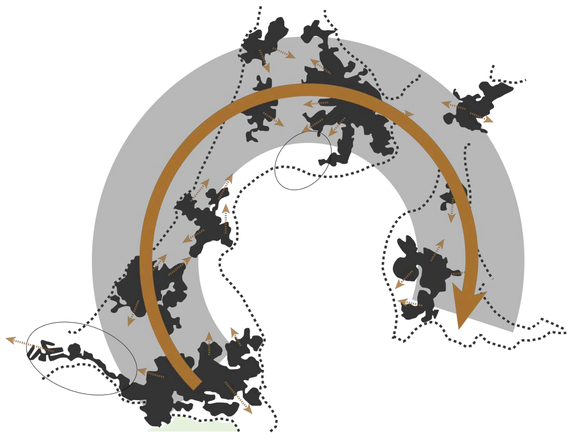
UNESCO INNER CITY

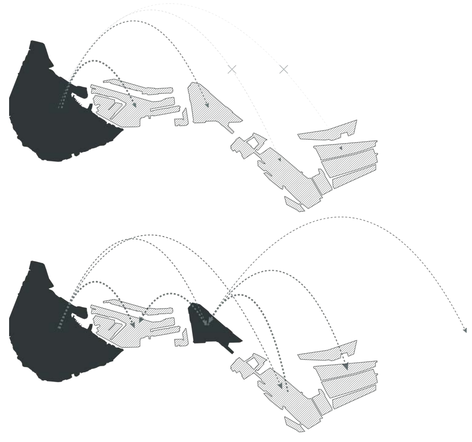
RESEARCH SITE

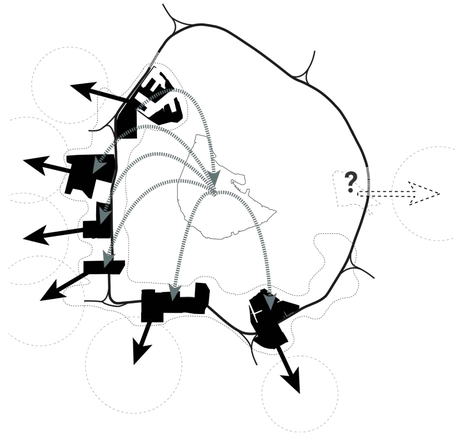
?

CP

How could Zeeburgereiland gain a central position within the city of Amsterdam, and act as an addition on the emerging Ringcentres?

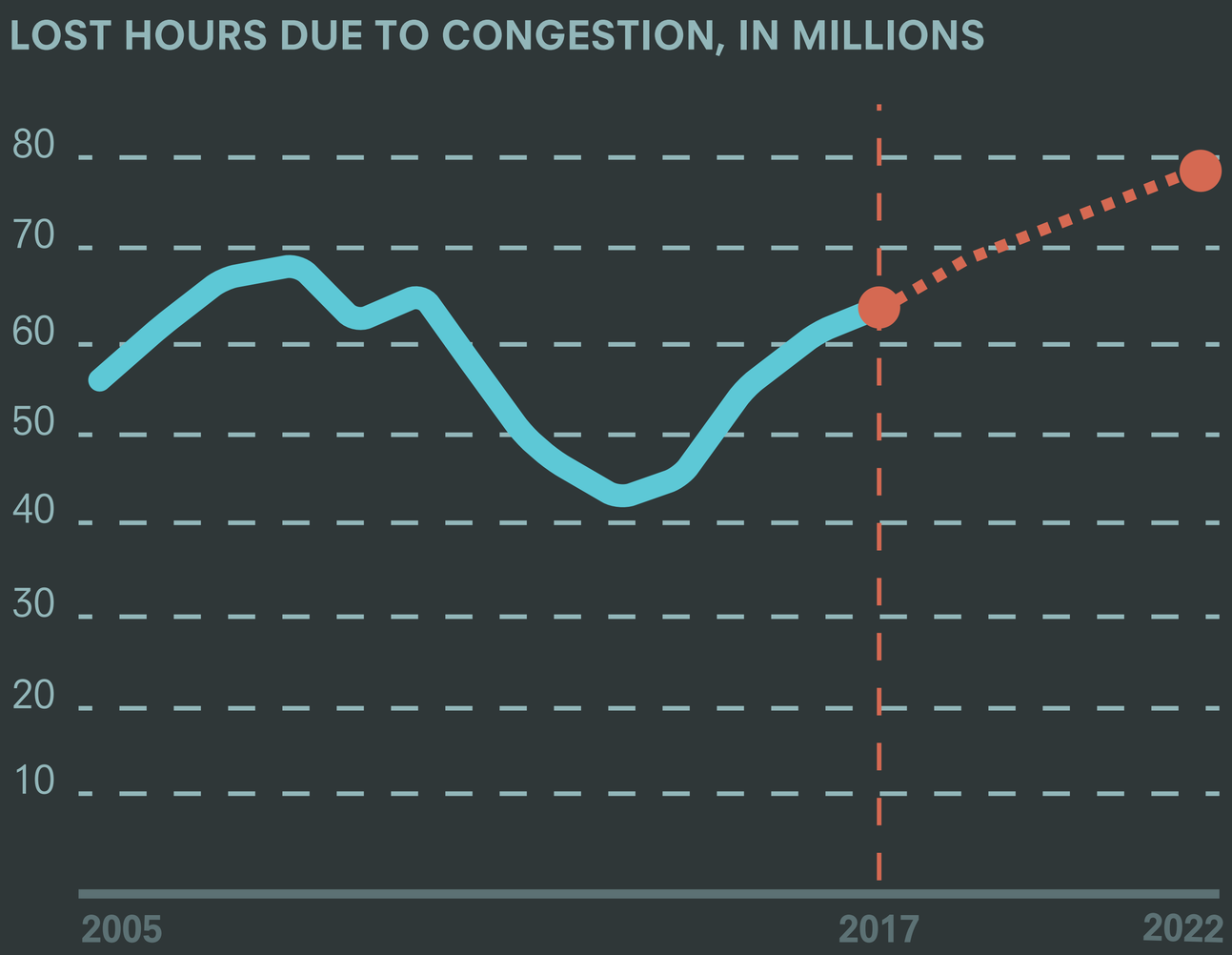




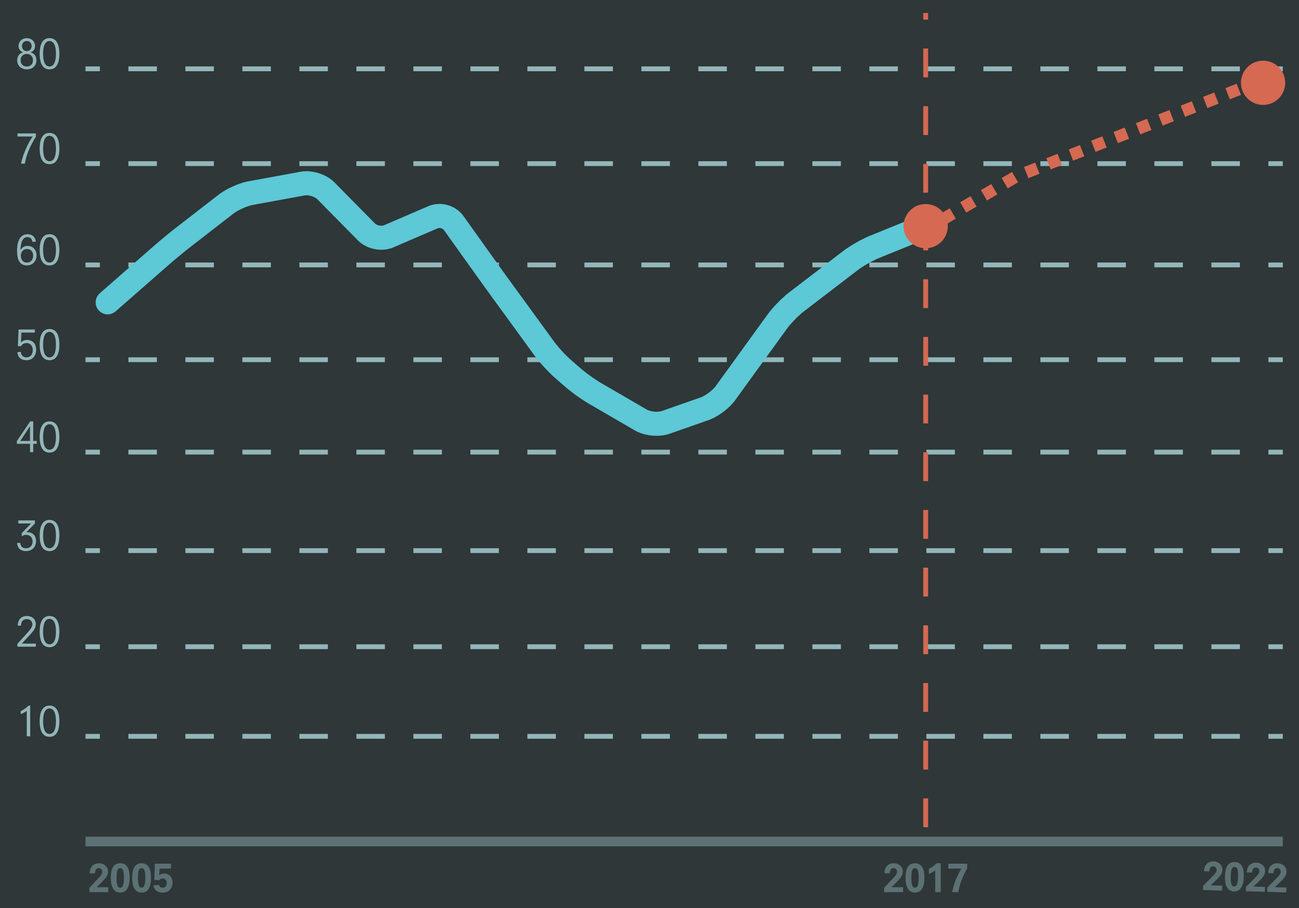


DESIGN TOPIC

AN AUTOMOTIVE FOYER


LOST HOURS DUE TO CONGESTION, IN MILLIONS
80
70
60
50
40
30
20
10
2005
2017
2022

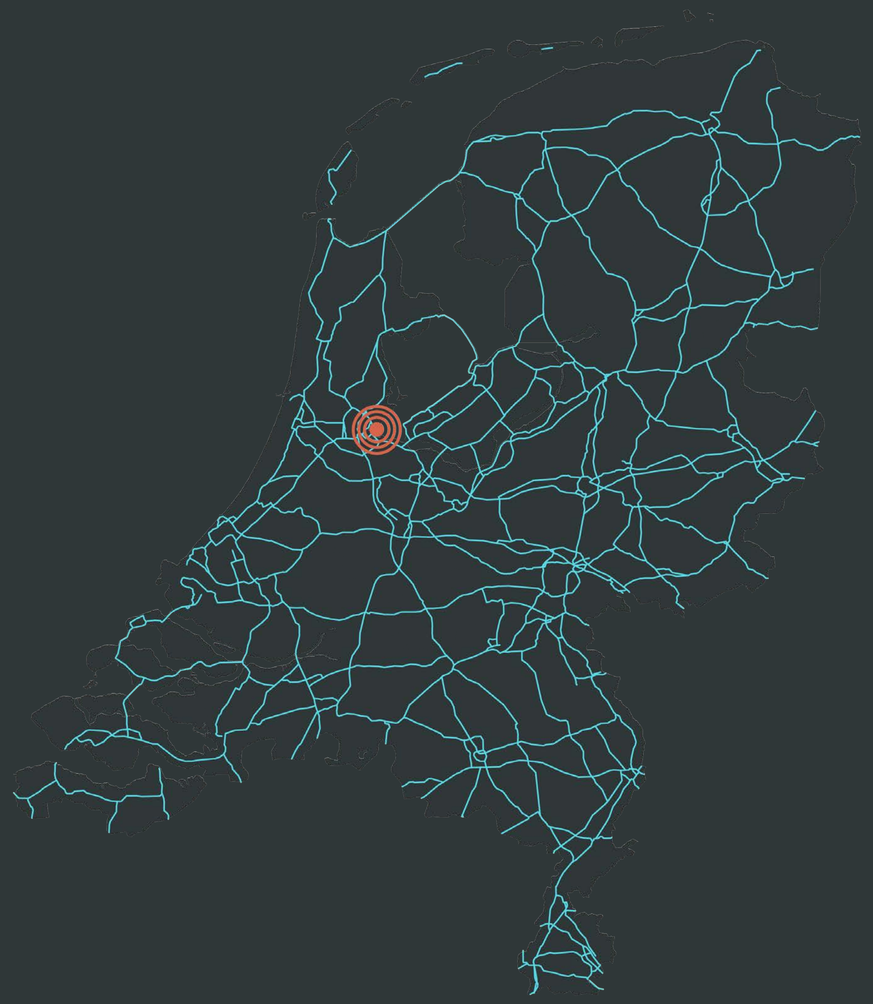
LOST HOURS DUE TO CONGESTION, IN MILLIONS



840,- EURO
Annual additional personal cost due to Congestion

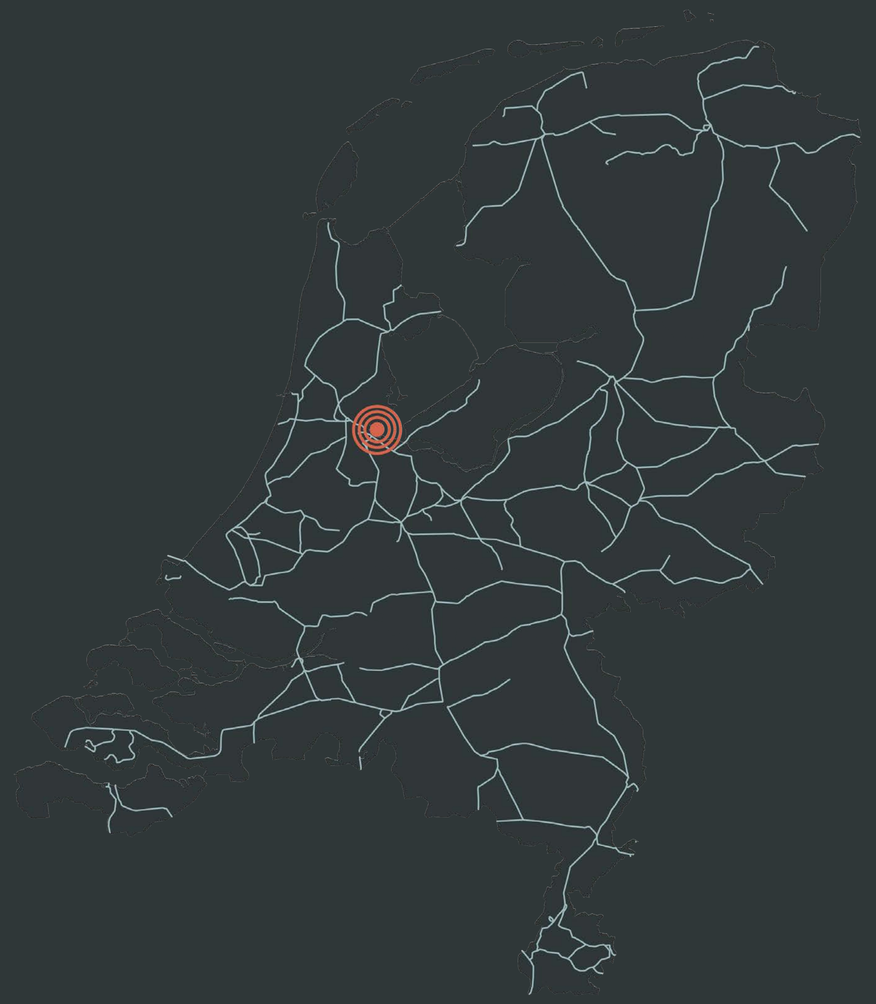
38 HOURS
Annual additional lost time due to Congestion

3,7 BILLION
Overall annual cost of congestion nationwide



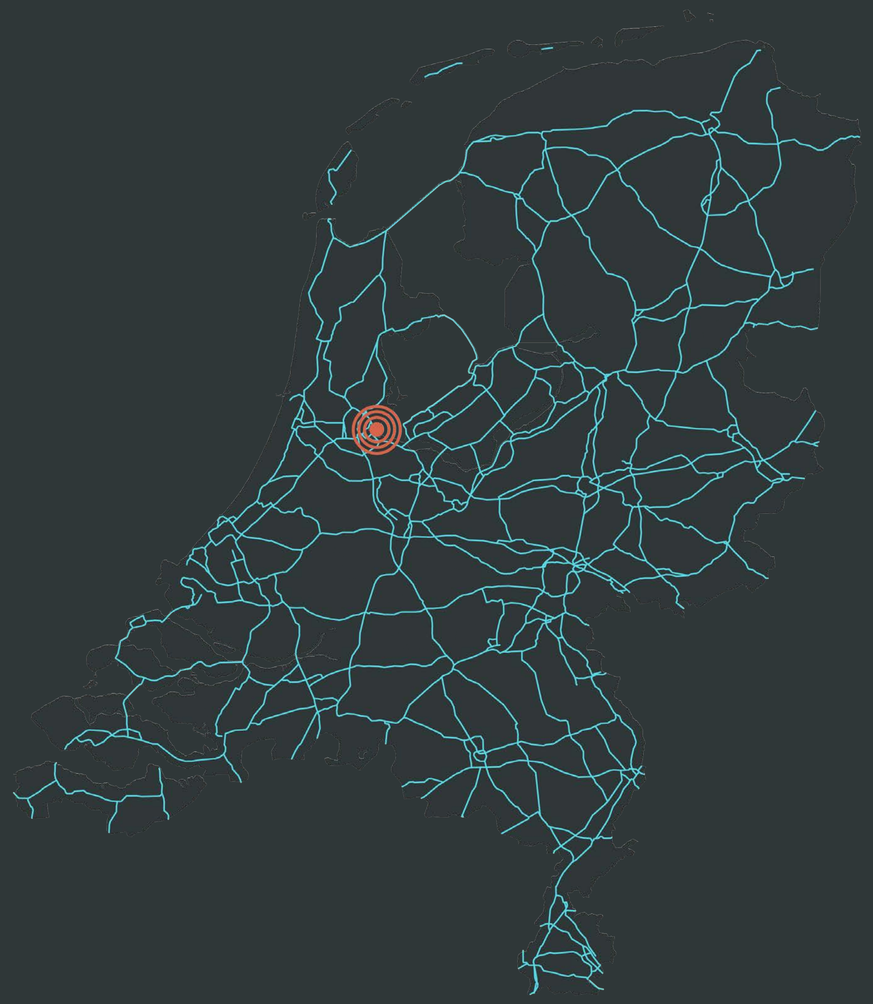
PRIMARY ROAD NETWORK
5.279 km

Average distance to accesspoint:
1,8 km



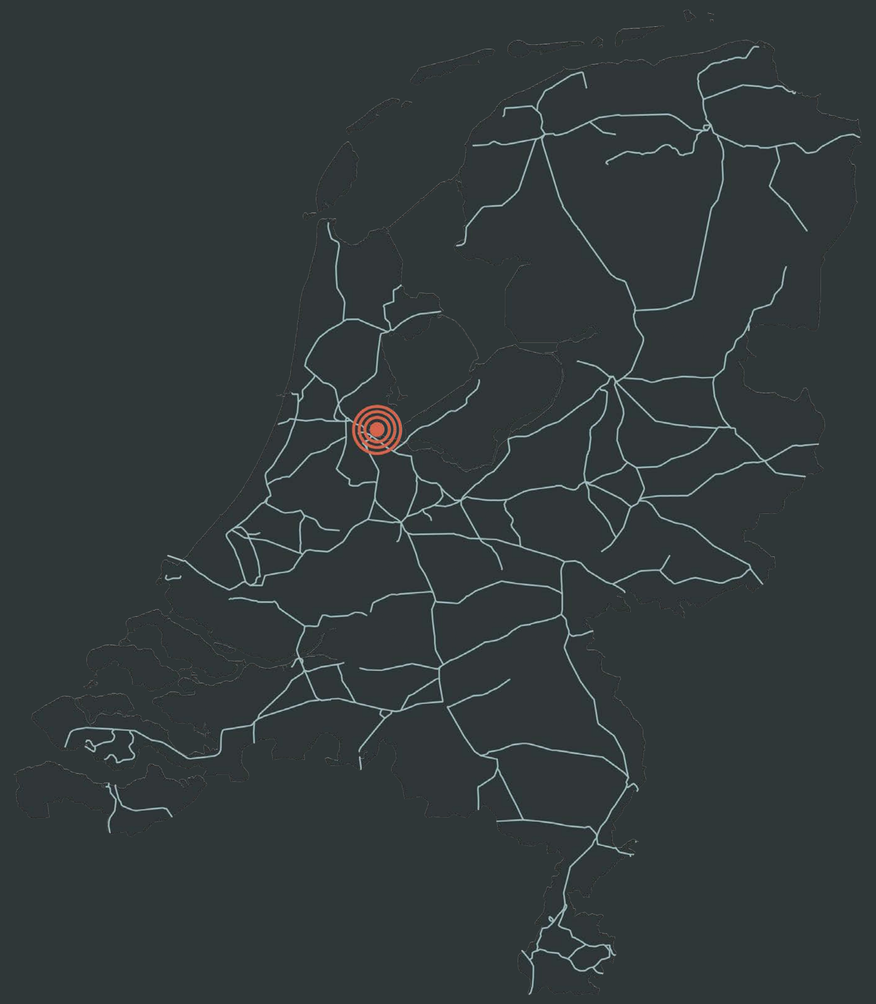
RAIL NETWORK
2.302 km

Average distance to accesspoint:
5,3 km



PRIMARY ROAD NETWORK
5.279 km

Average distance to accesspoint:
1,8 km



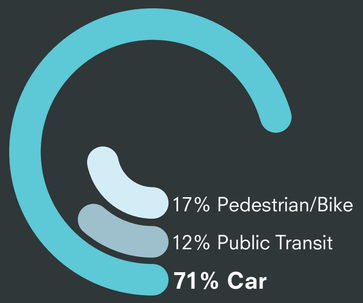
RAIL NETWORK
2.302 km

Average distance to accesspoint:
5,3 km

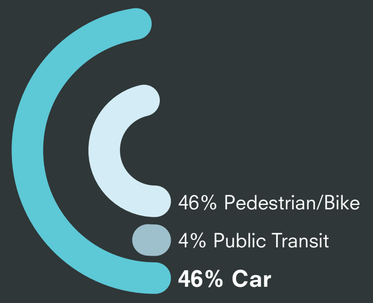
139.000 km of roads

Making it one of the most dense networks in the world

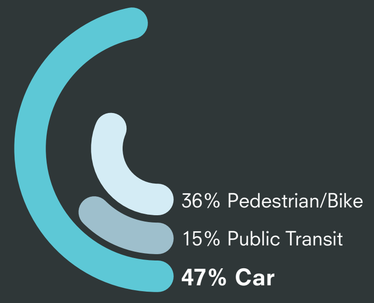
MOBILITY DATA



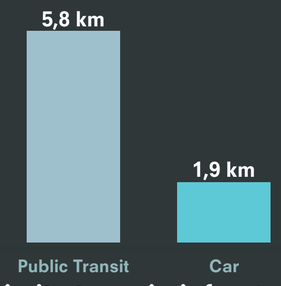
Distance travelled



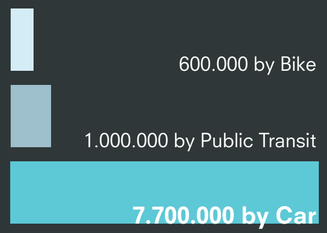
Times travelled



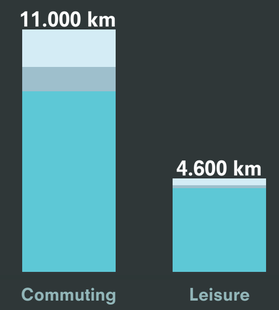
Travel time



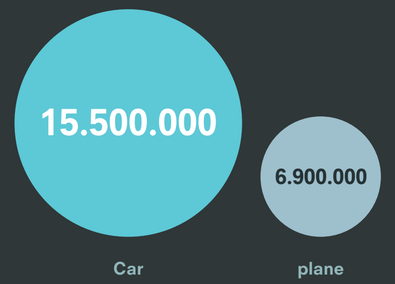
Proximity to main infrastructure



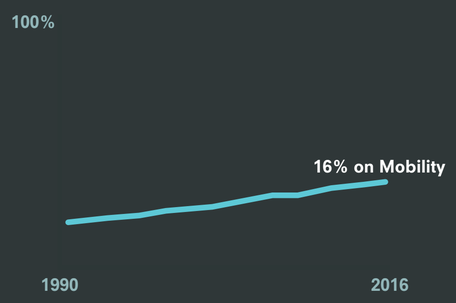
Commuter trips/day



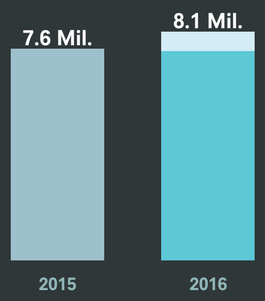
Annual distance purpose



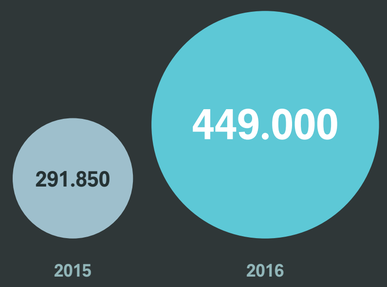
Holiday trips/year



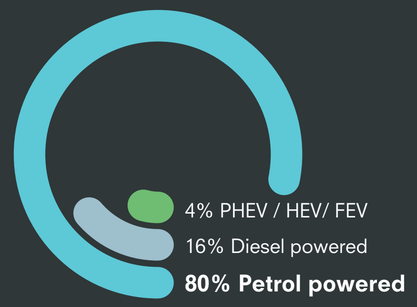
Annual household budget



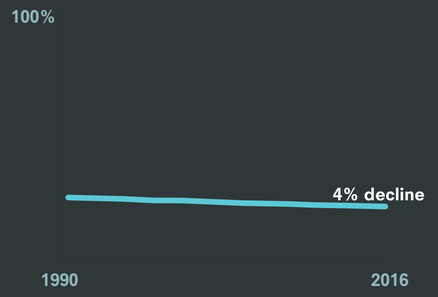
Active passenger vehicles



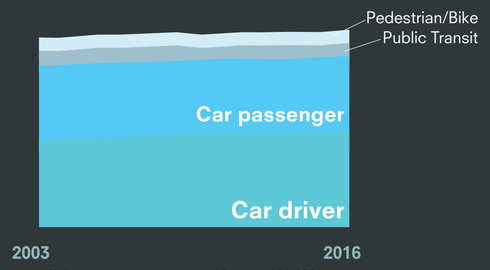
New passenger vehicles sold



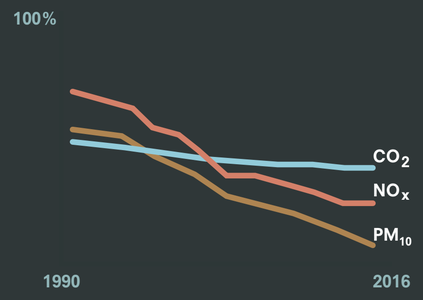
Passenger vehicles by type



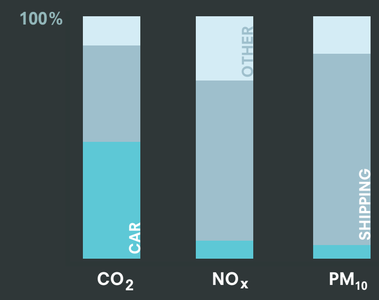
Car ownership < 25 year



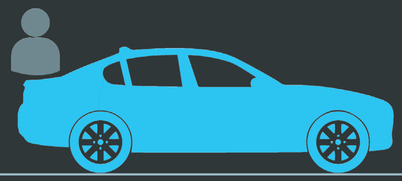
Share on total mobility



Emissions mobility & transport



Emissions mobility & transport



Personally owned driver-driven

The vision of the future sees private ownership as the continuing norm, as consumers opt for the forms of privacy, flexibility, security and convenience that are lnked with owning a car. While the incorporation of autonomous driver-assist technologies will gradually gain in popularity, this future state assumes that fully autonomous drive does not completly displace driver-controlled vehicles anytime soon.

- Above average congestion factor
- High convenience for regular user
- High driver involvement / satisfaction
- Highly personalised means of transport
- Less efficient usability
- Low mobility contribution

Personally owned autonomous

Presuming that private ownership will continue to be a big part of the market, autonomous driver-assistance technology proves a viable, safe, convenient and economical alternative to driver-driven cars. Drivers still prefer owning their own vehicles but seek driverless functionality for its safety and convenience. This will ultimately result in a proliferation of highly customised, personalised cars focussed on families or individuals with specific needs.

- Lowest congestion factor
- High convenience for regular user
- No driver involvement / satisfaction
- Highly personalised means of transport
- Less efficient usability
- Low mobility contribution

Shared driver-driven

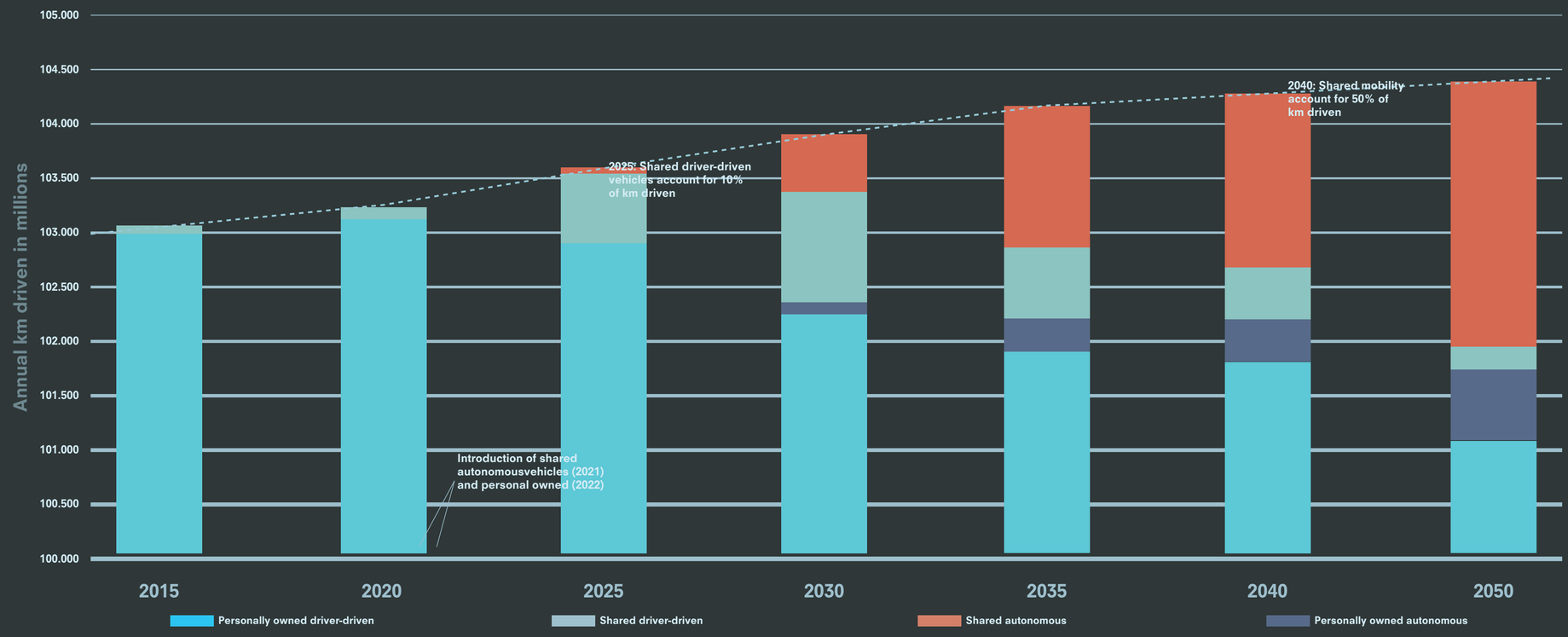
The vision also anticipates on the continued growth of shared access to vehicles through ridesharing and carsharing.Economic scale and increased competition drive the expansion of shared vehicle services into new geographical territories and more specialised customer segments. As shared mobility serves a greater proportion of local transportation needs, multi vehicle housholds can begin reducing the number of cars they own, while other may eventually abandon ownership completely.

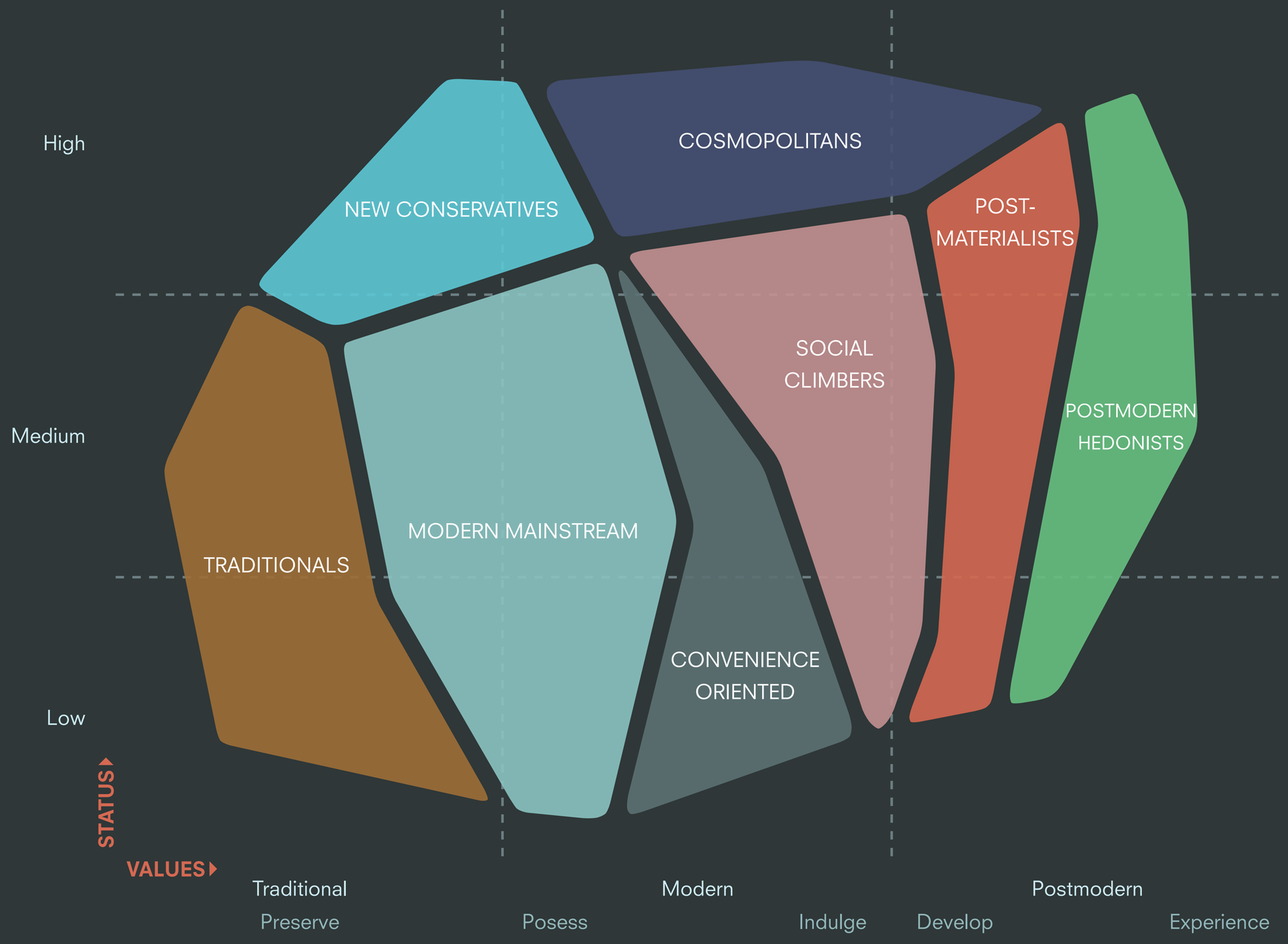
- Highest congestion factor
- Low convenience for regular user
- Average driver involvement / satisfaction
- Low personalised means of transport
- High efficient usability
- High mobility contribution

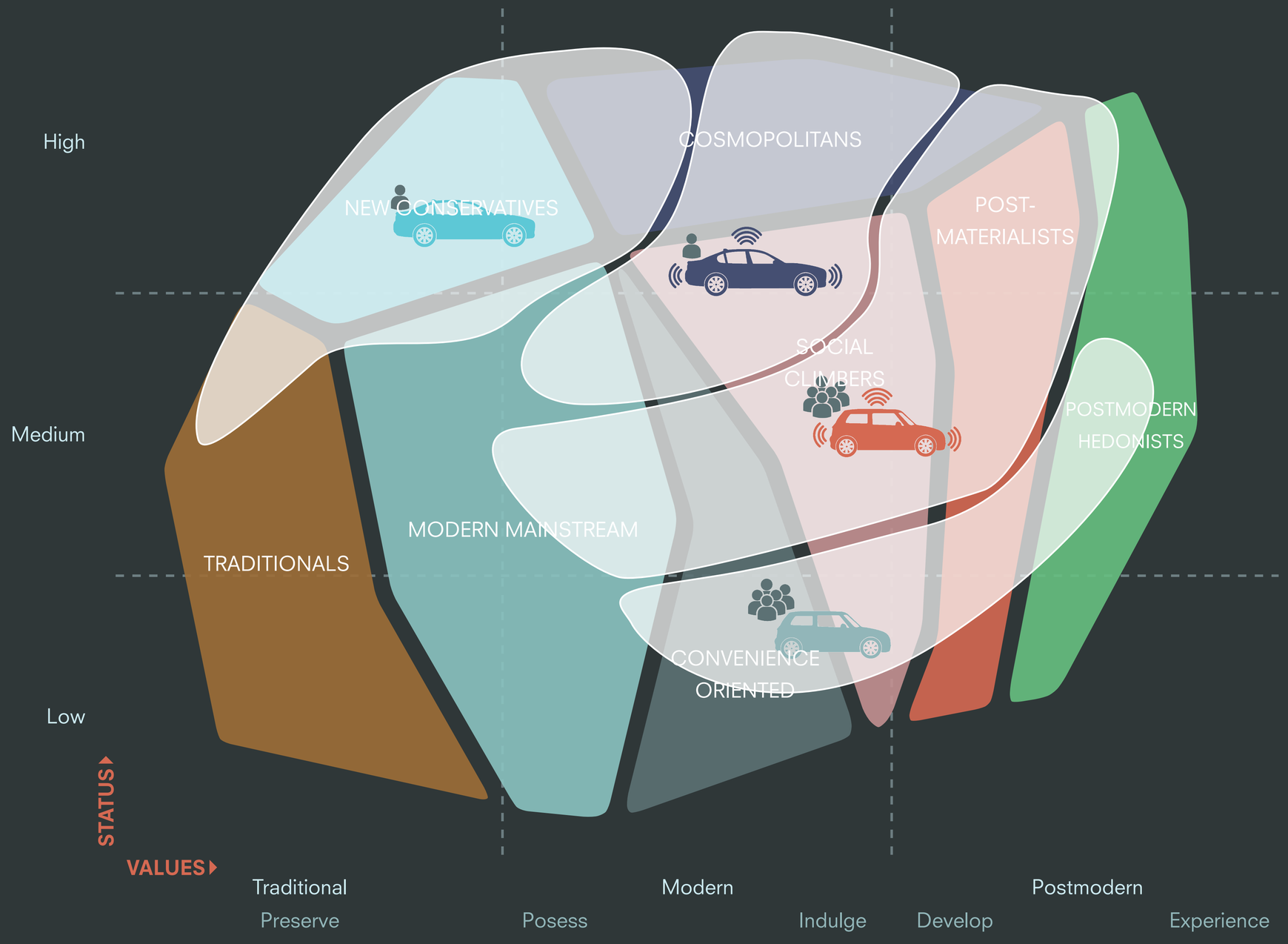
Shared autonomous

Anticipating on a convergence of both the autonomous and vheicle sharing trends, this vision seens this eventually becoming the largest represented group. Mobility management companies and fleet oprators offer a range of passenger experiences to meet widely varied needs at differentiated price points. Taking off first in urban areas but spreading to the suburbs, this future state provides seamless mobility across modes that are faster, cheaper, cleaner, safer and more convenient than today.

- High congestion factor
- Low convenience for regular user
- No driver involvement / satisfaction
- Low personalised means of transport
- Highest efficient usability
- Highest mobility contribution




High
Medium
Low
NEW CONSERVATIVES
COSMOPOLITANS
POST-
MATERIALISTS
SOCIAL
CLIMBERS
POSTMODERN
HEDONISTS
TRADITIONALS
MODERN MAINSTREAM
CONVENIENCE
ORIENTED
STATUS
VALUES
Traditional
Modern
Postmodern
Preserve
Posess
Indulge
Develop
Experience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Experience

NEW CONSERVATIVE

CAR AFFINITY

TECHNOLOGICAL ENTHUSIASM

MEDIAN INCOME

AGE

CONSUMPTION ORIENTATED

STATUS MINDED

ENVIRONMENTAL CONSCIOUSNESS

COSMOPOLITAN

CAR AFFINITY

TECHNOLOGICAL ENTHUSIASM

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SOCIAL CLIMBERS

CAR AFFINITY

TECHNOLOGICAL ENTHUSIASM

MEDIAN INCOME

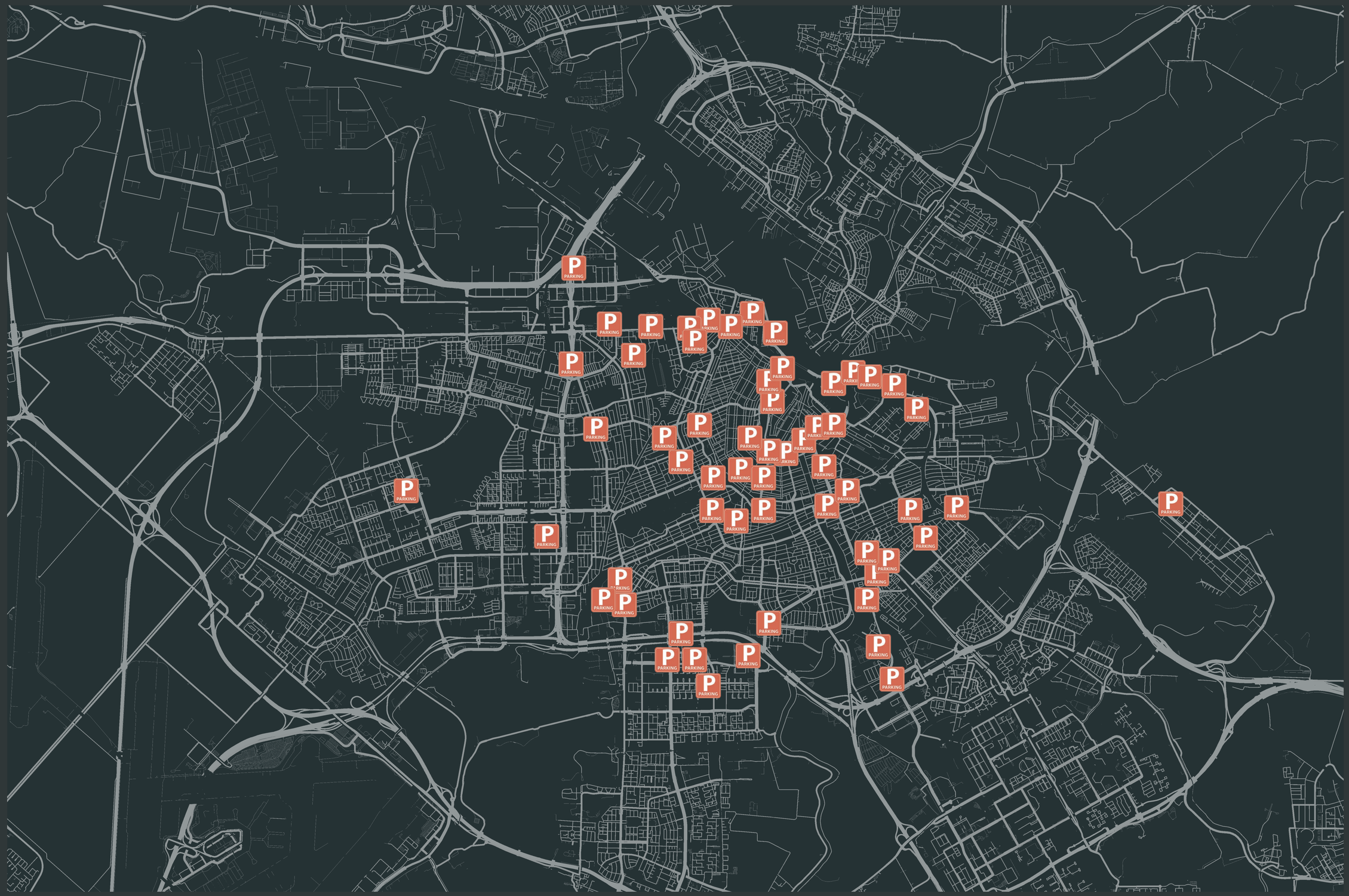
AGE

CONSUMPTION ORIENTATED

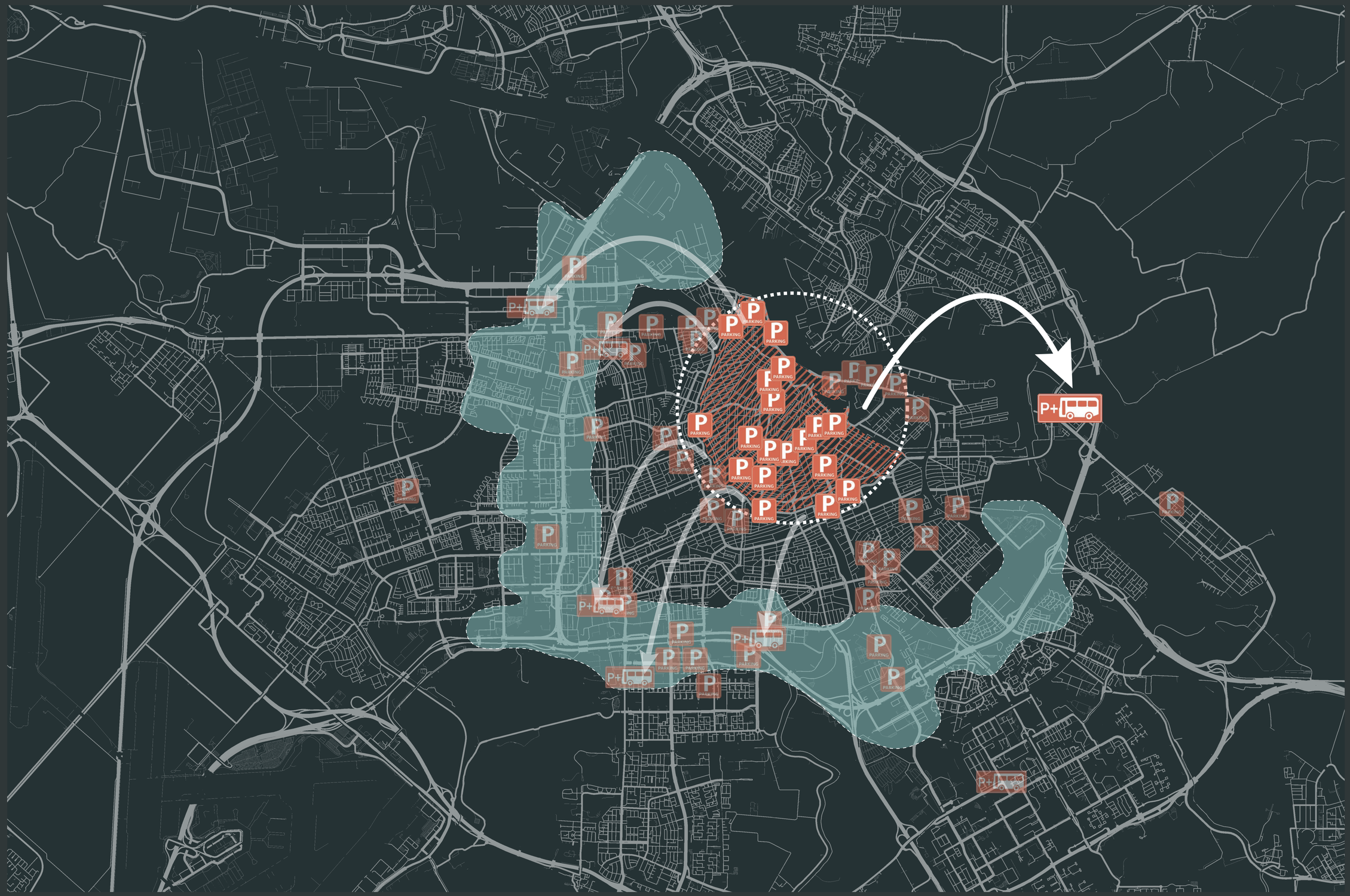
STATUS MINDED

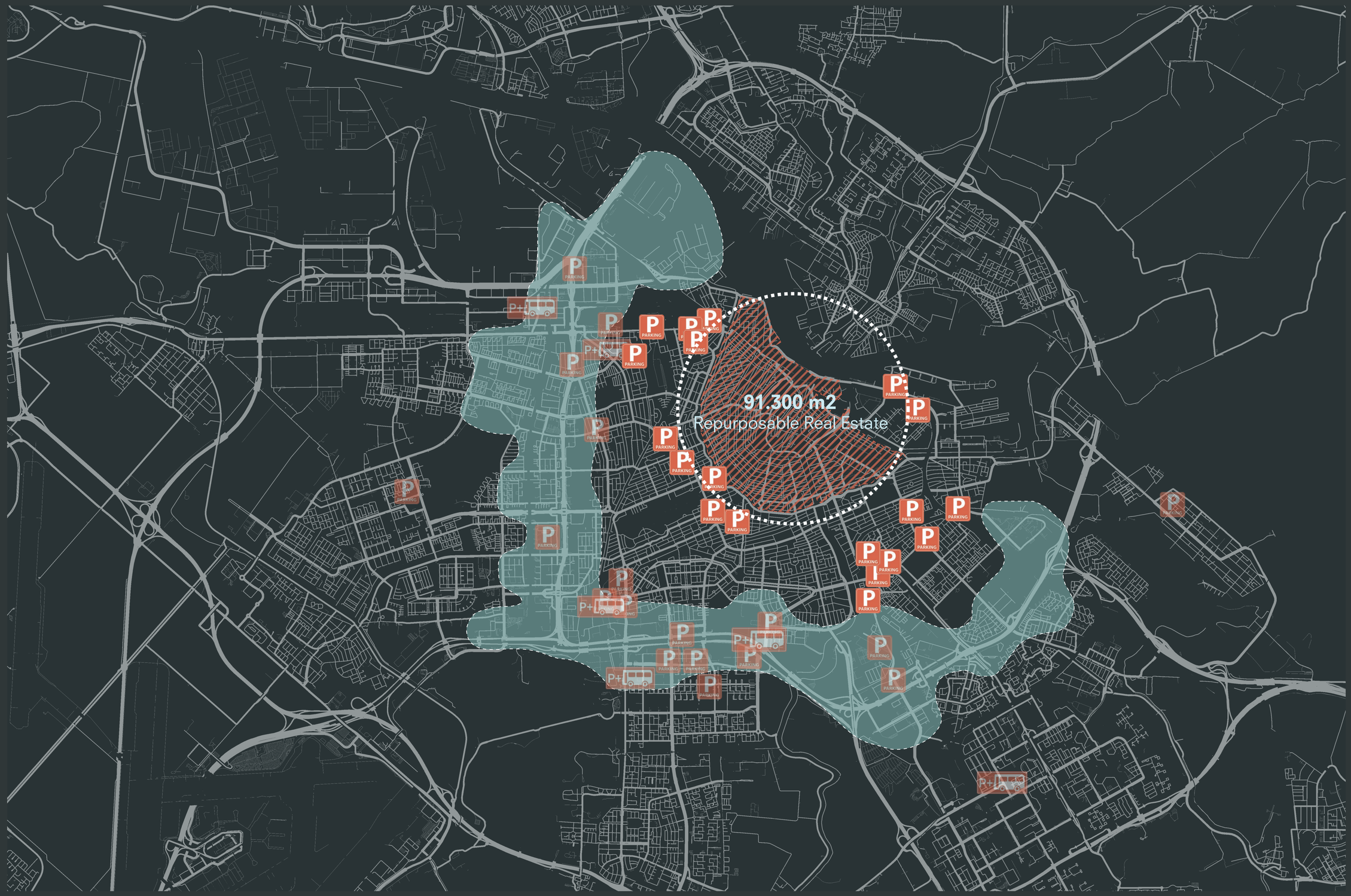
ENVIRONMENTAL CONSCIOUSNESS

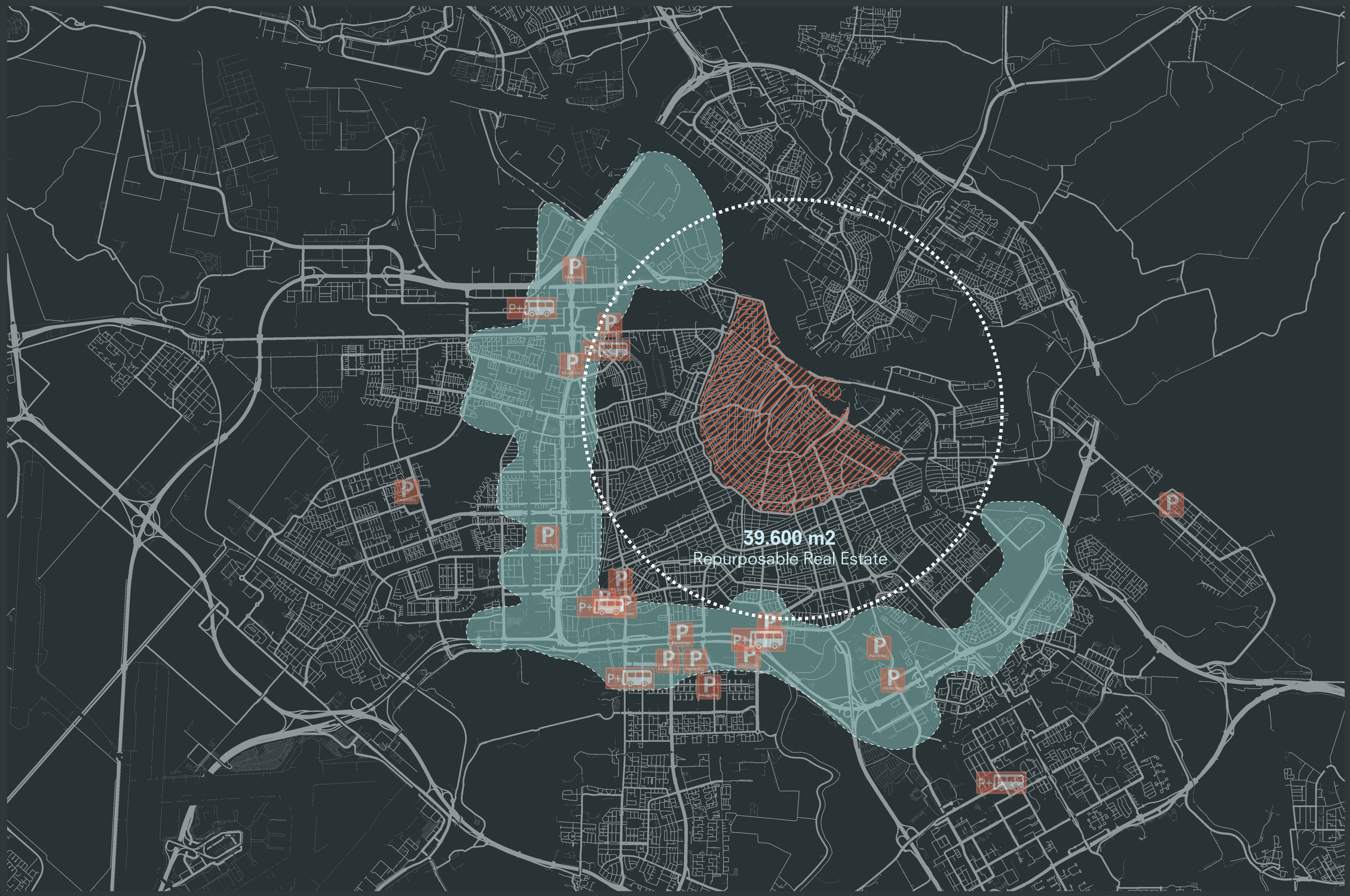
THE FUTURE OF PARKING IN AMSTERDAM

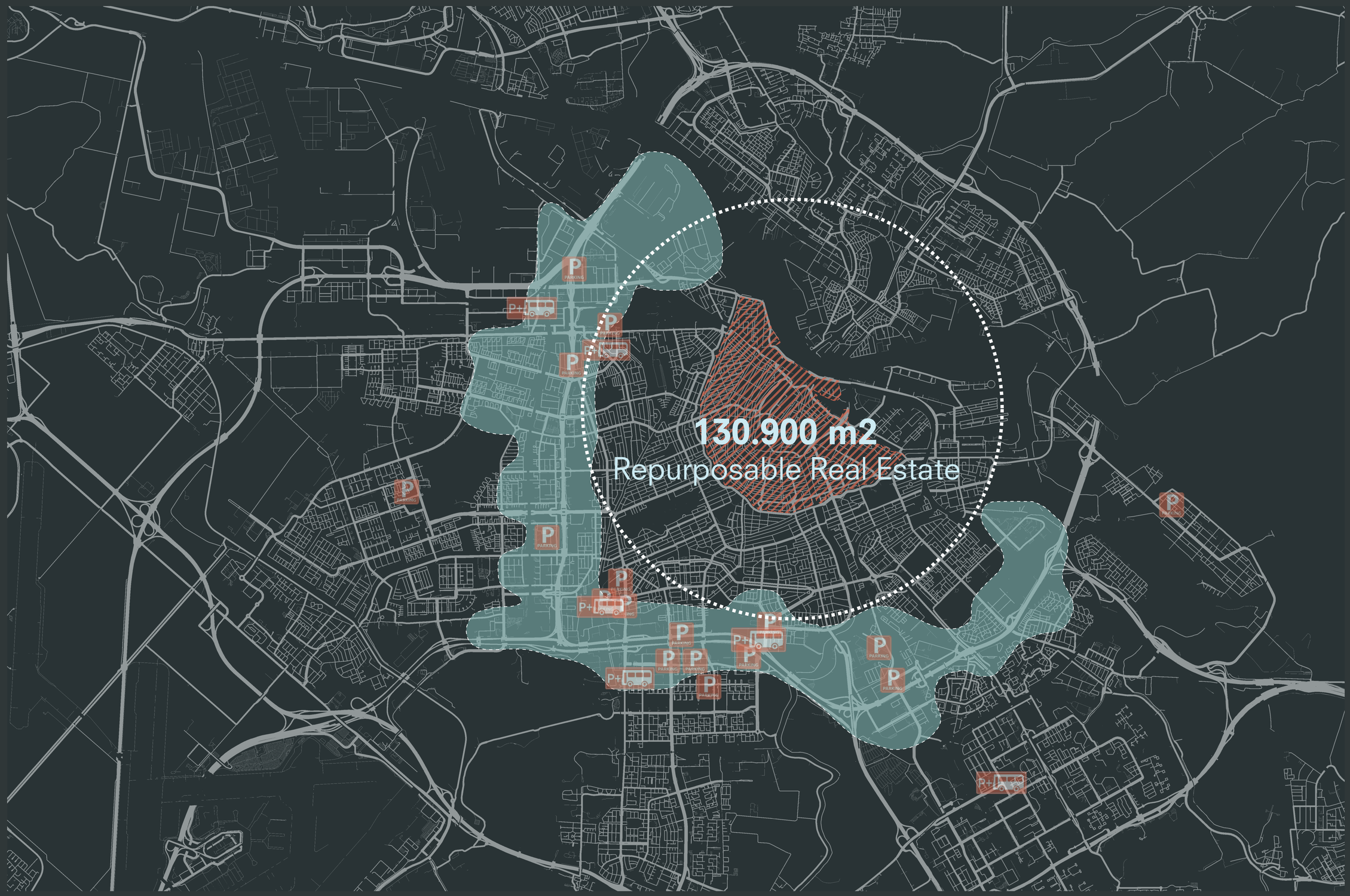

P
PARKING

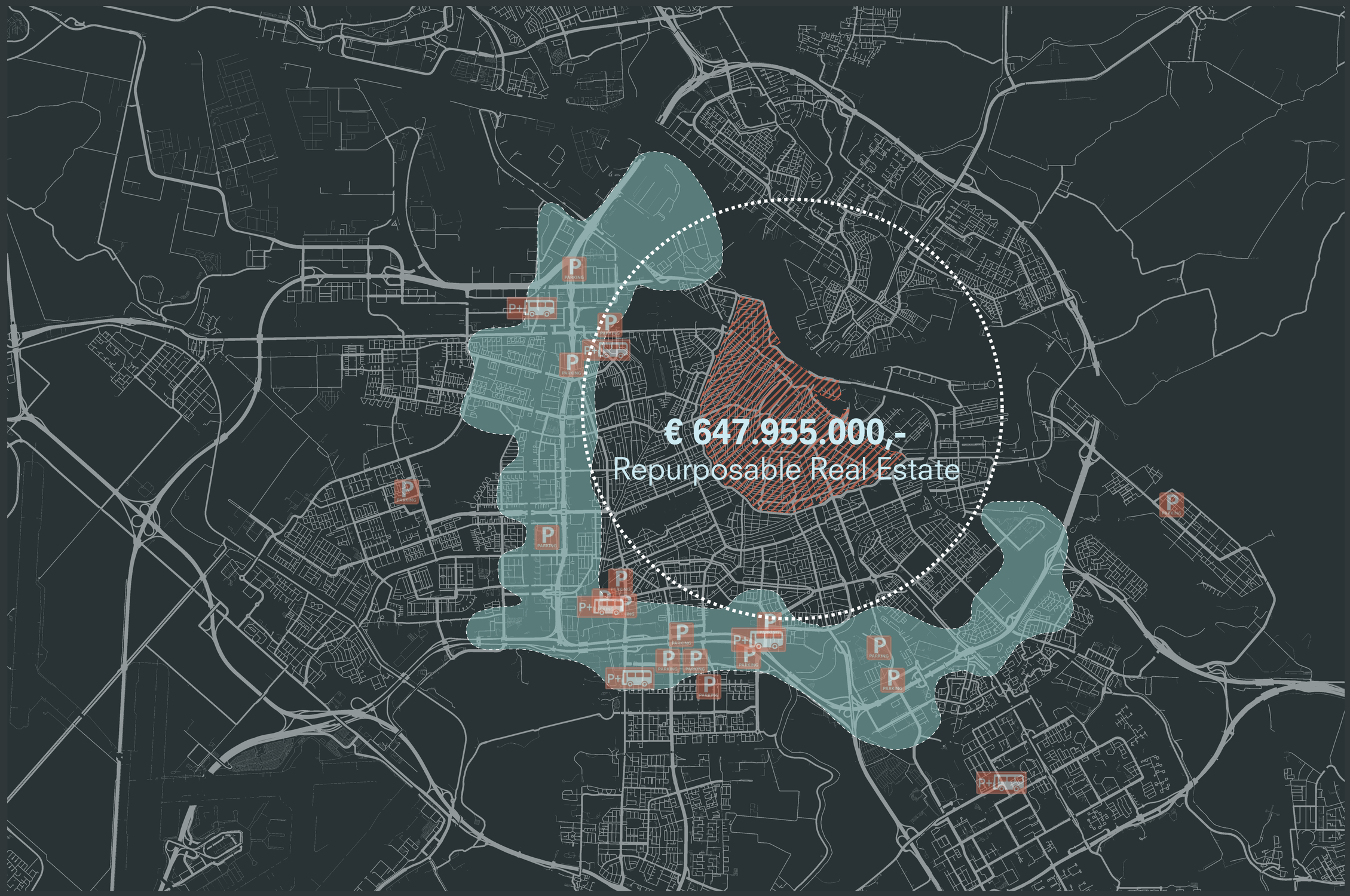
P+
P+
P+
P+
P+
P+

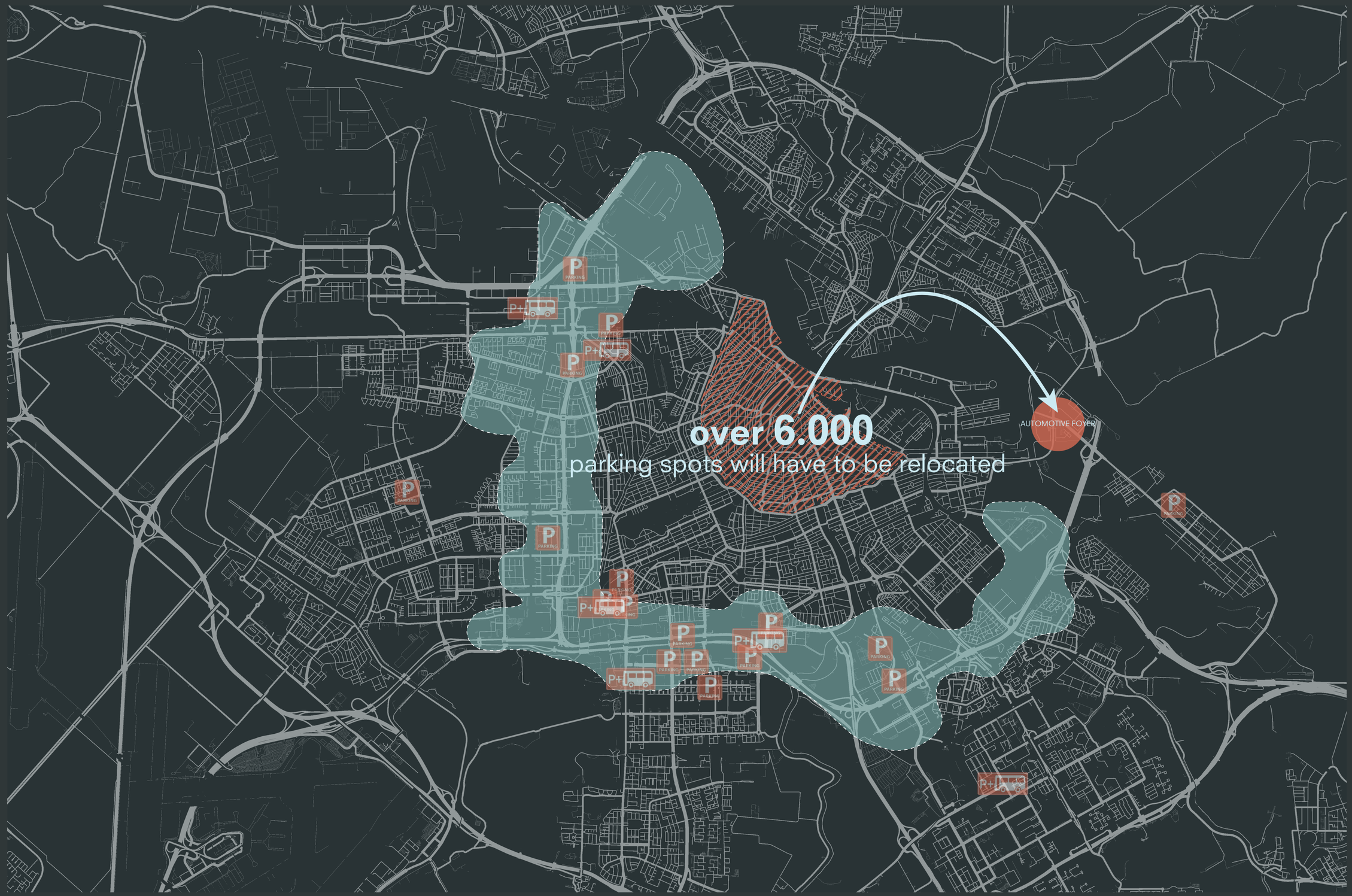

P
PARKING
P+

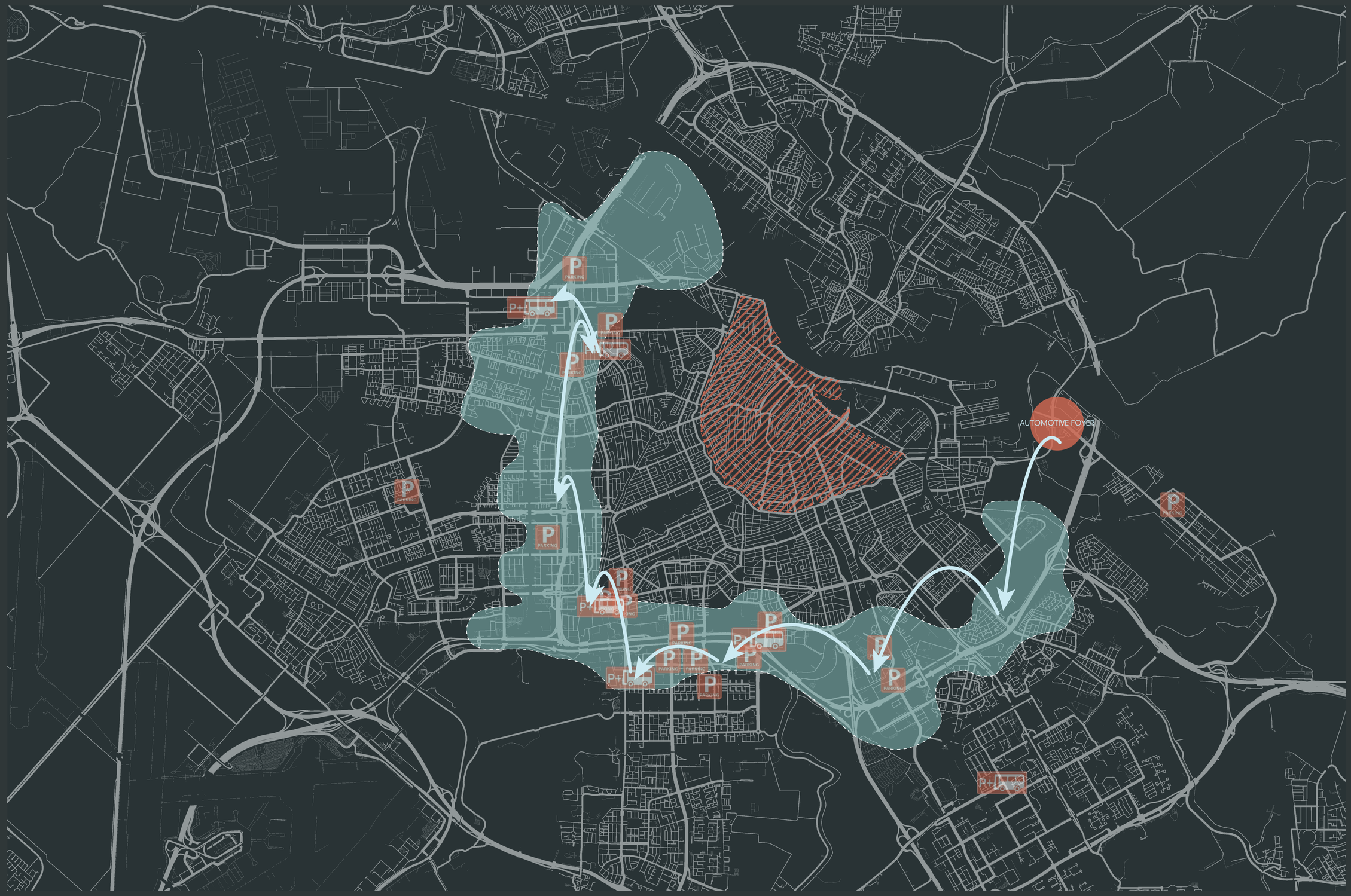

91.300 m2
Repurposable Real Estate


39.600 m2
Repurposable Real Estate


130.900 m2
Repurposable Real Estate


€ 647.955.000,-
Repurposable Real Estate

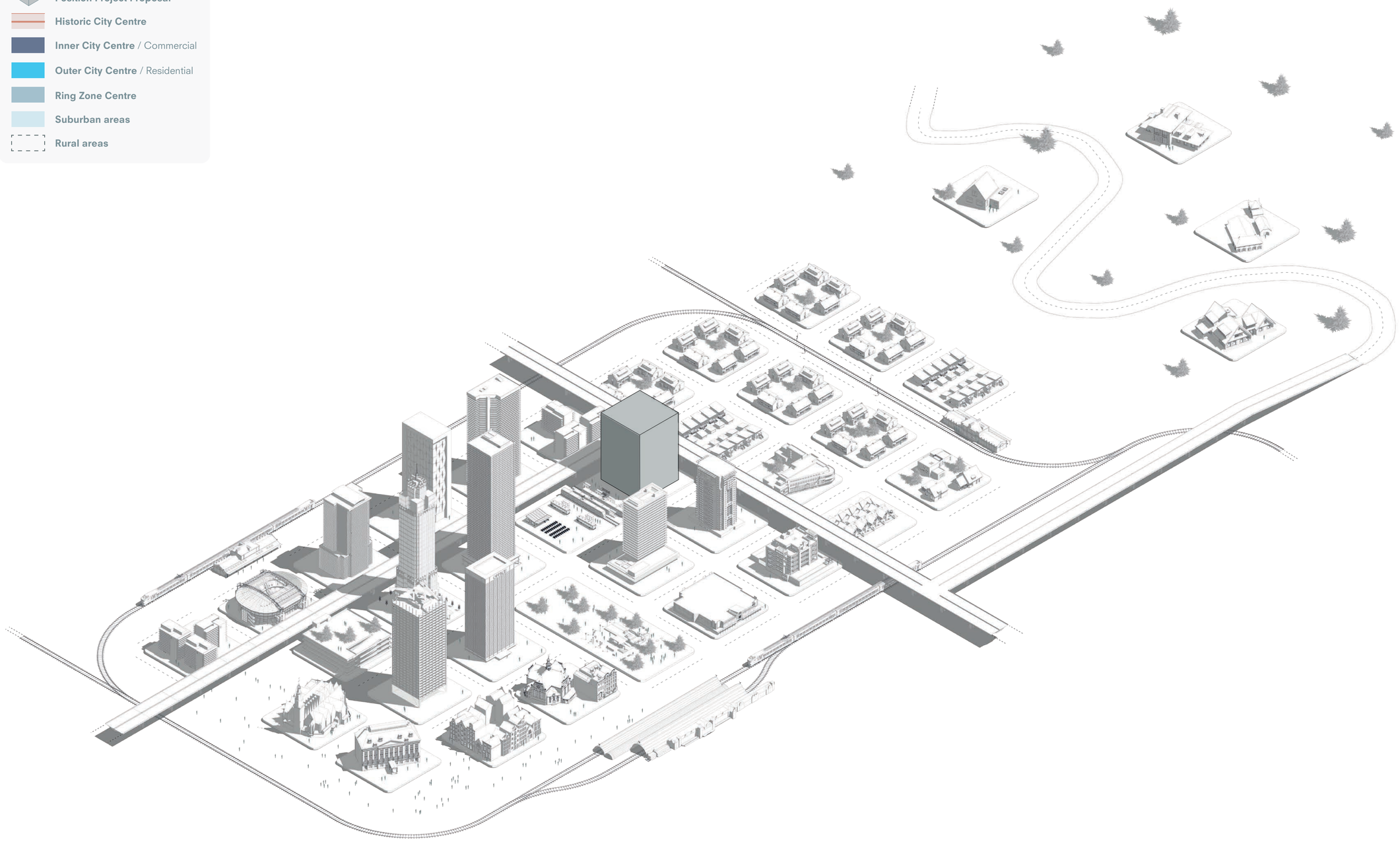

over 6.000
parking spots will have to be relocated
AUTOMOTIVE FOYER
PARKING


AUTOMOTIVE FOYER
PARKING

THE FUTURE OF CAR USE

CP

- **Position Project Proposal**
- **Historic City Centre**
- **Inner City Centre** / Commercial
- **Outer City Centre** / Residential
- **Ring Zone Centre**
- **Suburban areas**
- **Rural areas**



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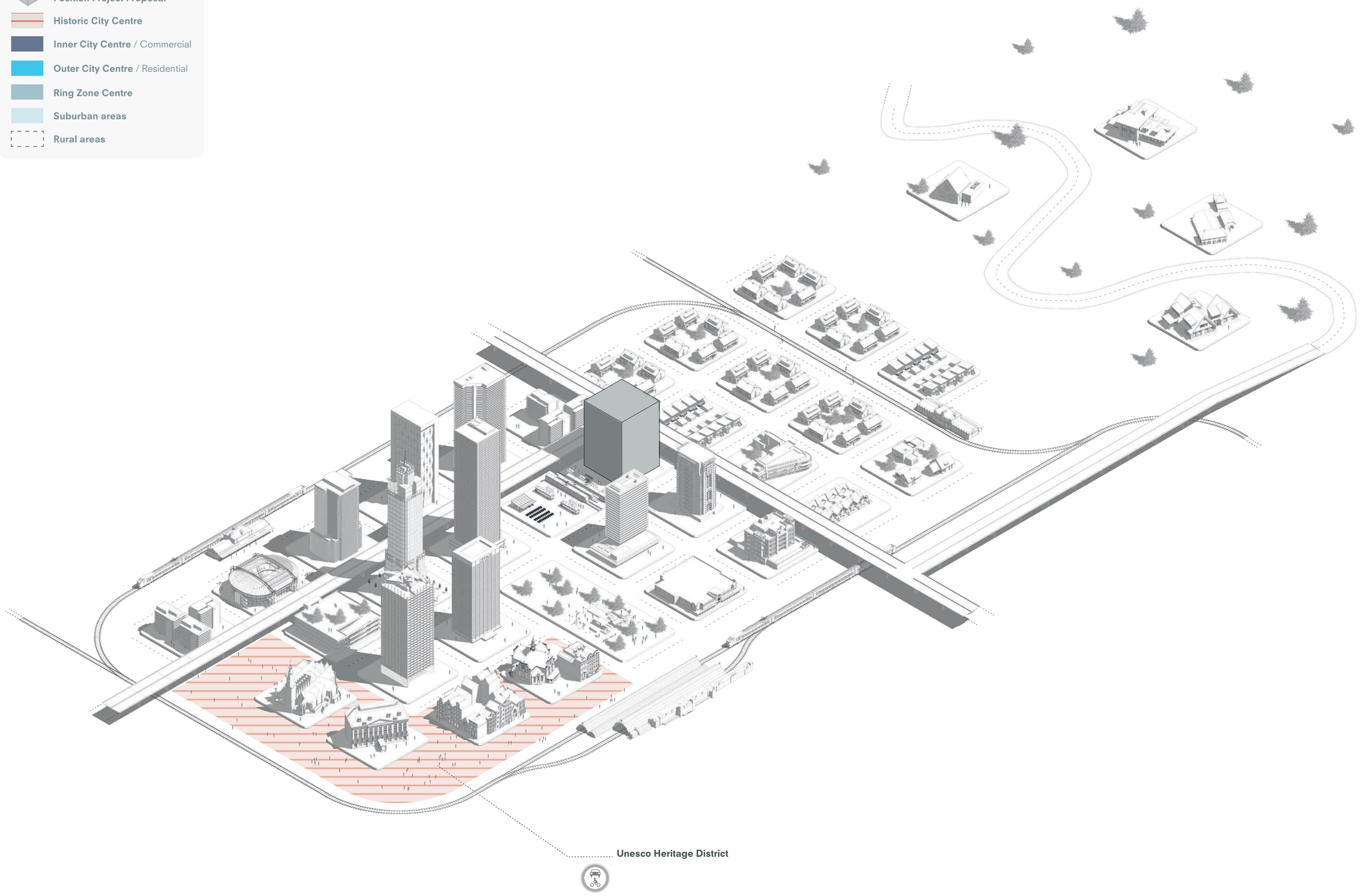

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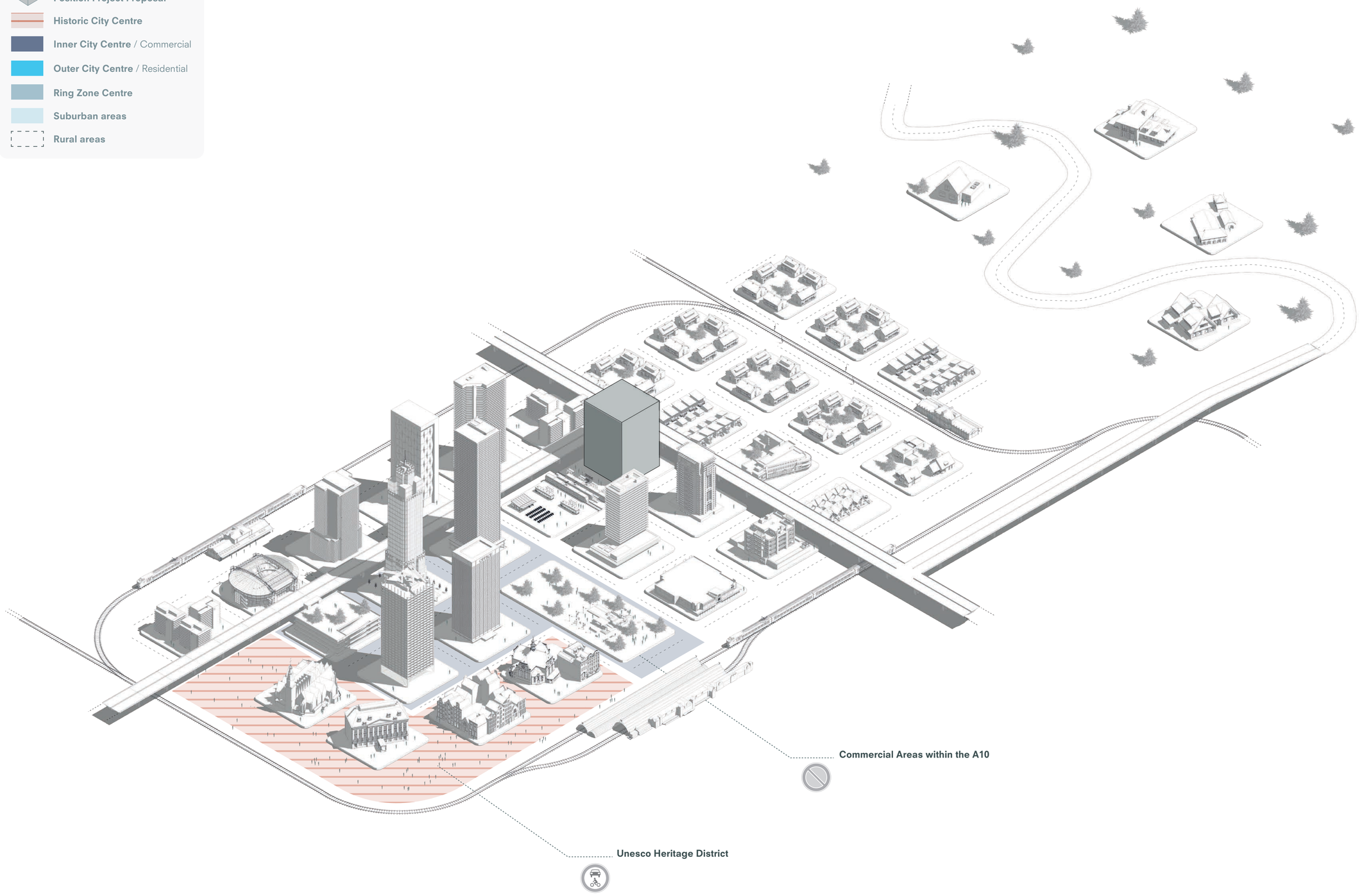

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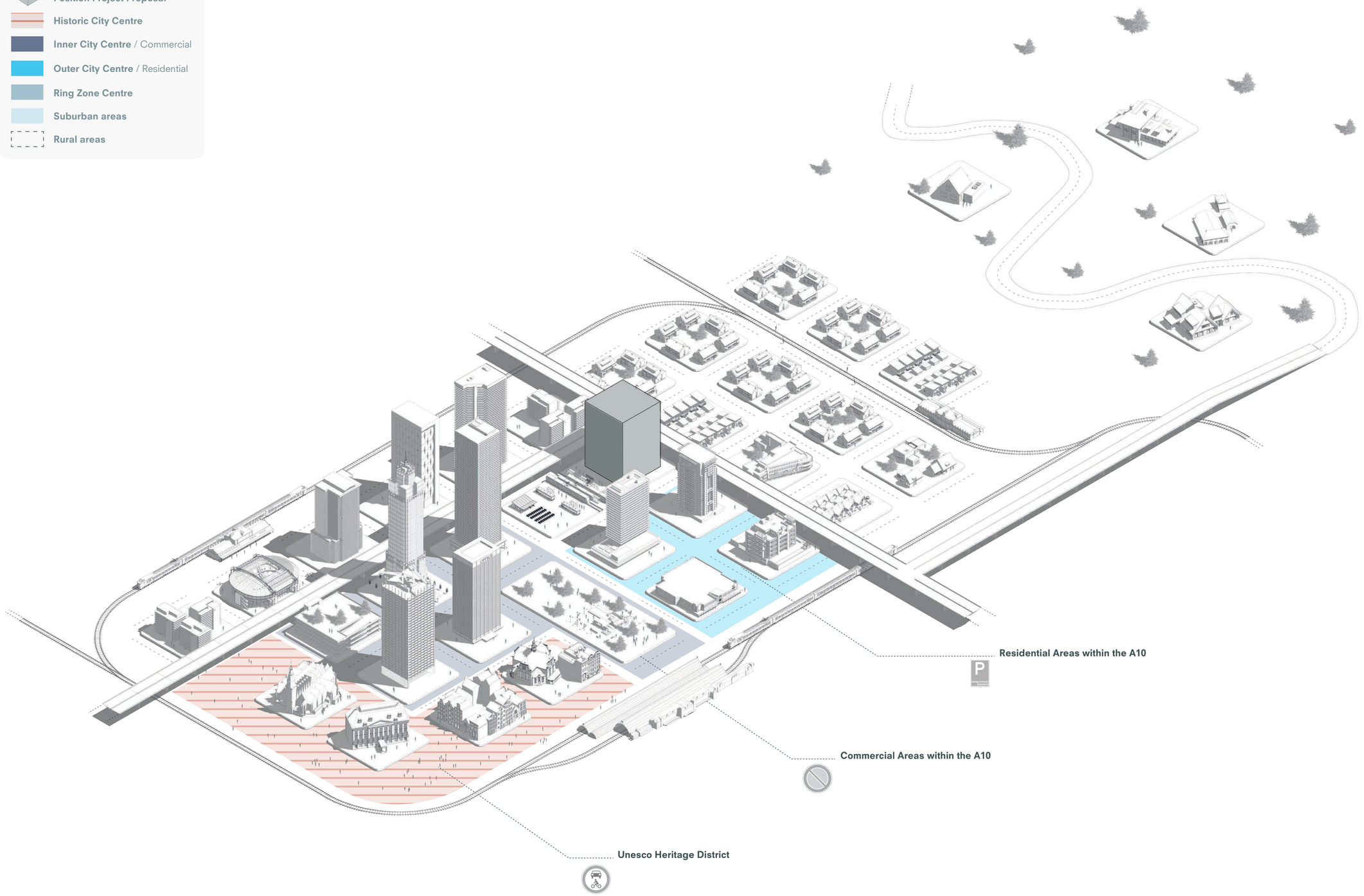
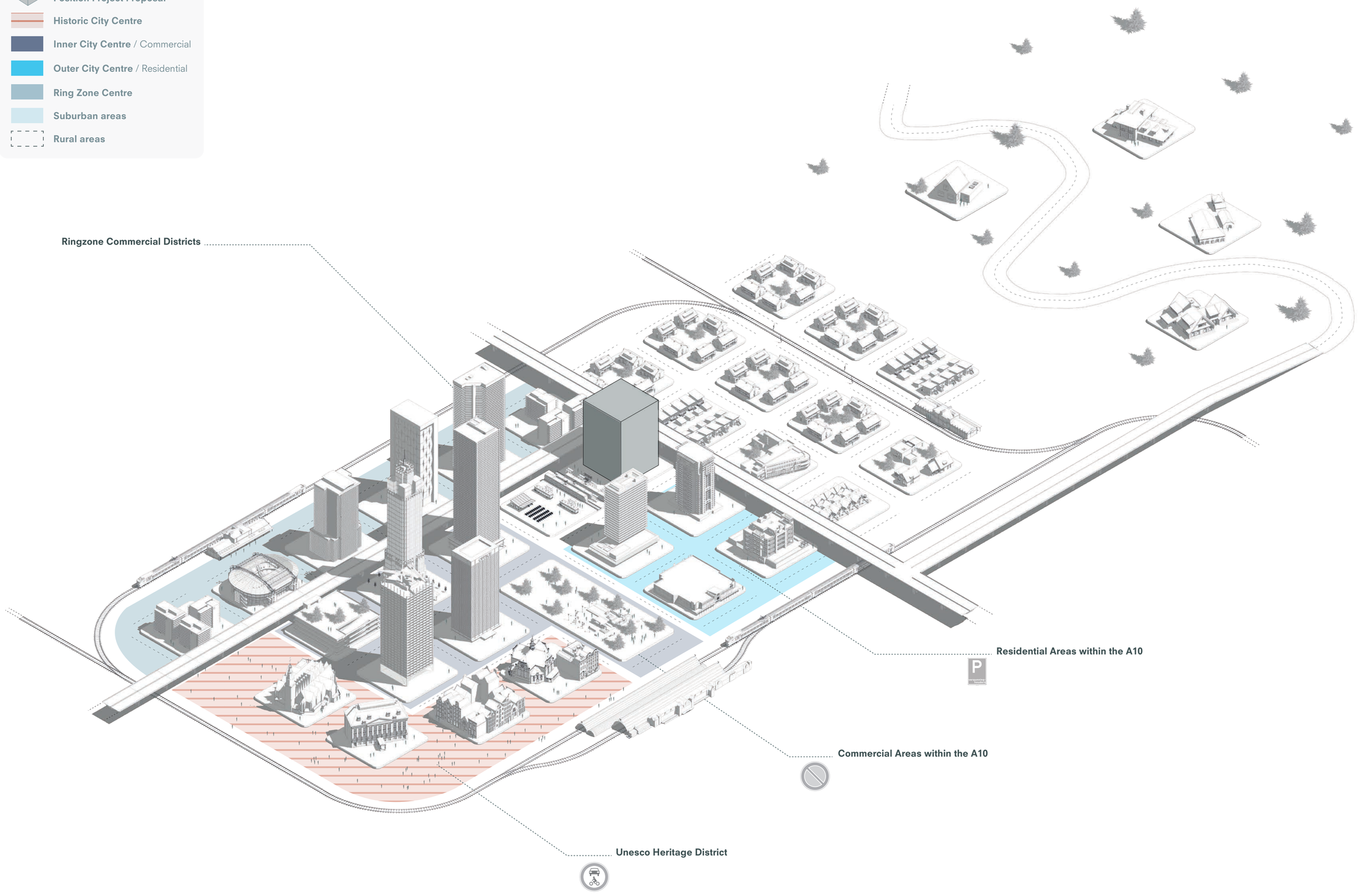
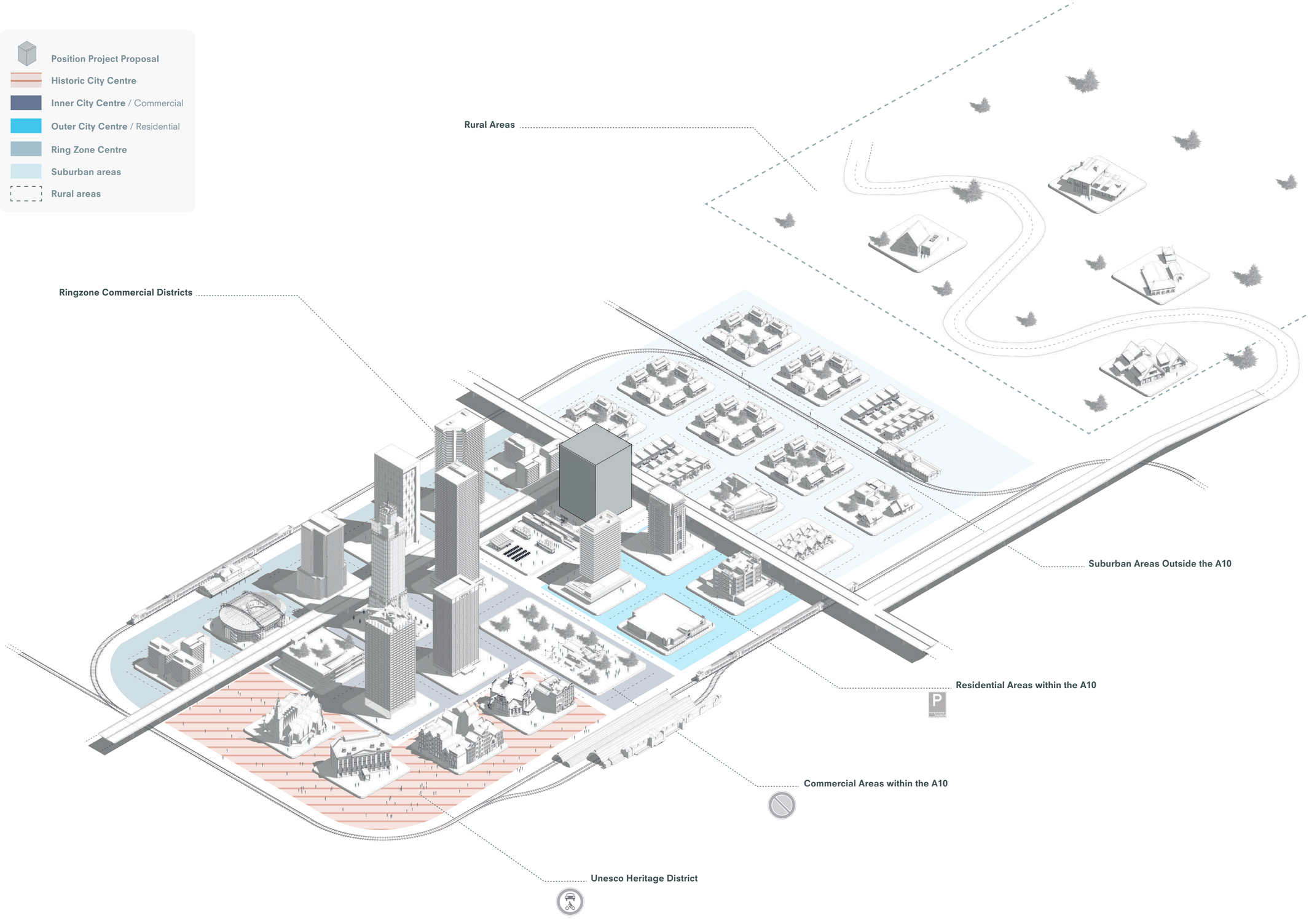


- Position Project Proposal
- Historic City Centre
- **Inner City Centre** / Commercial
- **Outer City Centre** / Residential
- Ring Zone Centre
- Suburban areas
- Rural areas



- Position Project Proposal
- Historic City Centre
- Inner City Centre / Commercial
- Outer City Centre / Residential
- Ring Zone Centre
- Suburban areas
- Rural areas



Position Project Proposal
Historic City Centre
Inner City Centre / Commercial
Outer City Centre / Residential
Ring Zone Centre
Suburban areas
Rural areas

Rural Areas

Ringzone Commercial Districts

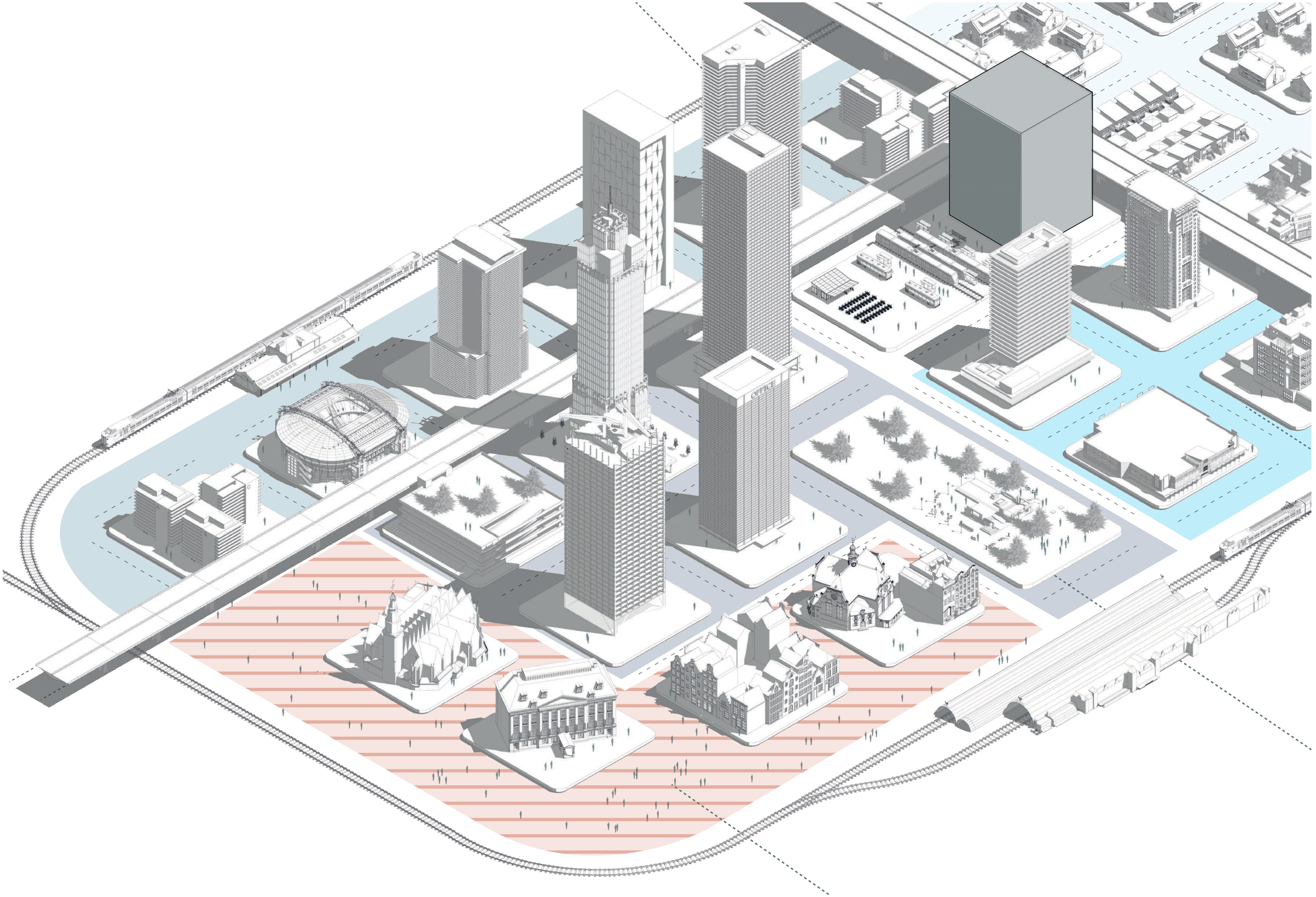
Distance to Historic City Centre

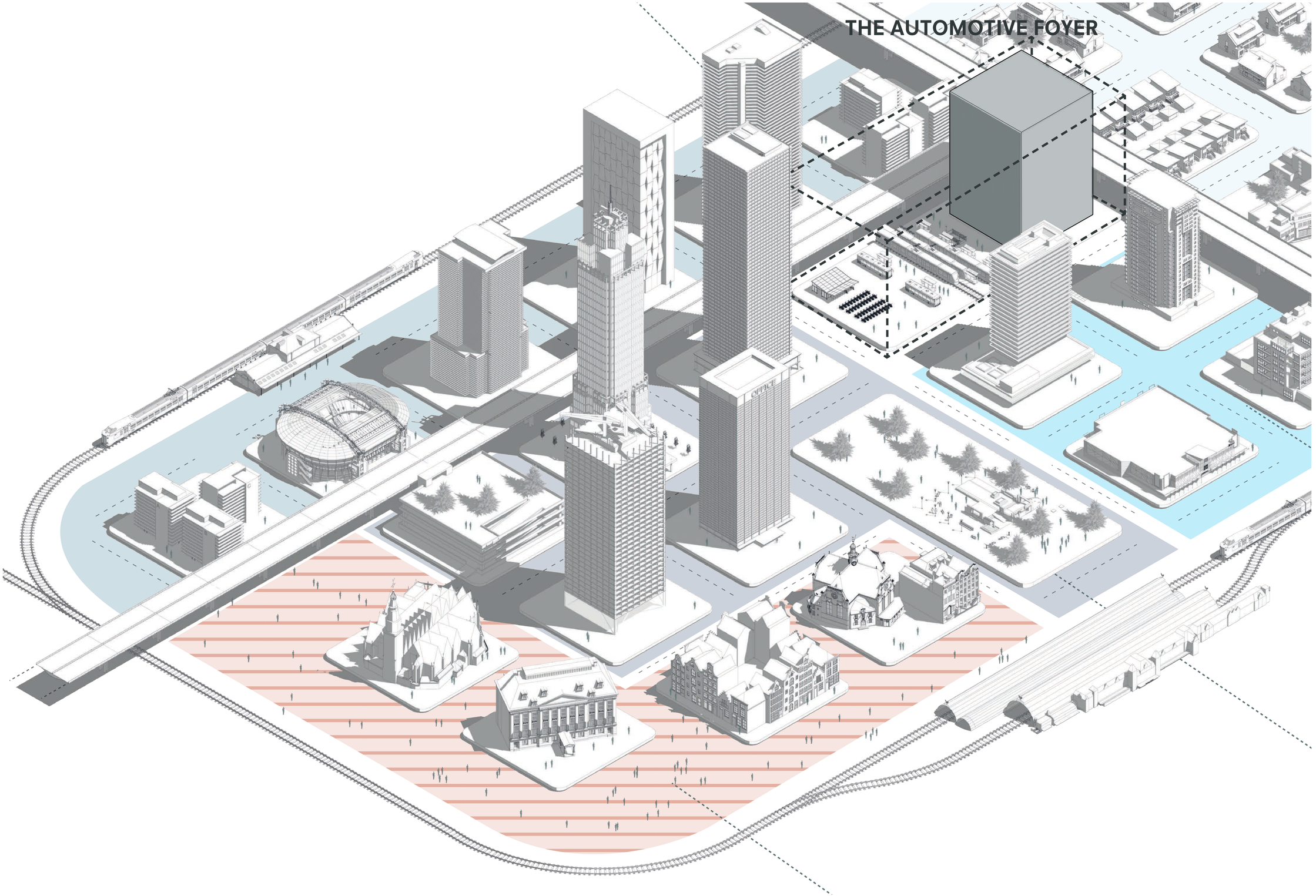
Suburban Areas Outside the A10

Residential Areas within the A10

Commercial Areas within the A10

Unesco Heritage District


OFFICE


THE AUTOMOTIVE FOYER
OFFICE

CP

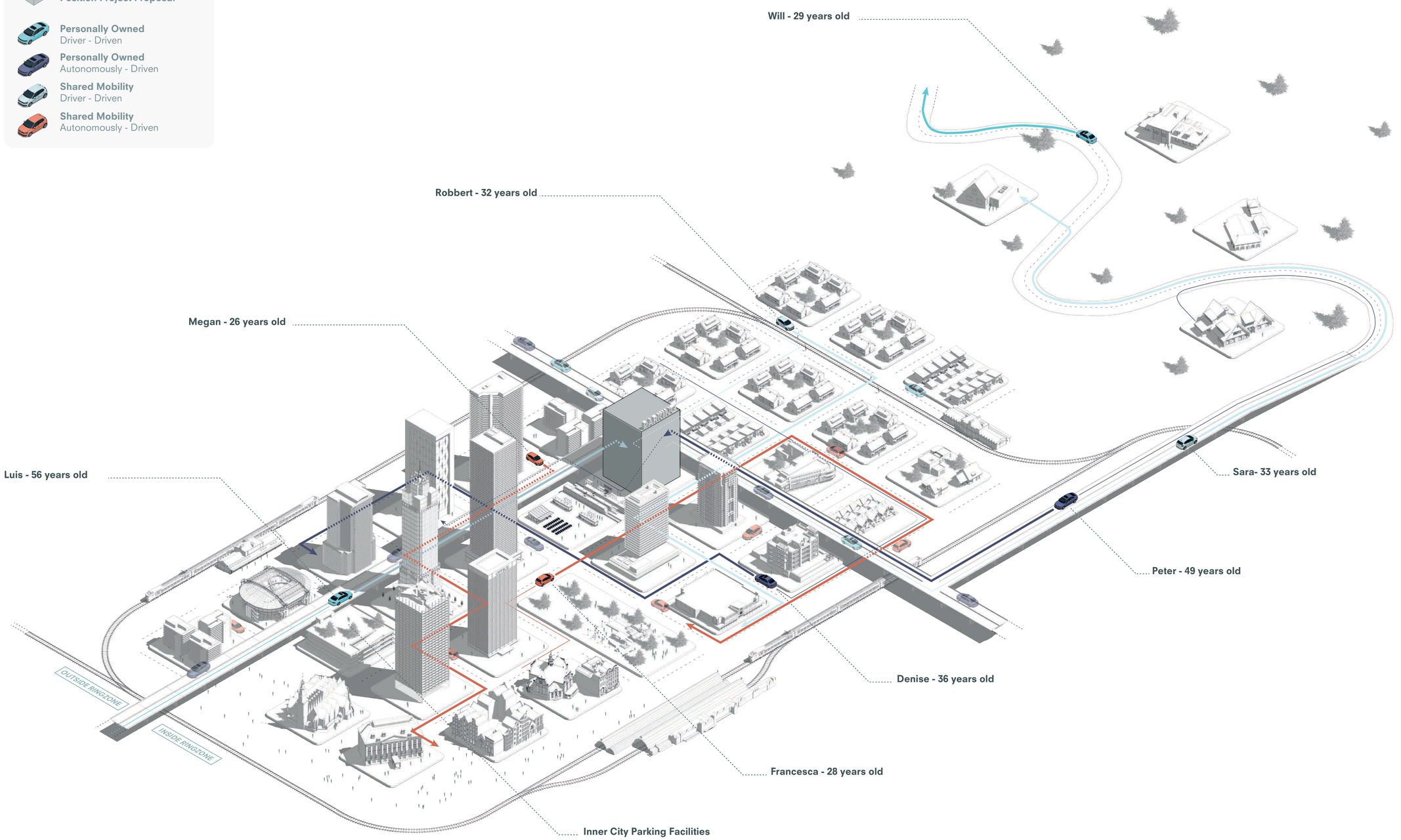
Position Project Proposal

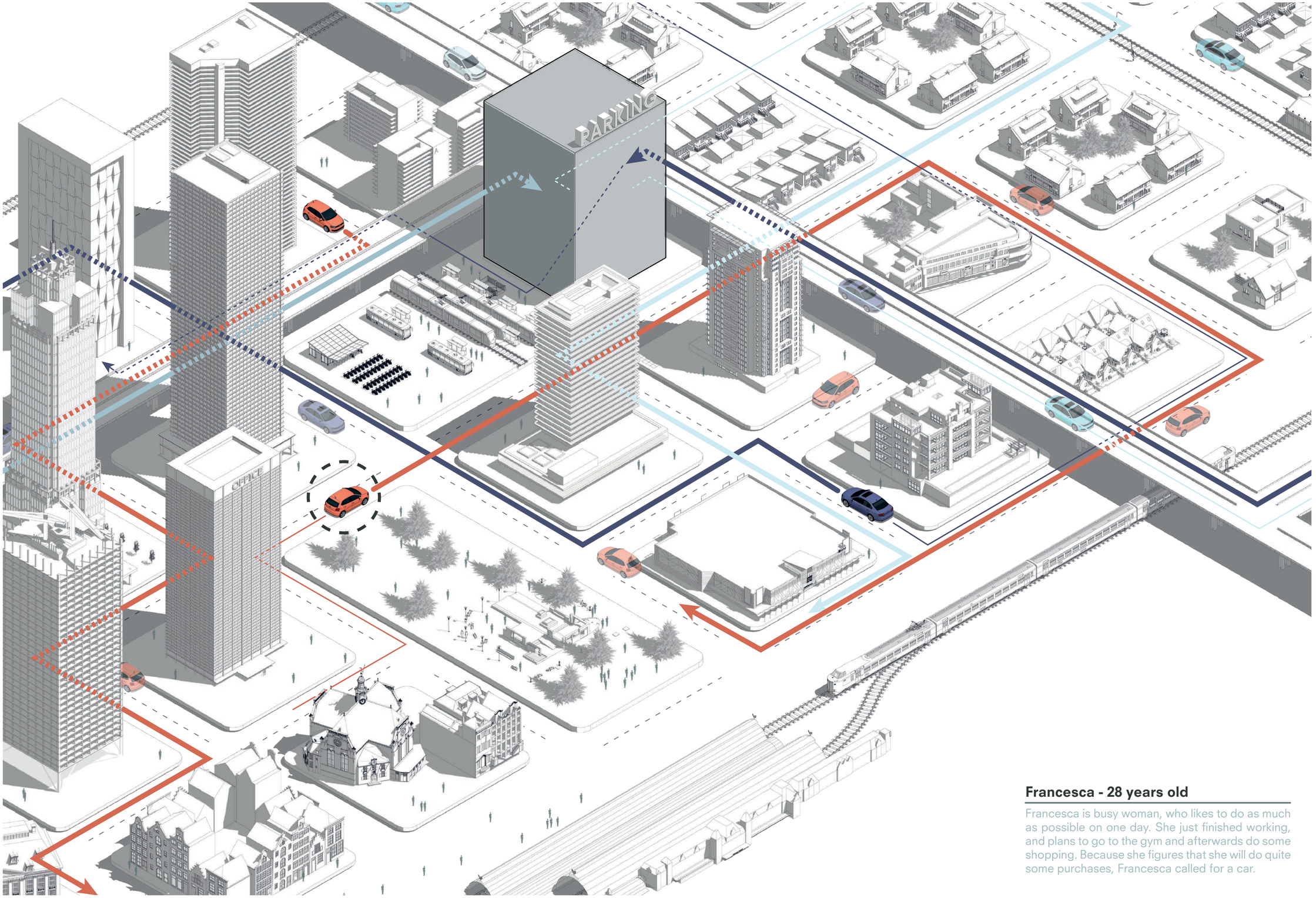
Personally Owned
Driver - Driven

Personally Owned
Autonomously - Driven

Shared Mobility
Driver - Driven

Shared Mobility
Autonomously - Driven



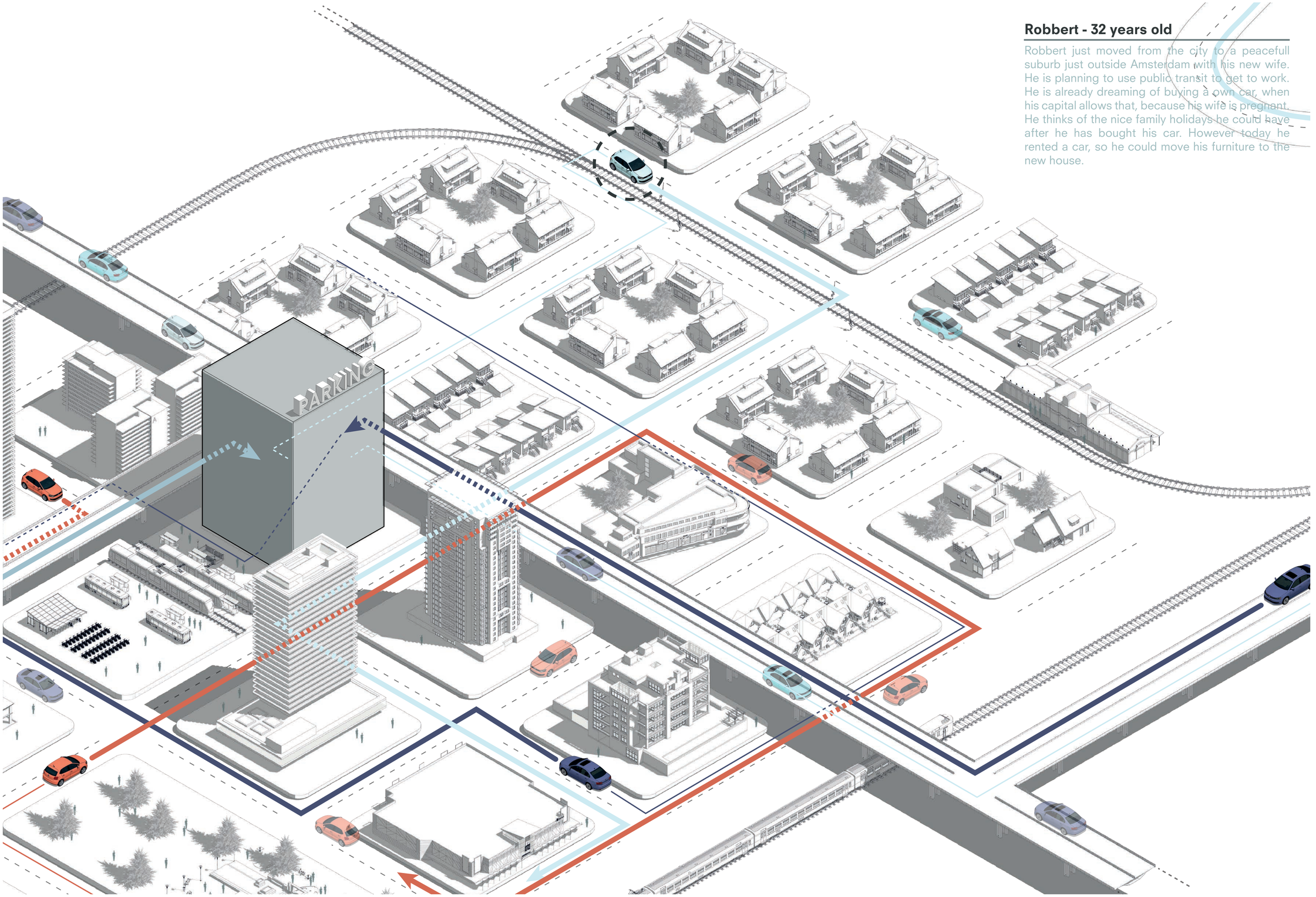


Francesca - 28 years old

Francesca is busy woman, who likes to do as much as possible on one day. She just finished working, and plans to go to the gym and afterwards do some shopping. Because she figures that she will do quite some purchases, Francesca called for a car.

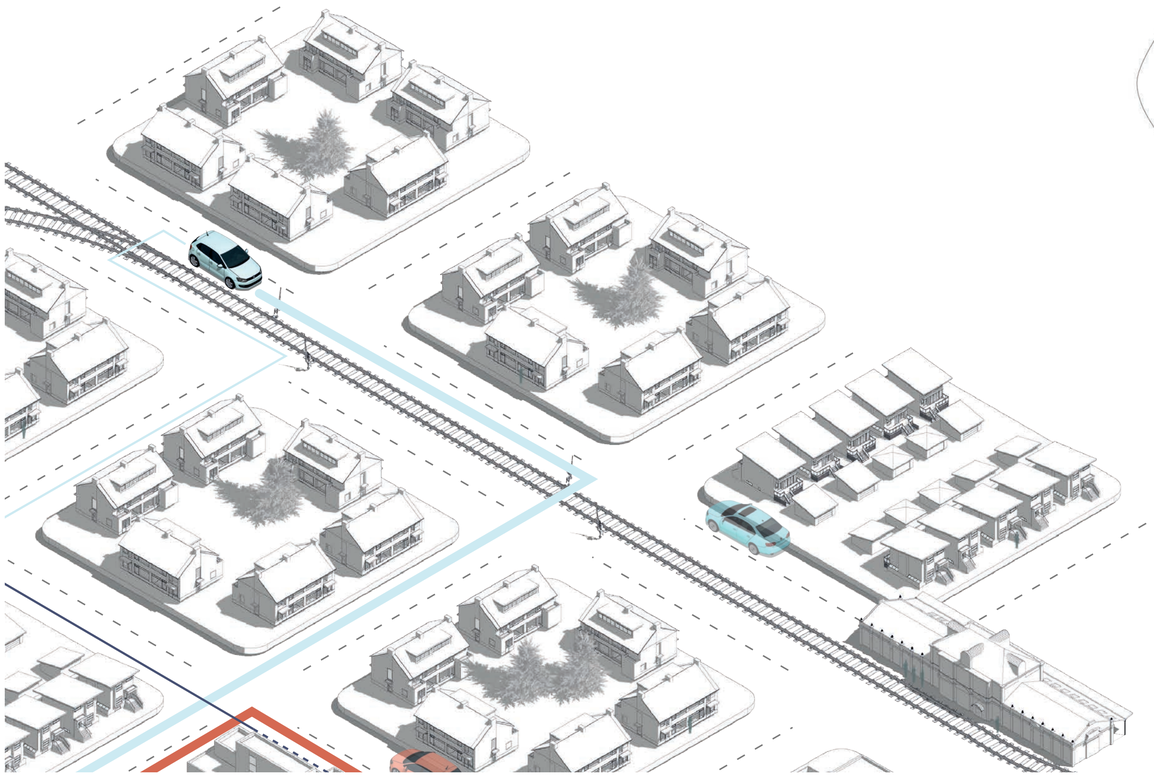
Robbert - 32 years old

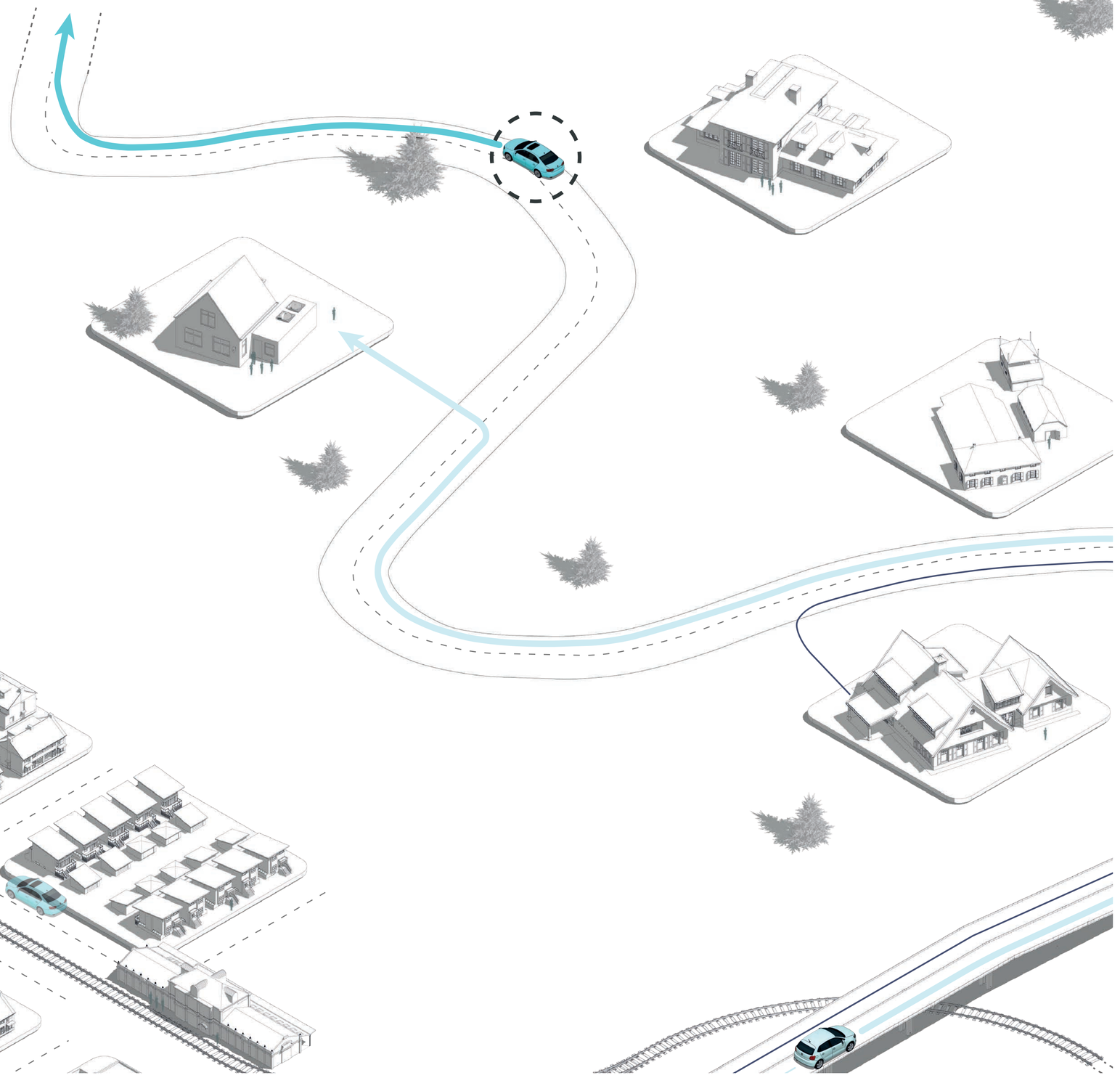
Robbert just moved from the city to a peacefull suburb just outside Amsterdam with his new wife. He is planning to use public transit to get to work. He is already dreaming of buying a own car, when his capital allows that, because his wife is pregnant. He thinks of the nice family holidays he could have after he has bought his car. However today he rented a car, so he could move his furniture to the new house.

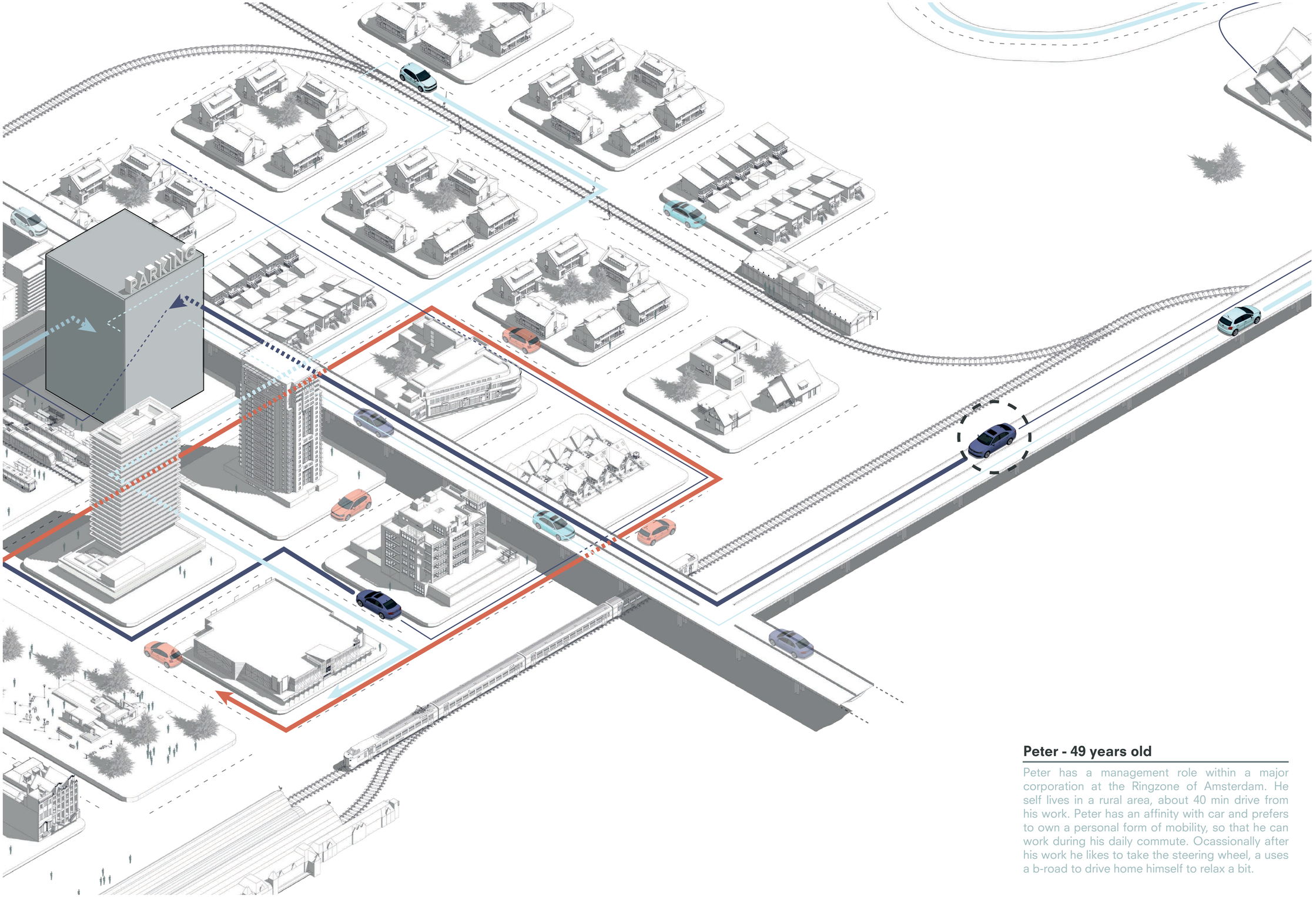


Will - 29 years old

Will works and lives in the city, and uses his bicycle tocommute daily. Only when it rains he goes by tram. However Will is a petrolhead as well and therefore still owns a old-fashioned car. He drives his car occasionally as an activity to escape the hectic city life for a drive through the landscape.





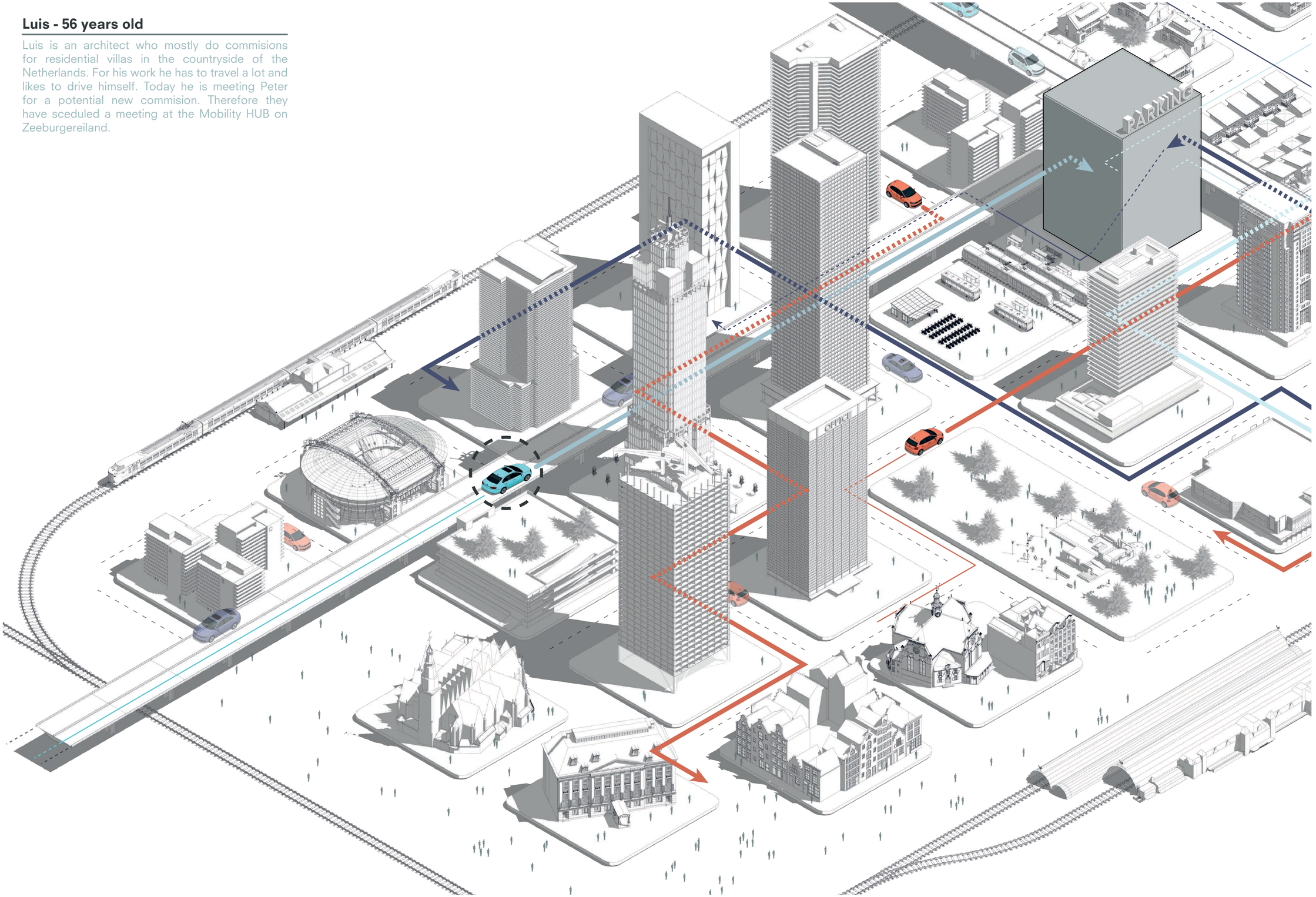


Peter - 49 years old

Peter has a management role within a major corporation at the Ringzone of Amsterdam. He self lives in a rural area, about 40 min drive from his work. Peter has an affinity with car and prefers to own a personal form of mobility, so that he can work during his daily commute. Ocassionally after his work he likes to take the steering wheel, a uses a b-road to drive home himself to relax a bit.

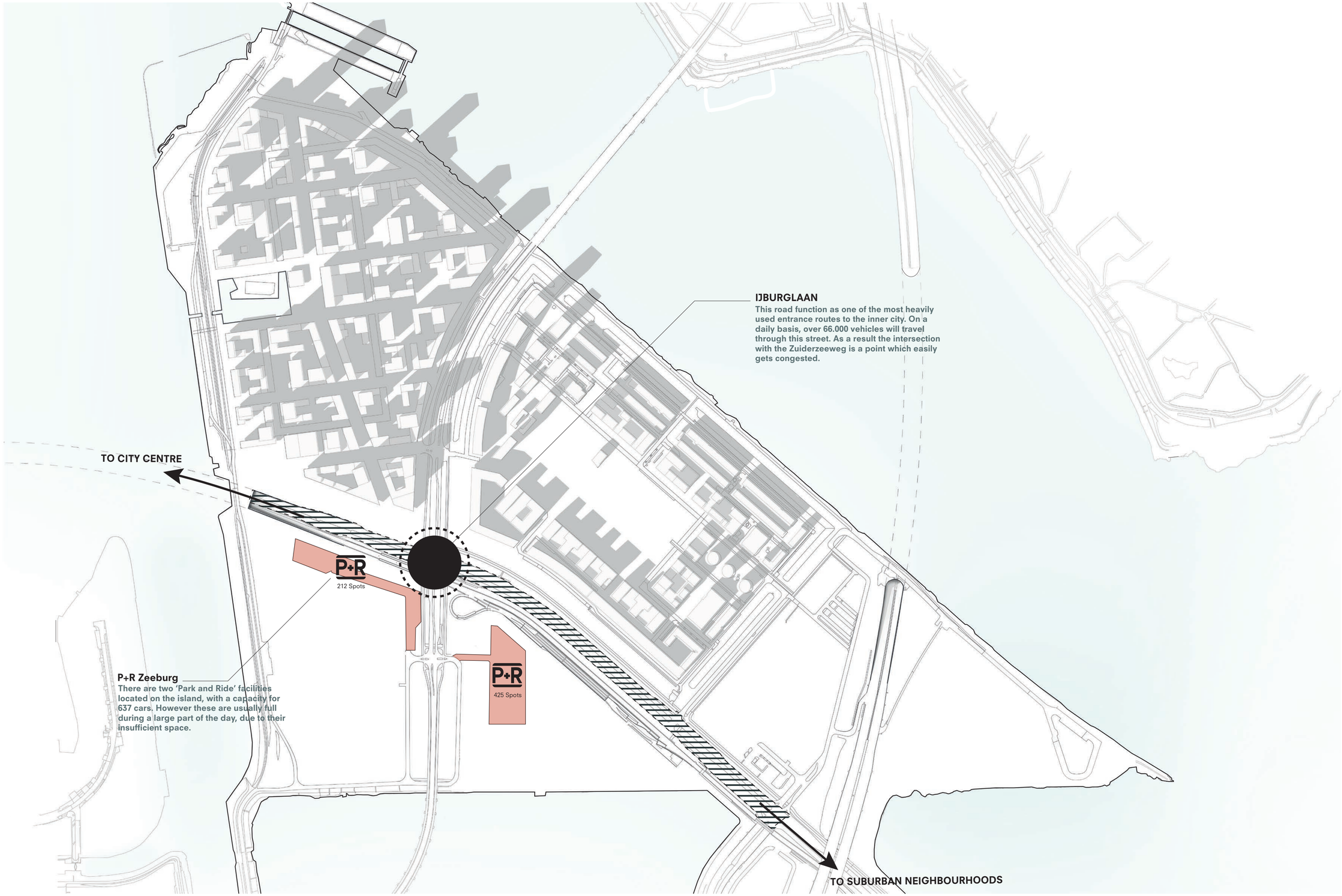
Luis - 56 years old

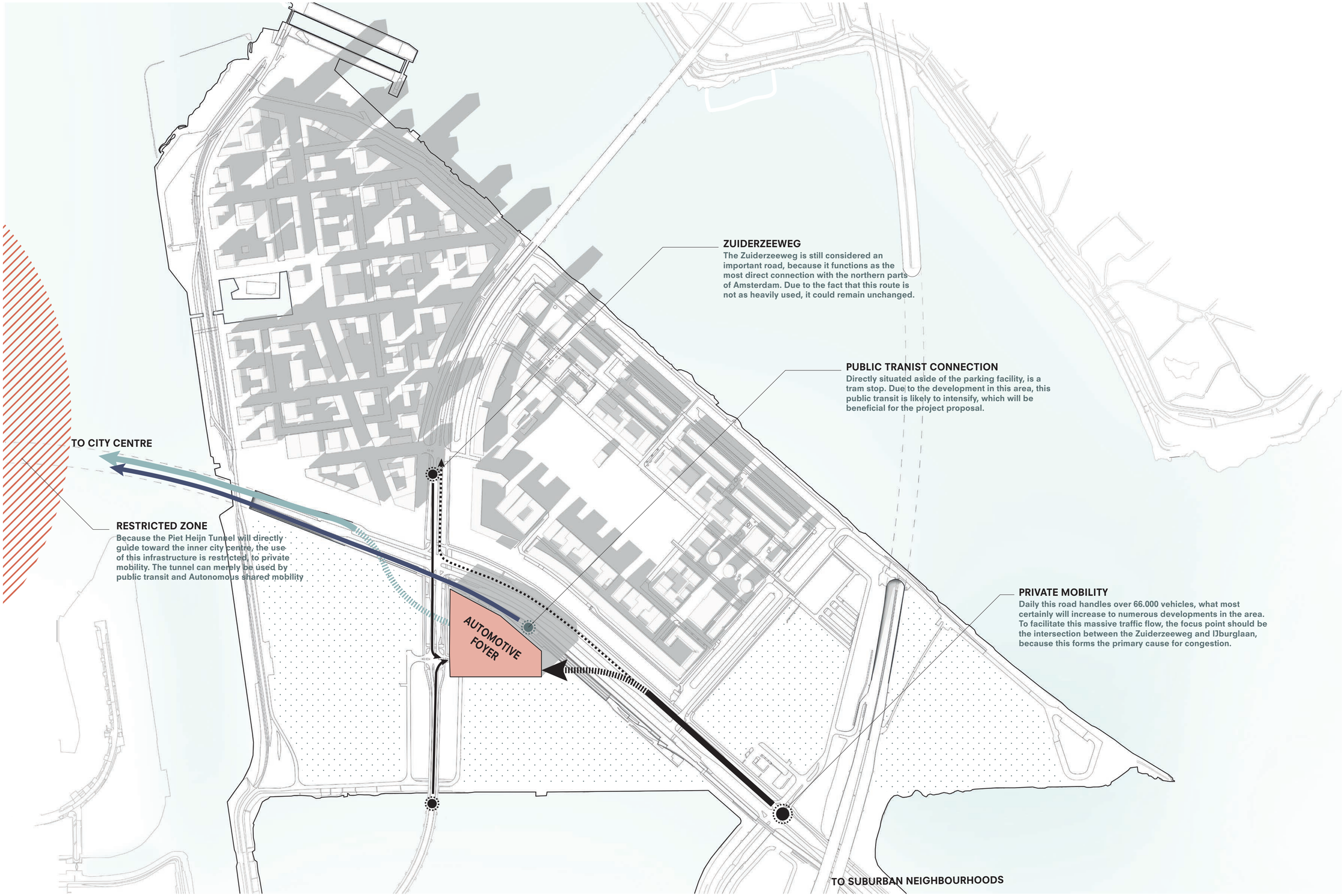
Luis is an architect who mostly do commisions for residential villas in the countryside of the Netherlands. For his work he has to travel a lot and likes to drive himself. Today he is meeting Peter for a potential new commision. Therefore they have sceduled a meeting at the Mobility HUB on Zeeburgereiland.



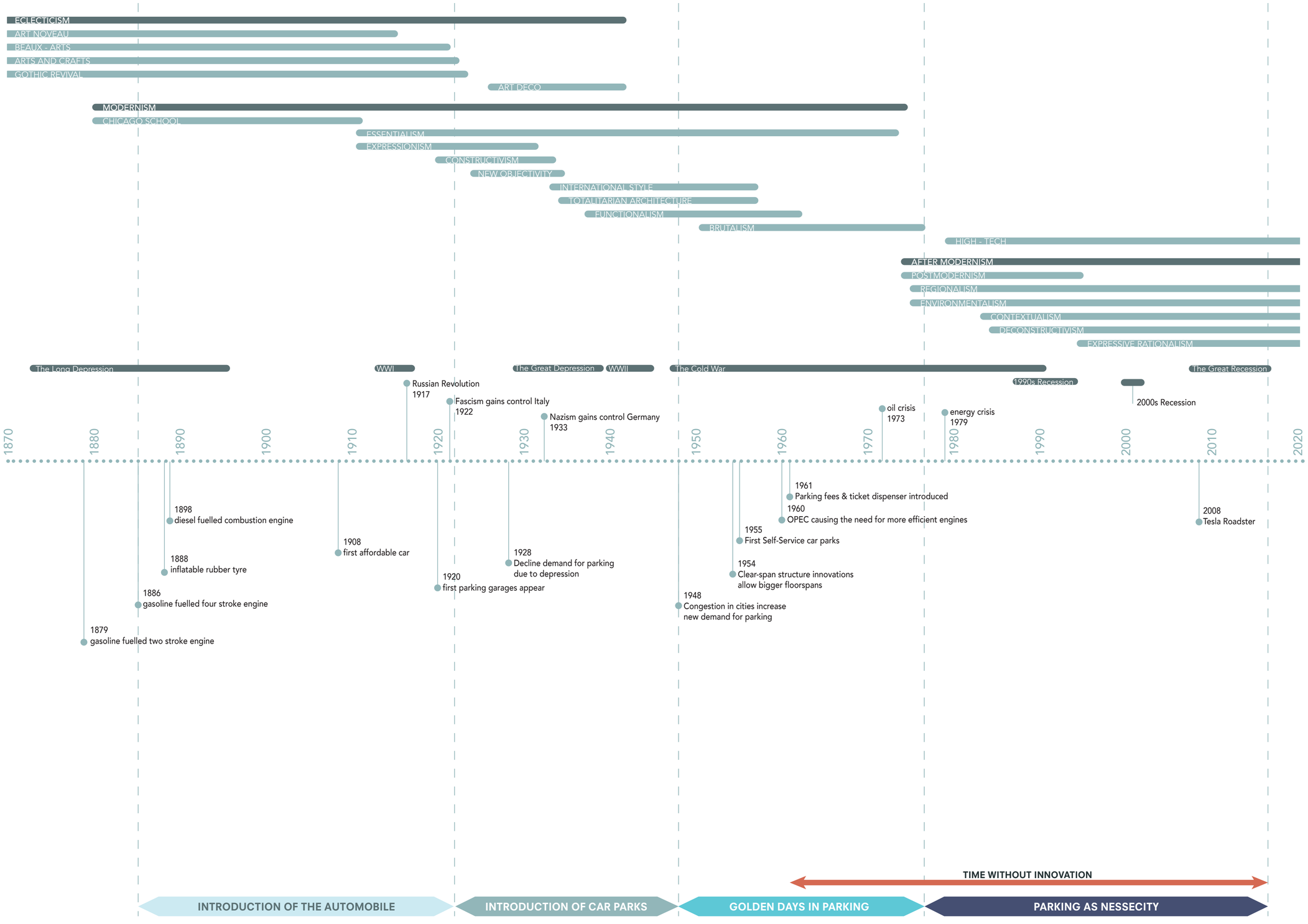
IMPACT ZEEBURGEREILAND

CP

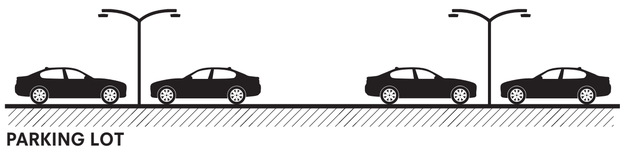

IJBURGLAAN
This road function as one of the most heavily used entrance routes to the inner city. On a daily basis, over 66.000 vehicles will travel through this street. As a result the intersection with the Zuiderzeeweg is a point which easily gets congested.
TO CITY CENTRE
P+R
212 Spots
P+R
425 Spots
P+R Zeeburg
There are two 'Park and Ride' facilities located on the island, with a capacity for 637 cars. However these are usually full during a large part of the day, due to their insufficient space.
TO SUBURBAN NEIGHBOURHOODS


ZUIDERZEEWEG
The Zuiderzeeweg is still considered an important road, because it functions as the most direct connection with the northern parts of Amsterdam. Due to the fact that this route is not as heavily used, it could remain unchanged.
PUBLIC TRANIST CONNECTION
Directly situated aside of the parking facility, is a tram stop. Due to the development in this area, this public transit is likely to intensify, which will be beneficial for the project proposal.
TO CITY CENTRE
RESTRICTED ZONE
Because the Piet Heijn Tunnel will directly guide toward the inner city centre, the use of this infrastructure is restricted, to private mobility. The tunnel can merely be used by public transit and Autonomous shared mobility
AUTOMOTIVE FOYER
PRIVATE MOBILITY
Daily this road handles over 66.000 vehicles, what most certainly will increase to numerous developments in the area. To facilitate this massive traffic flow, the focus point should be the intersection between the Zuiderzeeweg and IJburglaan, because this forms the primary cause for congestion.
TO SUBURBAN NEIGHBOURHOODS

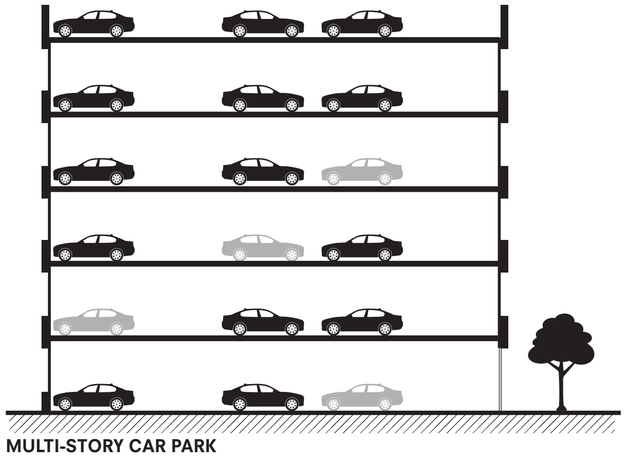
FACILITATING THE CAR


ECLECTICISM
ART NOVEAU
BEAUX - ARTS
ARTS AND CRAFTS
GOTHIC REVIVAL
ART DECO
MODERNISM
CHICAGO SCHOOL
ESSENTIALISM
EXPRESSIONISM
CONSTRUCTIVISM
NEW OBJECTIVITY
INTERNATIONAL STYLE
TOTALITARIAN ARCHITECTURE
FUNCTIONALISM
BRUTALISM
HIGH - TECH
AFTER MODERNISM
POST MODERNISM
REGIONALISM
ENVIRONMENTALISM
CONTEXTUALISM
DECONSTRUCTIVISM
EXPRESSIVE RATIONALISM
The Long Depression
WWI
The Great Depression
WWII
The Cold War
1990s Recession
2000s Recession
The Great Recession
1870
1880
1890
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
2020
1879
gasoline fuelled two stroke engine
1886
gasoline fuelled four stroke engine
1888
inflatable rubber tyre
1898
diesel fuelled combustion engine
1908
first affordable car
Russian Revolution
1917
1920
first parking garages appear
Fascism gains control Italy
1922
1928
Decline demand for parking
due to depression
Nazism gains control Germany
1933
1948
Congestion in cities increase
new demand for parking
1954
Clear-span structure innovations
allow bigger floorspans
1955
First Self-Service car parks
1960
OPEC causing the need for more efficient engines
1961
Parking fees & ticket dispenser introduced
oil crisis
1973
energy crisis
1979
2008
Tesla Roadster
TIME WITHOUT INNOVATION
INTRODUCTION OF THE AUTOMOBILE
INTRODUCTION OF CAR PARKS
GOLDEN DAYS IN PARKING
PARKING AS NESSECITY

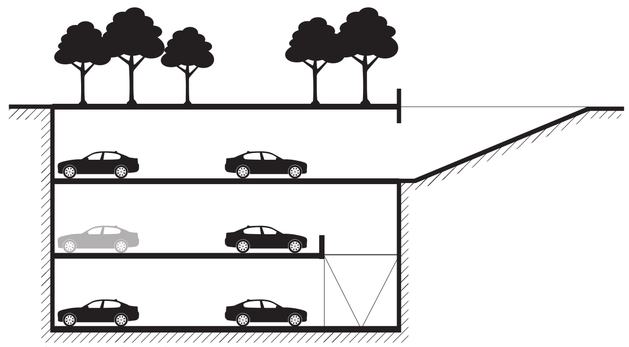
CP



PARKING LOT



MULTI-STORY CAR PARK



SUBMERGED CAR PARK

ECLECTIVISM

MODERNSIM

POST-MODERNISM

97% parking
27,6 m²/car

79% parking
19,2 m²/car

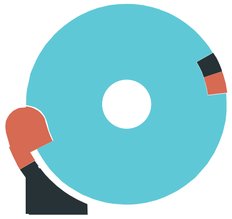
68% parking
19,3 m²/car

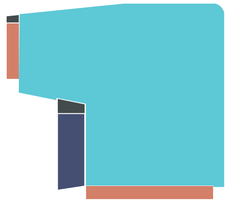
81% parking
26,2 m²/car

79% parking
17,3 m²/car

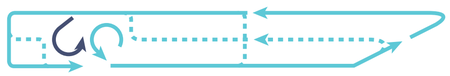
68% parking
28,8 m²/car

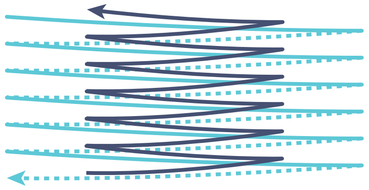
PROGRAM

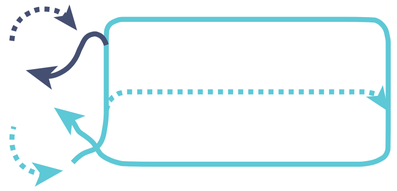


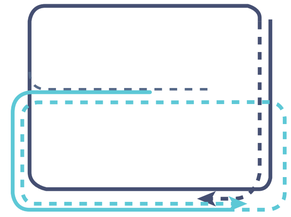


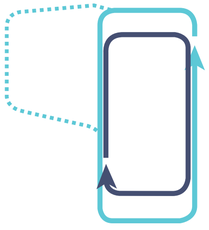
ROUTING









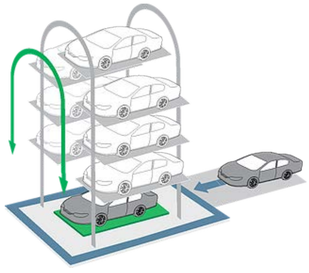


CP

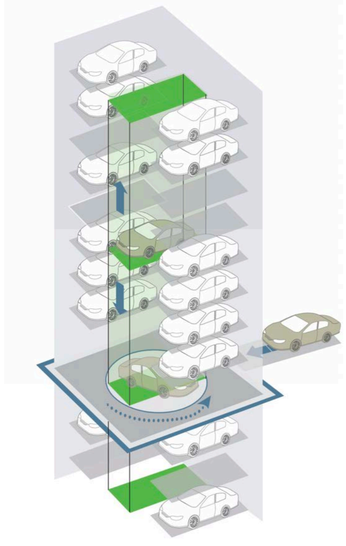
23,1 m²/Car

On basis of Typological Research

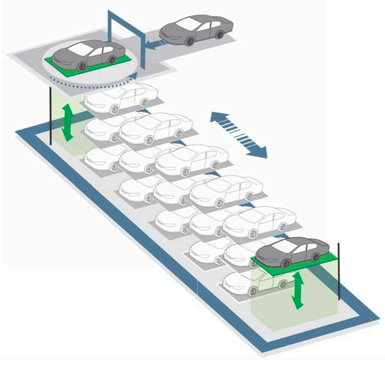
CP



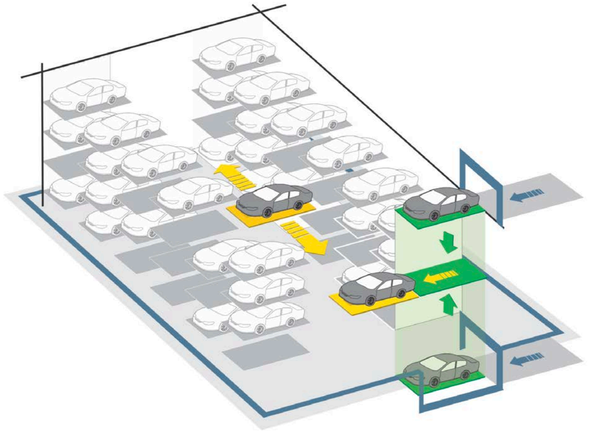
CAROUSEL SYSTEM



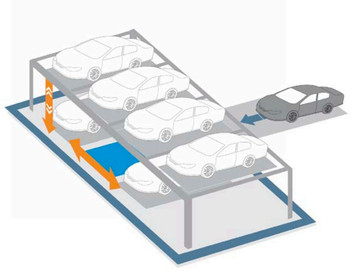
TOWER SYSTEM



OPTIMA SYSTEM

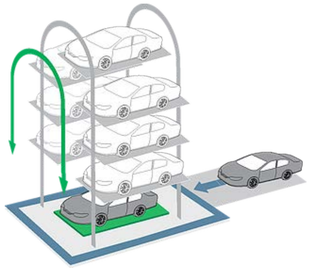


MULTI MECHANISM SYSTEM

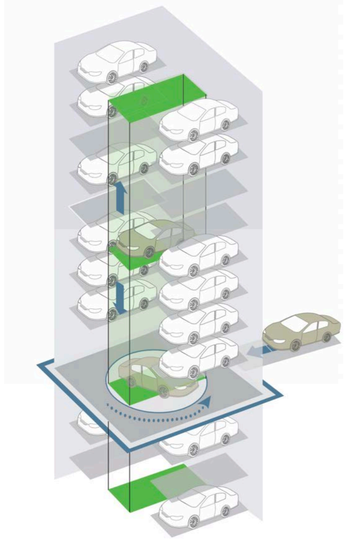


LIFT & SLIDE SYSTEM

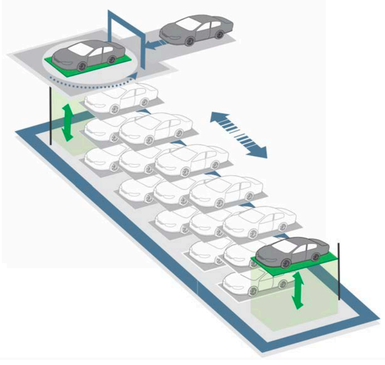
AUTOMATED SYSTEMS



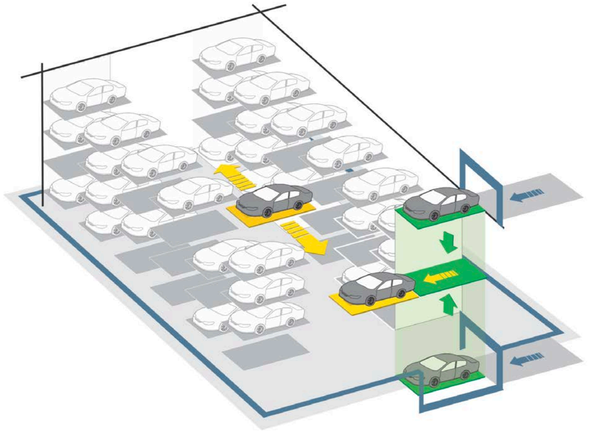
CAROUSEL SYSTEM



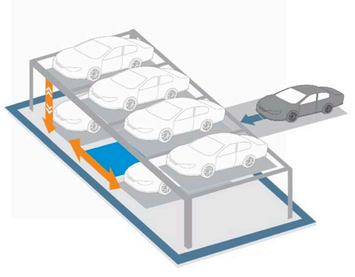
TOWER SYSTEM



OPTIMA SYSTEM



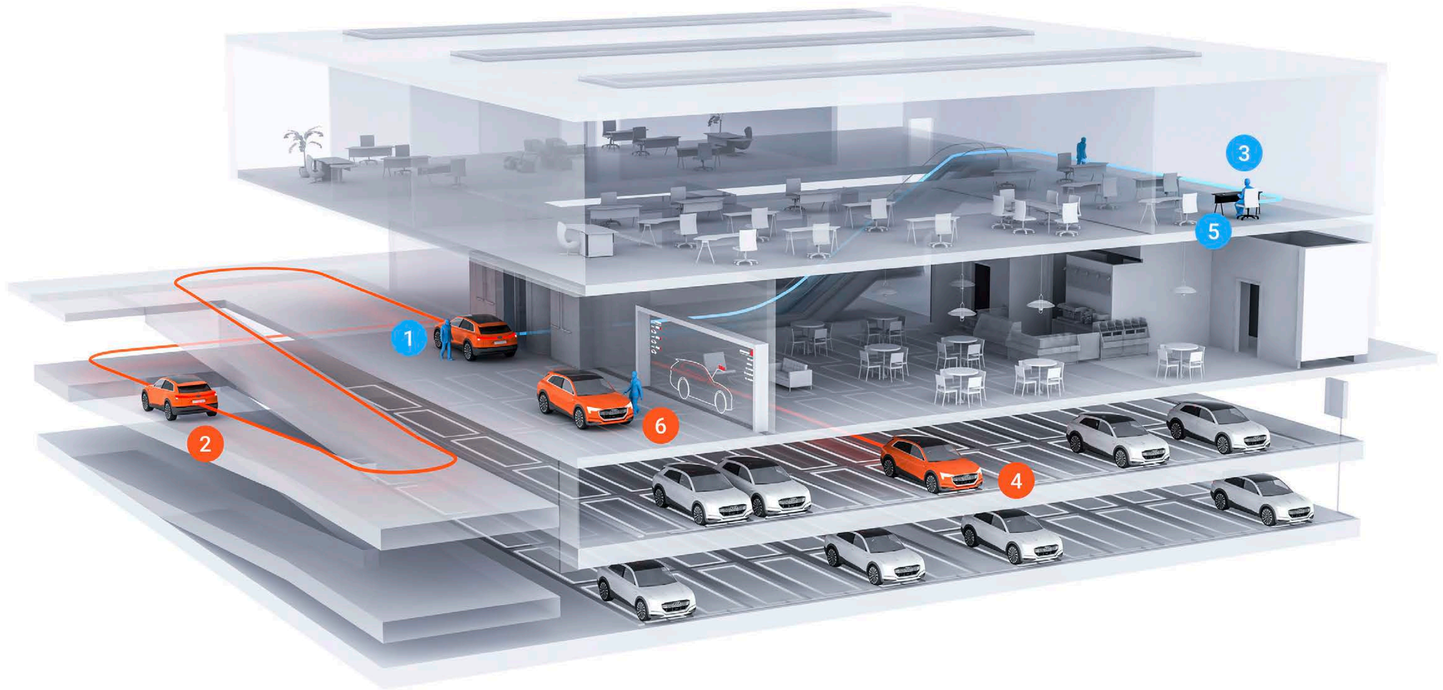
MULTI MECHANISM SYSTEM

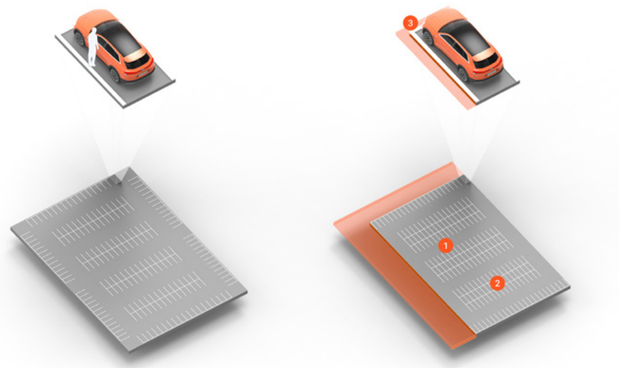


LIFT & SLIDE SYSTEM

11,6 m^2/Car

Making it on average **50%** more space
efficient than coventional parking



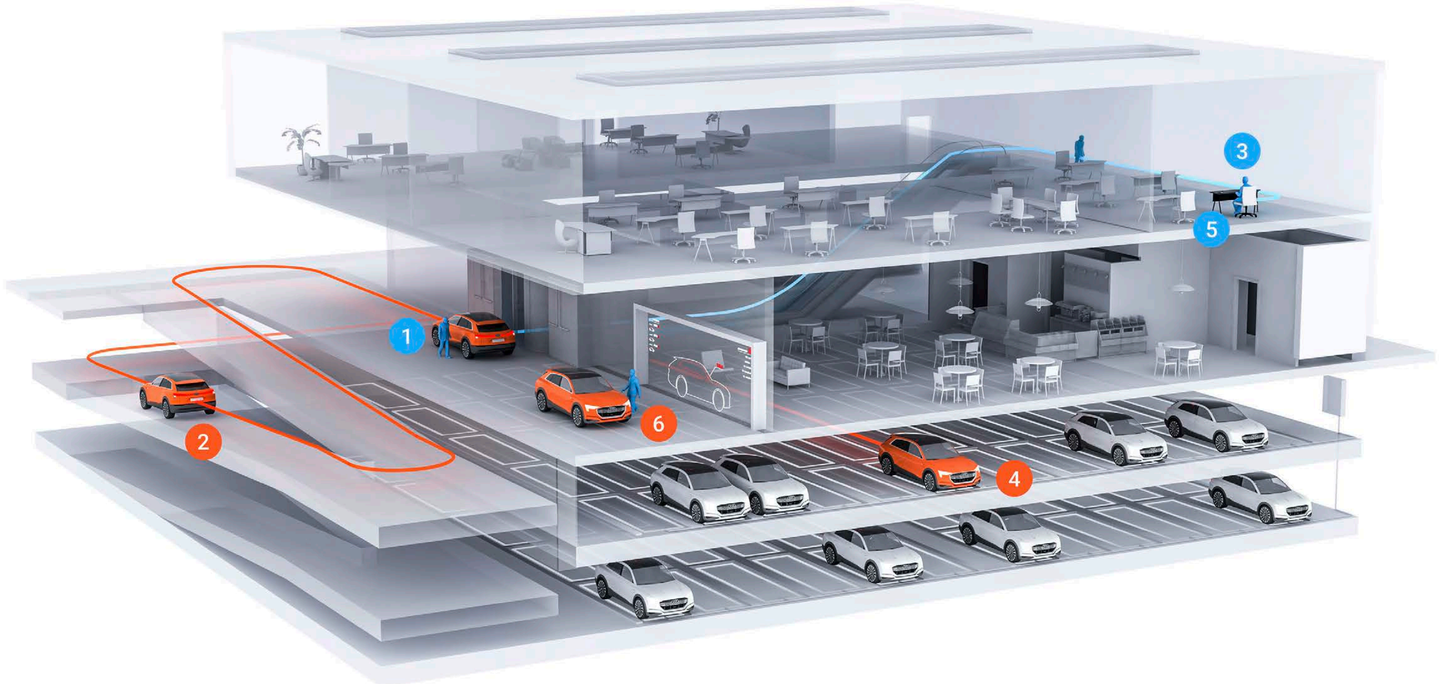


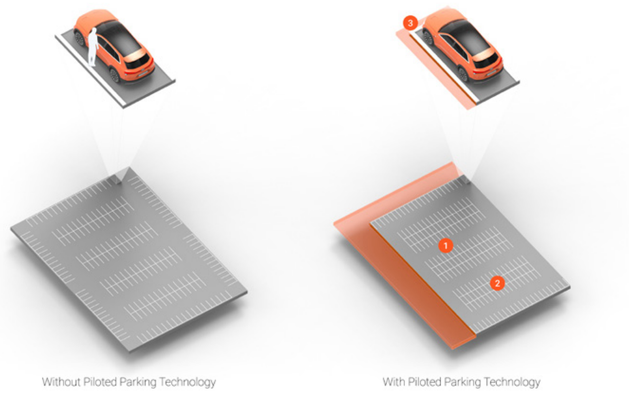
Without Piloted Parking Technology

With Piloted Parking Technology

AUDI PILOTED PARKING INITIATIVE

AUTONOMOUS PILOTED SYSTEMS





Without Piloted Parking Technology

With Piloted Parking Technology

AUDI PILOTED PARKING INITIATIVE

9,2 m^2/Car

Making it on average **60%** more space efficient than coventional parking

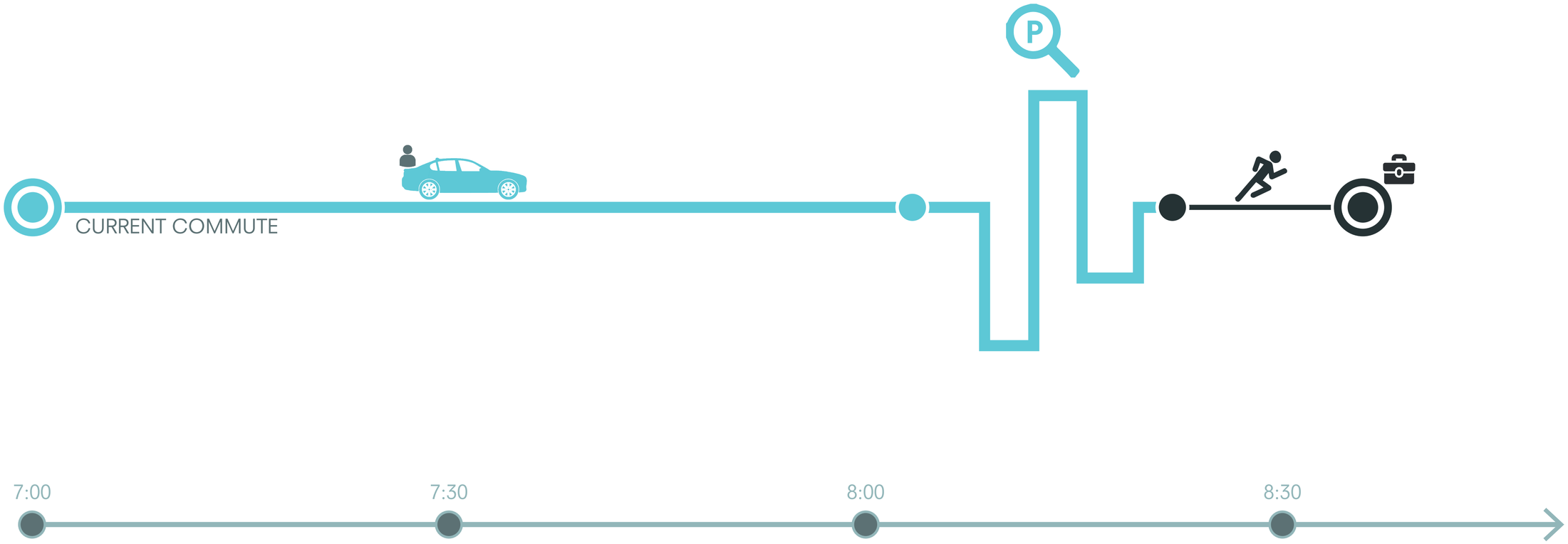
What could a parking facility on Zeeburgereiland offer more than just storing cars?

CP

DESIGN PROPOSAL

THE AUTOMOTIVE FOYER

CP



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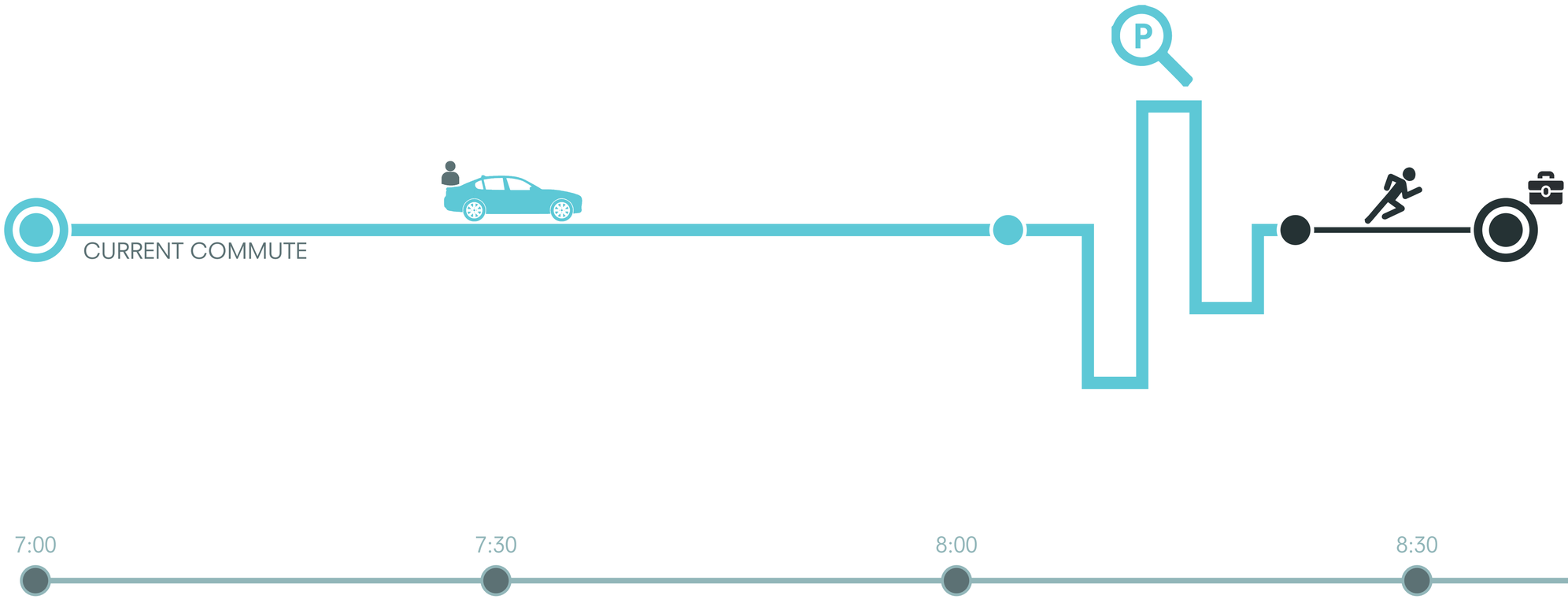
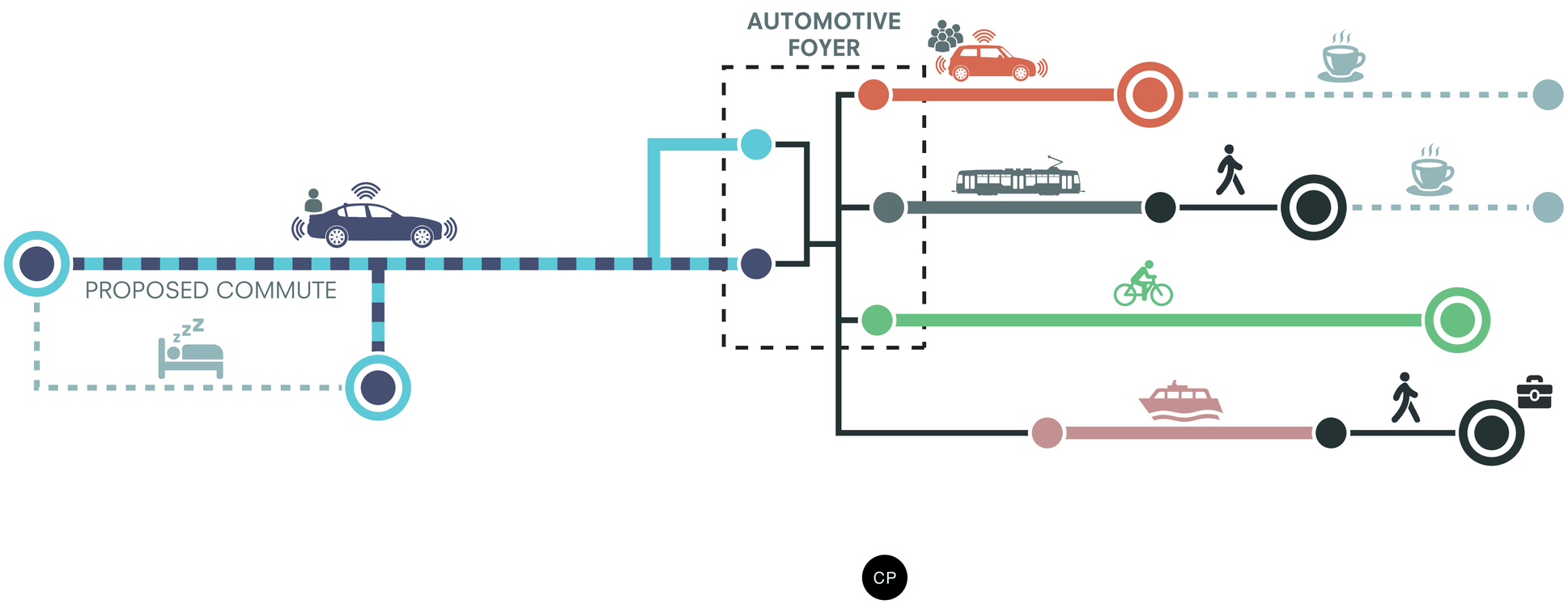
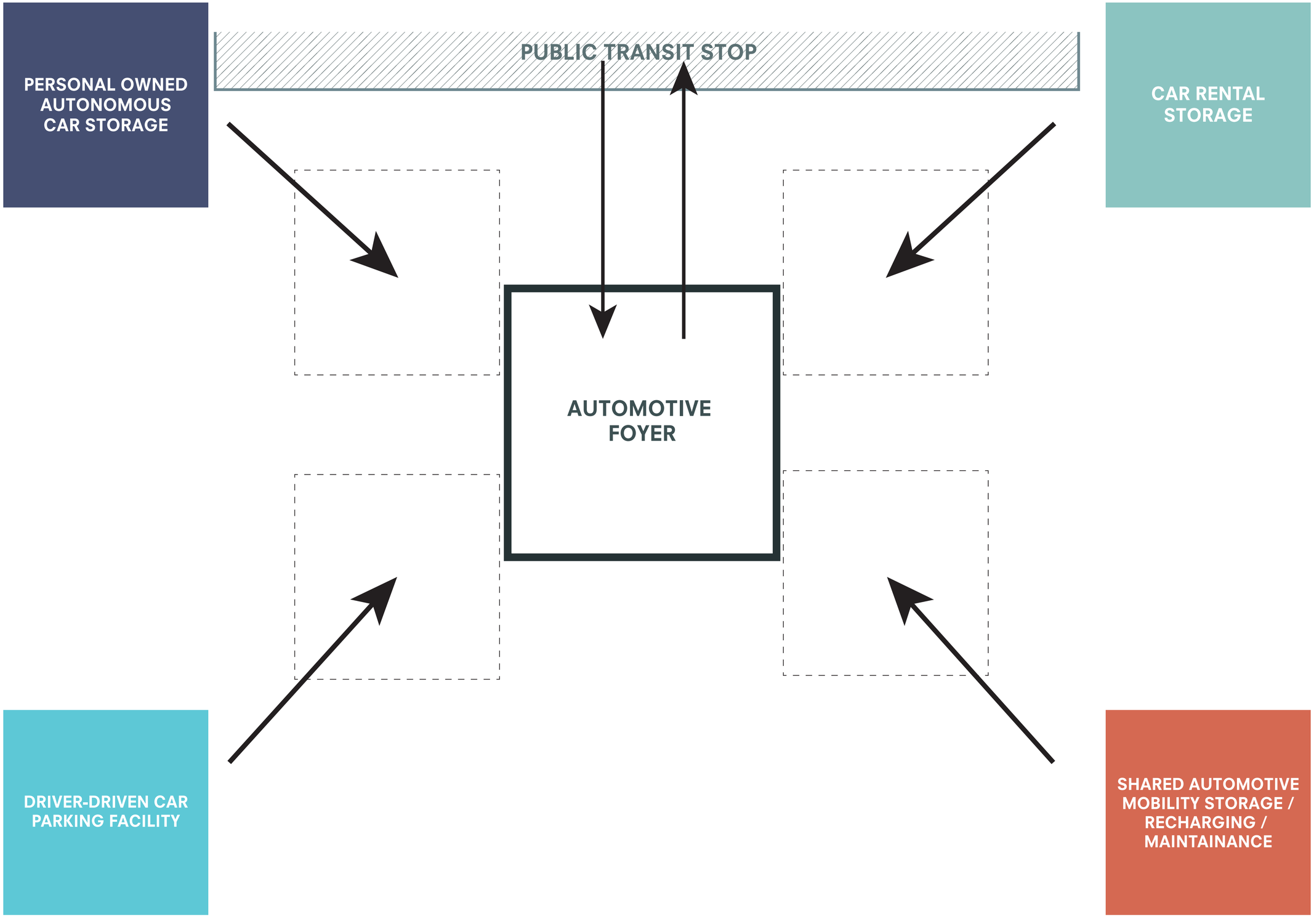

CURRENT COMMUTE
P
7:00
7:30
8:00
8:30


AUTOMOTIVE
FOYER
PROPOSED COMMUTE


PERSONAL OWNED AUTONOMOUS CAR STORAGE
PUBLIC TRANSIT STOP
CAR RENTAL STORAGE
AUTOMOTIVE FOYER
DRIVER-DRIVEN CAR PARKING FACILITY
SHARED AUTOMOTIVE MOBILITY STORAGE / RECHARGING / MAINTAINANCE

PUBLIC TRANSIT STOP

2.900 lots
Autonomous Piloted parking
60% of Parking demand
9,2 m2/car

PERSONAL OWNED AUTONOMOUS CAR STORAGE

400 lots
Automated Parking Mechanism
25% of Parking demand
11,6 m2/car

CAR RENTAL STORAGE

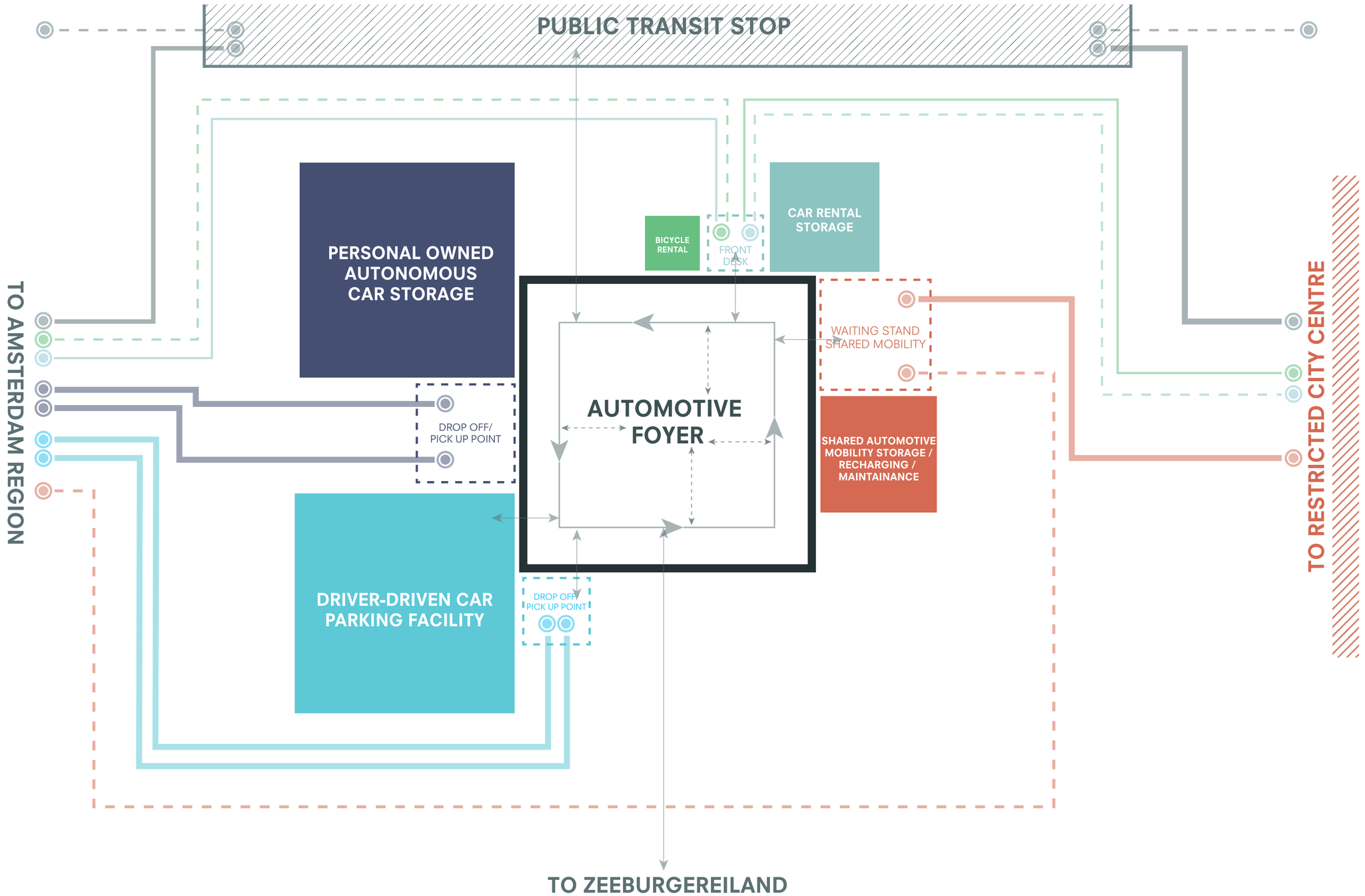
AUTOMOTIVE FOYER

2.600 lots
Automated Parking Mechanism
40% of Parking demand
11,6 m2/car

DRIVER-DRIVEN CAR PARKING FACILITY

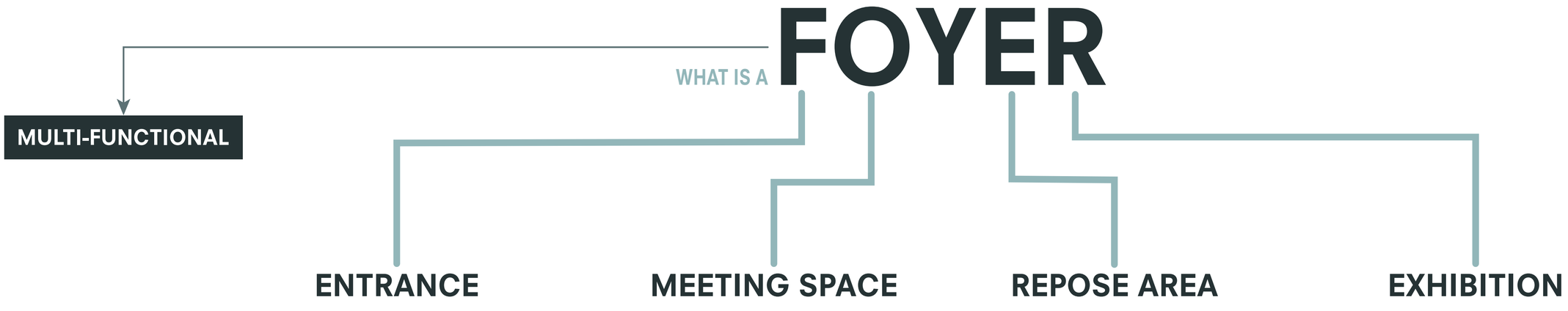
SHARED AUTOMOTIVE MOBILITY STORAGE / RECHARGING / MAINTAINANCE

400 lots
Autonomous Piloted parking
25% of Parking demand
9,2 m2/car

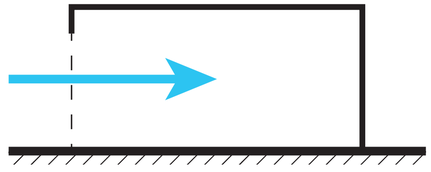

PUBLIC TRANSIT STOP
PERSONAL OWNED AUTONOMOUS CAR STORAGE
BICYCLE RENTAL
FRONT DESK
CAR RENTAL STORAGE
WAITING STAND SHARED MOBILITY
AUTOMOTIVE FOYER
SHARED AUTOMOTIVE MOBILITY STORAGE / RECHARGING / MAINTAINANCE
DROP OFF/ PICK UP POINT
DRIVER-DRIVEN CAR PARKING FACILITY
DROP OFF/ PICK UP POINT
TO AMSTERDAM REGION
TO RESTRICTED CITY CENTRE
TO ZEEBURGEREILAND

WHAT MAKES THE AUTOMOTIVE FOYER DIFFERENT FROM OTHER PARKING FACILITIES?

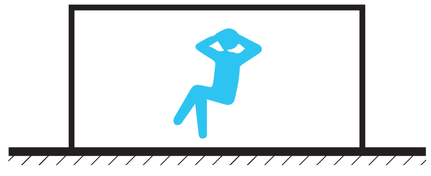
WHAT IS A FOYER


WHAT IS A
FOYER
MULTI-FUNCTIONAL
ENTRANCE
MEETING SPACE
REPOSE AREA
EXHIBITION

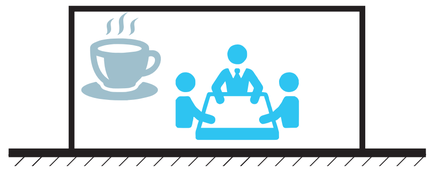
ENTRANCE



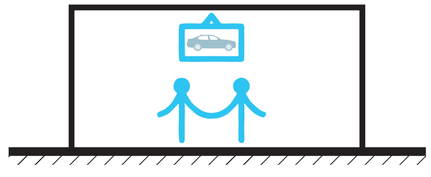
REPOSE AREA

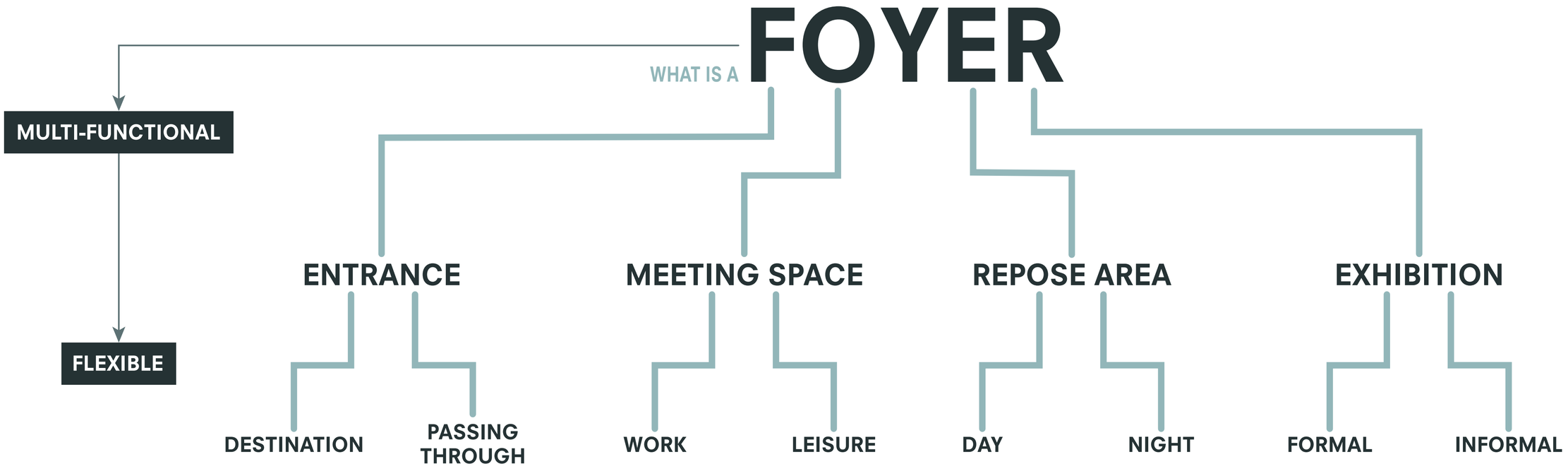


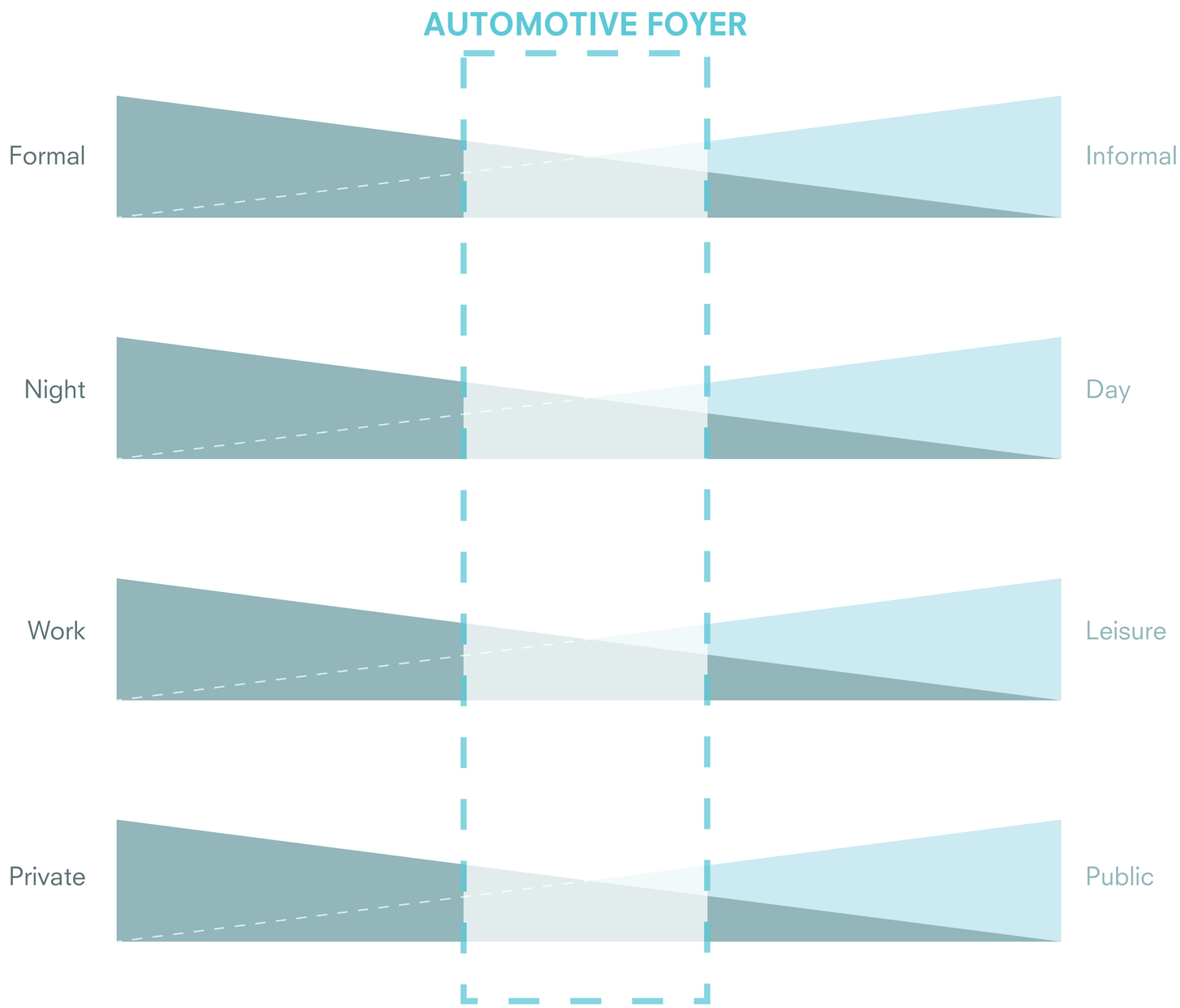
MEETING SPACE



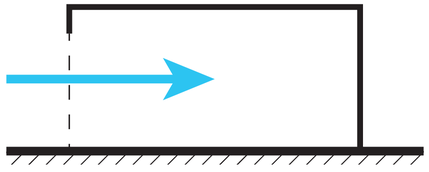
EXHIBITION



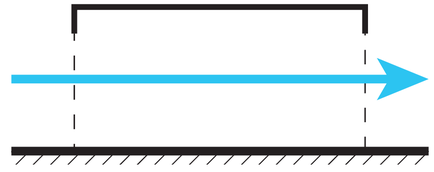

WHAT IS A
FOYER
MULTI-FUNCTIONAL
FLEXIBLE
ENTRANCE
DESTINATION
PASSING THROUGH
MEETING SPACE
WORK
LEISURE
REPOSE AREA
DAY
NIGHT
EXHIBITION
FORMAL
INFORMAL


AUTOMOTIVE FOYER
Formal
Informal
Night
Day
Work
Leisure
Private
Public

ENTRANCE

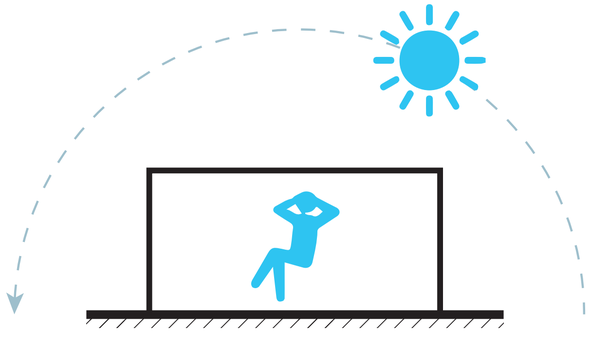


Destination

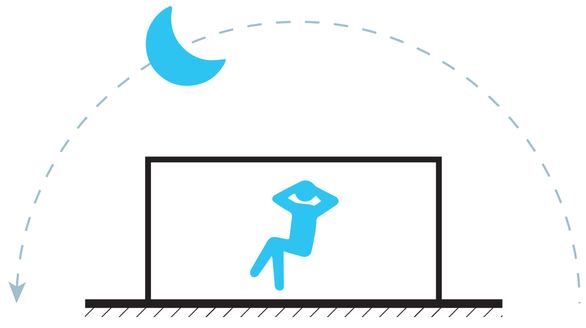


Passing Through

REPOSE AREA

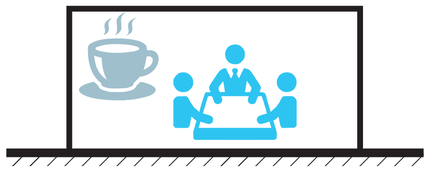


Day

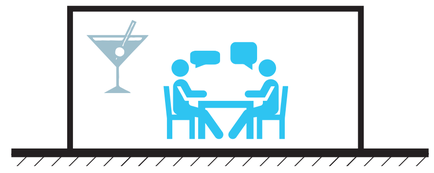


Night

MEETING SPACE

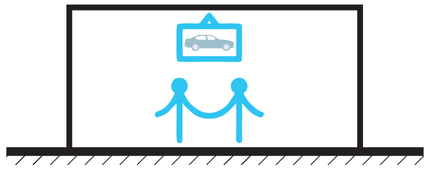


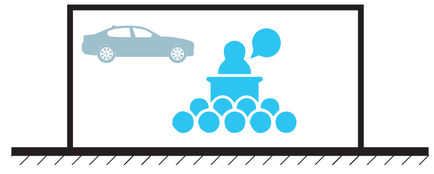
Work

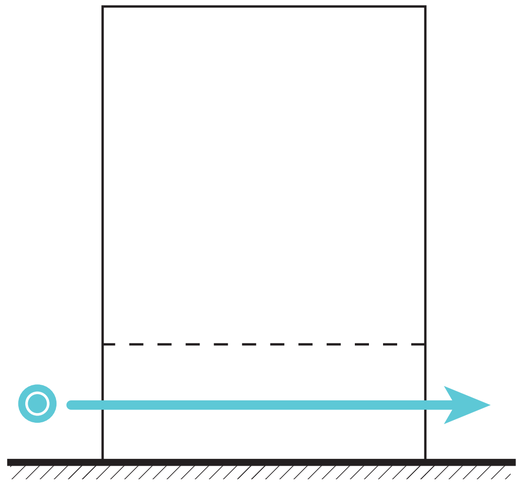


Leisure

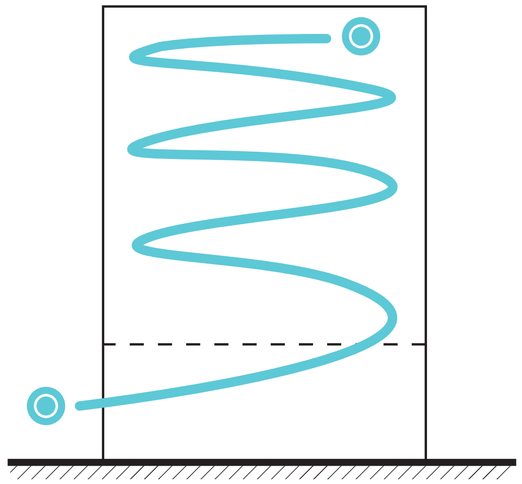
EXHIBITION







PASSING THROUGH



DESTINATION

WHAT IS A

FOYER

MULTI-FUNCTIONAL

FLEXIBLE

AUTOMOTIVE

ENTRANCE

DESTINATION

PASSING THROUGH

MEETING SPACE

WORK

LEISURE

REPOSE AREA

DAY

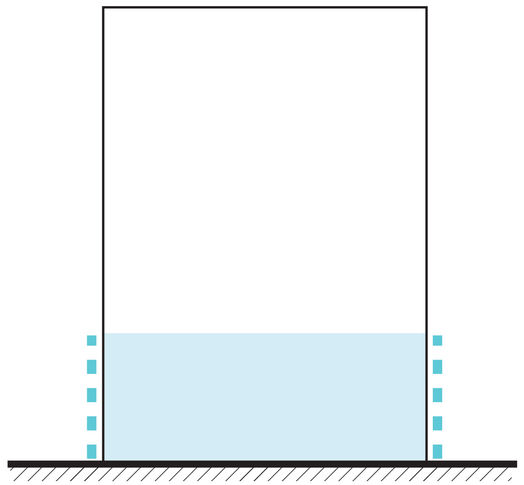
NIGHT

EXHIBITION

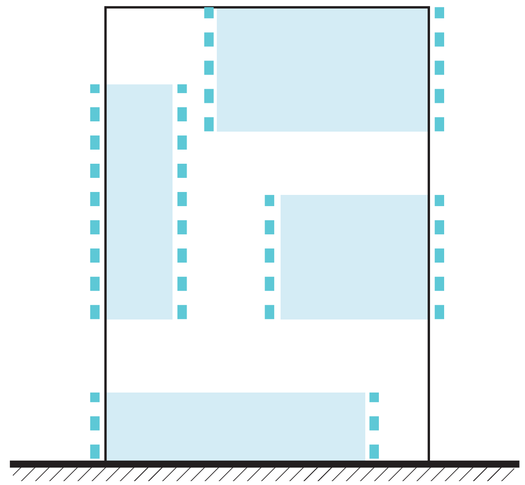
FORMAL

INFORMAL

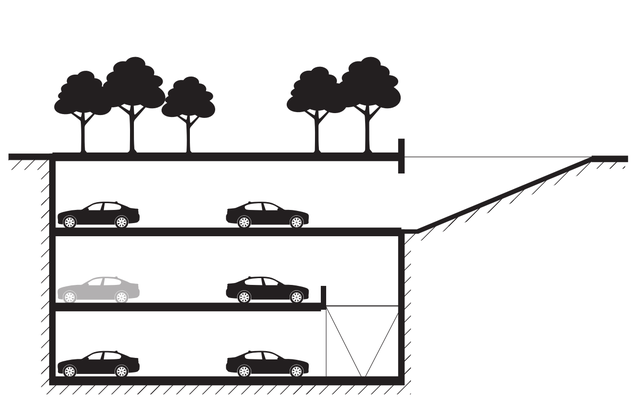
BROUGHT TOGETHER IN A PLACE WHICH IS ORIENTED TOWARDS MOTORISTS AND ENCLOSES AN AUTOMOTIVE CULTURE



DIVIDED



INTERACTING



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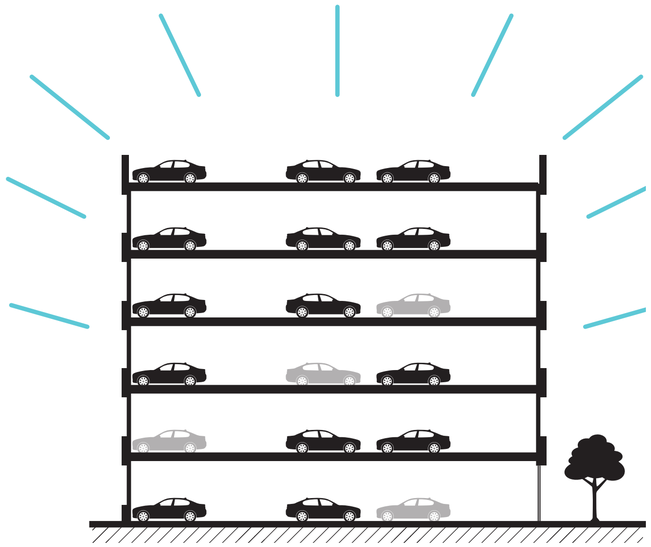


MANIFESTED

WHAT IS A

FOYER

MULTI-FUNCTIONAL

FLEXIBLE

AUTOMOTIVE

DYNAMIC

ENTRANCE

- DESTINATION
- PASSING THROUGH

MEETING SPACE

- WORK
- LEISURE

REPOSE AREA

- DAY
- NIGHT

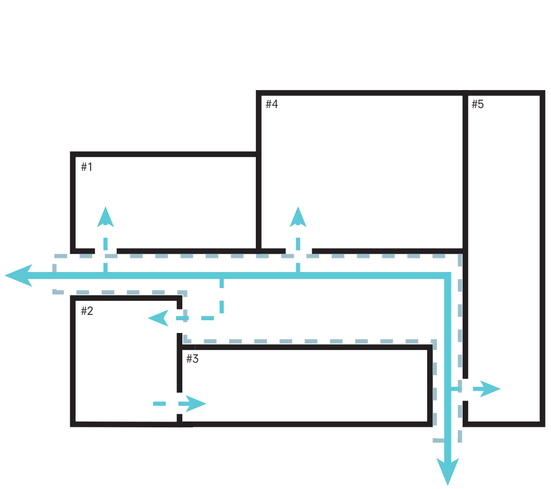
EXHIBITION

- FORMAL
- INFORMAL

BROUGHT TOGETHER IN A PLACE WHICH IS ORIENTED TOWARDS MOTORISTS AND ENCLOSES AN AUTOMOTIVE CULTURE

PARKING AND CIRCULATION

- RETAIL SPACE / GRAB&GO
- LOUNGE
- CONFERENCE ROOMS
- CAFE / BAR
- EXHIBITION / CONVENTION SPACE



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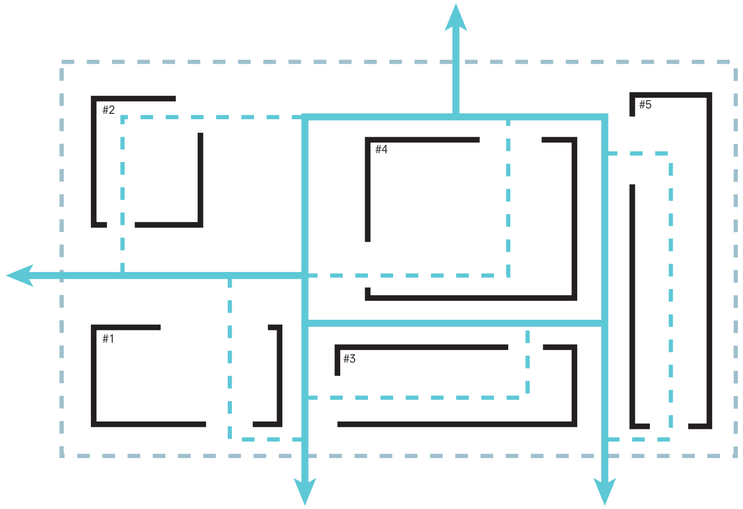

DYNAMIC

WHAT IS A **FOYER**

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AUTOMOTIVE FOYER

TOTAL PASSING CARS DAILY:	DOUBLE WAY	ONE WAY
2017	63.600	31.800
2050	64.554	**32.277**

SPACE / PARKED CAR:	
Conventional System	23,11 m^2/car
Autonomous System	**9,24** m^2/car
Automated System	**11,55** m^2/car

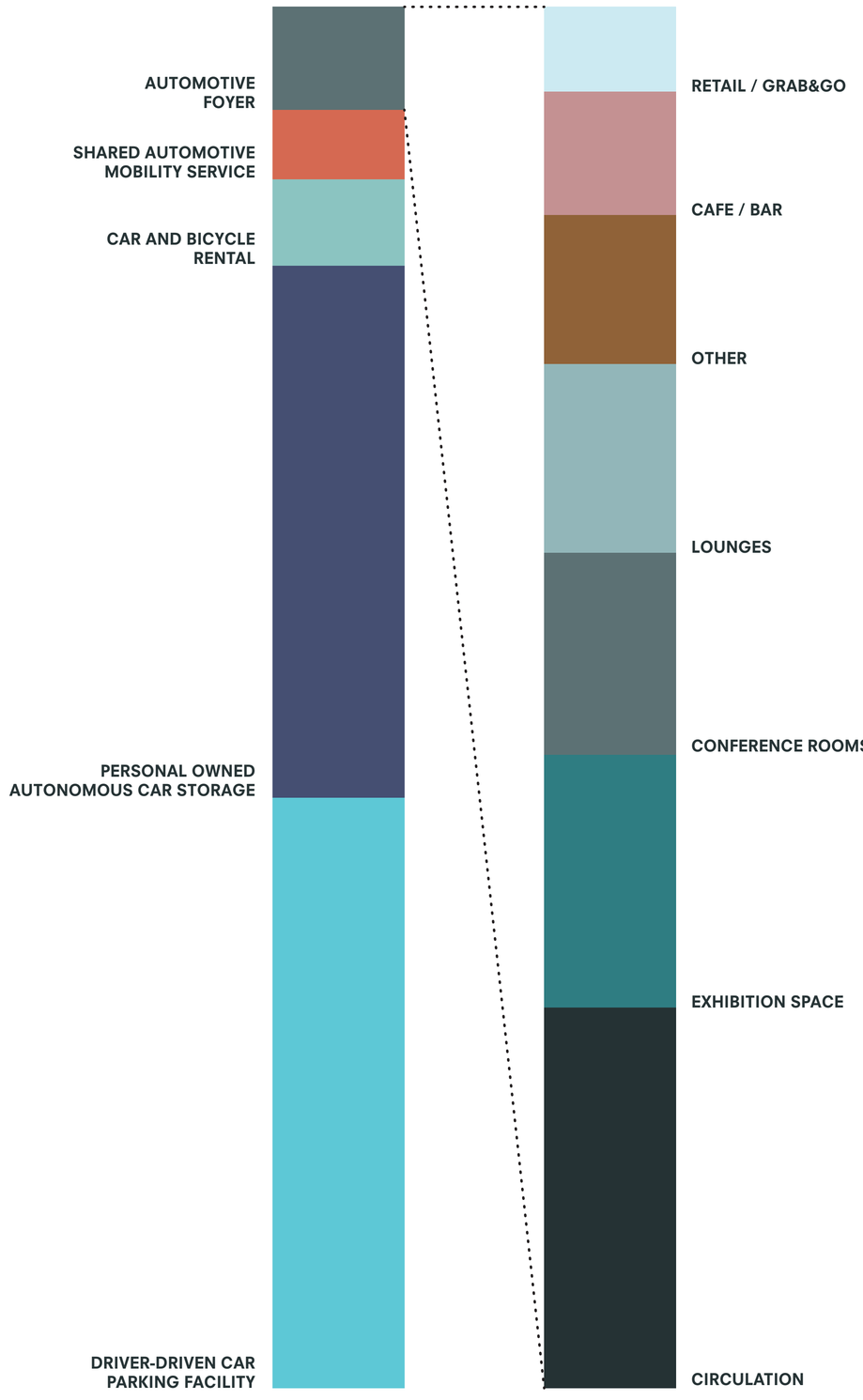
PROGRAM PARKING:	PERCENTAGE OF MOBILITY	SYSTEM NEEDED	NUMBER OF PASSING CARS	SPACE NEEDED TO PARK (100%)	SUPPLY OF PARKING	NUMBER OF PARKING SPACES	SPACE OFFERED IN FACILITY
PERSONAL OWNED	**35 %**						
Driver-Driven	20 %	Automated	6.455	74.560 m^2	40 %	2.582	**29.824** m^2
Autonomous	15 %	Autonomous	4.842	44.736 m^2	60 %	2.905	**26.842** m^2
SHARED	**10 %**						
Driver-Driven	5 %	Automated	1.614	18.640 m^2	25 %	403	**4.660** m^2
Autonomous	5 %	Autonomous	1.614	14.912 m^2	25 %	403	**3.728** m^2
Total:			**14.525** cars	**152.848** m^2	**44 %** of Demand	**6.294** Lots	**65.053** m^2

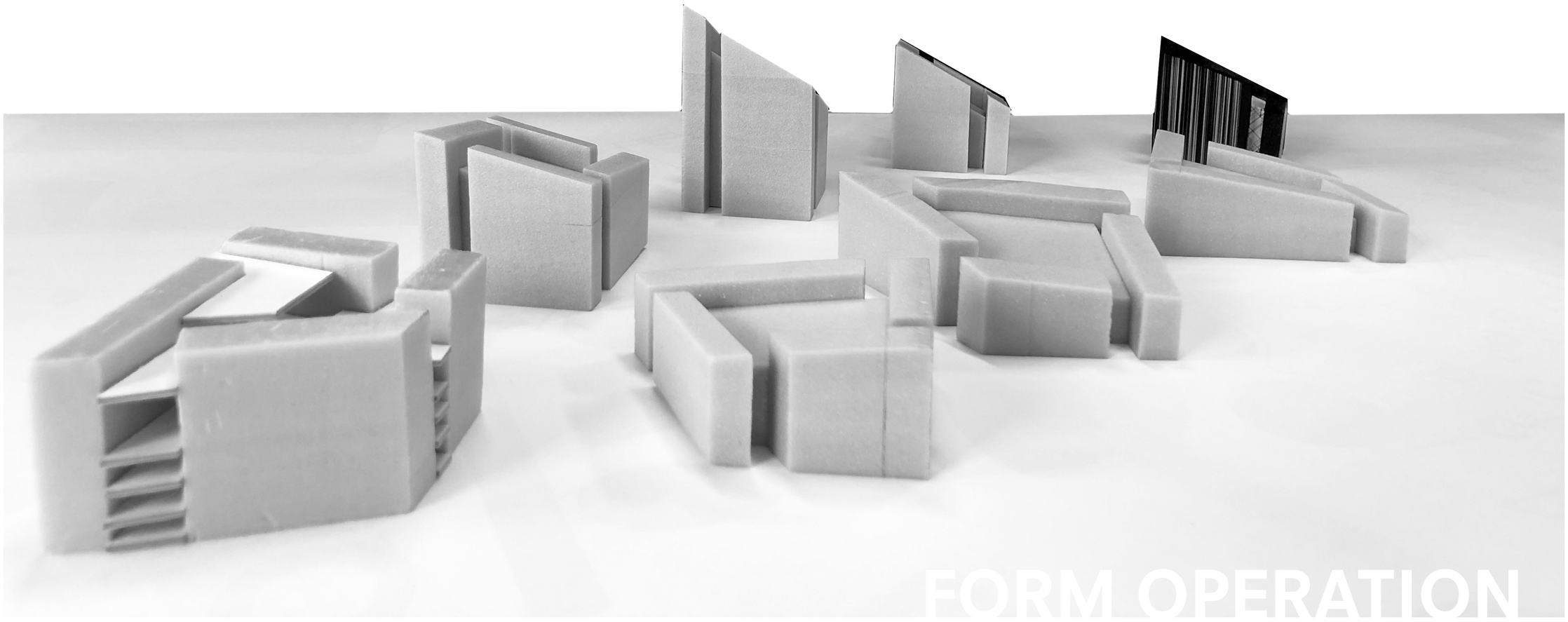
PROGRAM FOYER:	FLOOR SPACE	
Retail / Grab & Go	350	m^2
Cafe / Bar	500	m^2
Lounges	750	m^2
Exhibition Space	1.000	m^2
Conference Rooms	800	m^2
Circulation	1.500	m^2
Other	600	m^2

FOYER: **5.500** m^2

AUTOMOTIVE FOYER = **70.553** m^2

AUTOMOTIVE FOYER
SHARED AUTOMOTIVE MOBILITY SERVICE
CAR AND BICYCLE RENTAL
PERSONAL OWNED AUTONOMOUS CAR STORAGE
DRIVER-DRIVEN CAR PARKING FACILITY


AUTOMOTIVE FOYER
SHARED AUTOMOTIVE MOBILITY SERVICE
CAR AND BICYCLE RENTAL
PERSONAL OWNED AUTONOMOUS CAR STORAGE
DRIVER-DRIVEN CAR PARKING FACILITY
RETAIL / GRAB&GO
CAFE / BAR
OTHER
LOUNGES
CONFERENCE ROOMS
EXHIBITION SPACE
CIRCULATION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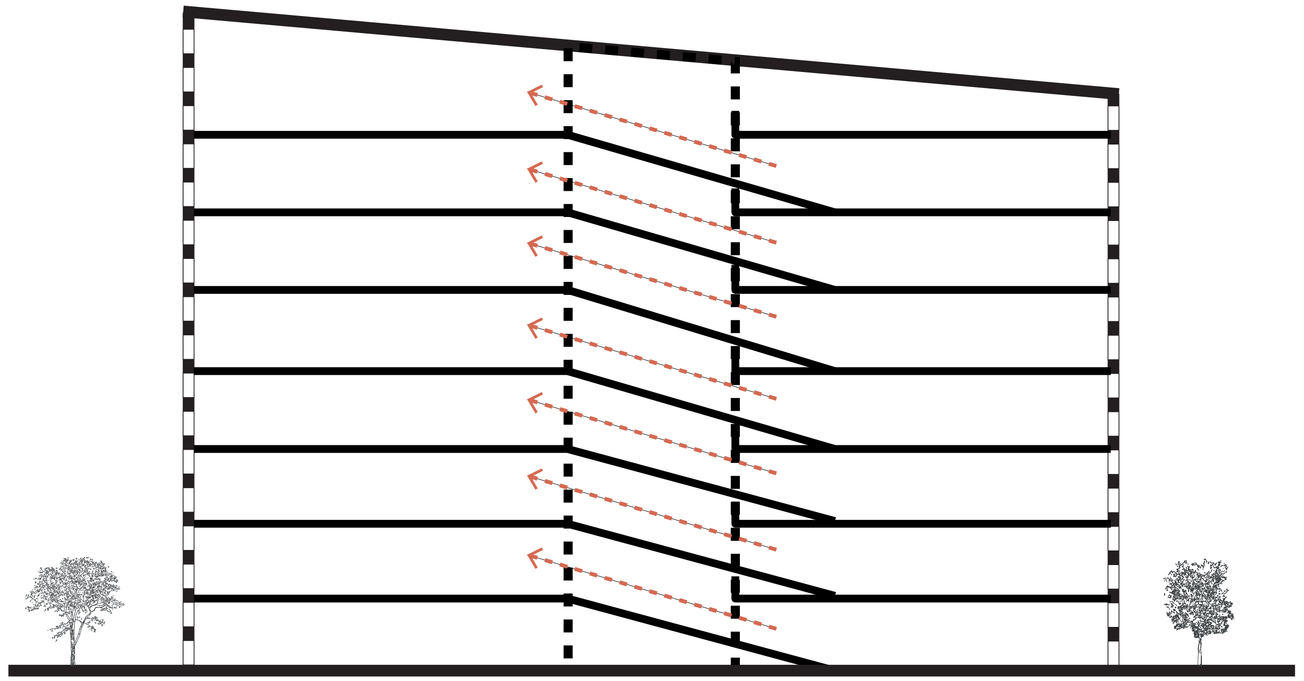
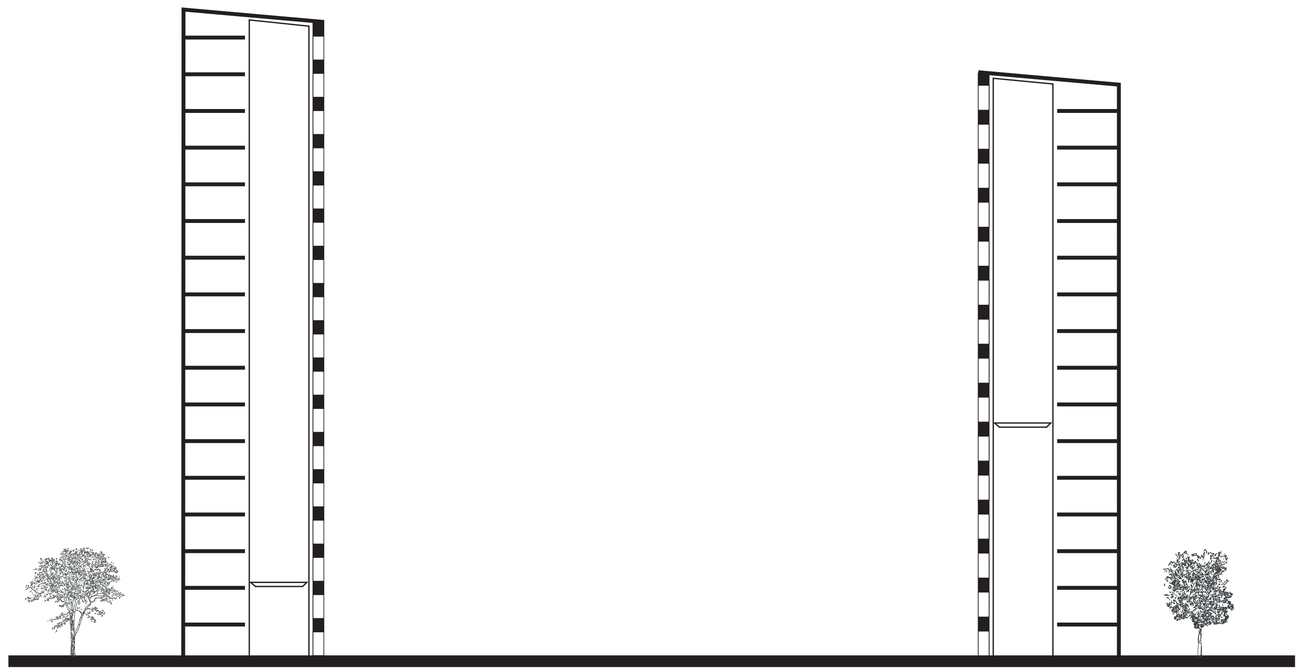
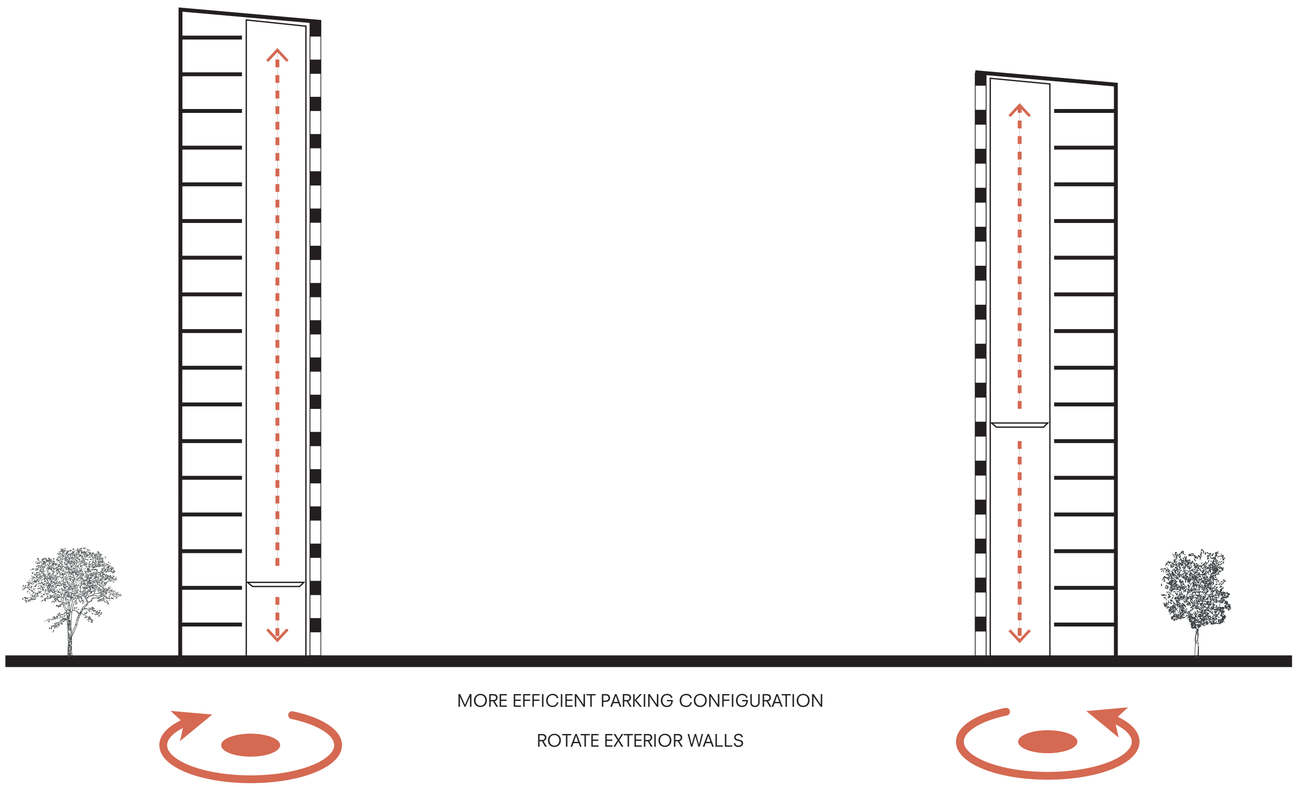


CONVENTIONAL PARKING

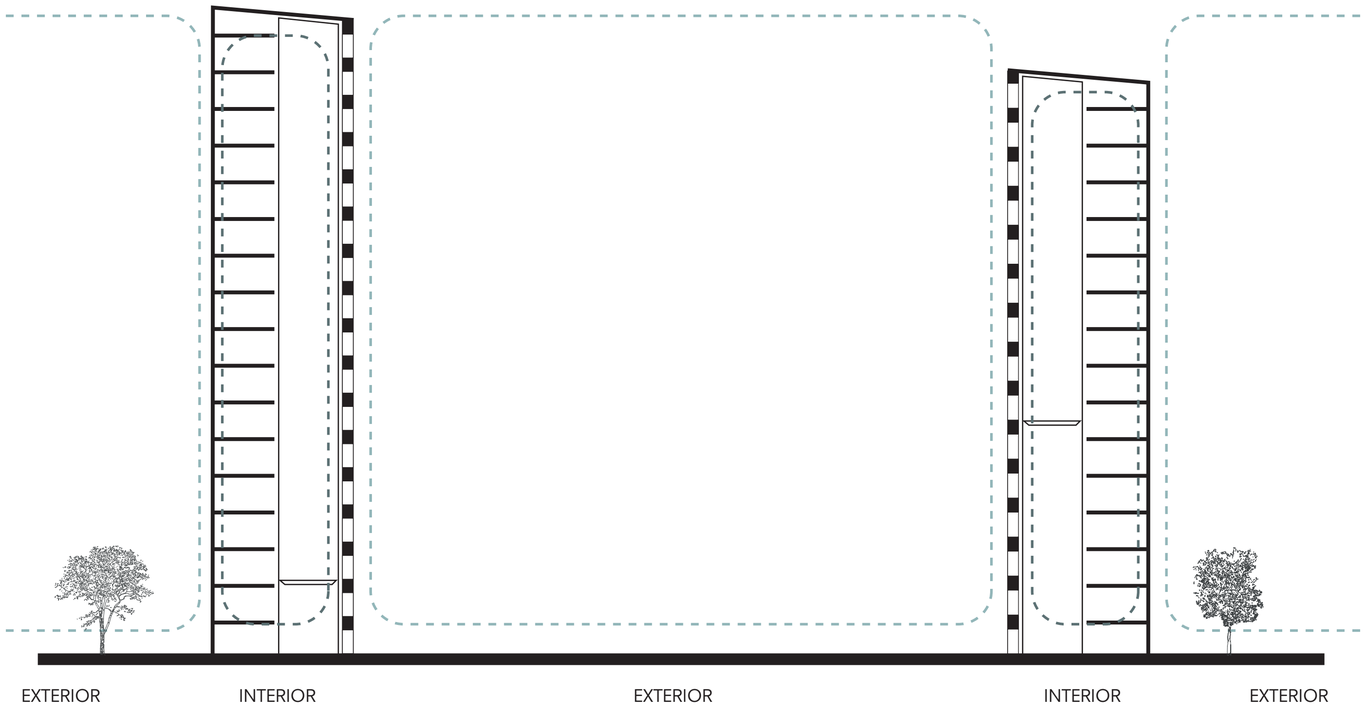


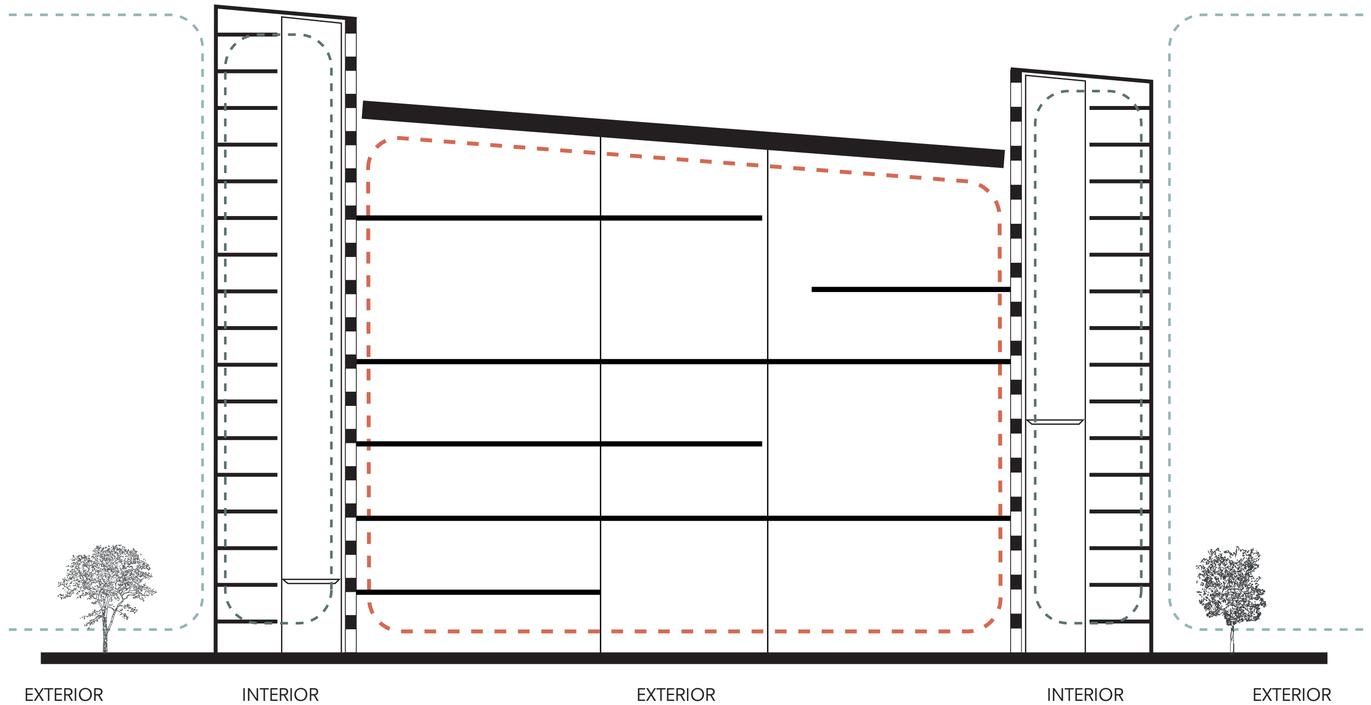
CP



MORE EFFICIENT PARKING CONFIGURATION

ROTATE EXTERIOR WALLS


EXTERIOR
INTERIOR
EXTERIOR
INTERIOR
EXTERIOR


EXTERIOR
INTERIOR
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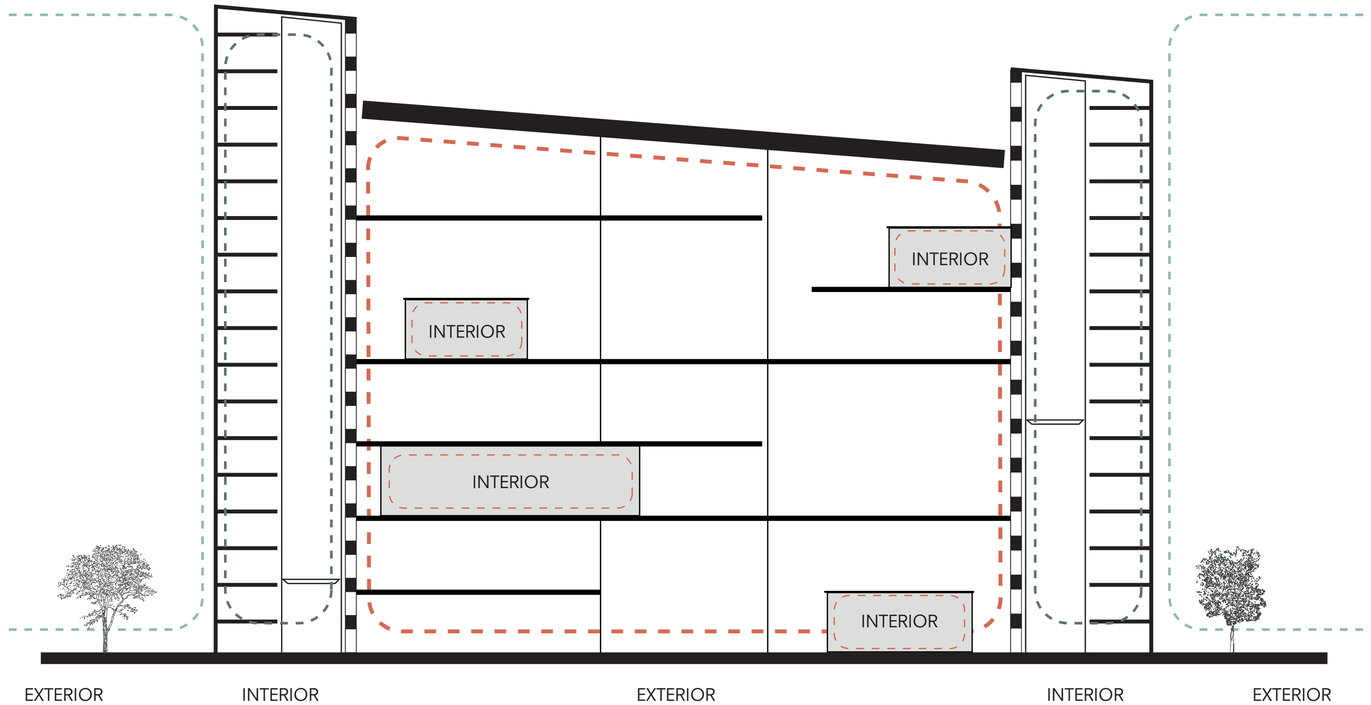
EXTERIOR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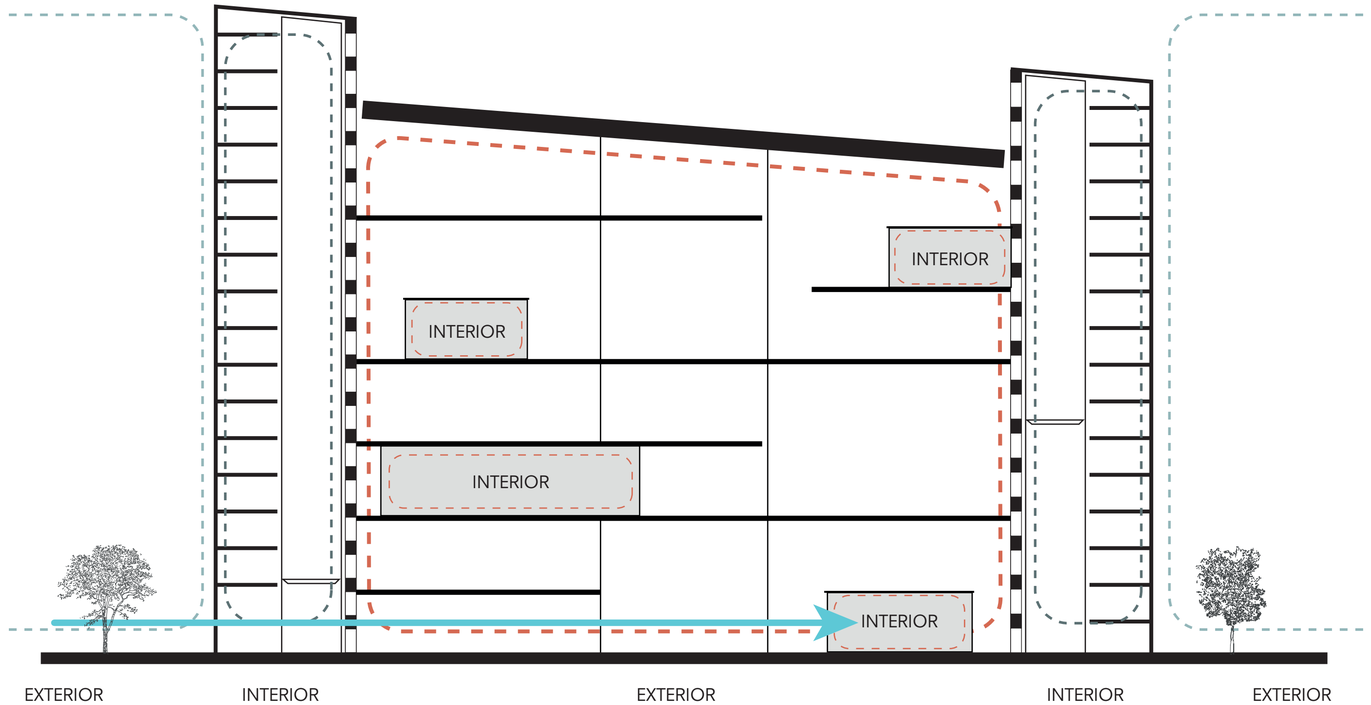
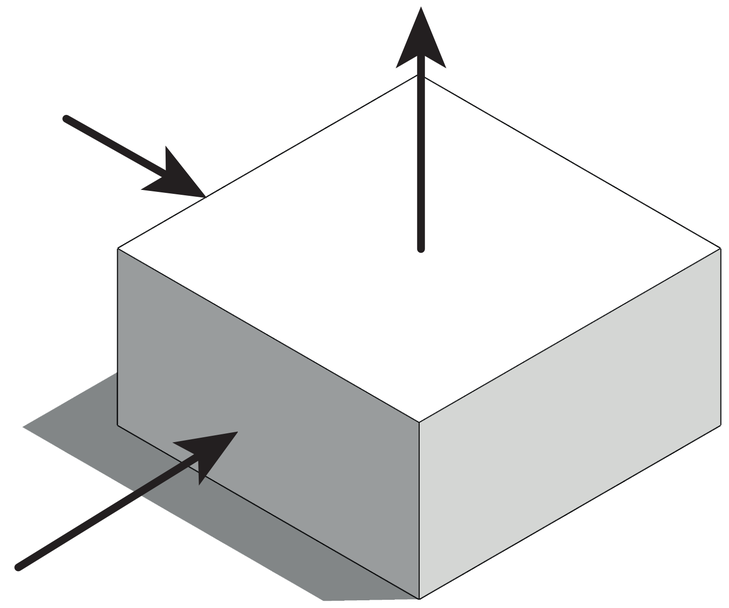
CP



ARCHITECTURAL LOBOTOMY



INCREASE PARKING DENSITY

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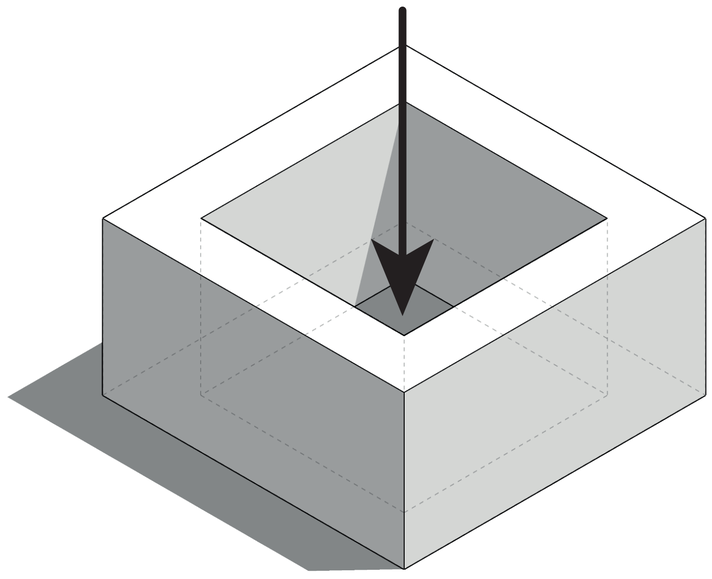
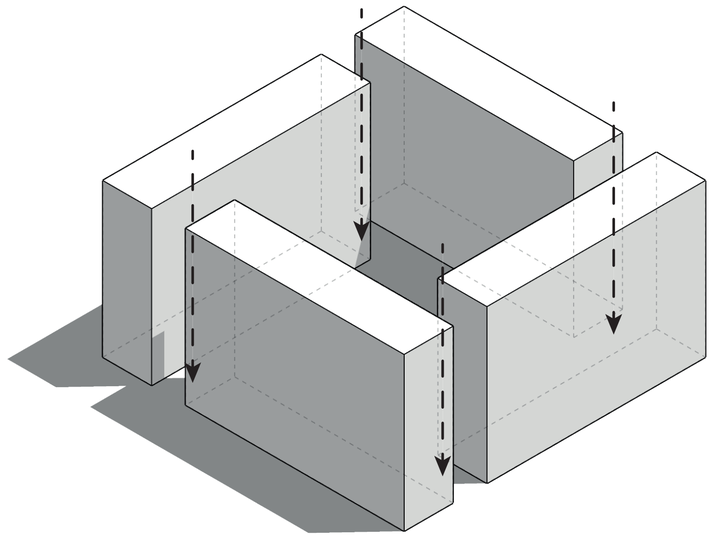


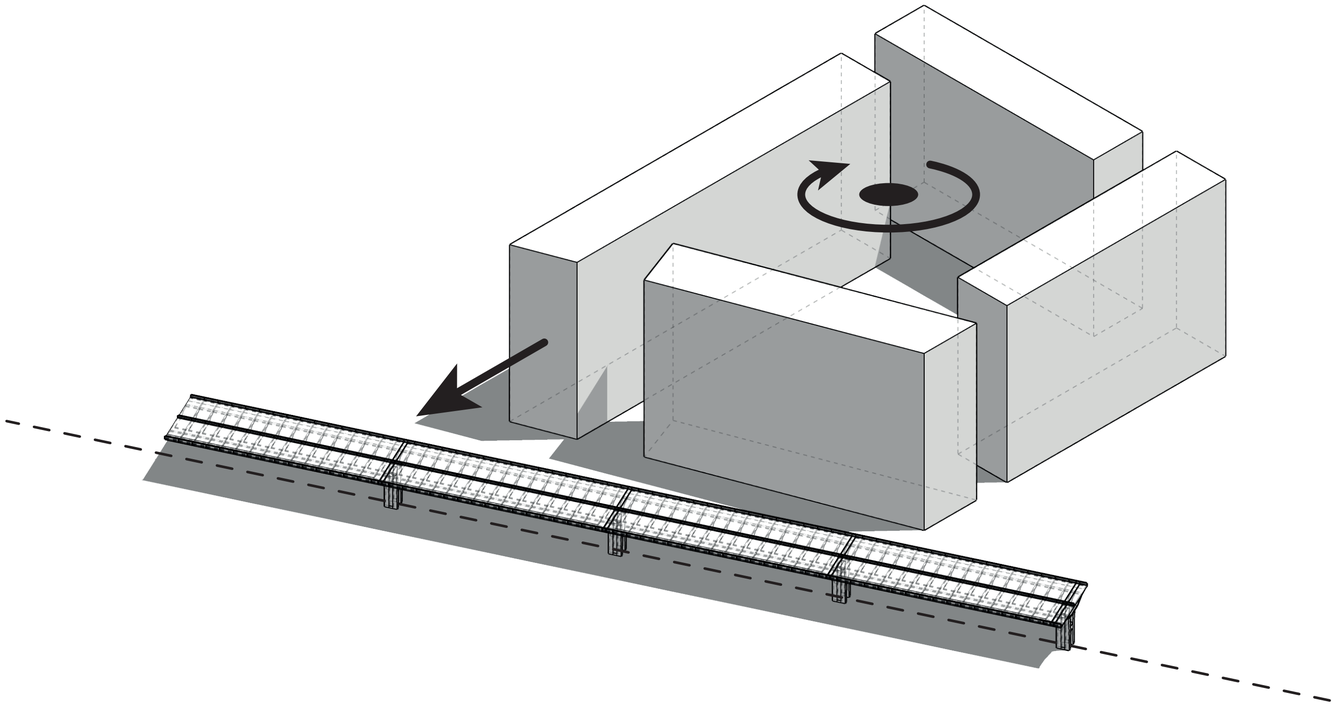
INTRODUCE COURTYARD

CP



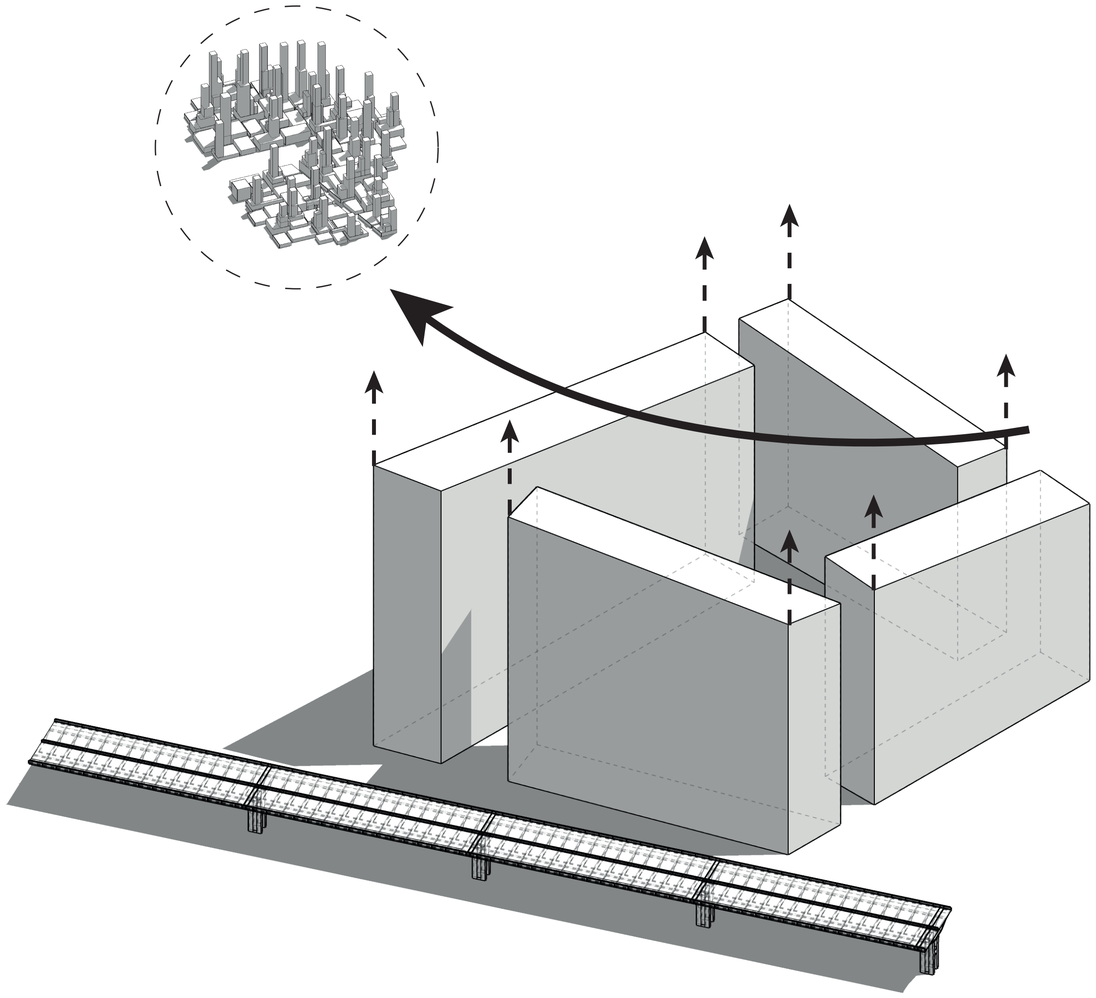
MAKE ACCESSIBLE FOR ALL DIRECTIONS

CP



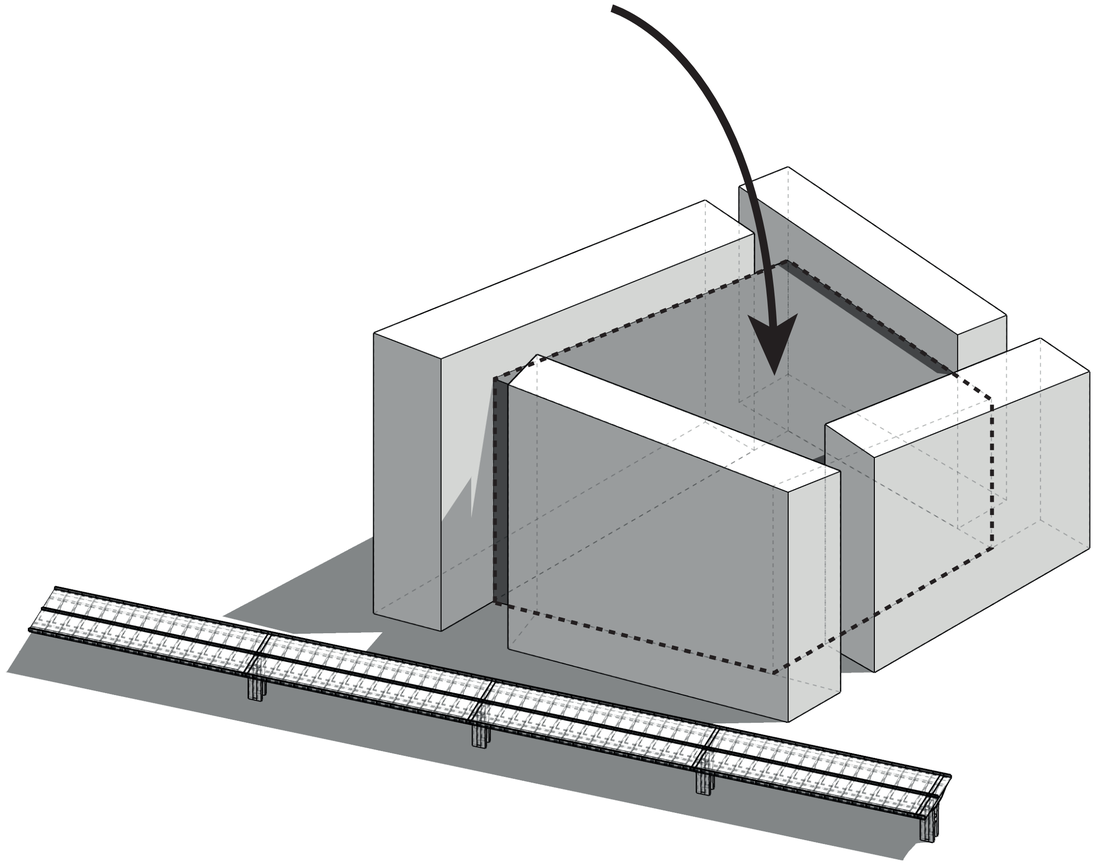
INVOLVE DIRECT CONTEXT

CP



GIVE SUGGESTION TO HIGH-RISE

CP

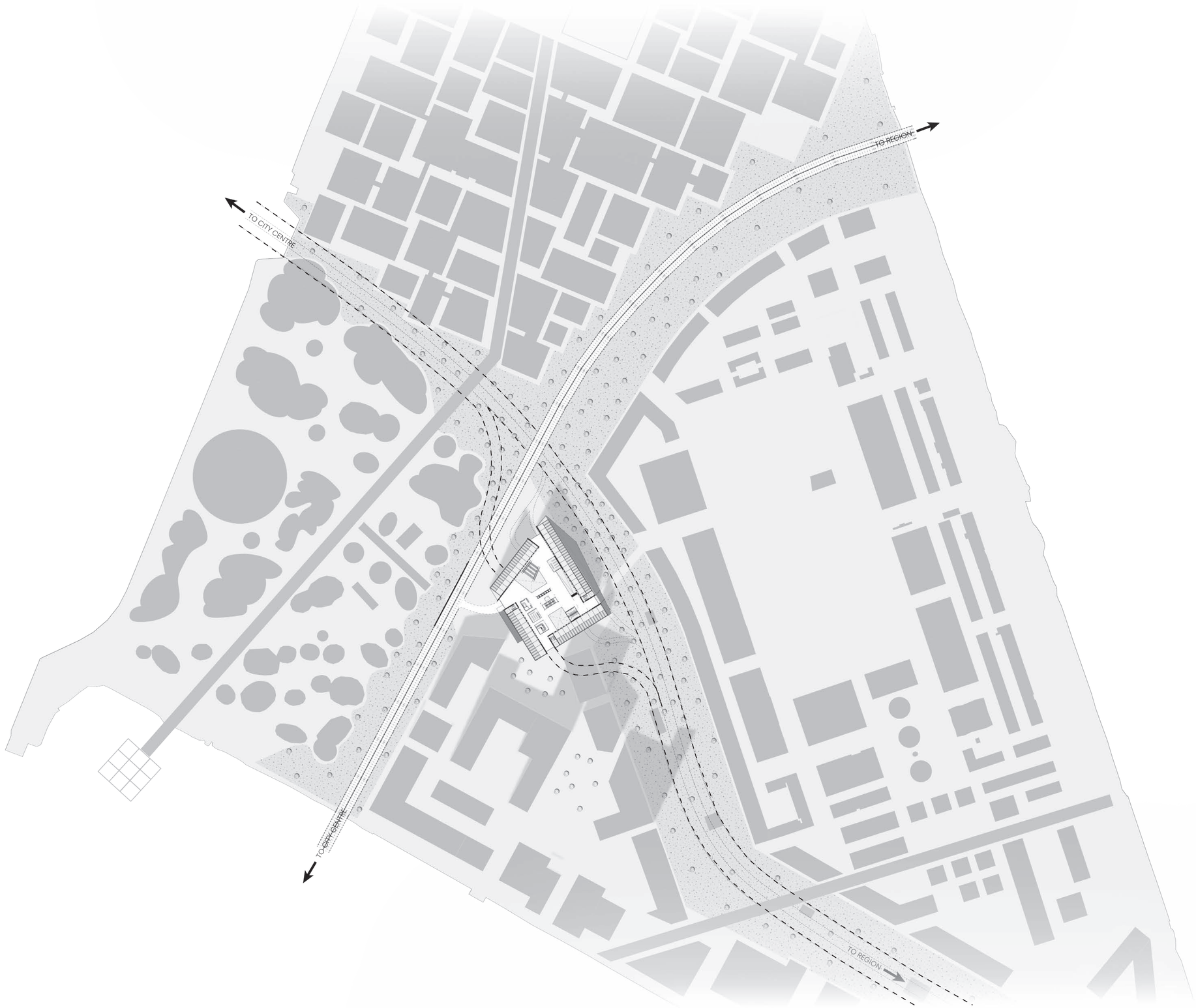


ENCAPSULATE COURTYARD

CP

THE PROPOSAL

PROPOSED URBAN PLAN

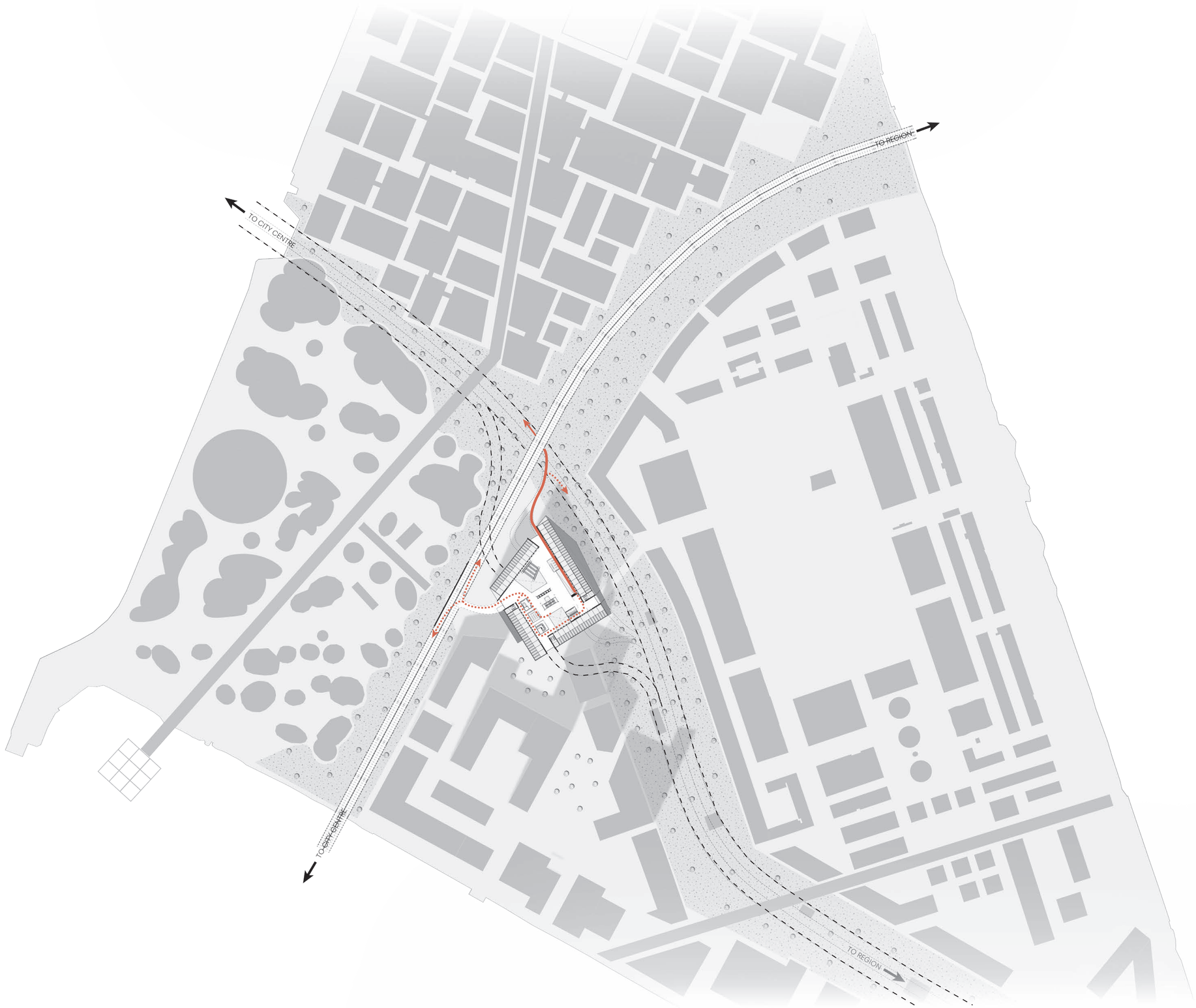


PLACEMENT ZEEBURGEREILAND

CP

REGIONAL TRANSPORT LOGISTICS

CP

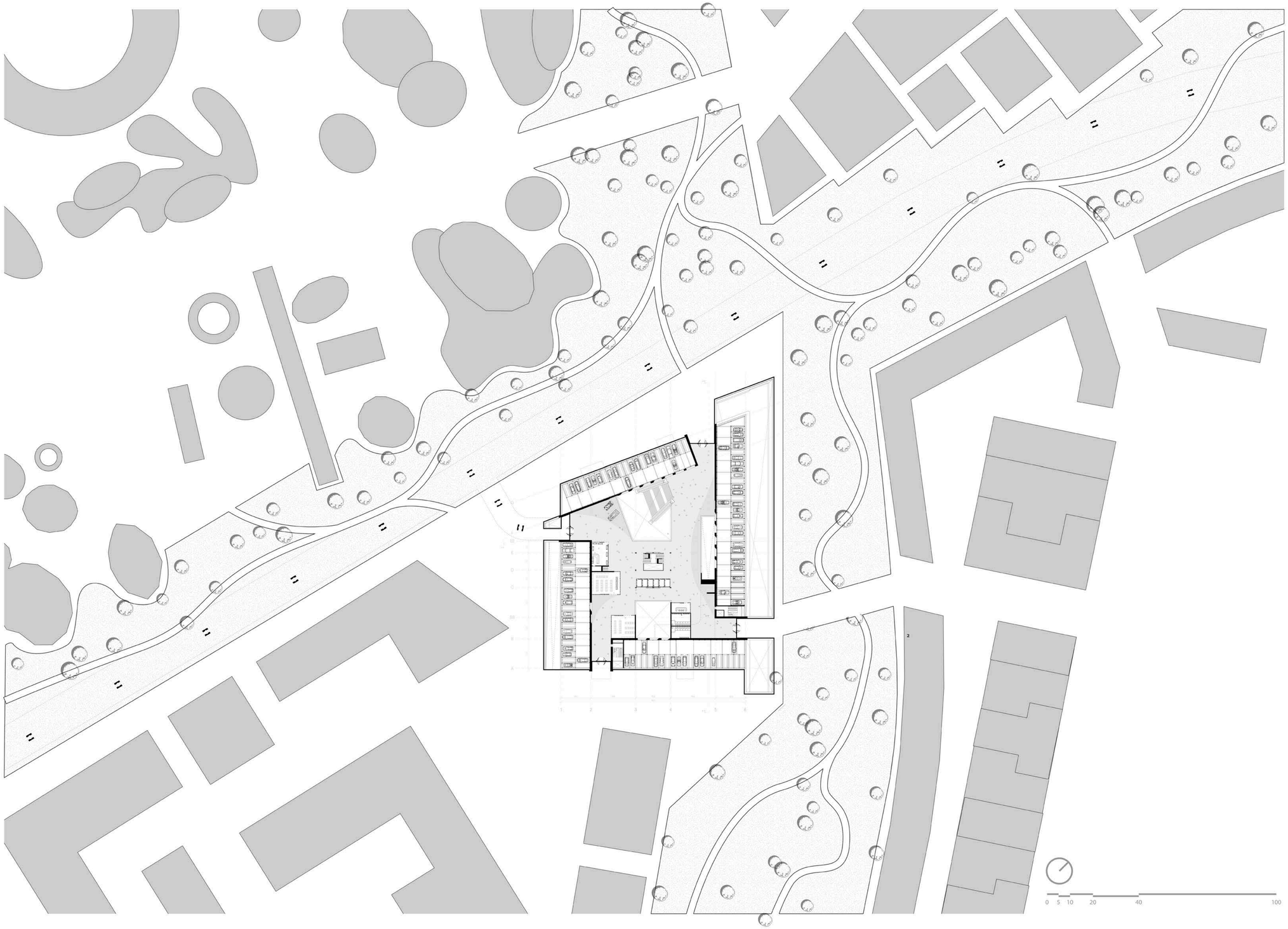


SHARED MOBILITY LOGISTICS

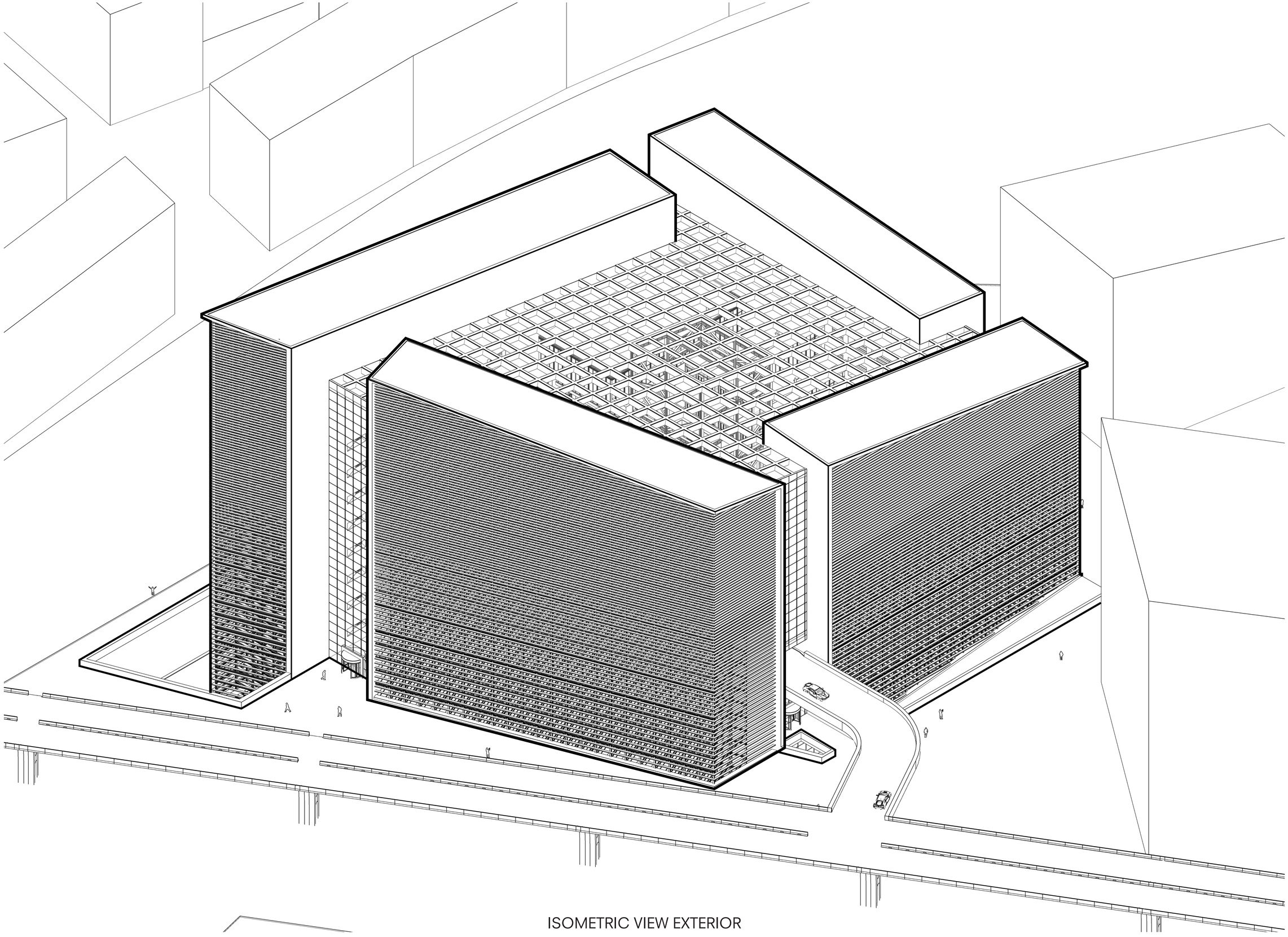
CP

PUBLIC TRANSIT LOGISTICS

CP

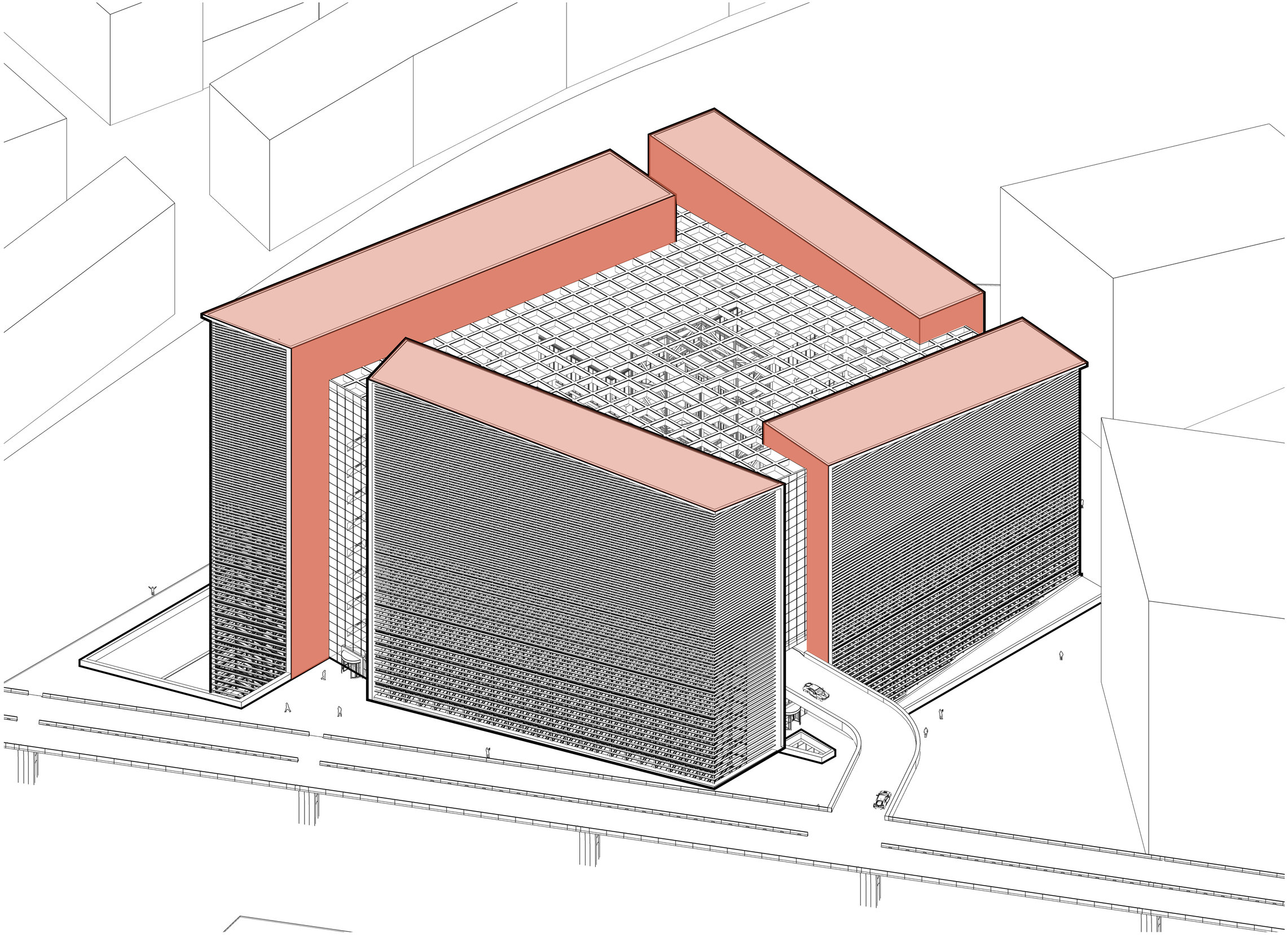


URBAN IMPLEMENTATION



ISOMETRIC VIEW EXTERIOR

CP



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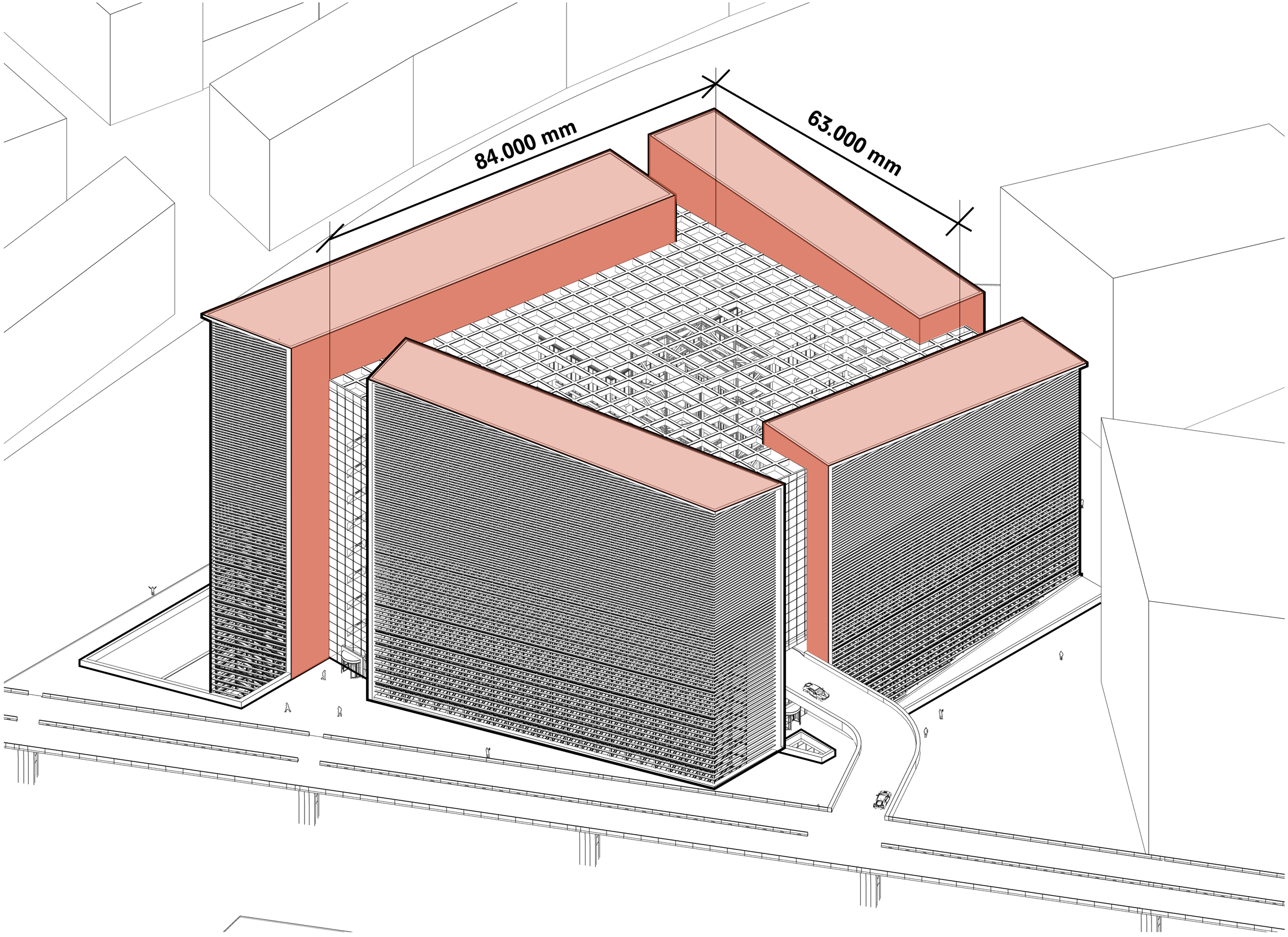
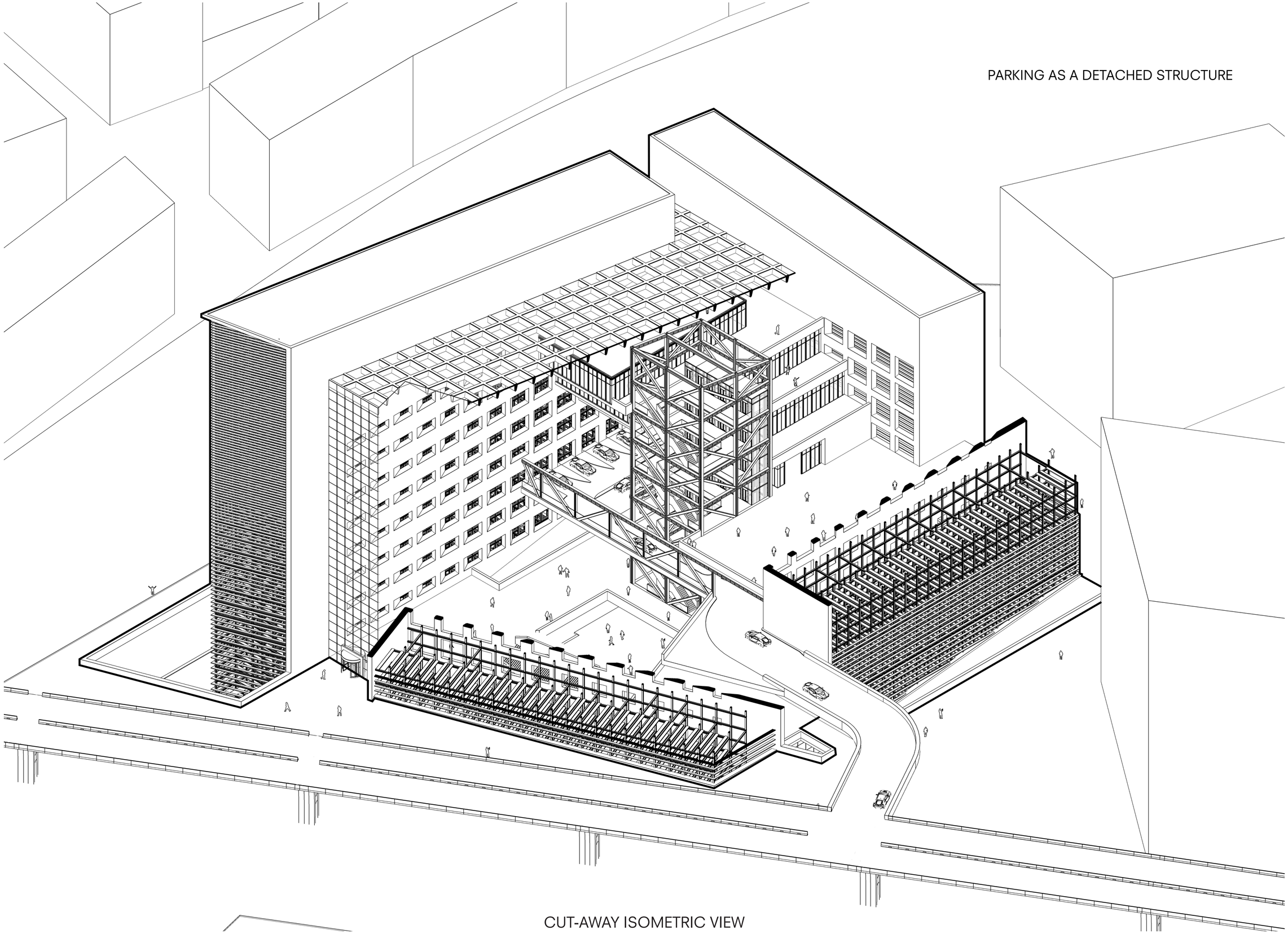


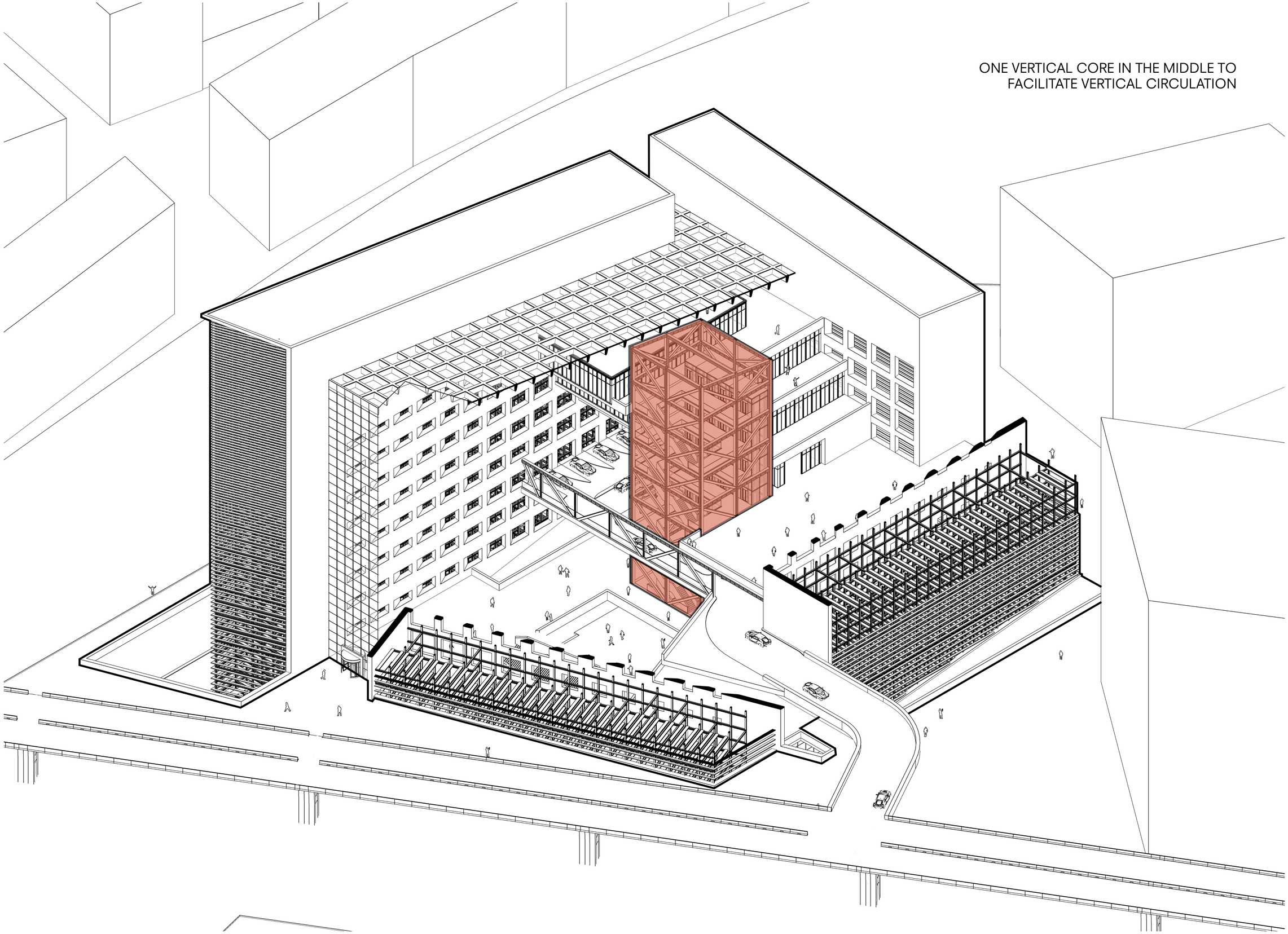
CP

PARKING AS A DETACHED STRUCTURE

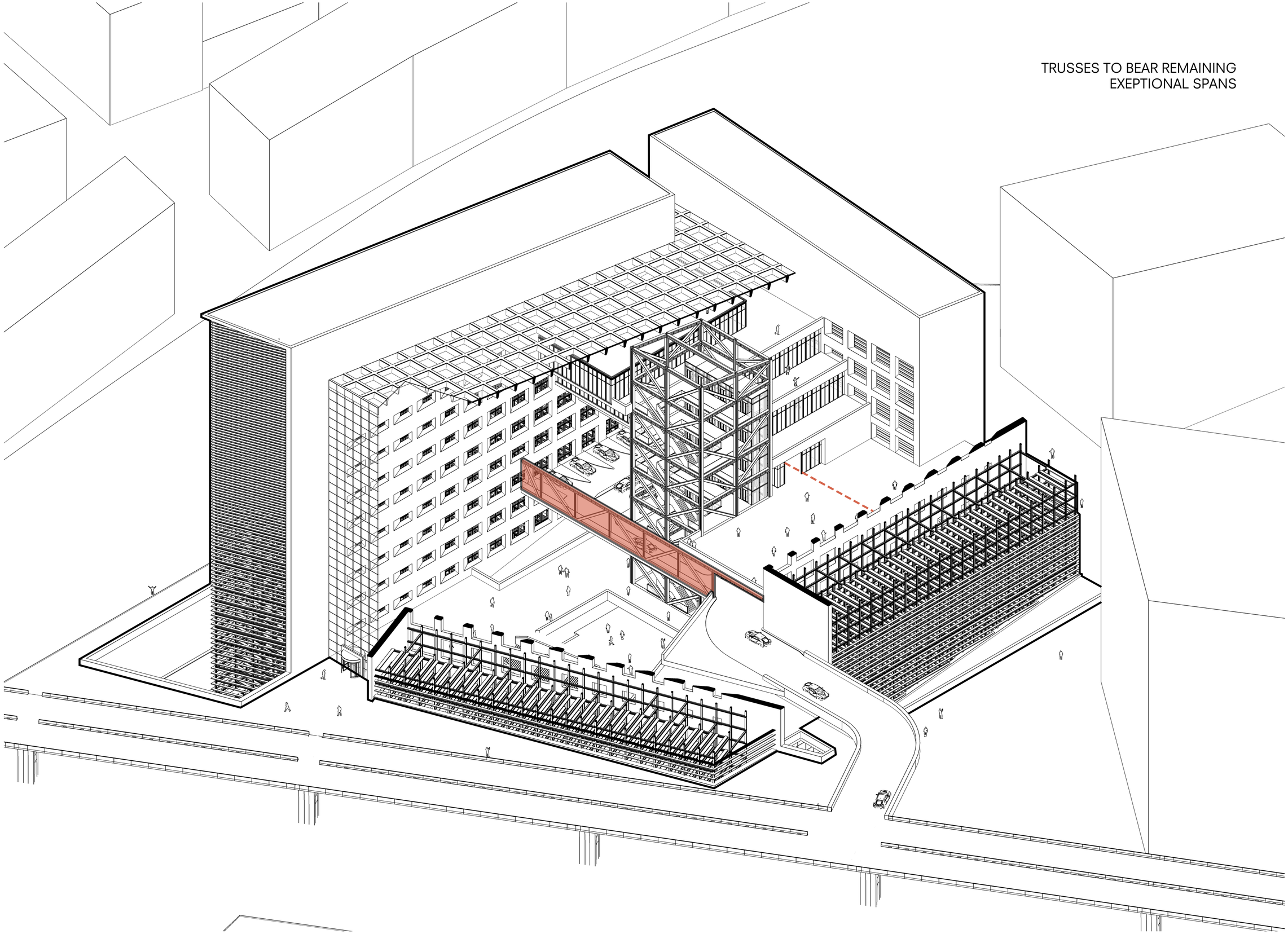


CUT-AWAY ISOMETRIC VIEW

ONE VERTICAL CORE IN THE MIDDLE TO
FACILITATE VERTICAL CIRCULATION

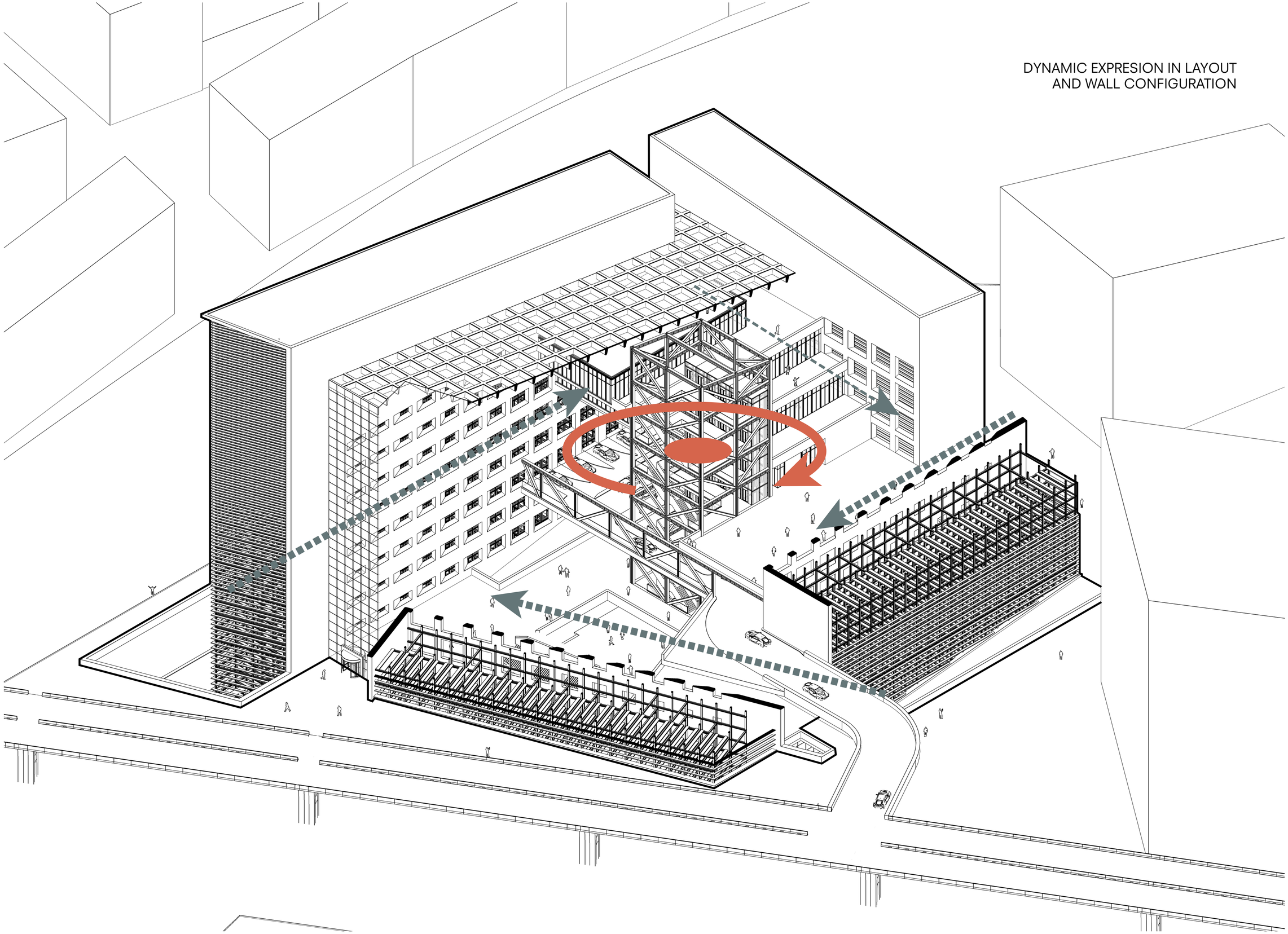


TRUSSES TO BEAR REMAINING
EXEPTIONAL SPANS

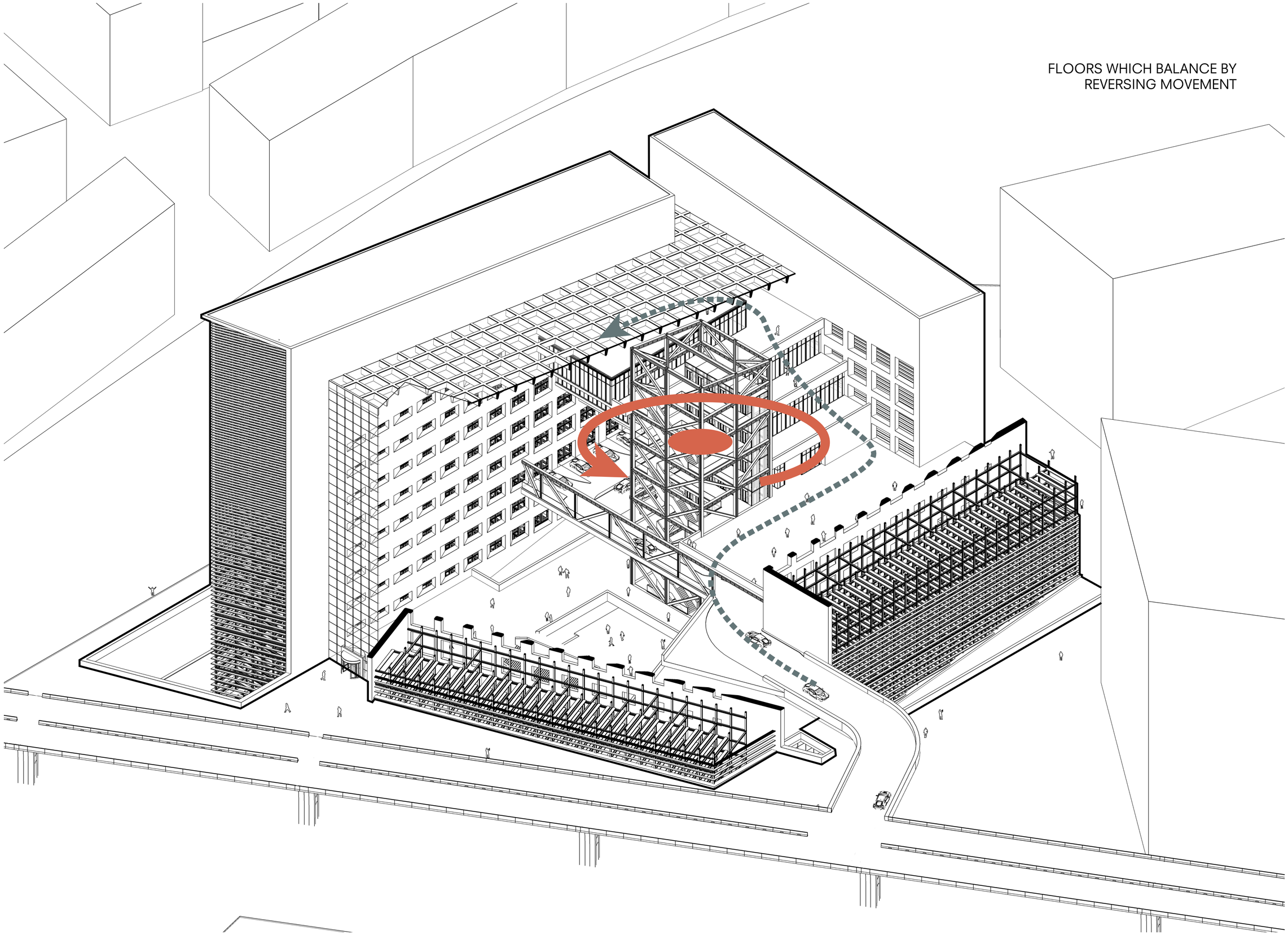


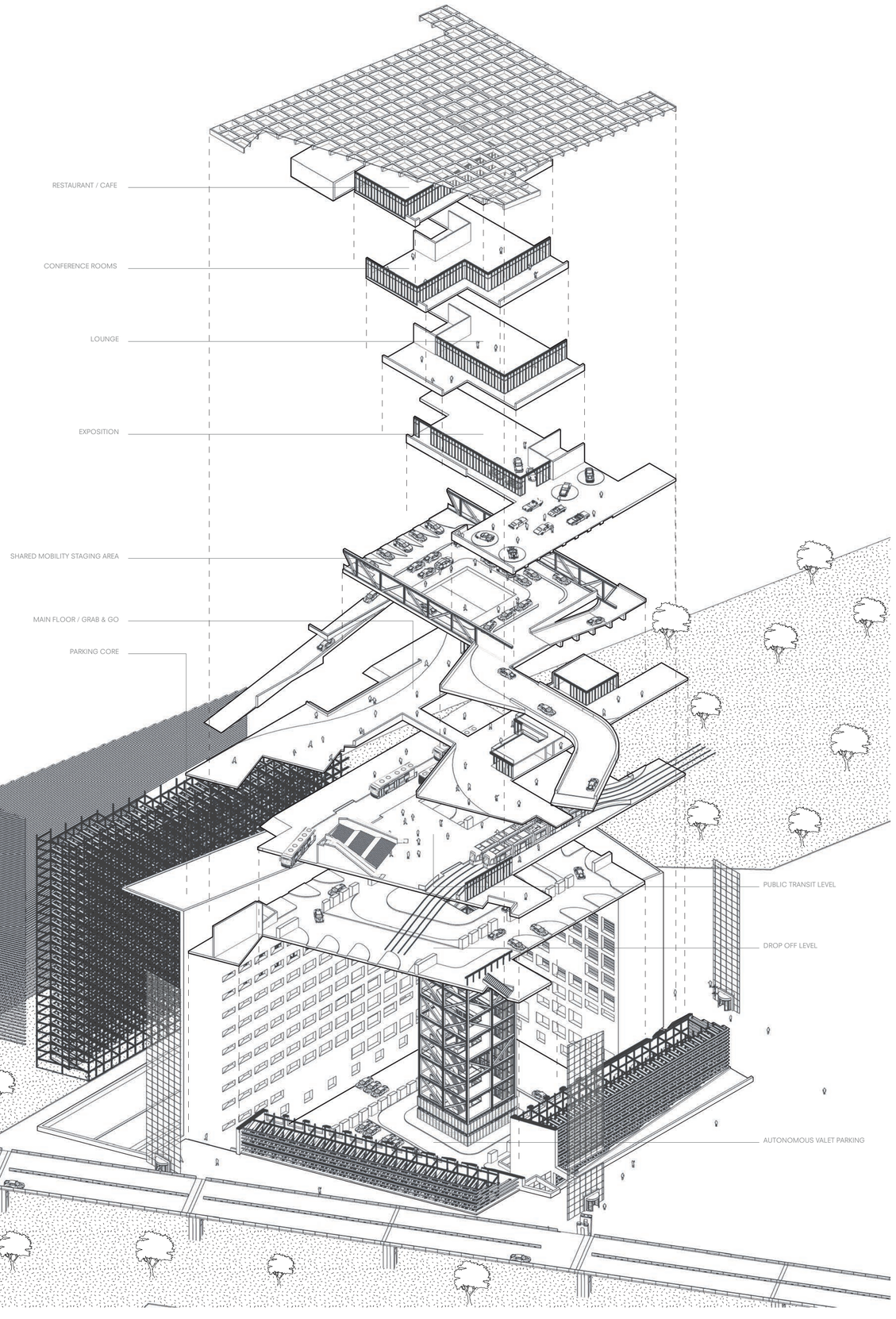
CP

DYNAMIC EXPRESION IN LAYOUT
AND WALL CONFIGURATION

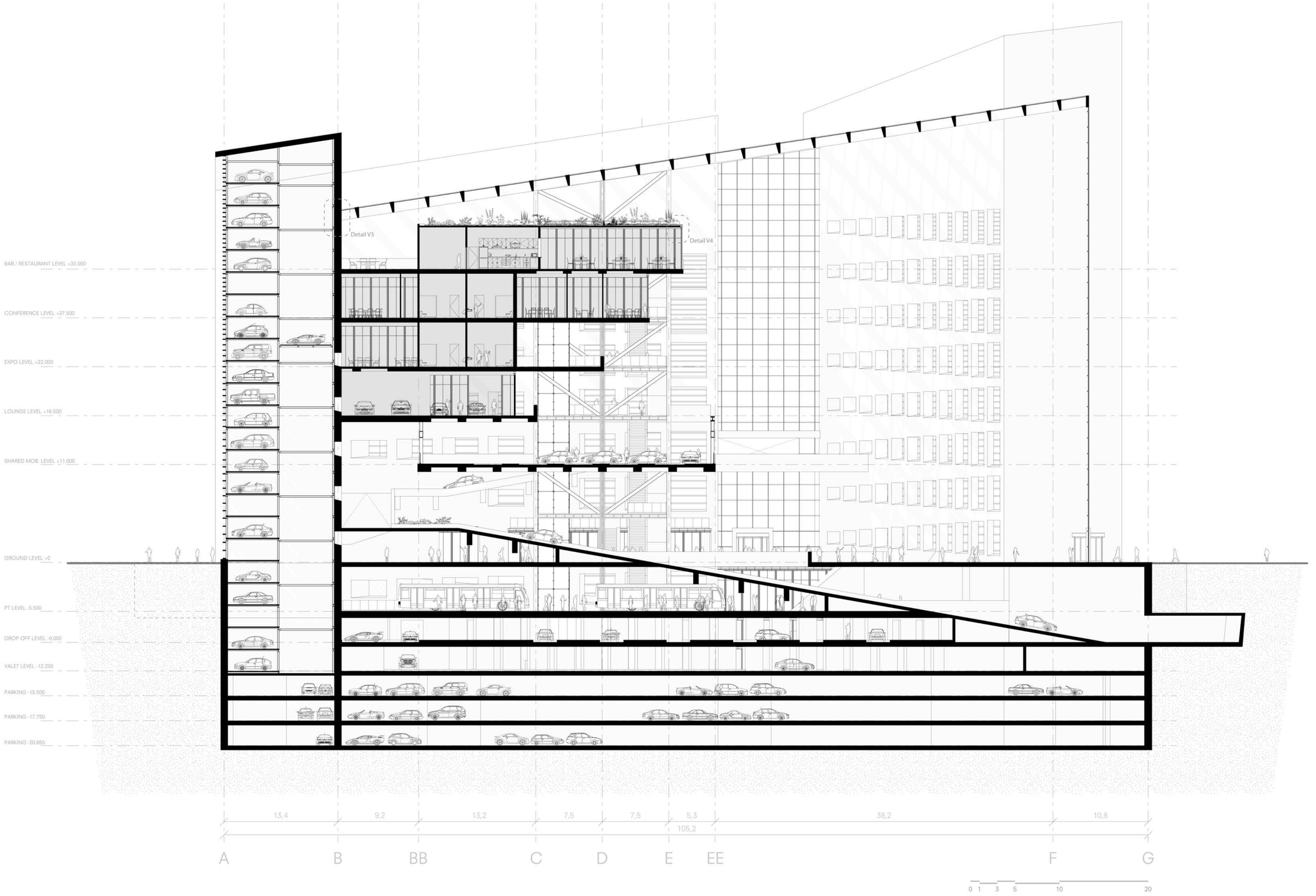


FLOORS WHICH BALANCE BY
REVERSING MOVEMENT



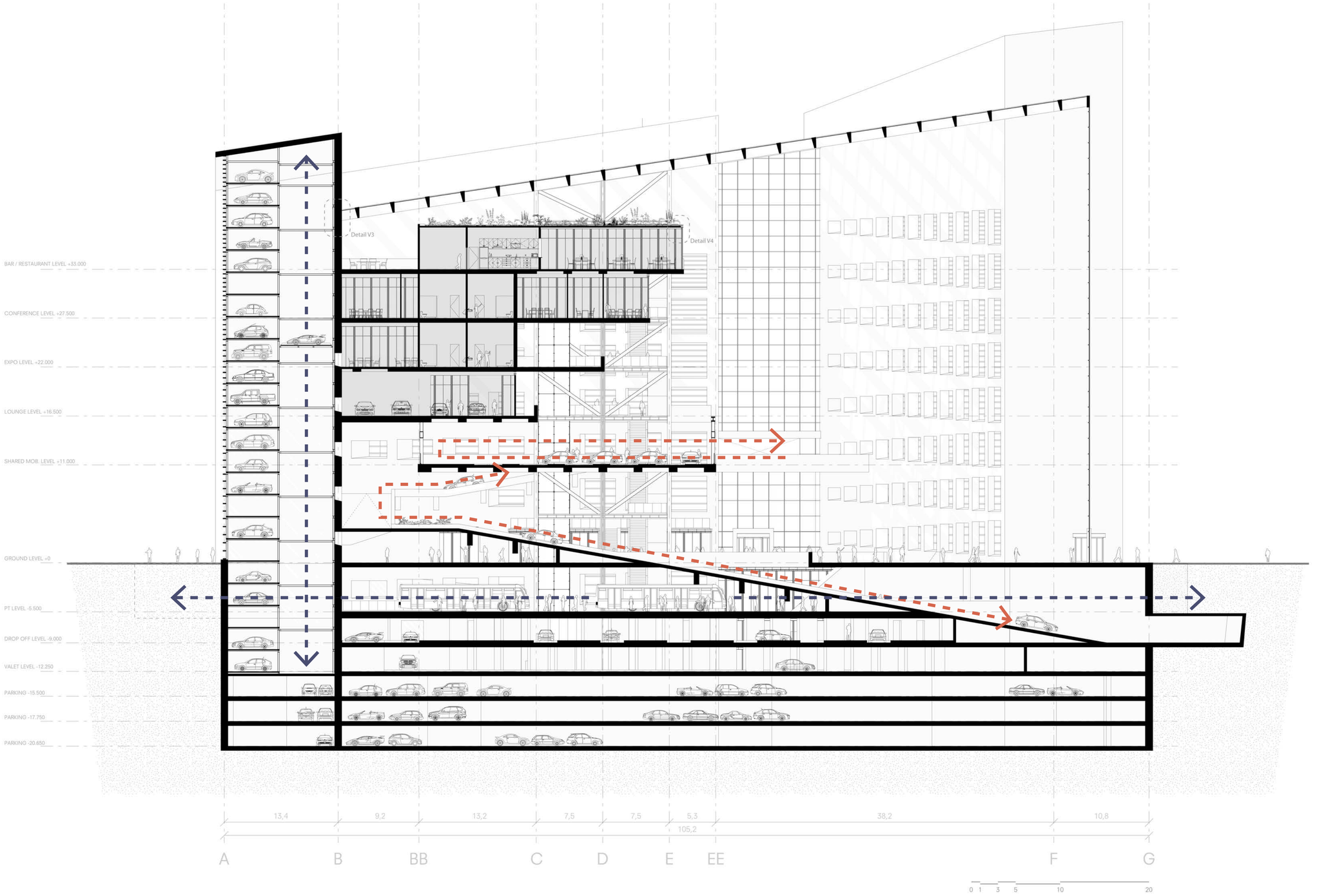

RESTAURANT / CAFE
CONFERENCE ROOMS
LOUNGE
EXPOSITION
SHARED MOBILITY STAGING AREA
MAIN FLOOR / GRAB & GO
PARKING CORE
PUBLIC TRANSIT LEVEL
DROP OFF LEVEL
AUTONOMOUS VALET PARKING

CP



LONGITUDINAL SECTION

CP



LONGITUDINAL SECTION

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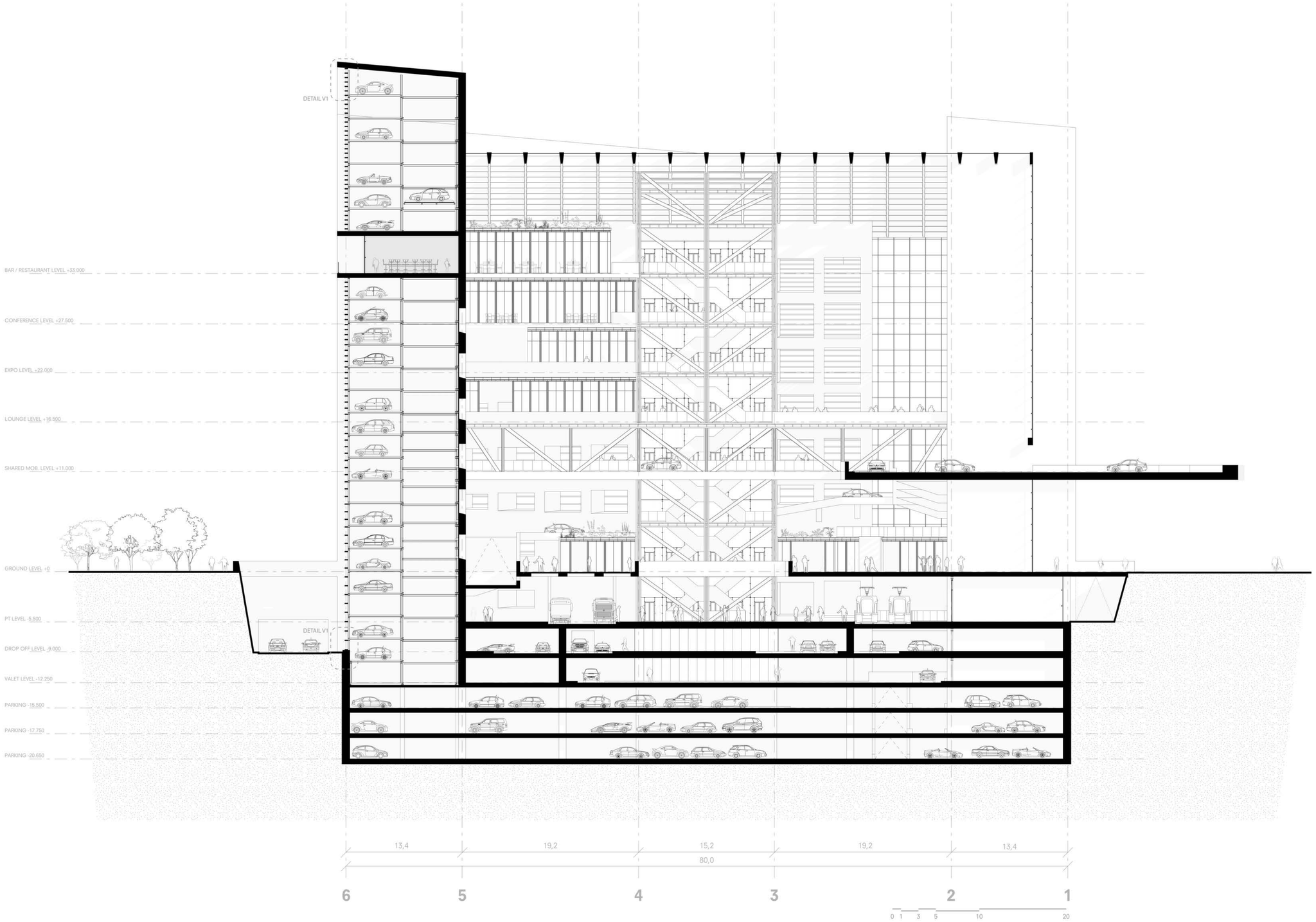

CROSS SECTION

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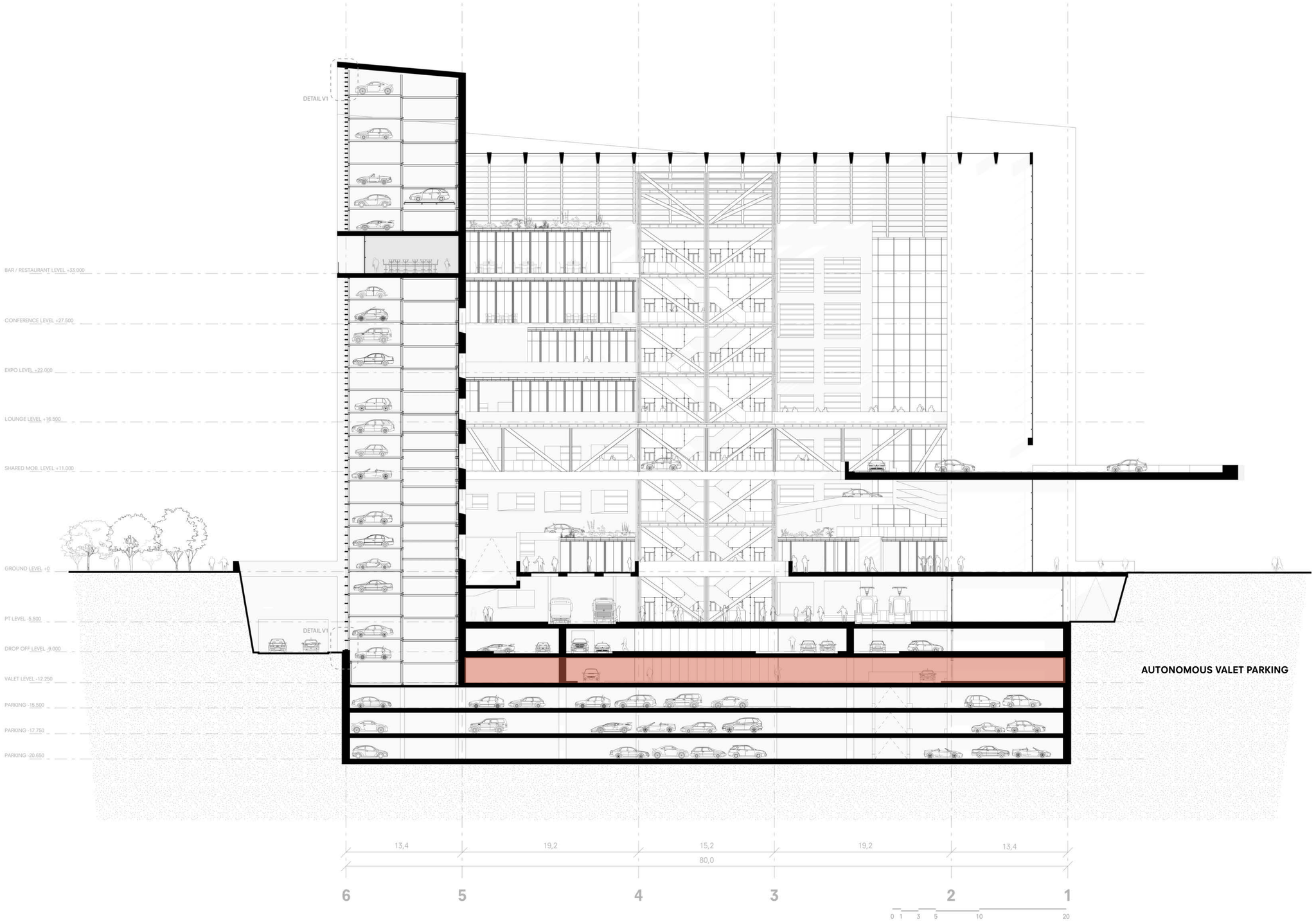

CROSS SECTION

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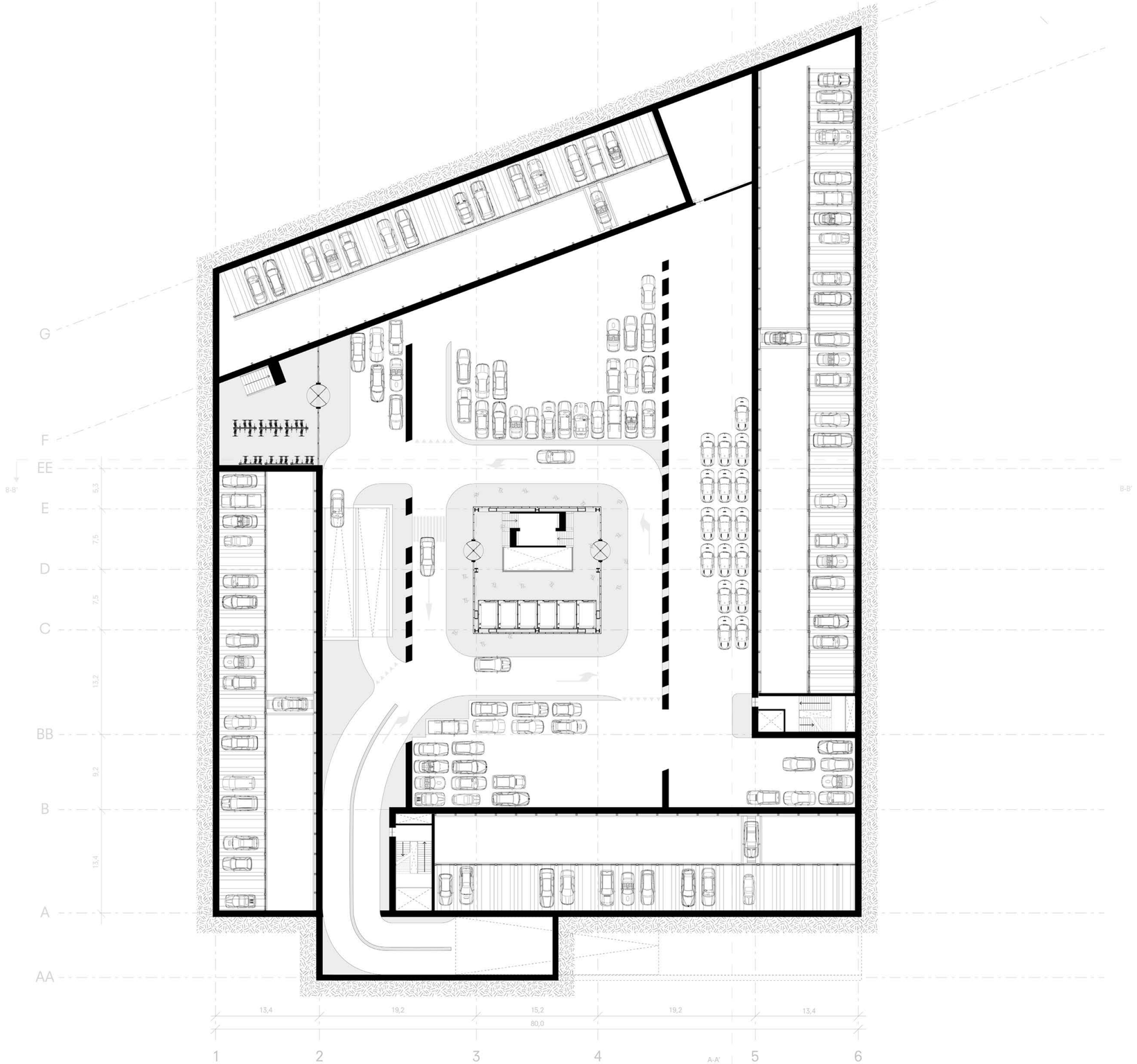
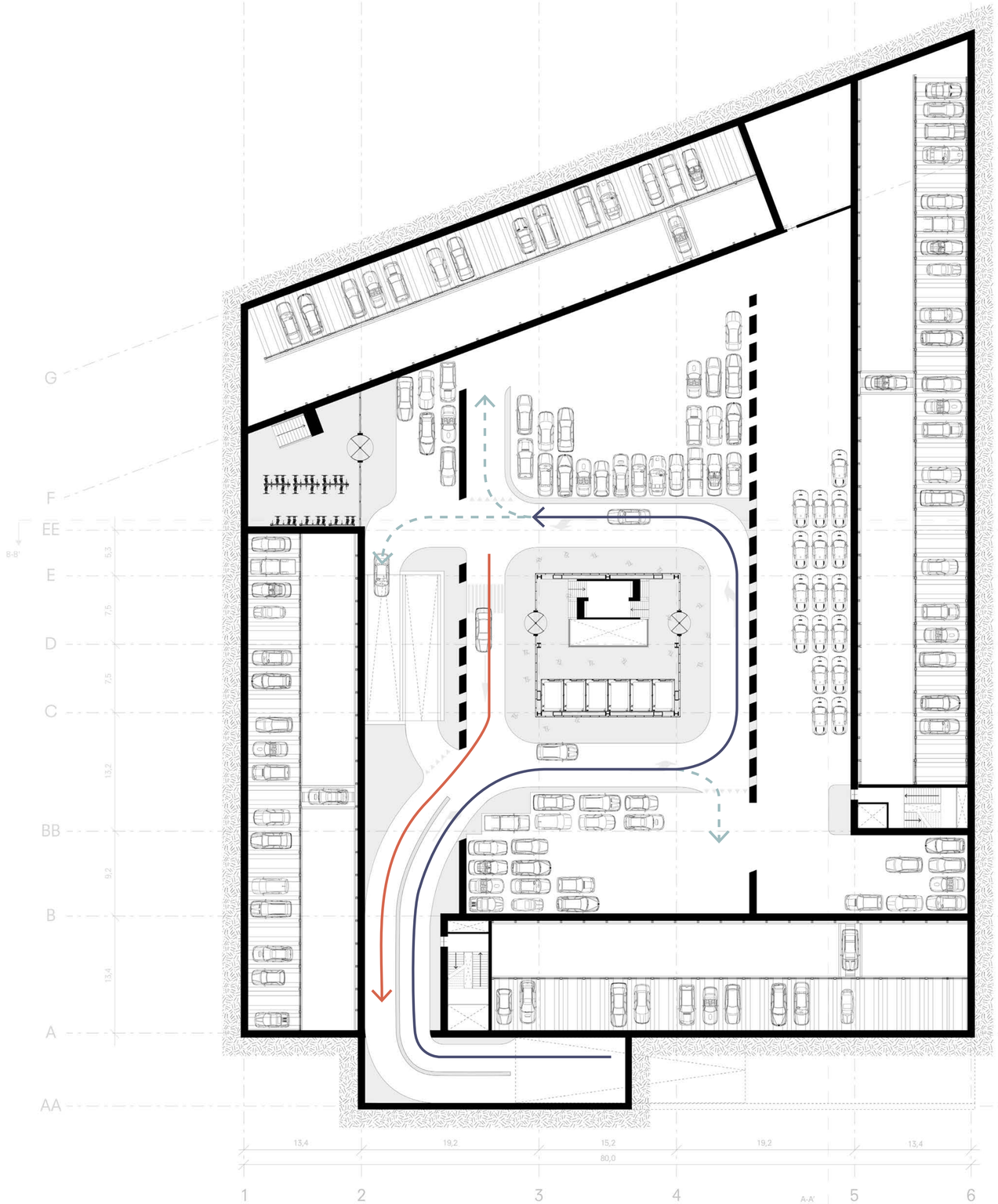


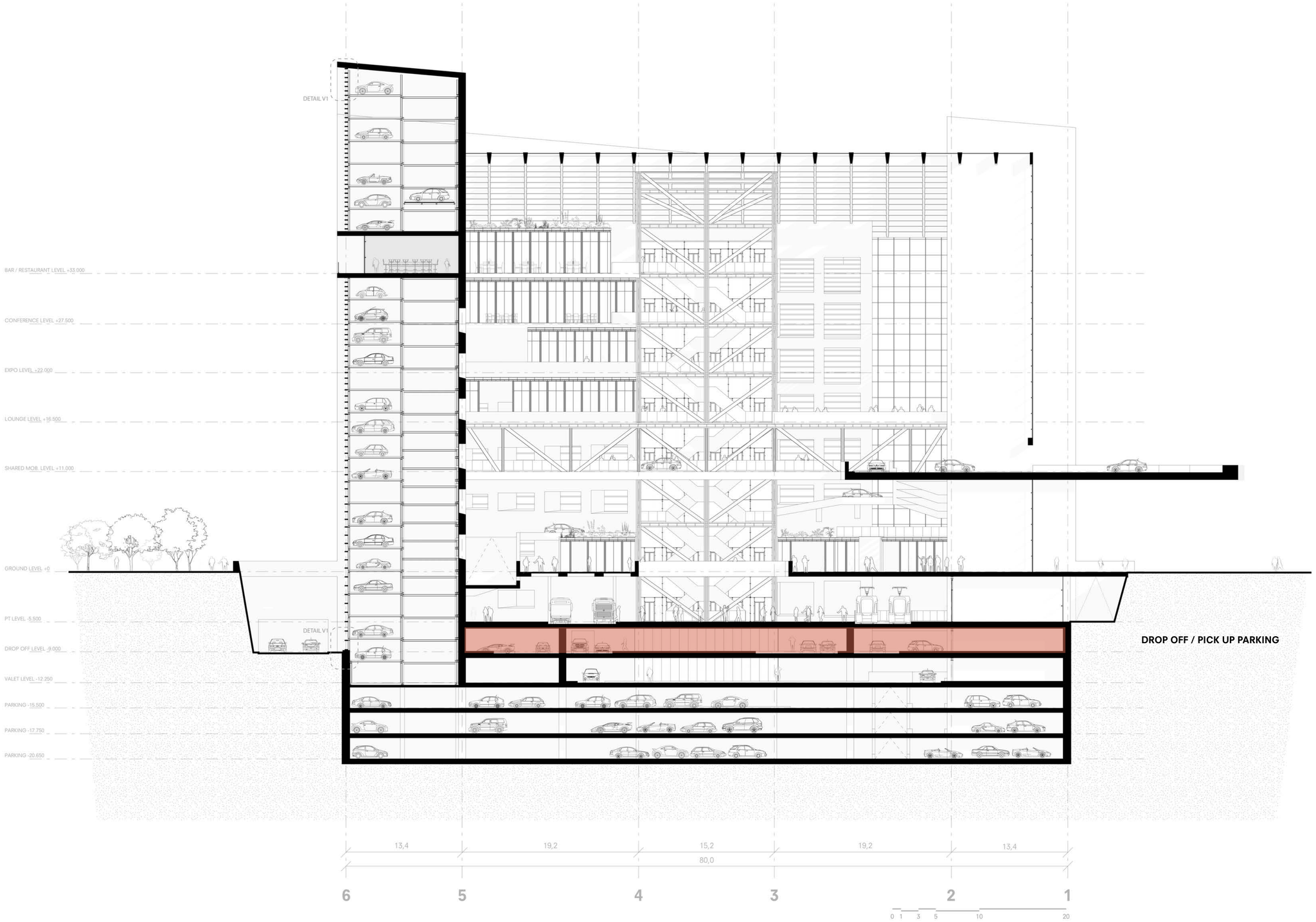
AUTONOMOUS PARKING LEVEL

CP



AUTONOMOUS PARKING LEVEL

CP



CROSS SECTION

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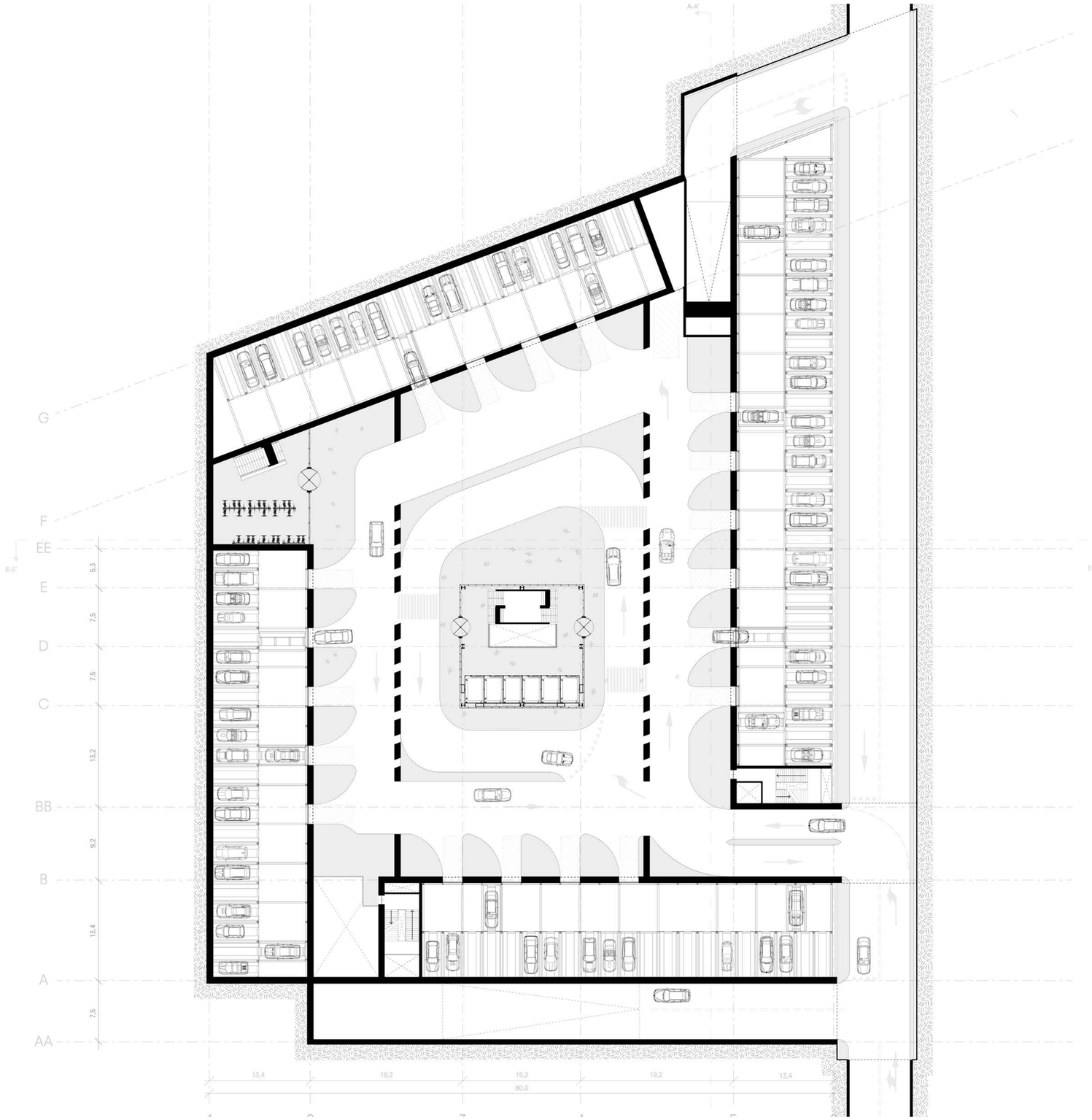
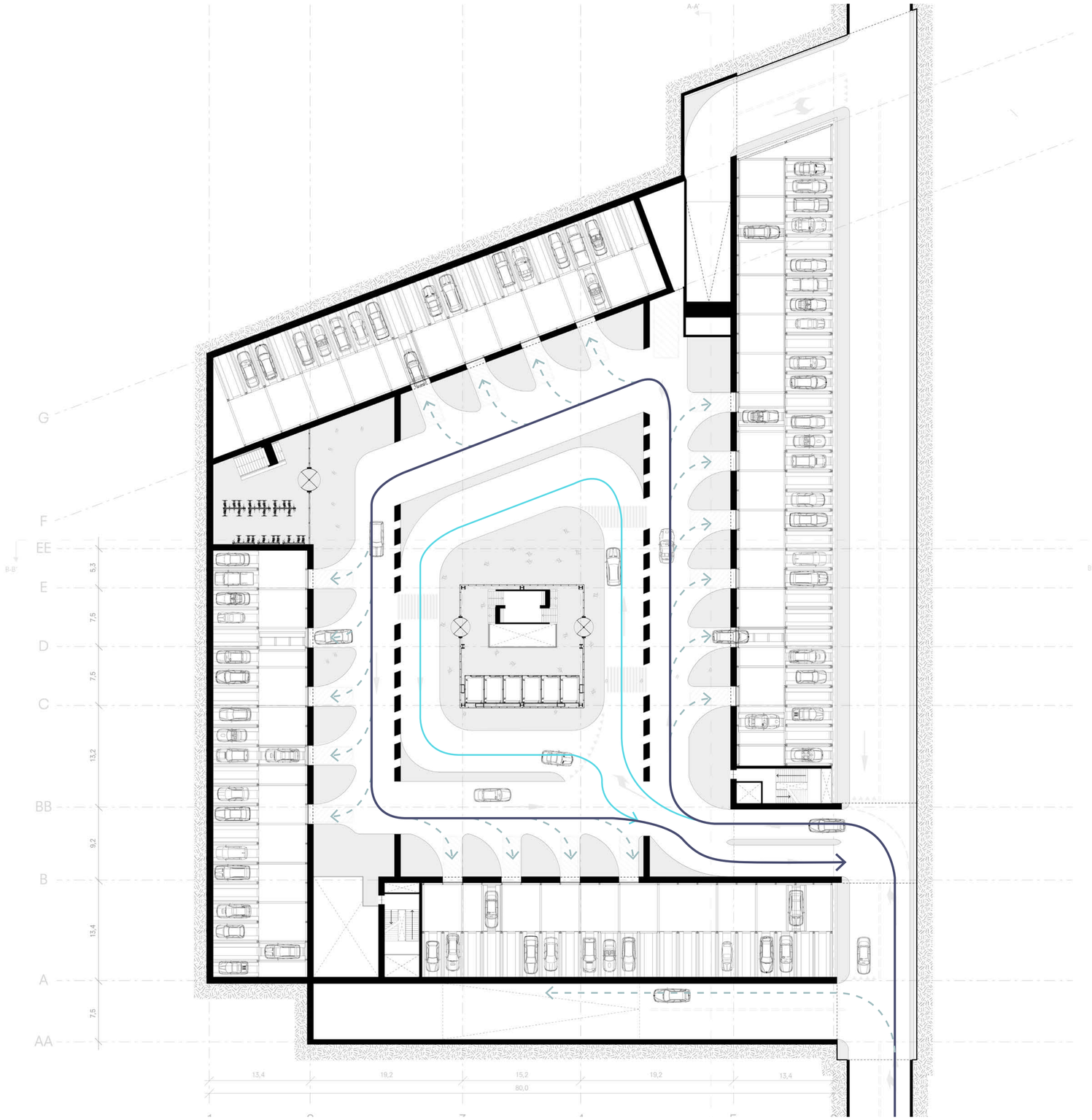


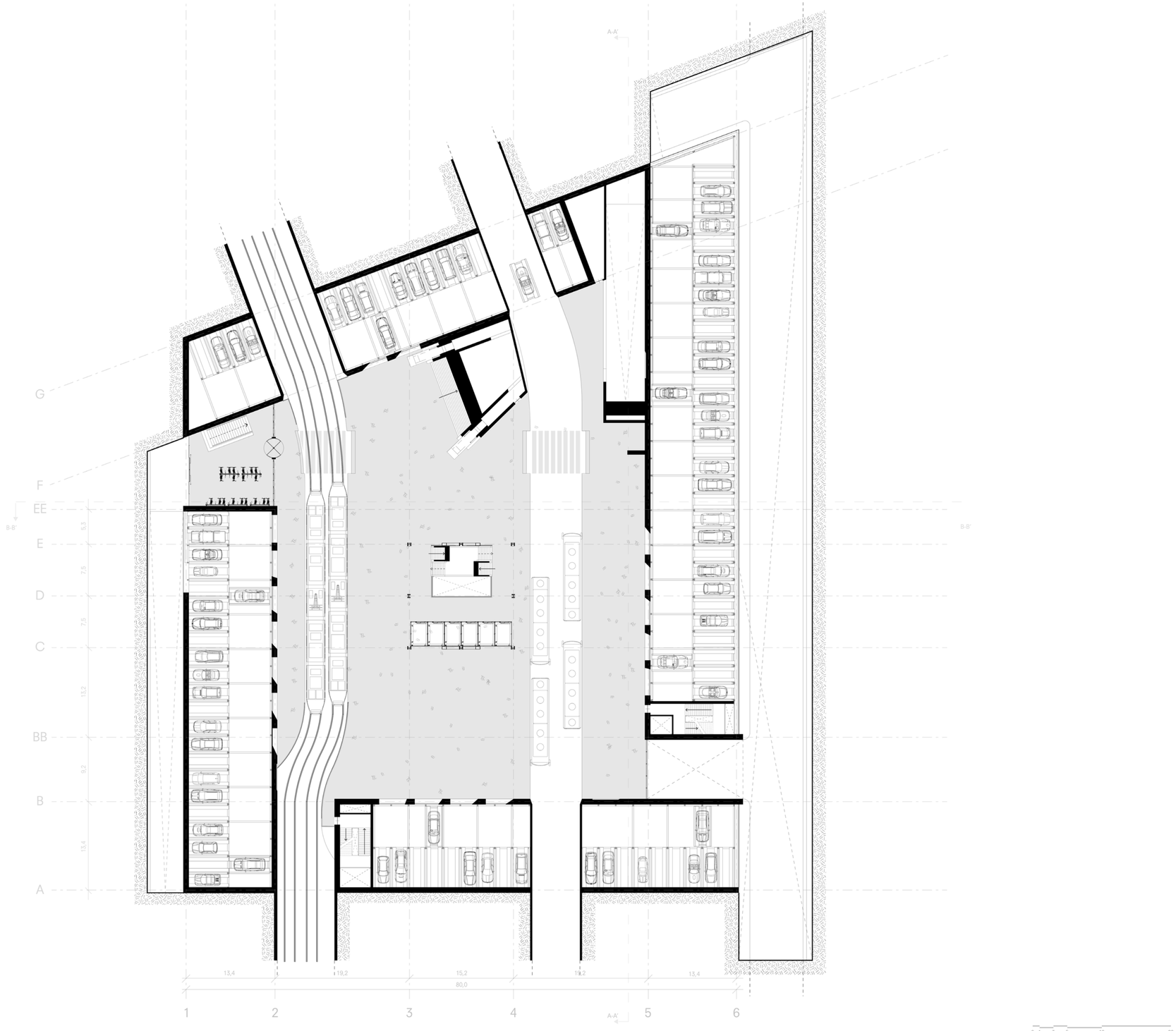
DROP-OFF / PICK-UP LEVEL

CP



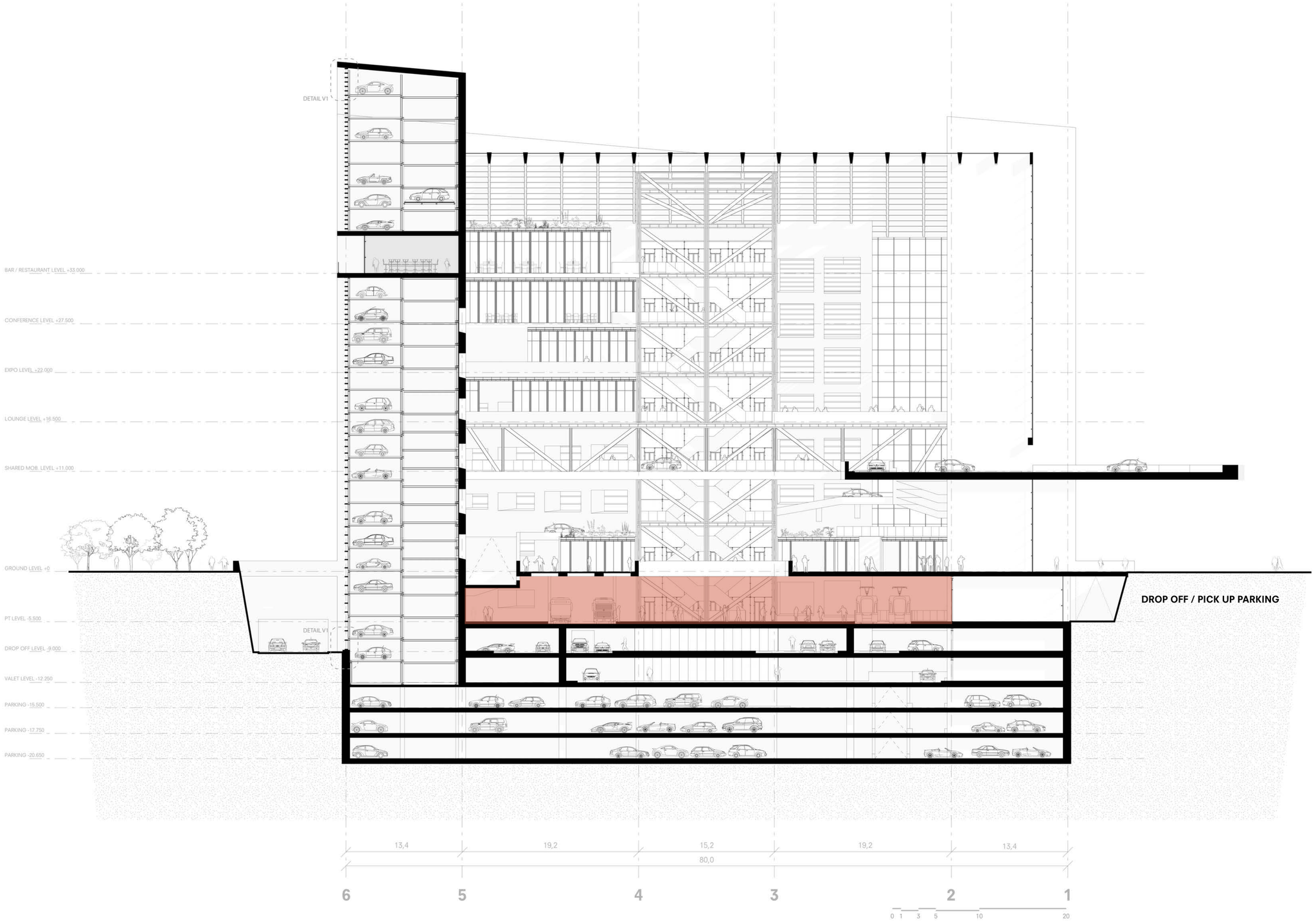
DROP-OFF / PICK-UP LEVEL

CP



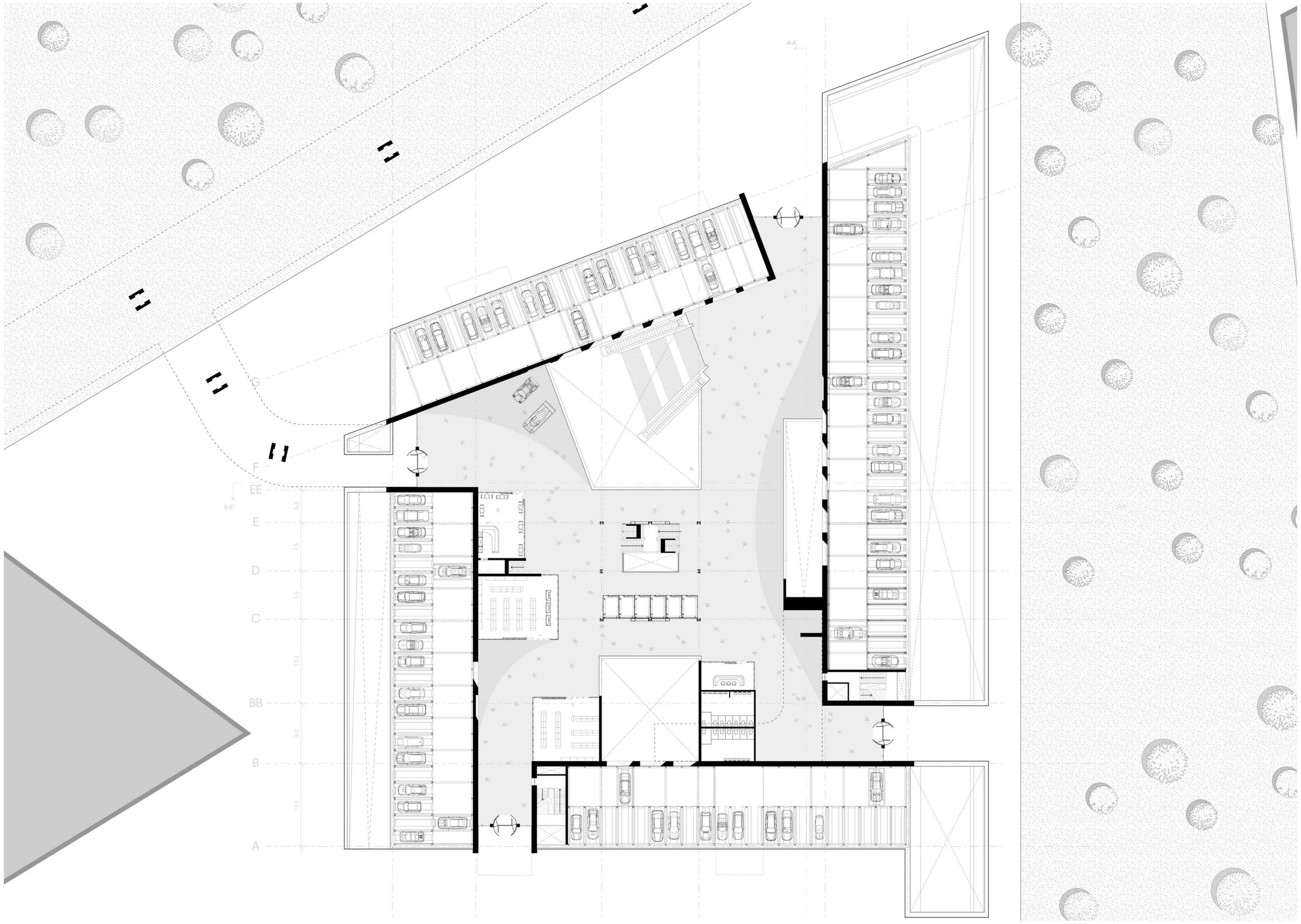
PUBLIC TRANSIT LEVEL

CP



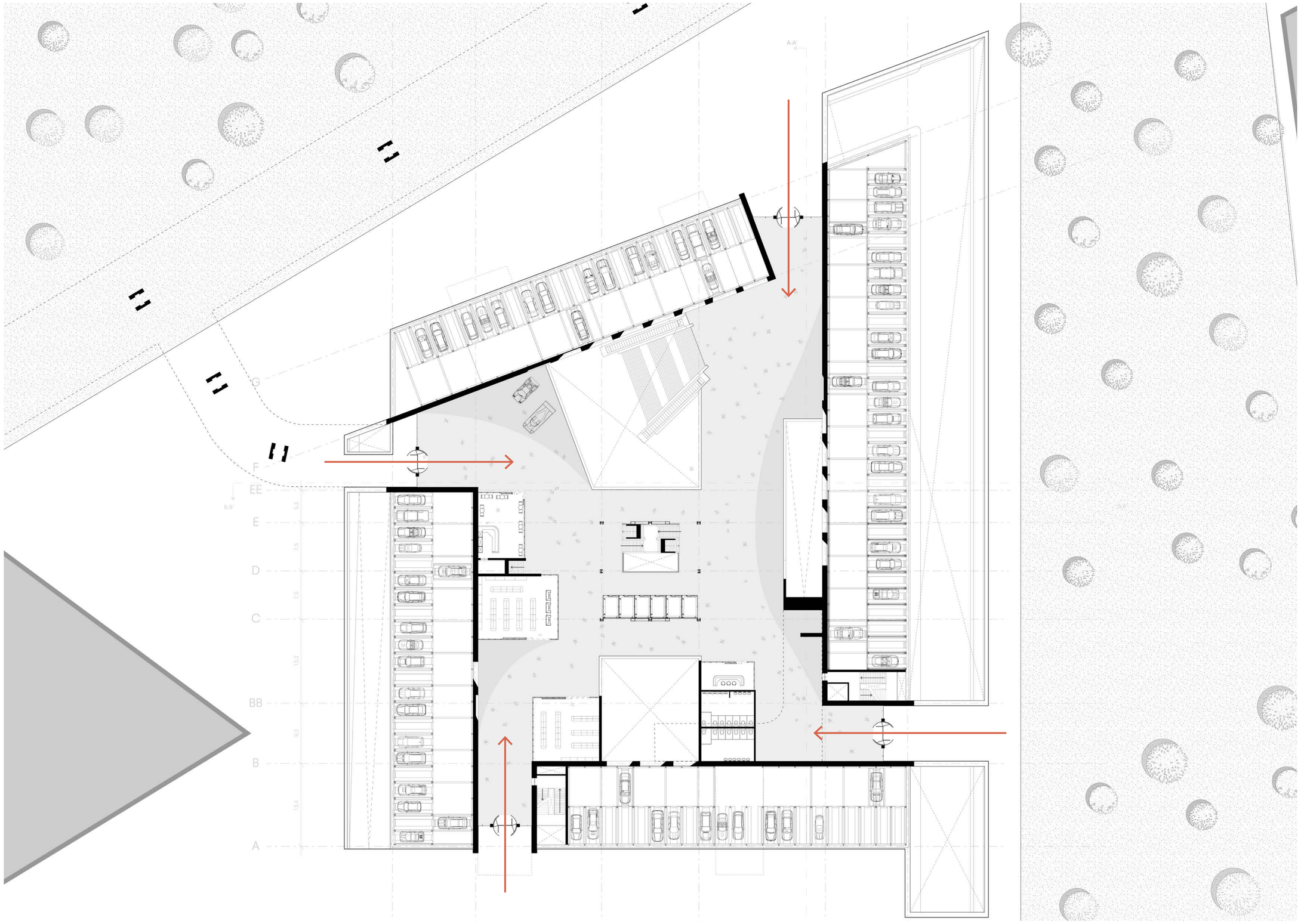
CROSS SECTION

CP



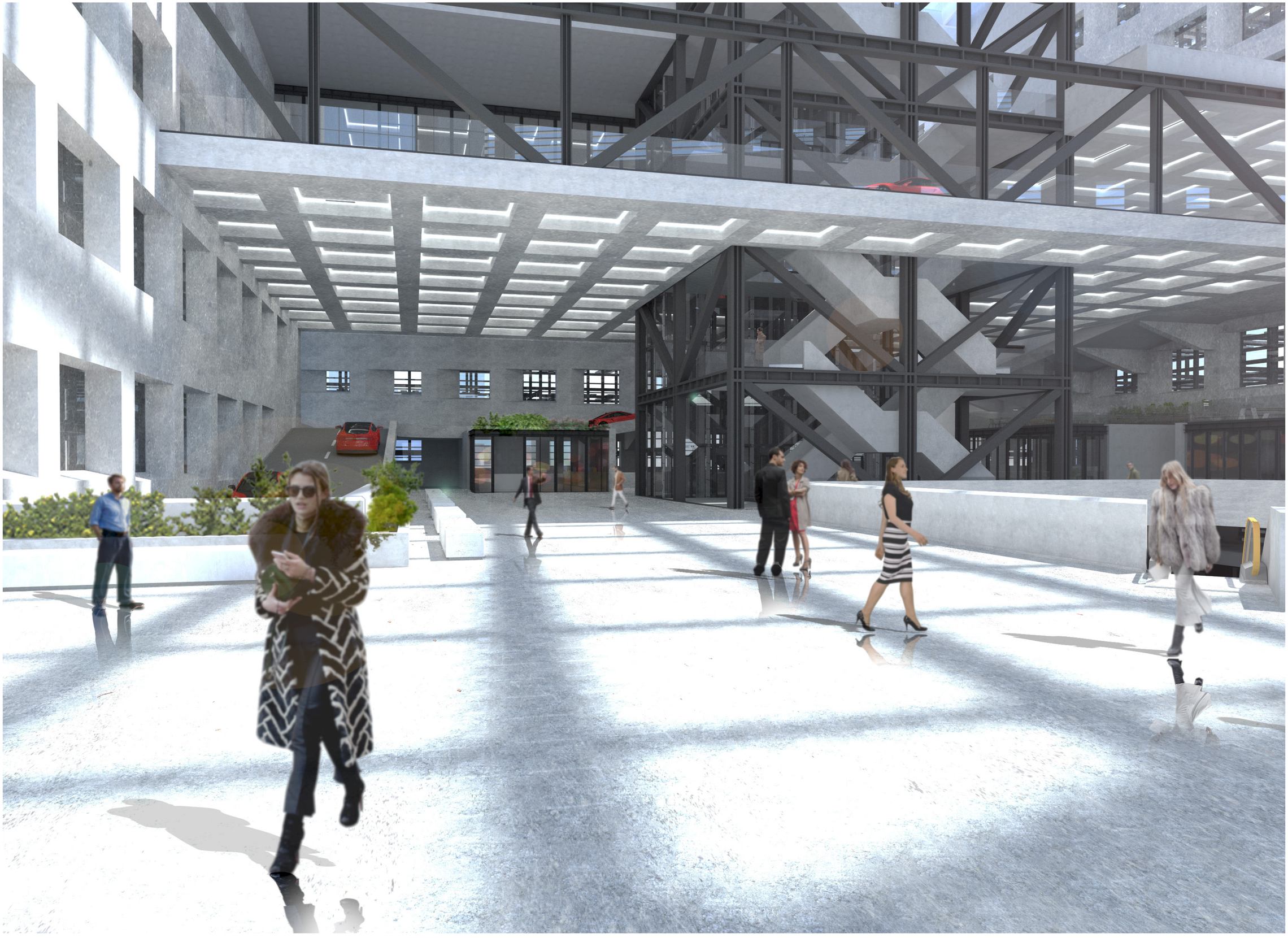
STREET LEVEL

CP

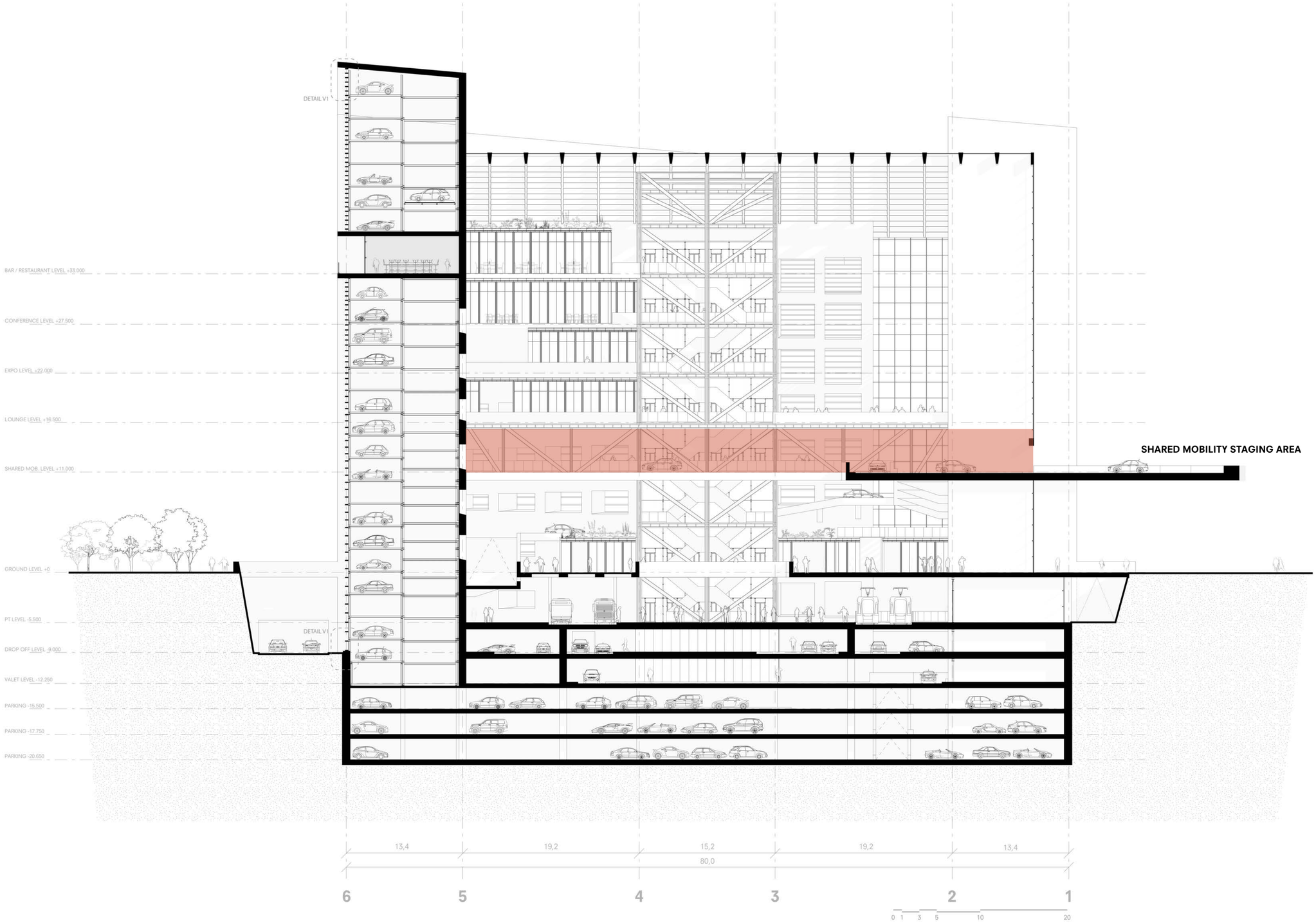


STREET LEVEL

CP

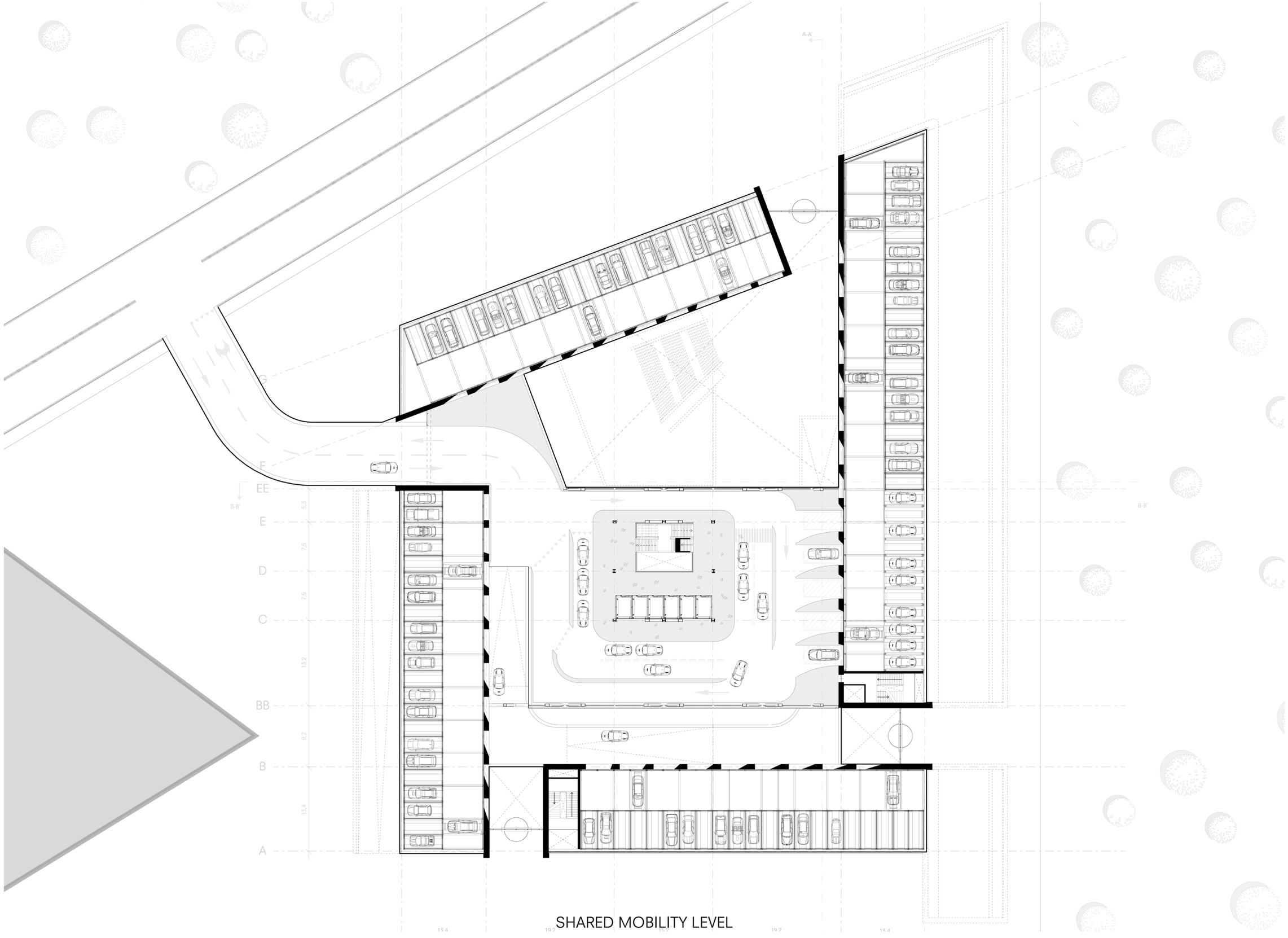


CP



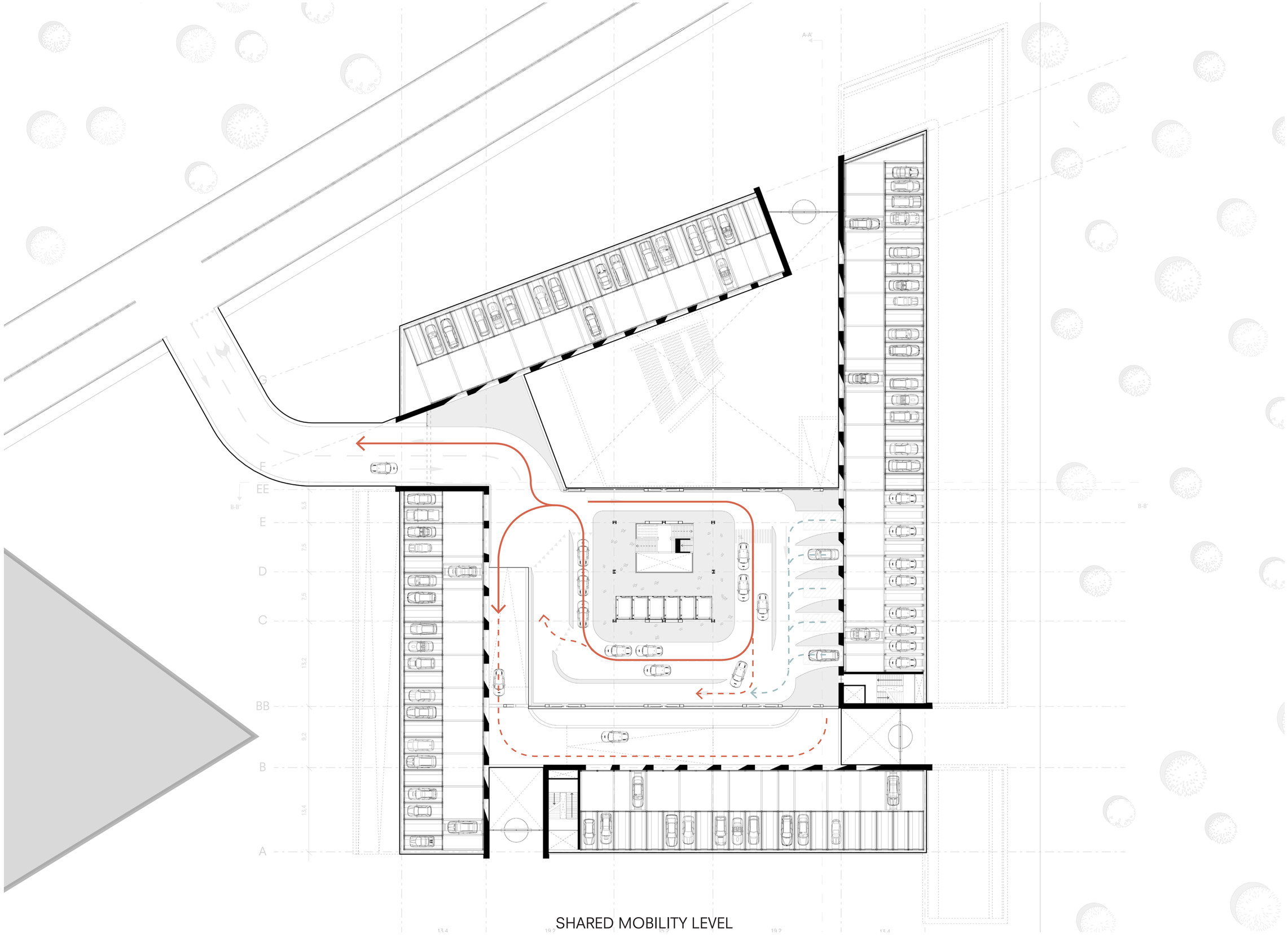
CROSS SECTION

CP



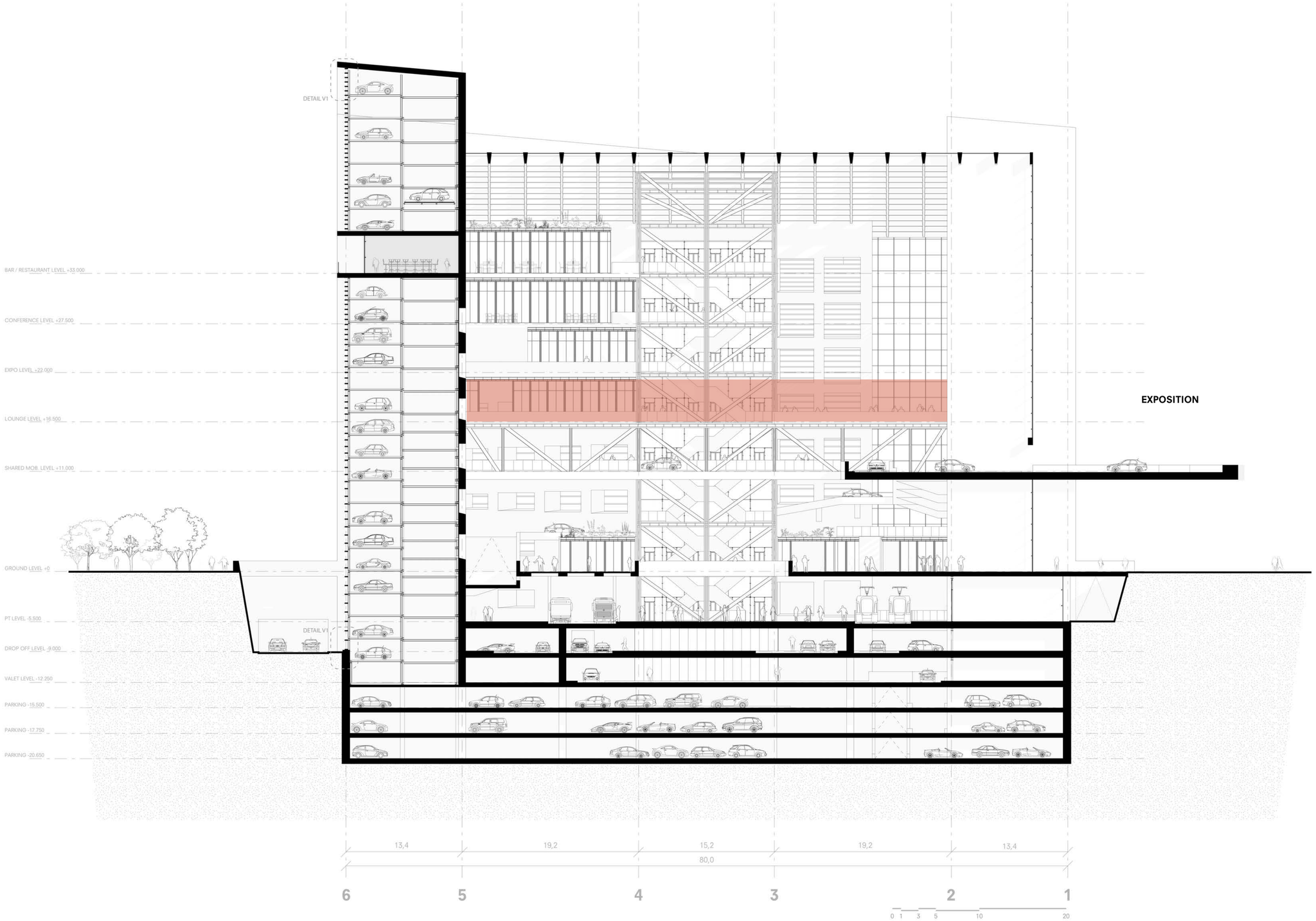
SHARED MOBILITY LEVEL

CP



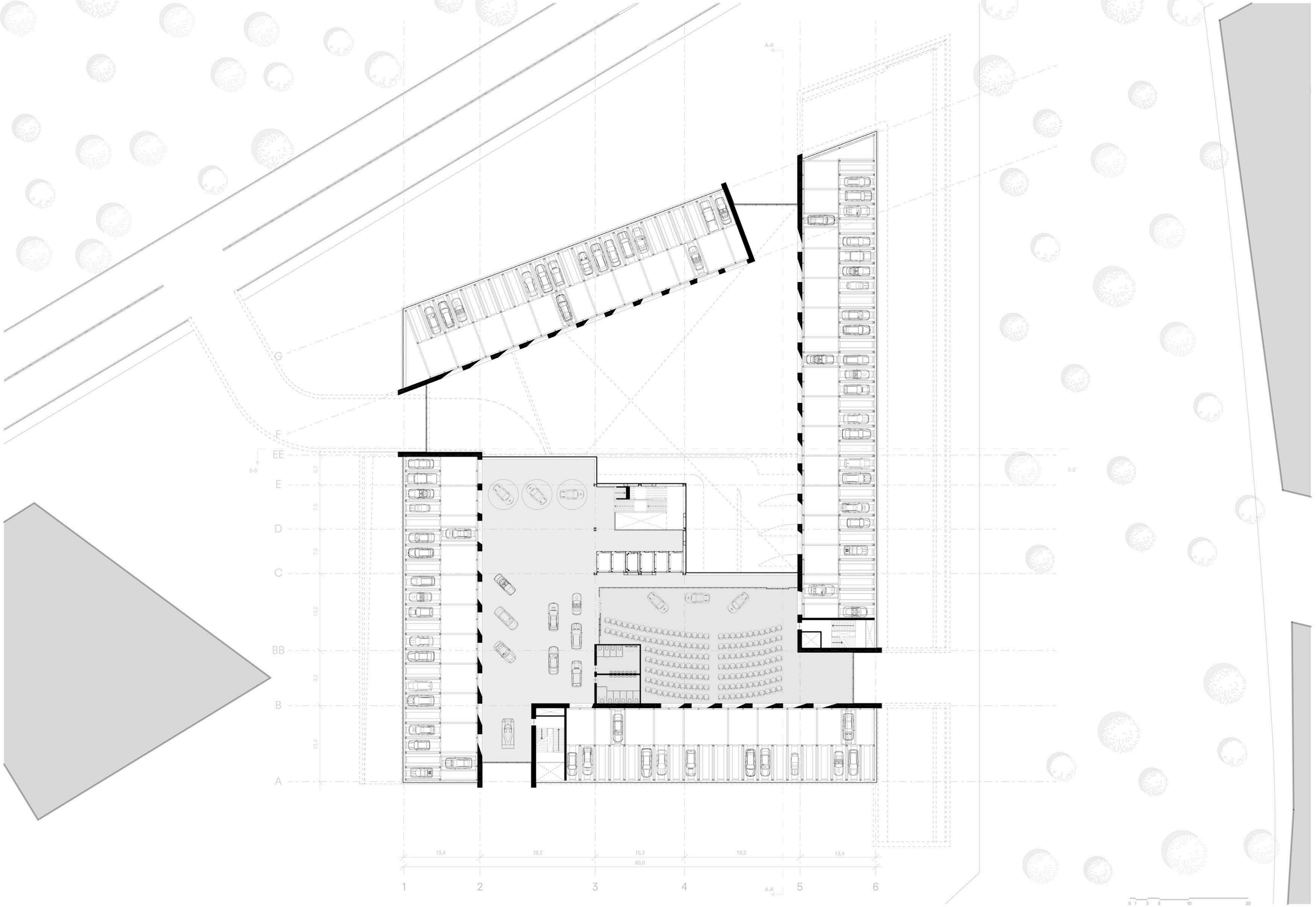
SHARED MOBILITY LEVEL

CP



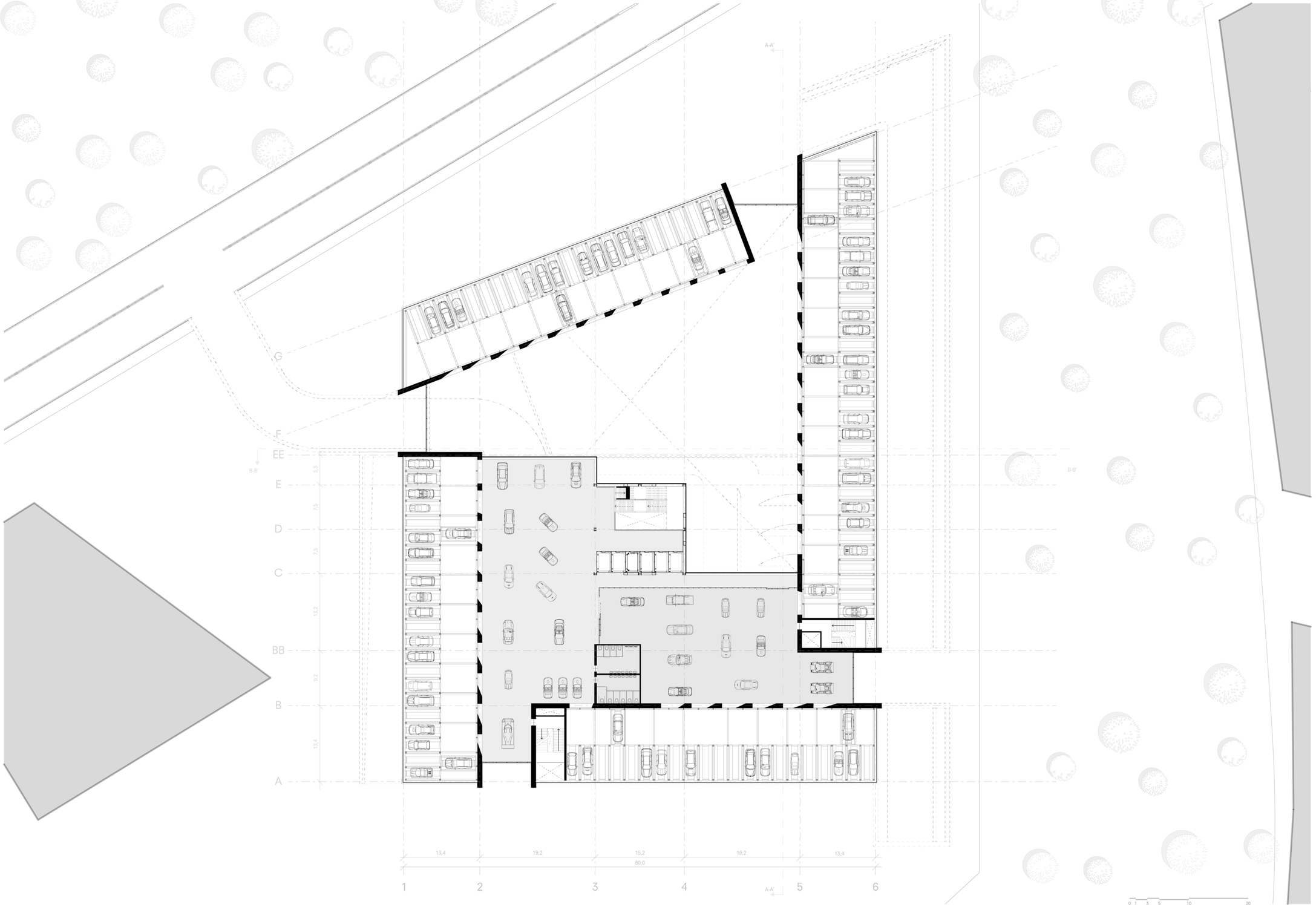
CROSS SECTION

CP



EXPOSITION / EVENT LEVEL

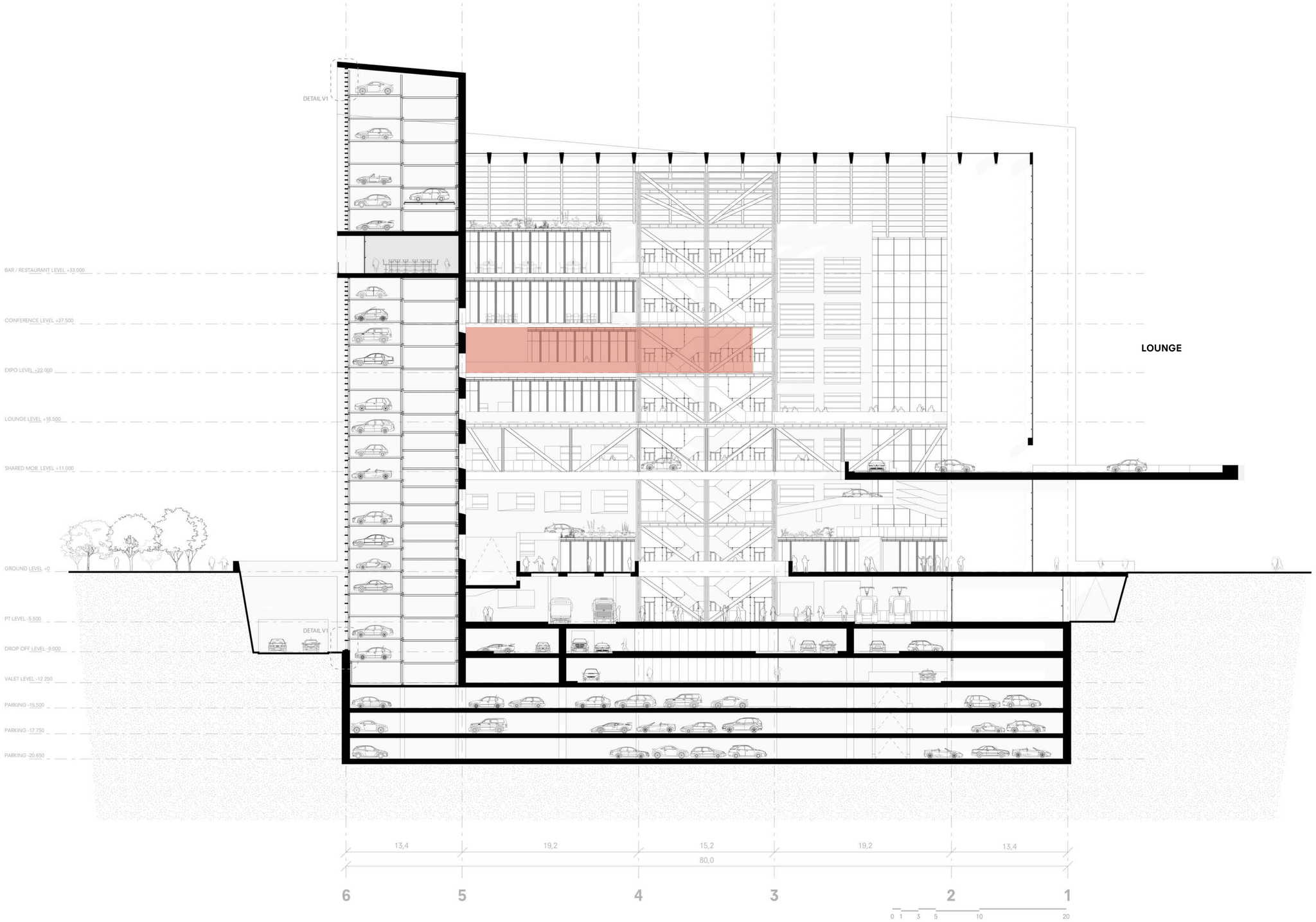
CP



ALTERNATIVE CONFIGURATION

CP

CORVETTE
mach 1



CROSS SECTION

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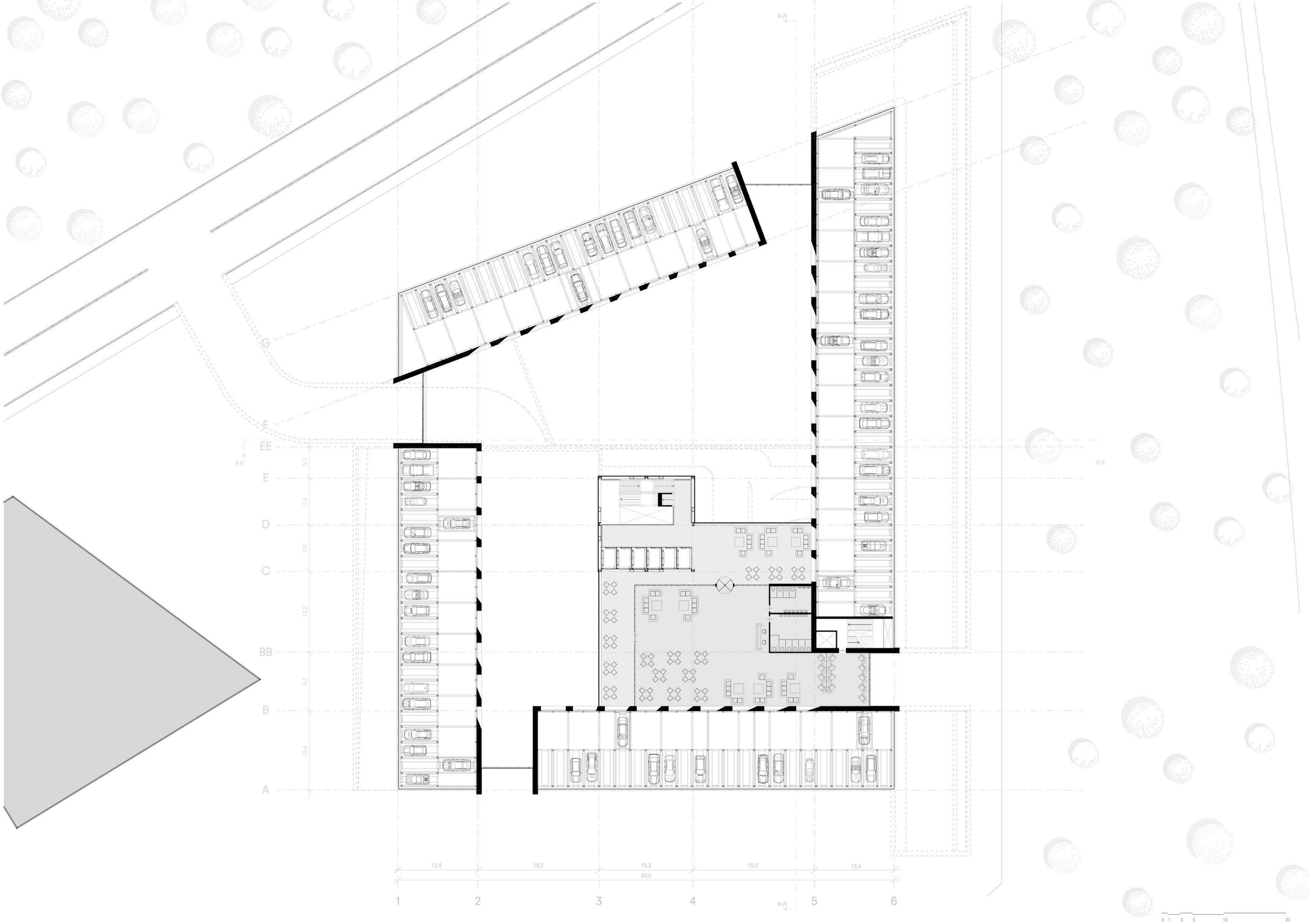
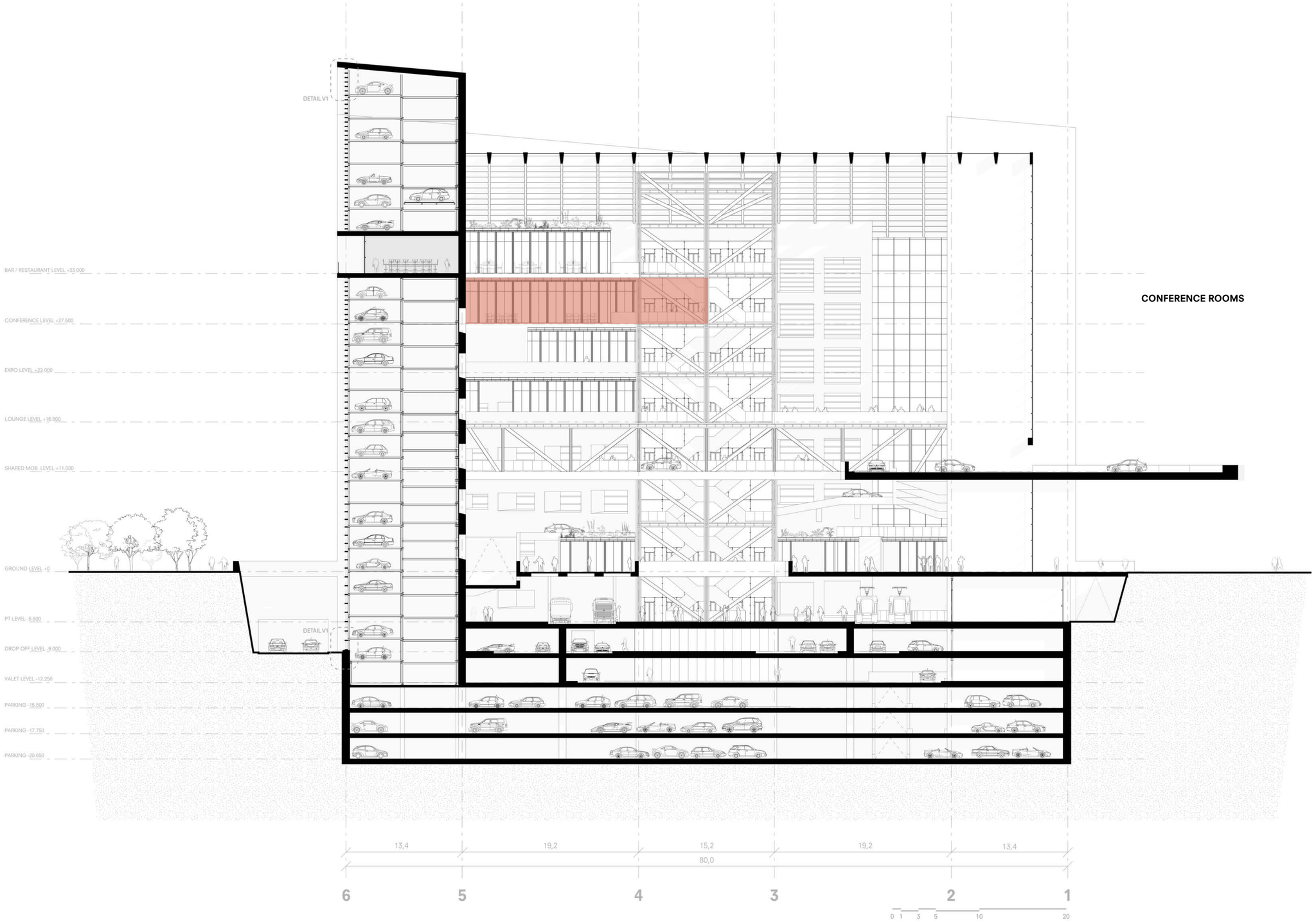


LOUNGE LEVEL

CP



CROSS SECTION

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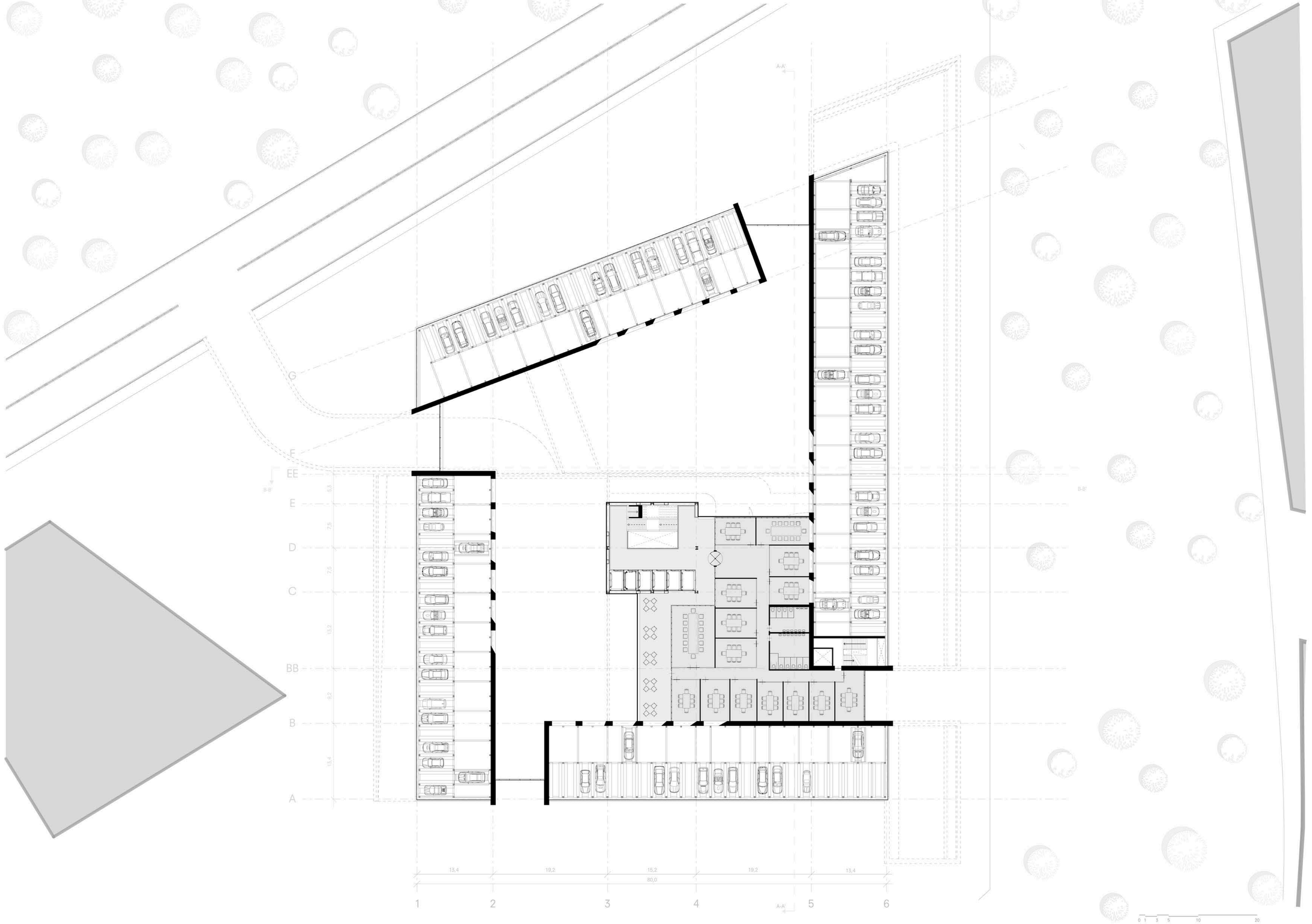
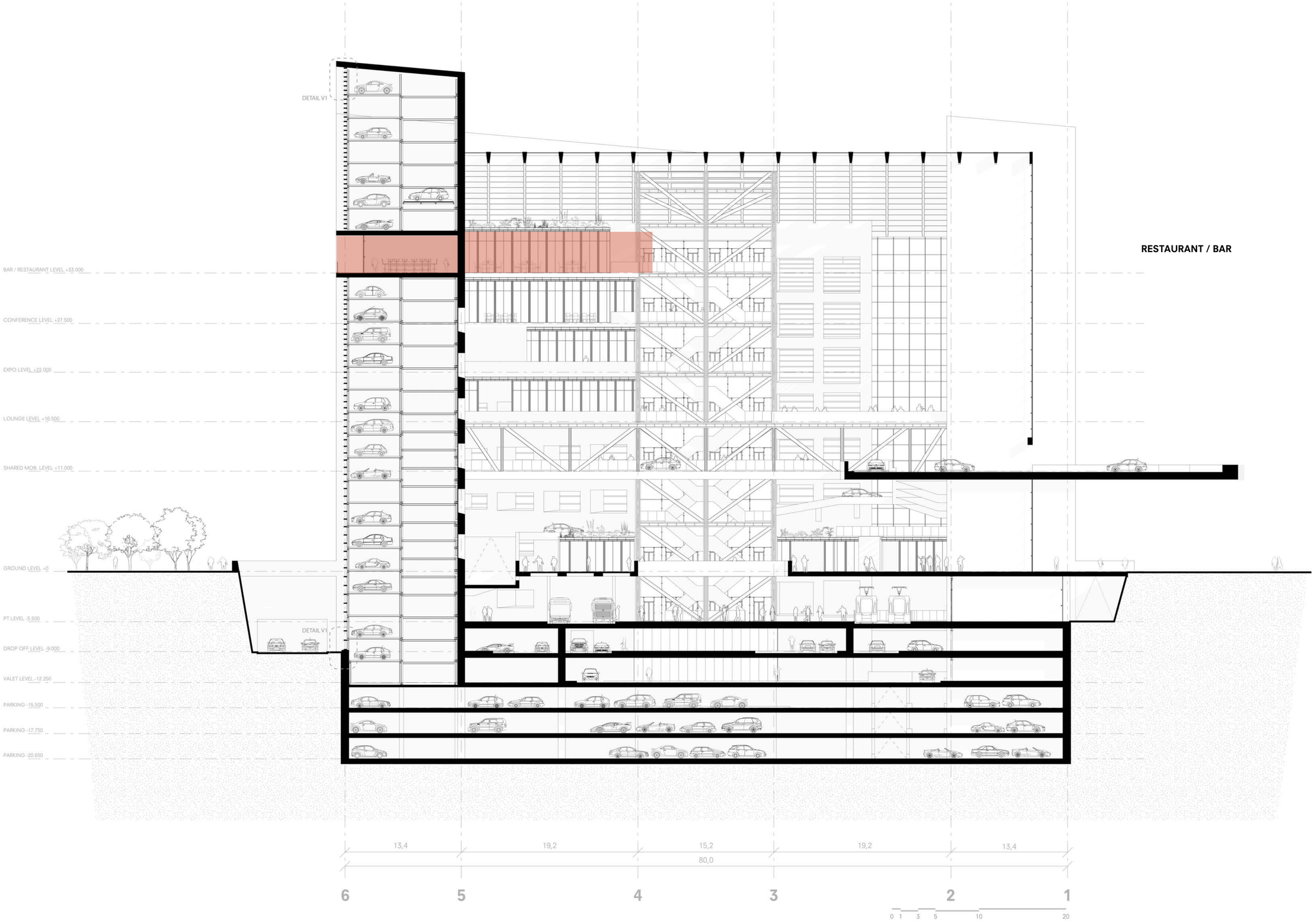


CONFERENCE ROOM LEVEL

CP



CROSS SECTION

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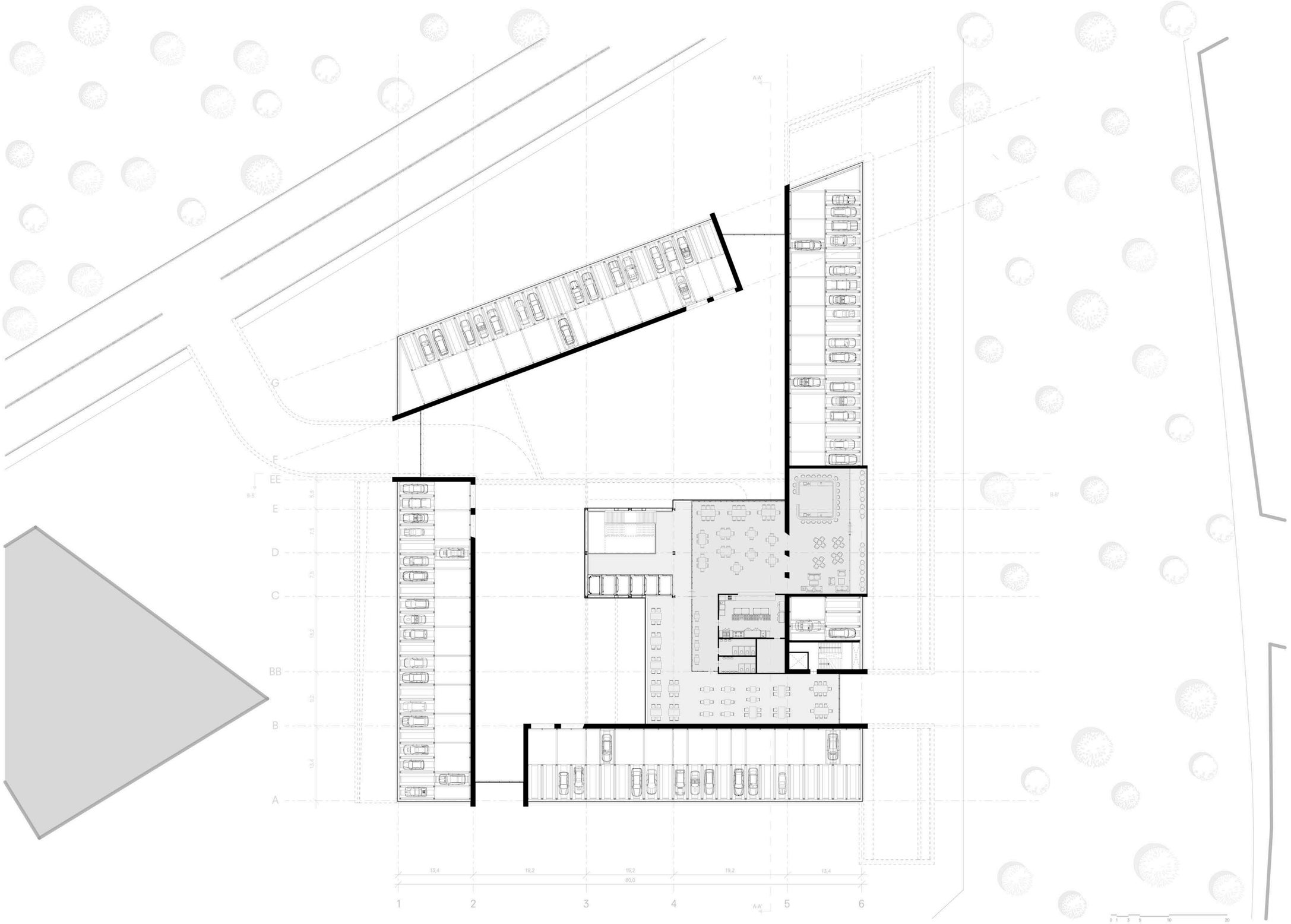
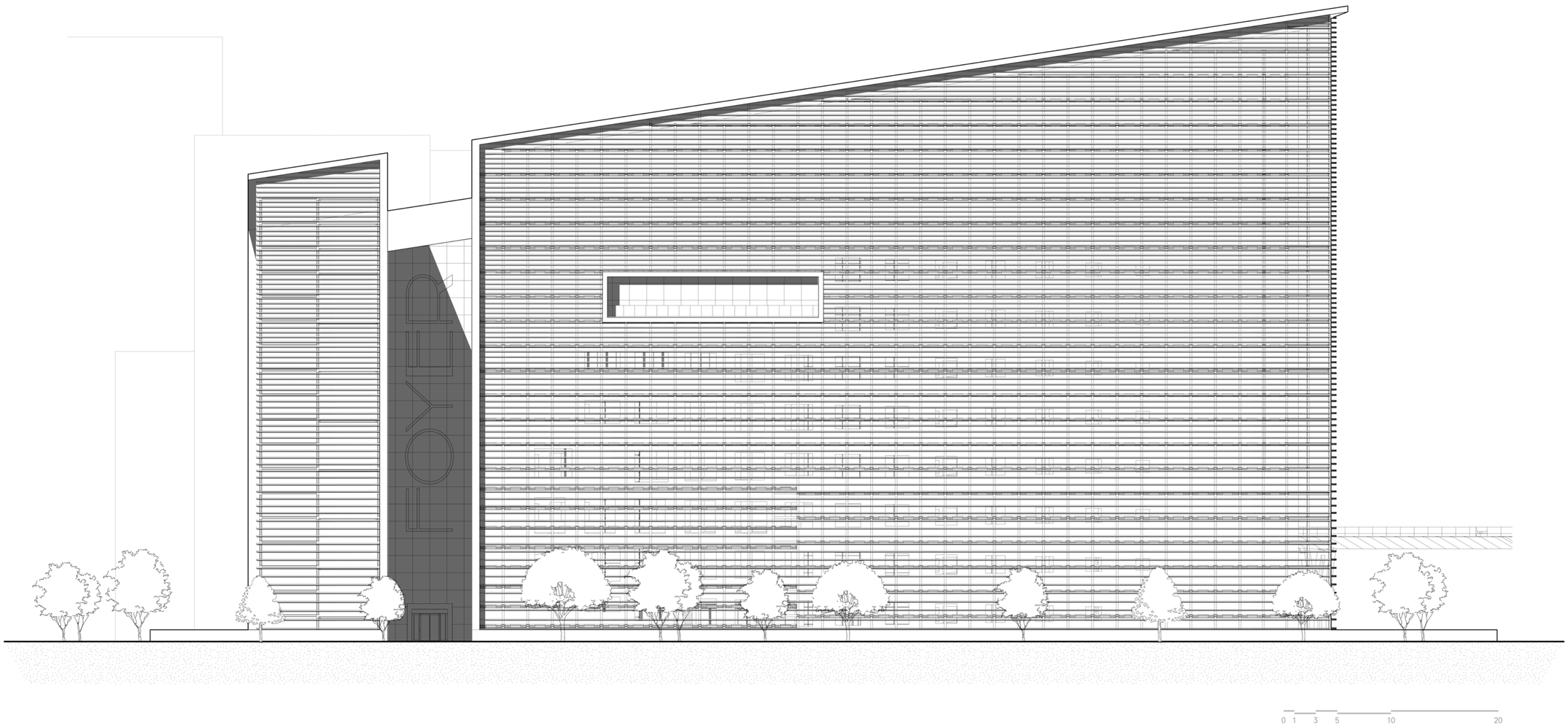


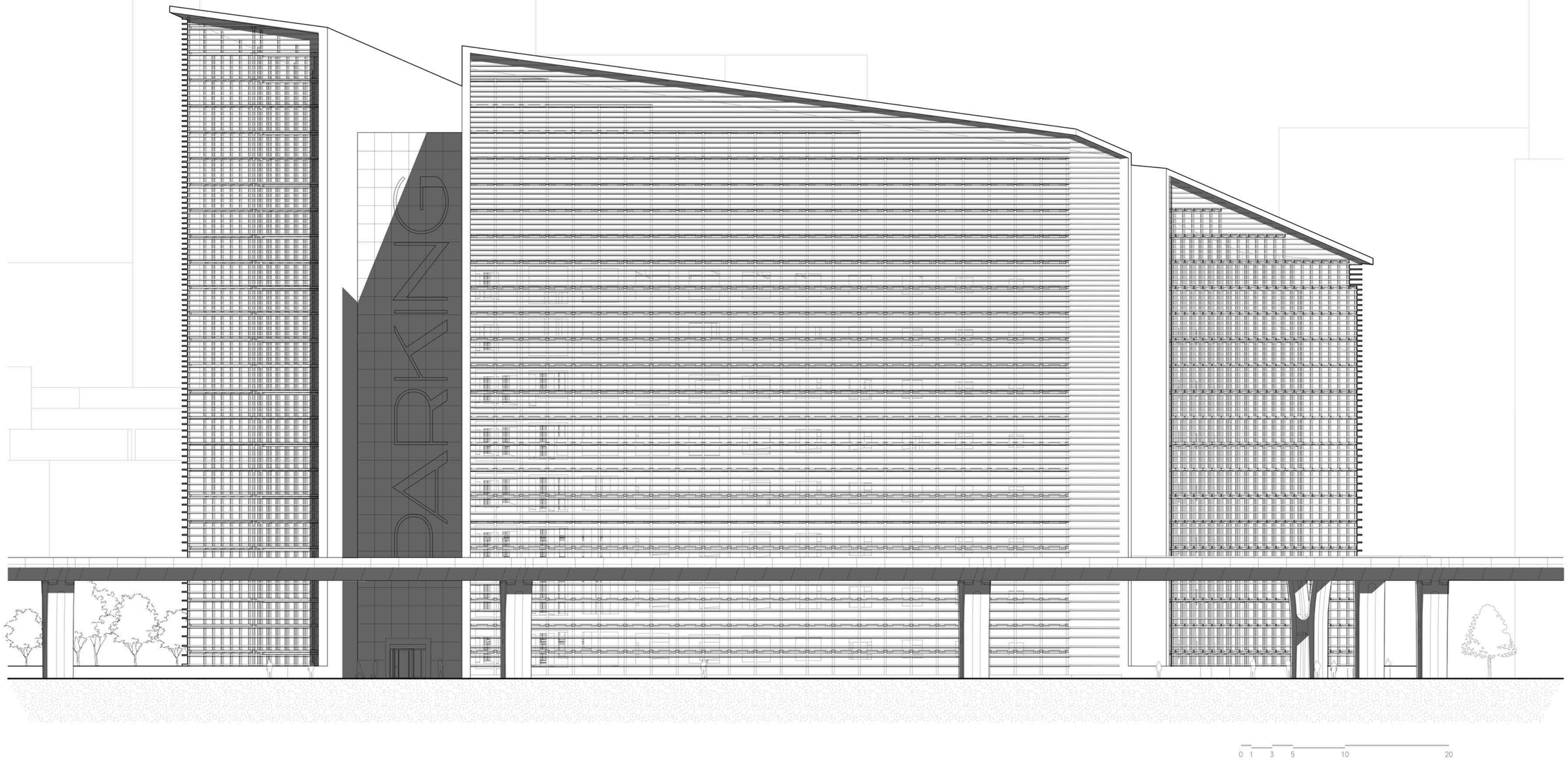
BAR / RESTAURANT LEVEL

CP



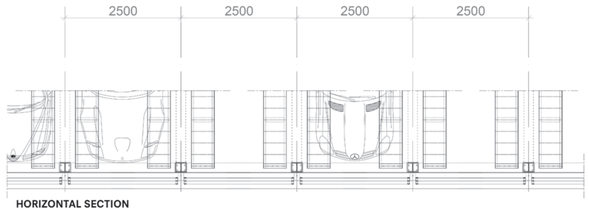
NORTH ELEVATION

CP

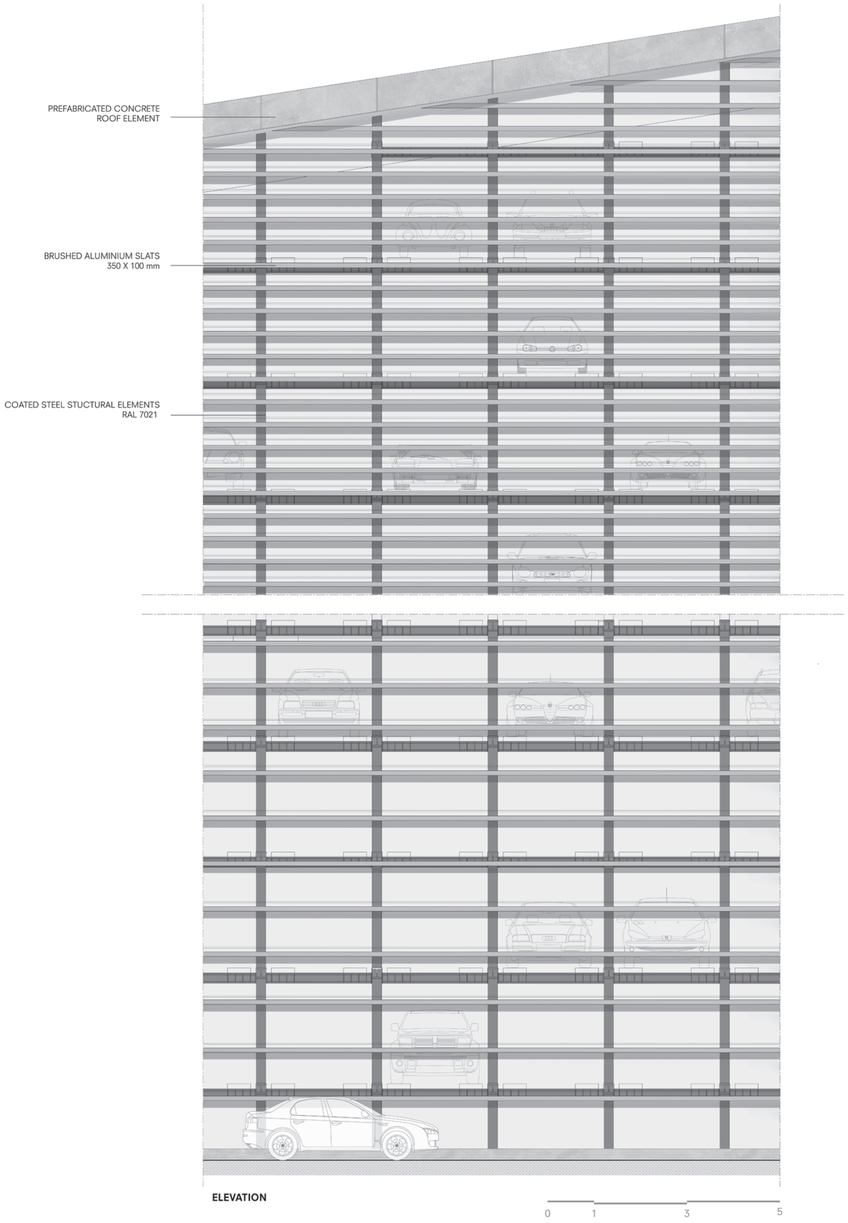


WEST ELEVATION

CP

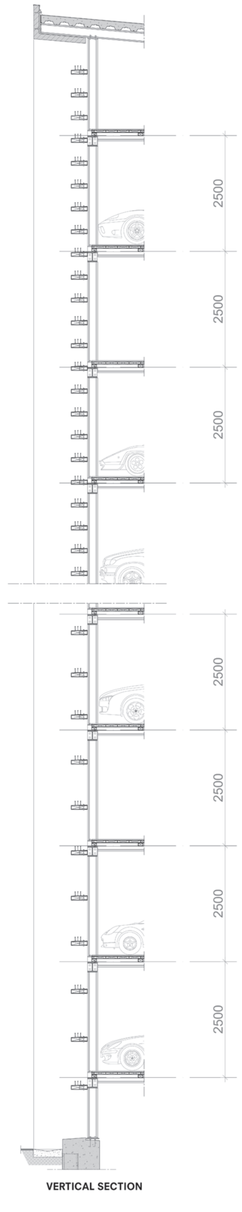


HORIZONTAL SECTION



ELEVATION

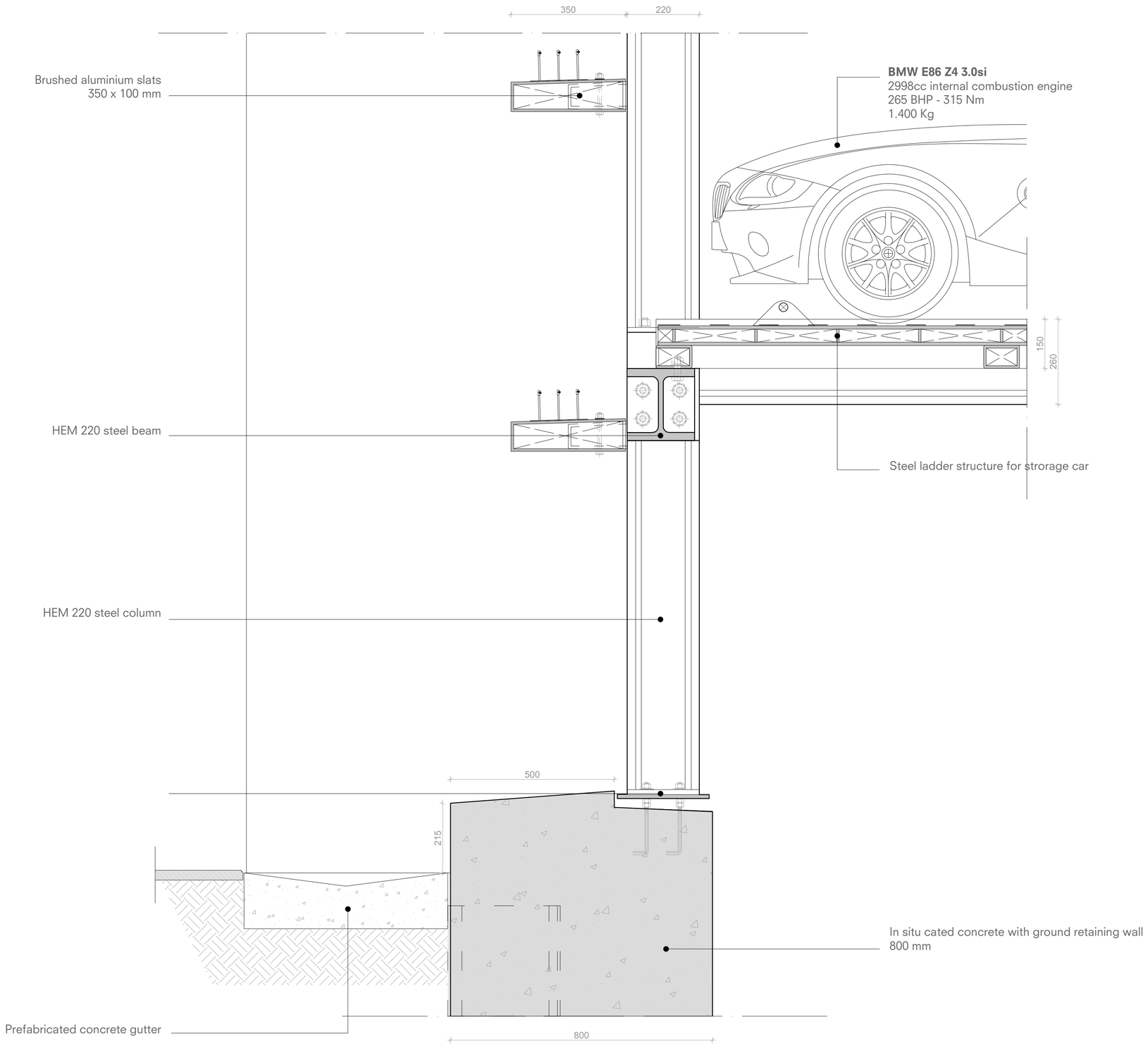
0 1 3 5



VERTICAL SECTION

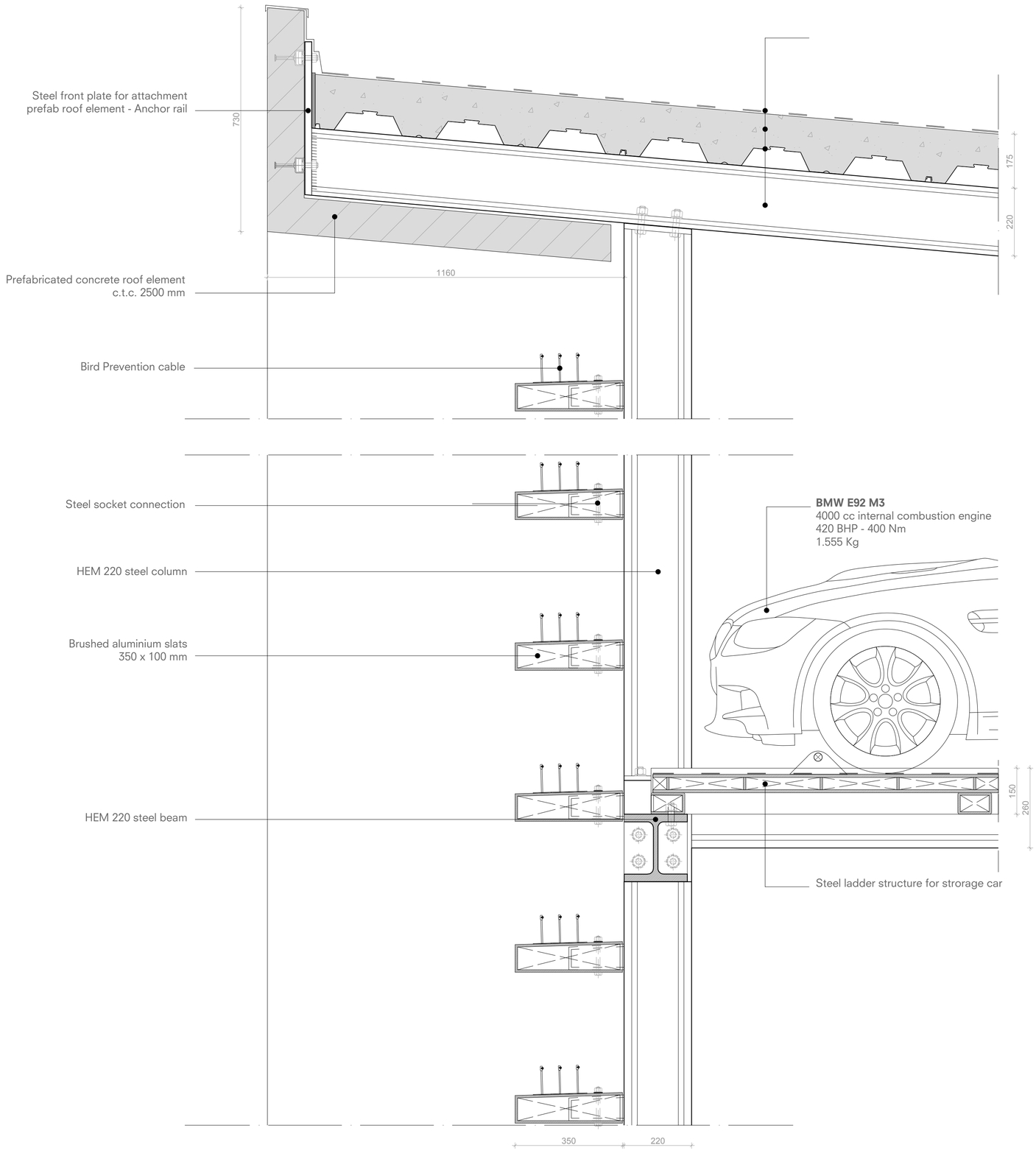
FACADE FRAGMENT

CP


350
220
Brushed aluminium slats
350 x 100 mm
BMW E86 Z4 3.0si
2998cc internal combustion engine
265 BHP - 315 Nm
1.400 Kg
150
260
HEM 220 steel beam
Steel ladder structure for strorage car
HEM 220 steel column
500
215
In situ cated concrete with ground retaining wall
800 mm
Prefabricated concrete gutter
800

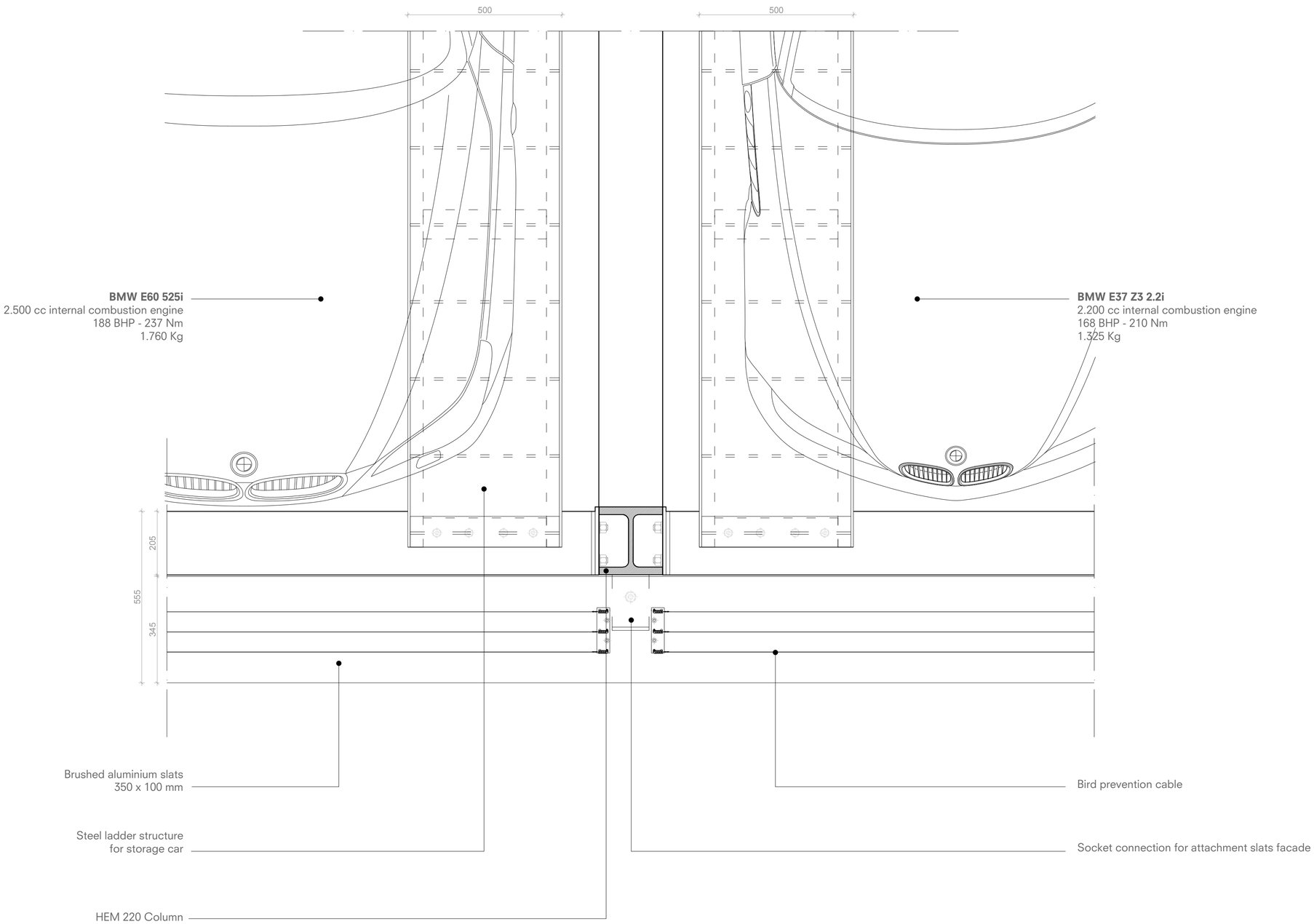
DETAIL V1

CP


Steel front plate for attachment
prefab roof element - Anchor rail
730
Prefabricated concrete roof element
c.t.c. 2500 mm
1160
175
220
Bird Prevention cable
Steel socket connection
HEM 220 steel column
Brushed aluminium slats
350 x 100 mm
HEM 220 steel beam
BMW E92 M3
4000 cc internal combustion engine
420 BHP - 400 Nm
1.555 Kg
150
260
Steel ladder structure for strorage car
350
220

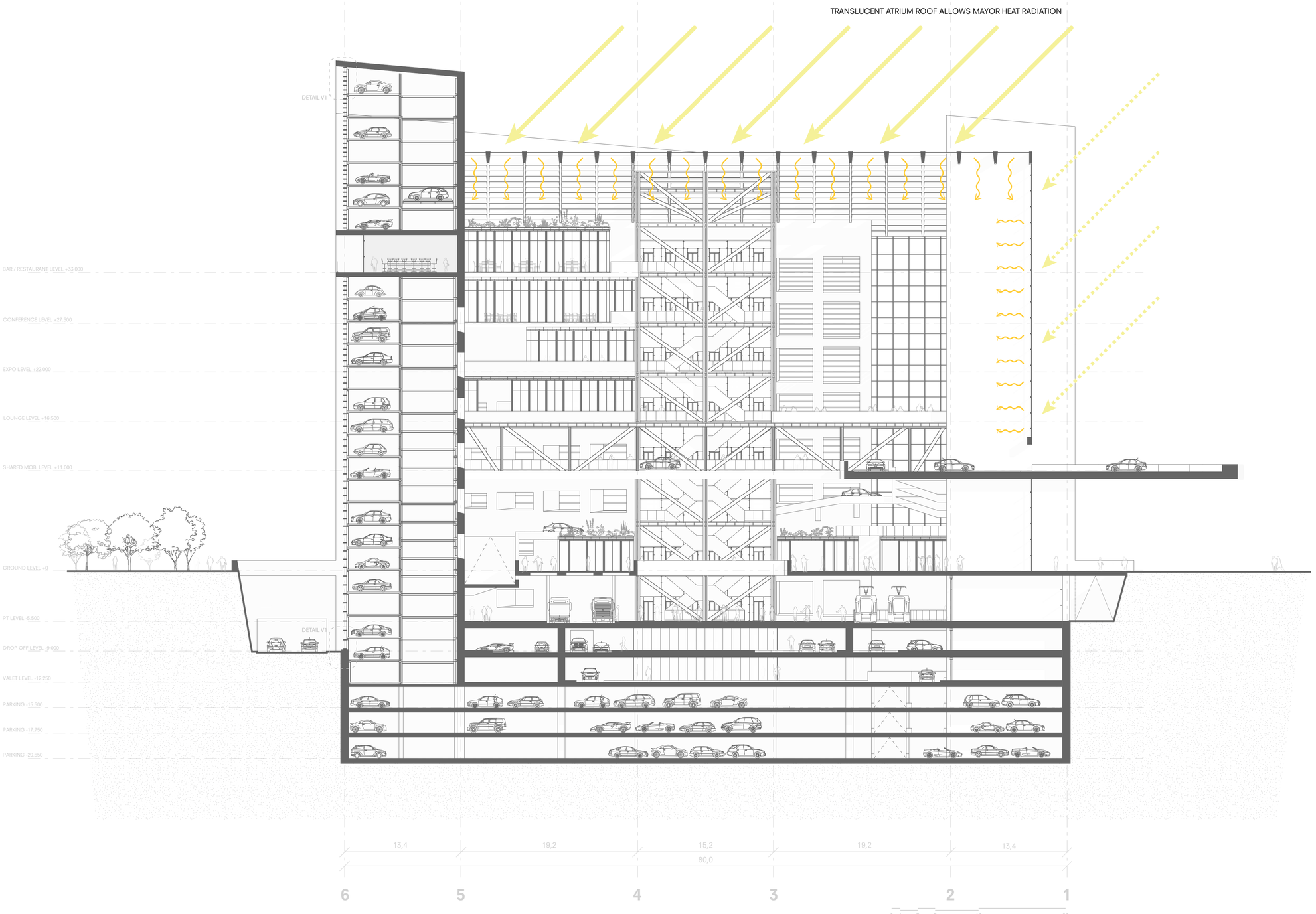
DETAIL V2

CP


500
500
BMW E60 525i
2.500 cc internal combustion engine
188 BHP - 237 Nm
1.760 Kg
BMW E37 Z3 2.2i
2.200 cc internal combustion engine
168 BHP - 210 Nm
1.325 Kg
205
555
345
Brushed aluminium slats
350 x 100 mm
Steel ladder structure
for storage car
HEM 220 Column
Bird prevention cable
Socket connection for attachment slats facade

DETAIL H1

CP



CLIMATE PRINCIPLE - VENTILATION

CP

TRANSLUCENT ATRIUM ROOF ALLOWS MAYOR HEAT RADIATION

DETAIL V1

BAR / RESTAURANT LEVEL +33.000

CONFERENCE LEVEL +27.500

EXPO LEVEL +22.000

LOUNGE LEVEL +16.500

SHARED MOB. LEVEL +11.000

GROUND LEVEL +0

PT LEVEL -5.500

DROP OFF LEVEL -9.000

VALET LEVEL -12.250

PARKING -15.500

PARKING -17.750

PARKING -20.650

NATURAL FORCED VENTILATION

NATURAL FORCED VENTILATION

NATURAL FORCED VENTILATION

DETAIL V1

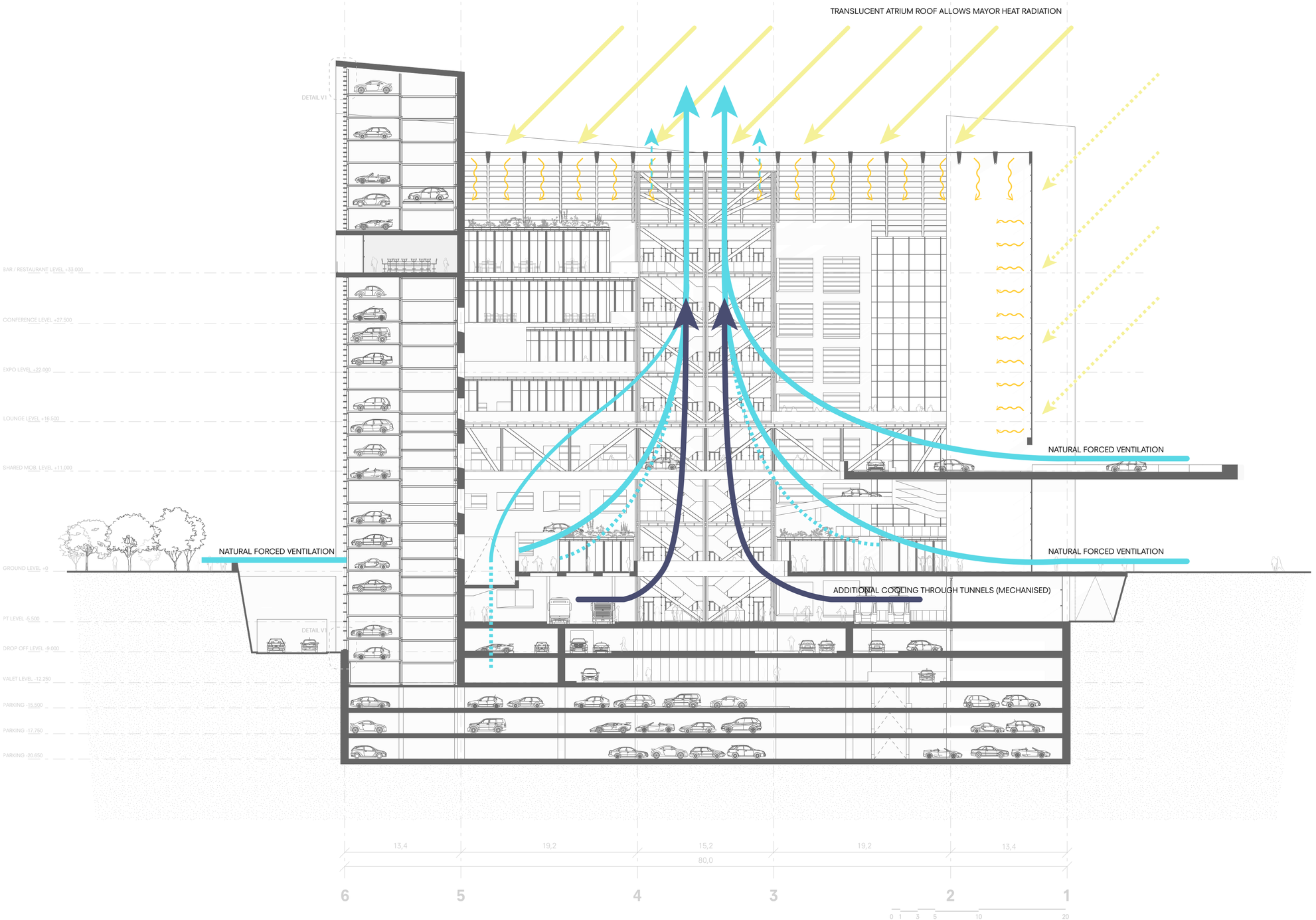
13,4 19,2 15,2 19,2 13,4

80,0

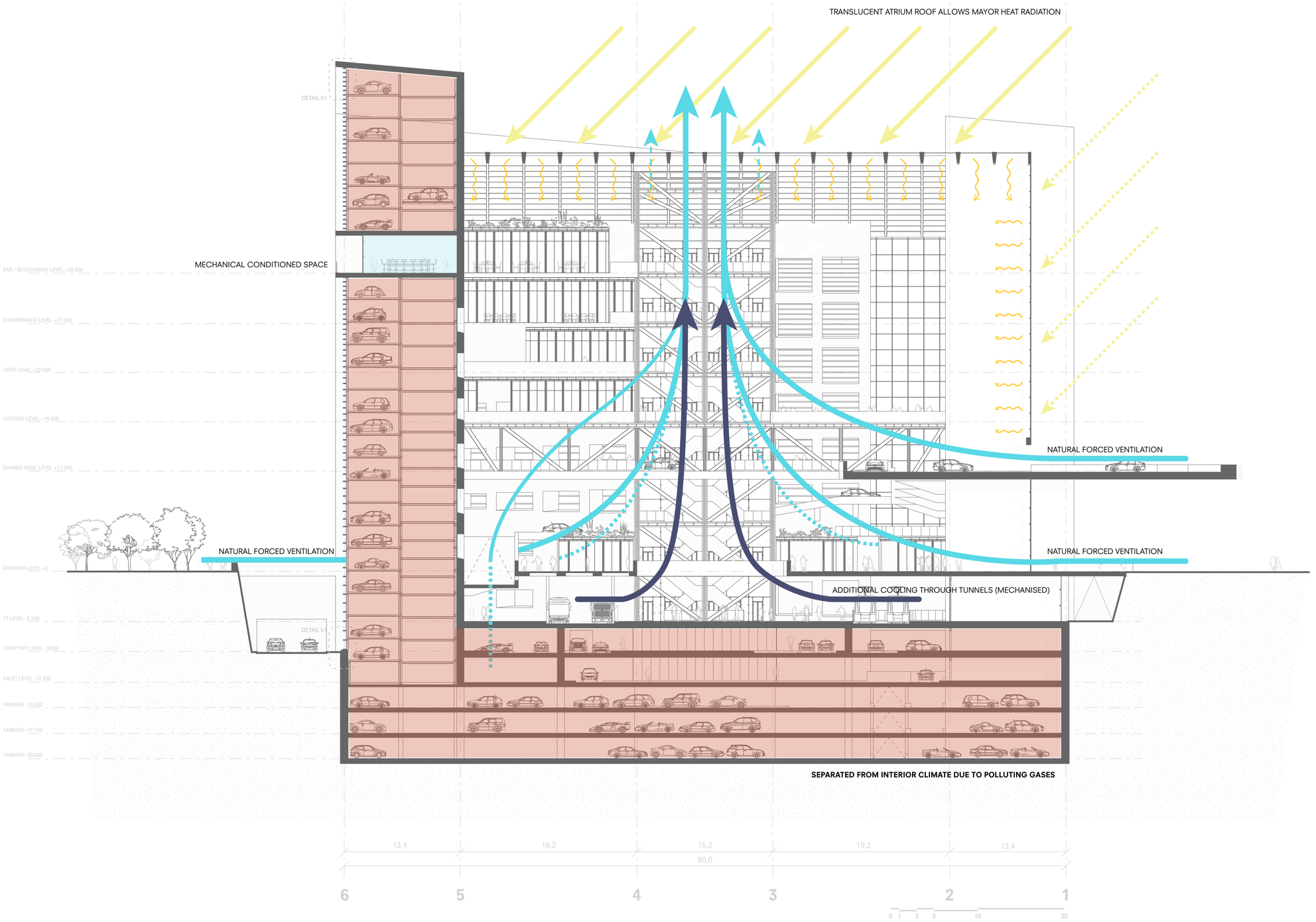
6 5 4 3 2 1

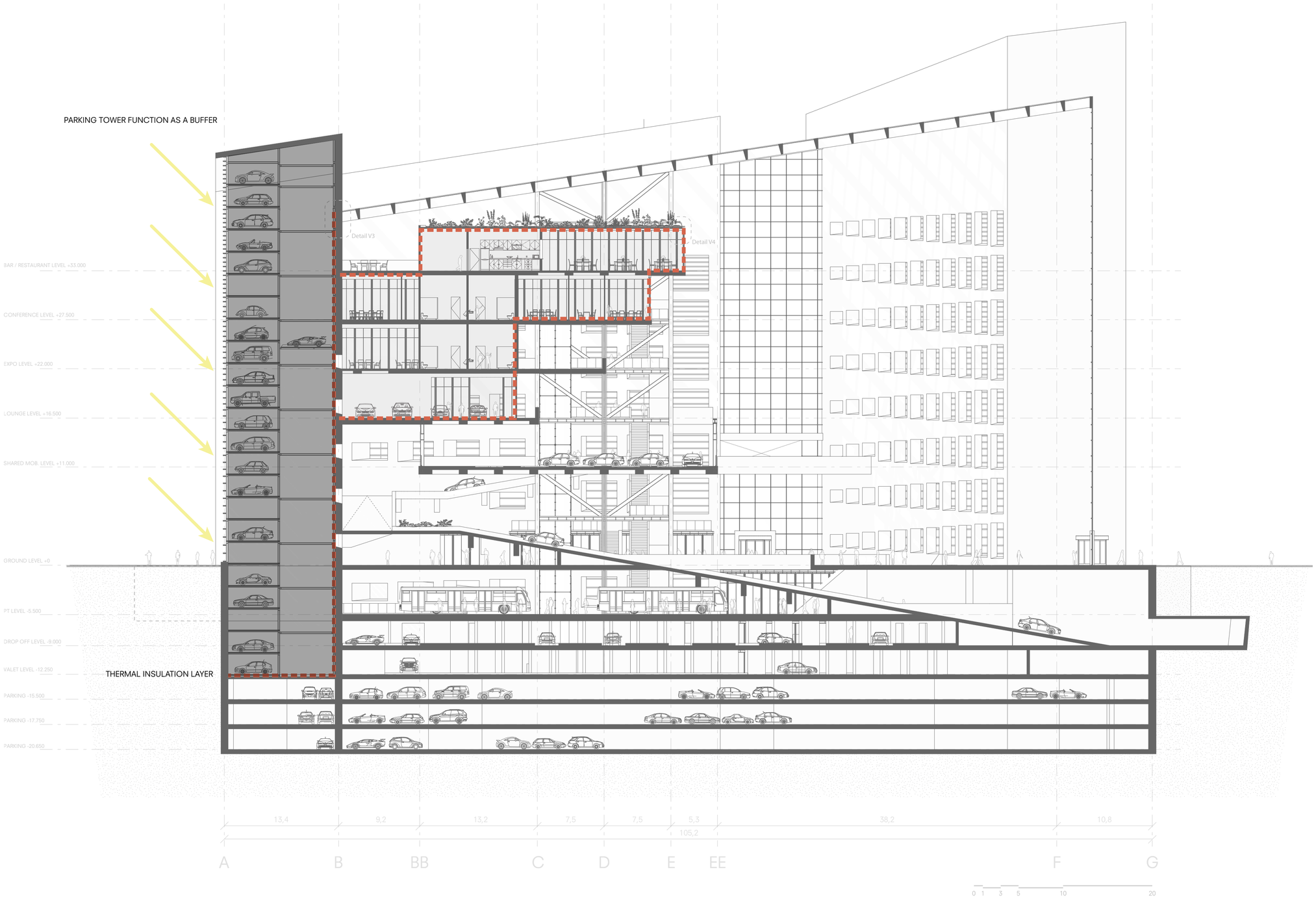
0 1 3 5 10 20

CP


TRANSLUCENT ATRIUM ROOF ALLOWS MAYOR HEAT RADIATION
DETAIL V1
BAR / RESTAURANT LEVEL +33.000
CONFERENCE LEVEL +27.500
EXPO LEVEL +22.000
LOUNGE LEVEL +16.500
SHARED MOB. LEVEL +11.000
GROUND LEVEL +0
PT LEVEL -5.500
DROP OFF LEVEL -9.000
VALET LEVEL -12.250
PARKING -15.500
PARKING -17.750
PARKING -20.650
NATURAL FORCED VENTILATION
NATURAL FORCED VENTILATION
NATURAL FORCED VENTILATION
ADDITIONAL COOLING THROUGH TUNNELS (MECHANISED)
DETAIL V1
13,4
19,2
15,2
19,2
13,4
80,0
6
5
4
3
2
1
0 1 3 5 10 20

CP

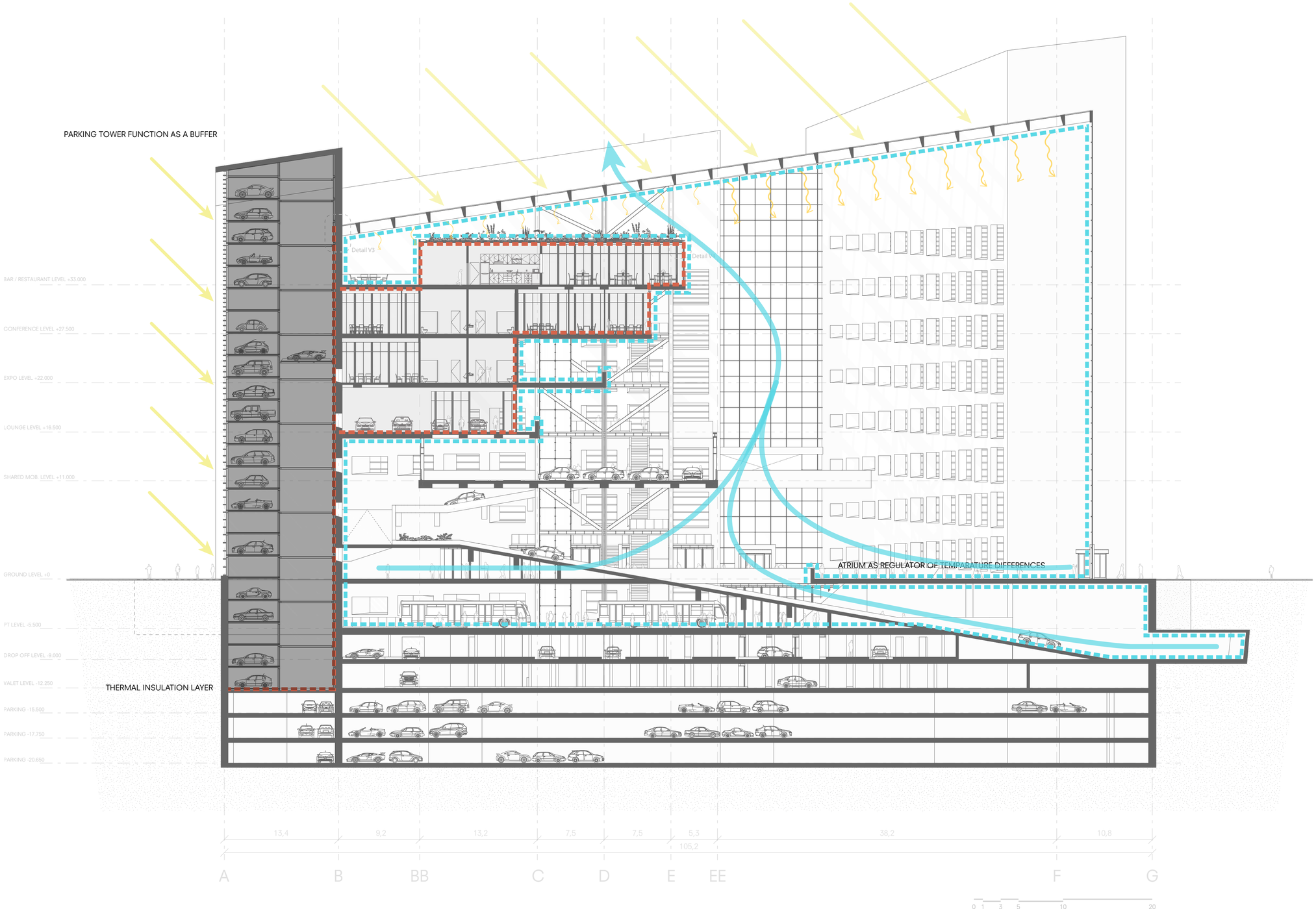

TRANSLUCENT ATRIUM ROOF ALLOWS MAYOR HEAT RADIATION
DETAIL V1
MECHANICAL CONDITIONED SPACE
BAR / RESTAURANT LEVEL +33.000
CONFERENCE LEVEL +27.500
EXPO LEVEL +22.000
LOUNGE LEVEL +16.500
SHARED MOB. LEVEL +11.000
GROUND LEVEL +0
PT LEVEL -5.500
DROP OFF LEVEL -9.000
VALET LEVEL -12.250
PARKING -15.500
PARKING -17.750
PARKING -20.650
NATURAL FORCED VENTILATION
NATURAL FORCED VENTILATION
NATURAL FORCED VENTILATION
ADDITIONAL COOLING THROUGH TUNNELS (MECHANISED)
DETAIL V1
SEPARATED FROM INTERIOR CLIMATE DUE TO POLLUTING GASES
13,4
19,2
15,2
19,2
13,4
80,0
6
5
4
3
2
1
0 1 3 5 10 20



CLIMATE PRINCIPLE - ZONES

CP

PARKING TOWER FUNCTION AS A BUFFER



CP

PARKING TOWER FUNCTION AS A BUFFER

-10 - 38 ℃

18 - 23 ℃

10 - 26 ℃

-10 - 38 ℃

ATRIUM AS REGULATOR OF TEMPARATURE DIFFERENCES

THERMAL INSULATION LAYER

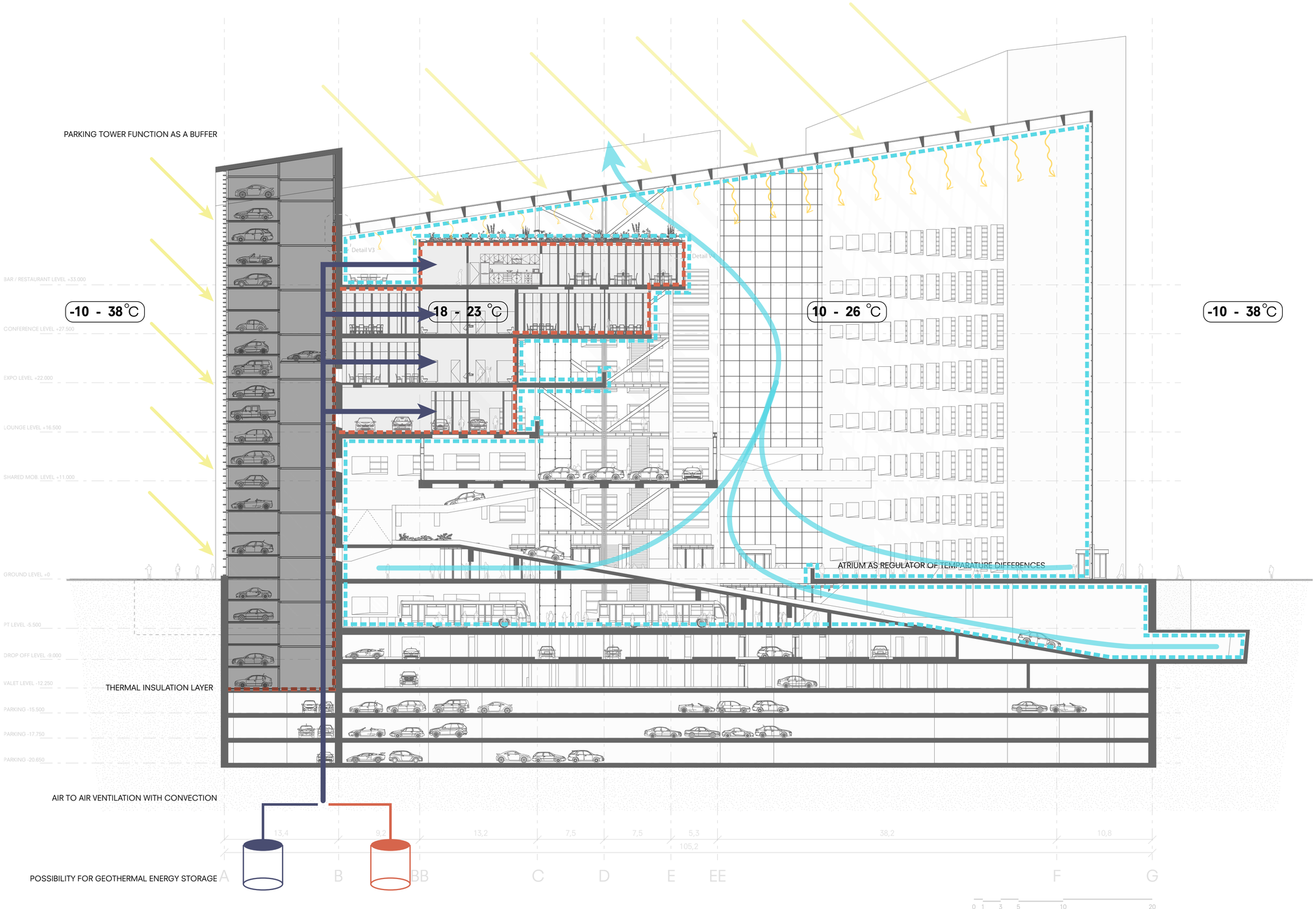
BAR / RESTAURANT LEVEL +33.000
CONFERENCE LEVEL +27.500
EXPO LEVEL +22.000
LOUNGE LEVEL +16.500
SHARED MOB. LEVEL +11.000
GROUND LEVEL +0
PT LEVEL -5.500
DROP OFF LEVEL -9.000
VALET LEVEL -12.250
PARKING -15.500
PARKING -17.750
PARKING -20.650

13,4 | 9,2 | 13,2 | 7,5 | 7,5 | 5,3 | 38,2 | 10,8
105,2

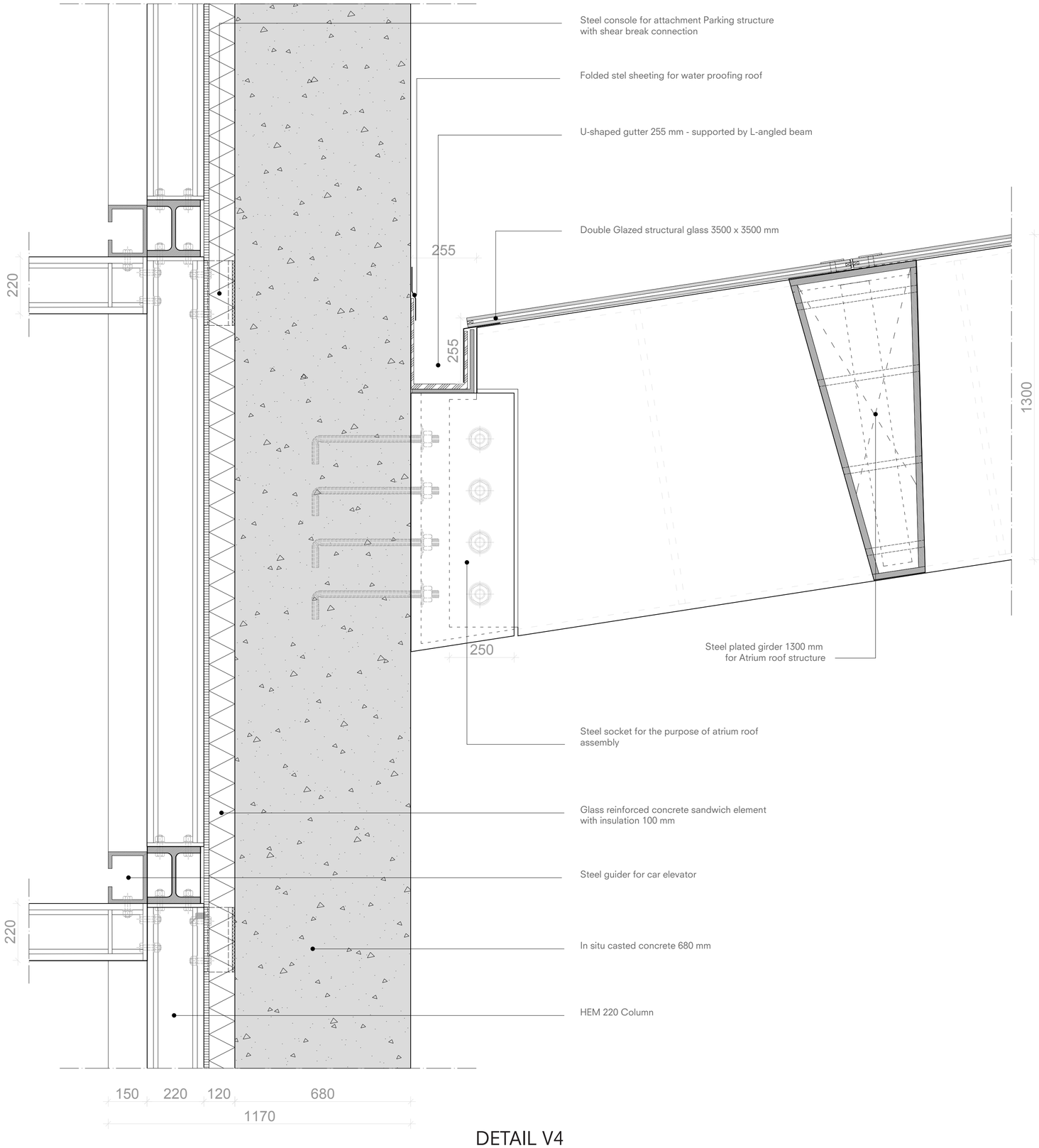
A B BB C D E EE F G

0 1 3 5 10 20

CP

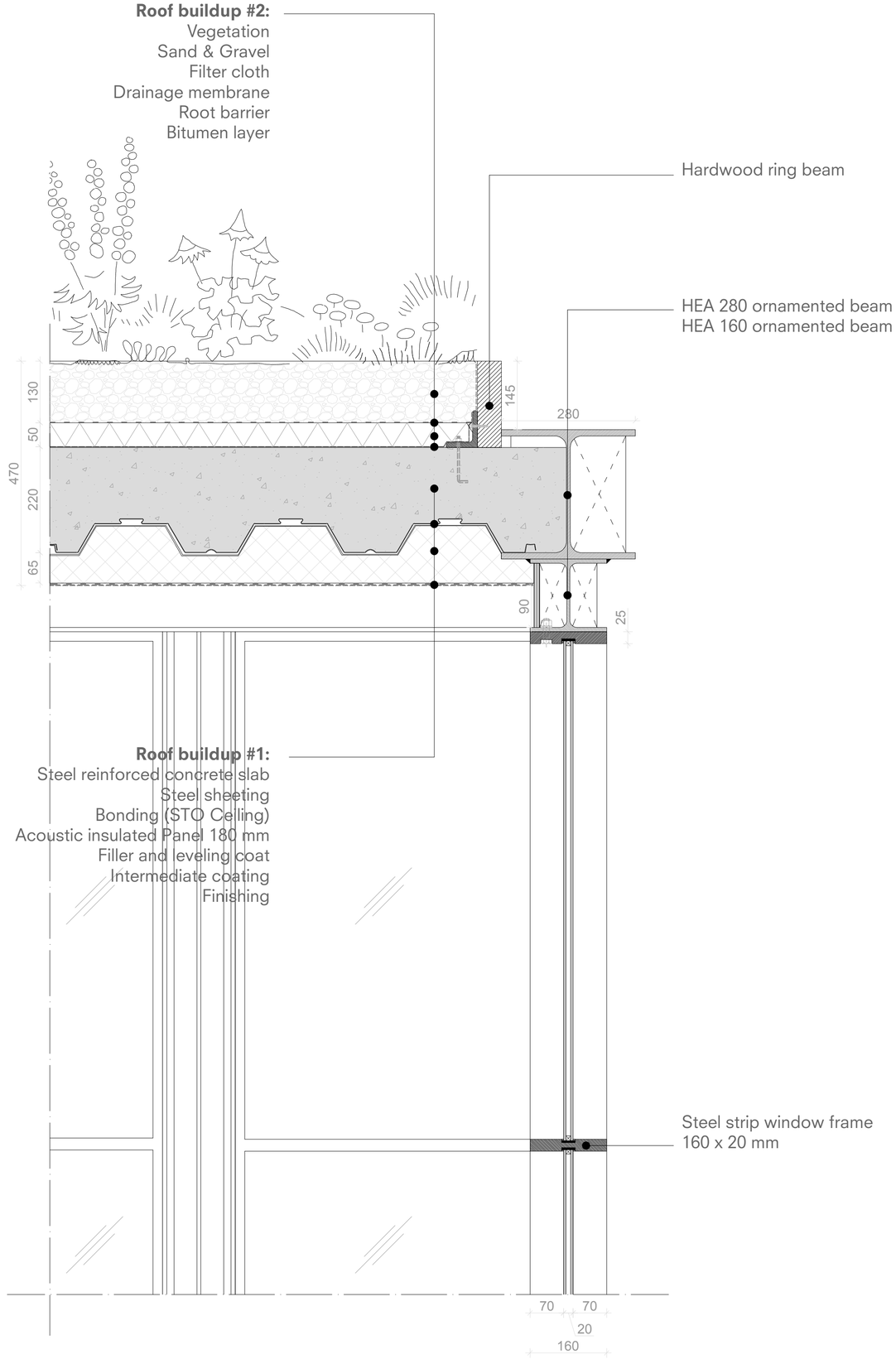

PARKING TOWER FUNCTION AS A BUFFER
-10 - 38 ℃
18 - 23 ℃
10 - 26 ℃
-10 - 38 ℃
ATRIUM AS REGULATOR OF TEMPARATURE DIFFERENCES
THERMAL INSULATION LAYER
AIR TO AIR VENTILATION WITH CONVECTION
POSSIBILITY FOR GEOTHERMAL ENERGY STORAGE
BAR / RESTAURANT LEVEL +33.000
CONFERENCE LEVEL +27.500
EXPO LEVEL +22.000
LOUNGE LEVEL +16.500
SHARED MOB. LEVEL +11.000
GROUND LEVEL +0
PT LEVEL -5.500
DROP OFF LEVEL -9.000
VALET LEVEL -12.250
PARKING -15.500
PARKING -17.750
PARKING -20.650
13,4
9,2
13,2
7,5
7,5
5,3
38,2
10,8
105,2
A
B
BB
C
D
E
EE
F
G
0 1 3 5 10 20

CP


Steel console for attachment Parking structure with shear break connection
Folded stel sheeting for water proofing roof
U-shaped gutter 255 mm - supported by L-angled beam
Double Glazed structural glass 3500 x 3500 mm
255
255
220
1300
250
Steel plated girder 1300 mm for Atrium roof structure
Steel socket for the purpose of atrium roof assembly
Glass reinforced concrete sandwich element with insulation 100 mm
Steel guider for car elevator
In situ casted concrete 680 mm
HEM 220 Column
220
150
220
120
680
1170

DETAIL V4

CP


Roof buildup #2:
Vegetation
Sand & Gravel
Filter cloth
Drainage membrane
Root barrier
Bitumen layer
Hardwood ring beam
HEA 280 ornamented beam
HEA 160 ornamented beam
130
50
220
65
470
145
280
90
25
Roof buildup #1:
Steel reinforced concrete slab
Steel sheeting
Bonding (STO Ceiling)
Acoustic insulated Panel 180 mm
Filler and leveling coat
Intermediate coating
Finishing
Steel strip window frame
160 x 20 mm
70
70
20
160

DETAIL V5

CP

DISCUSSION