TRANSITION TRADE TERMINAL

ELDIN GELDENHUYS / P5 / JULY 2018

CP

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• **INTRODUCTION**

• **RESEARCH**

• **SITE ARGUMENTATION**

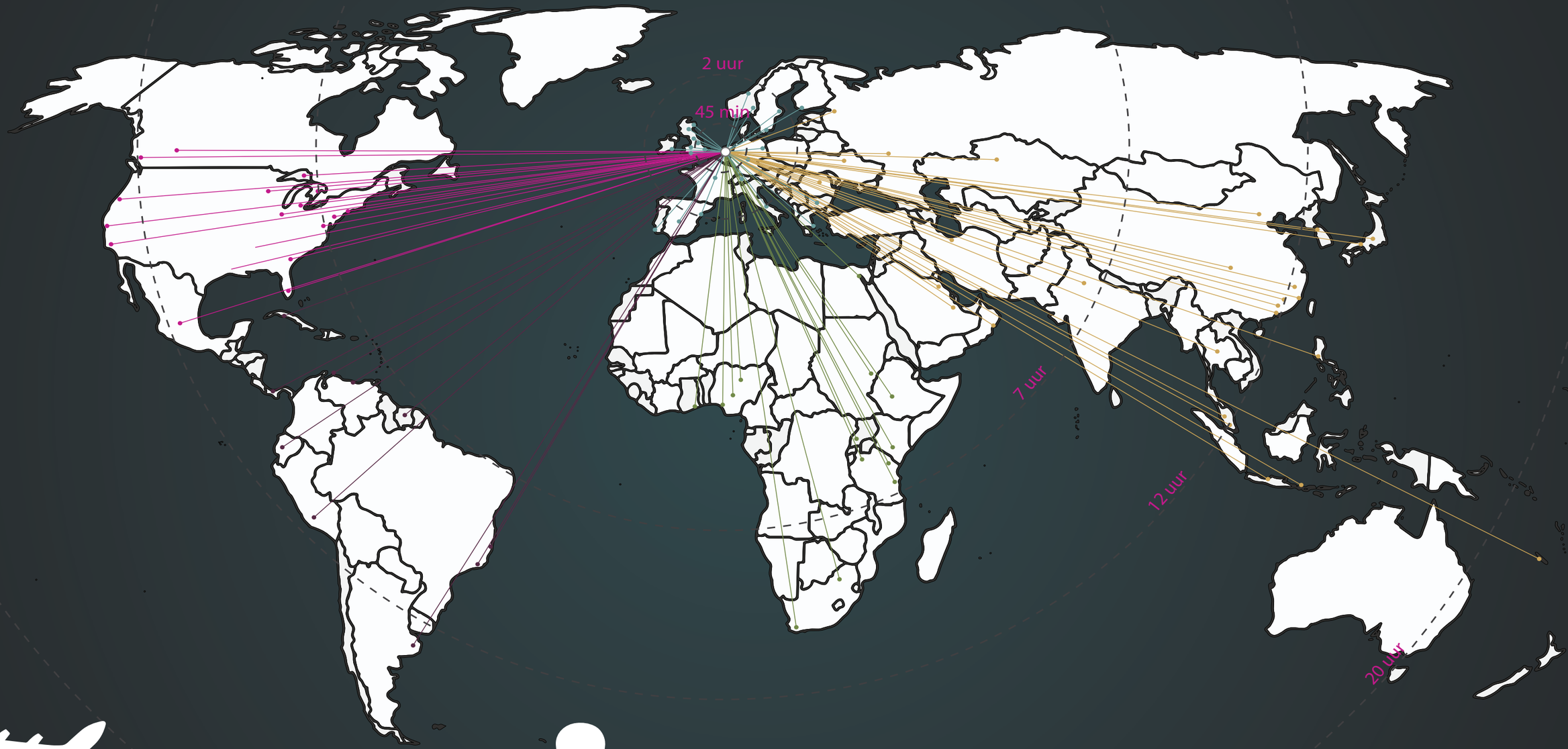
• **DESIGN**




ZAANSTAD
SLOTERDIJK
CENTRAAL
CITY ISLANDS
OUD ZUID
SCHIPHOL
AMSTR
ZUIDOOST







322 direct worldwide destinations. Offered by 108 airlines from AMS

Passenger transport in 2016 was 63,625,534 with a growth of 9.2%

CP

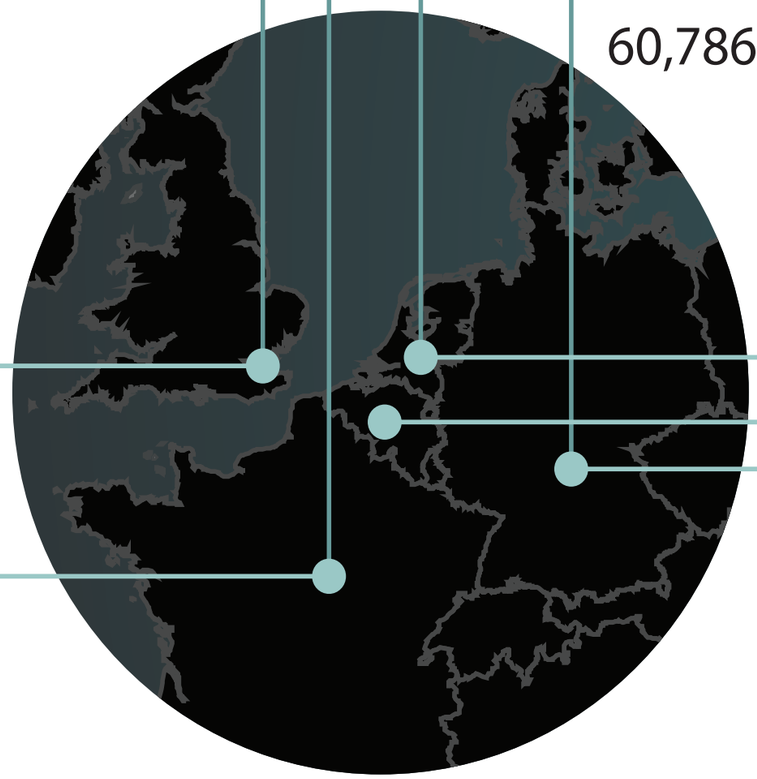
FIVE LARGEST EUROPEAN AIRPORTS

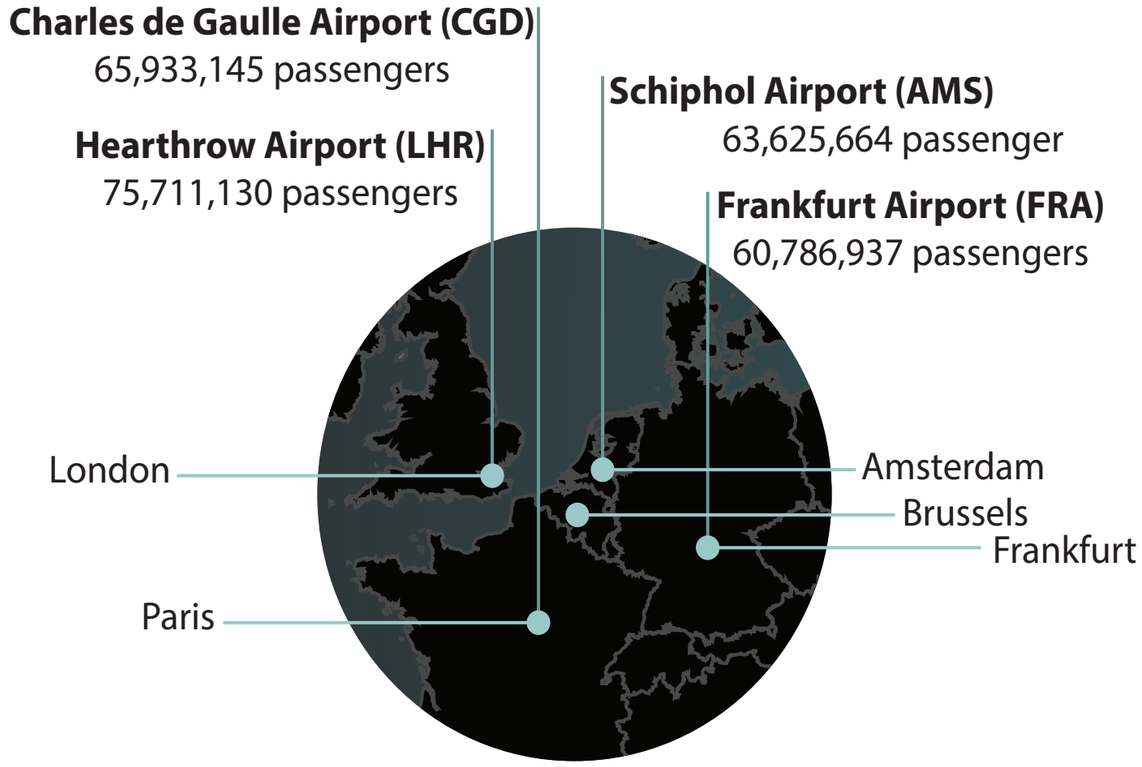
Charles de Gaulle Airport (CGD)
65,933,145 passengers

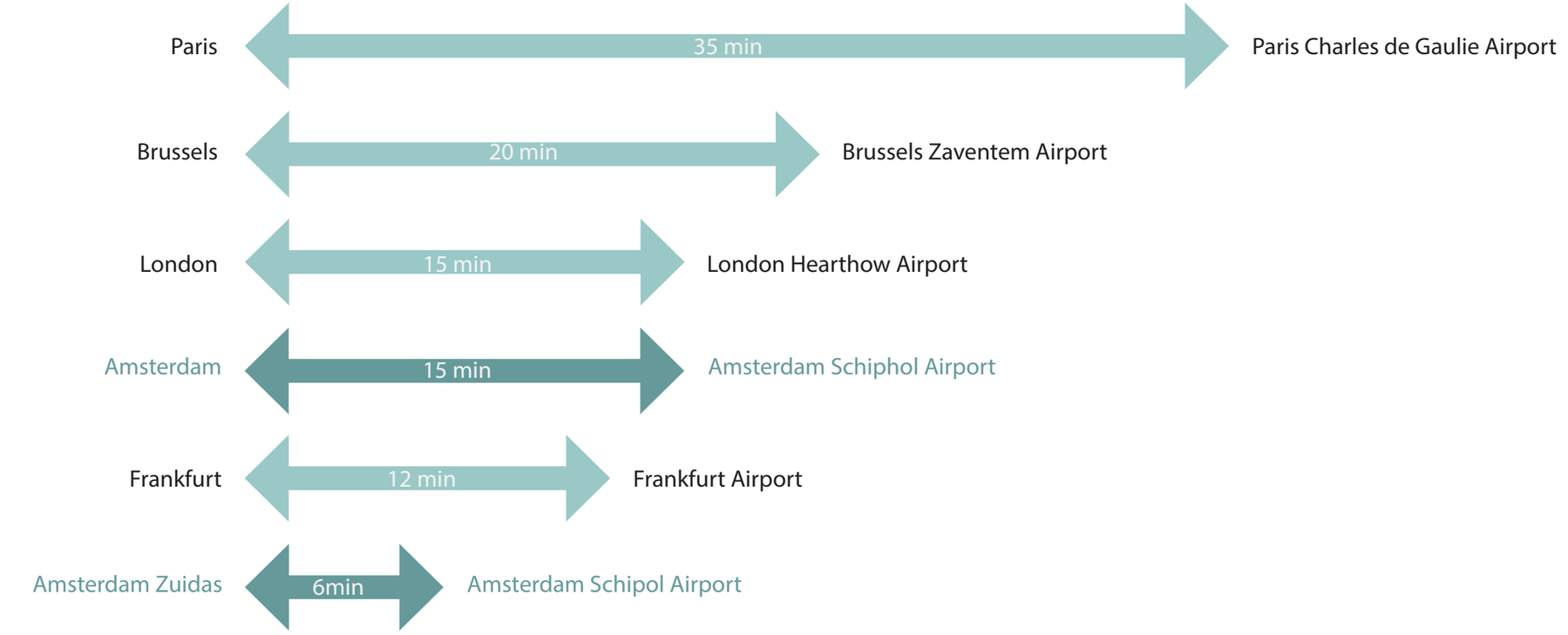
Hearthrow Airport (LHR)
75,711,130 passengers

Schiphol Airport (AMS)
63,625,664 passenger

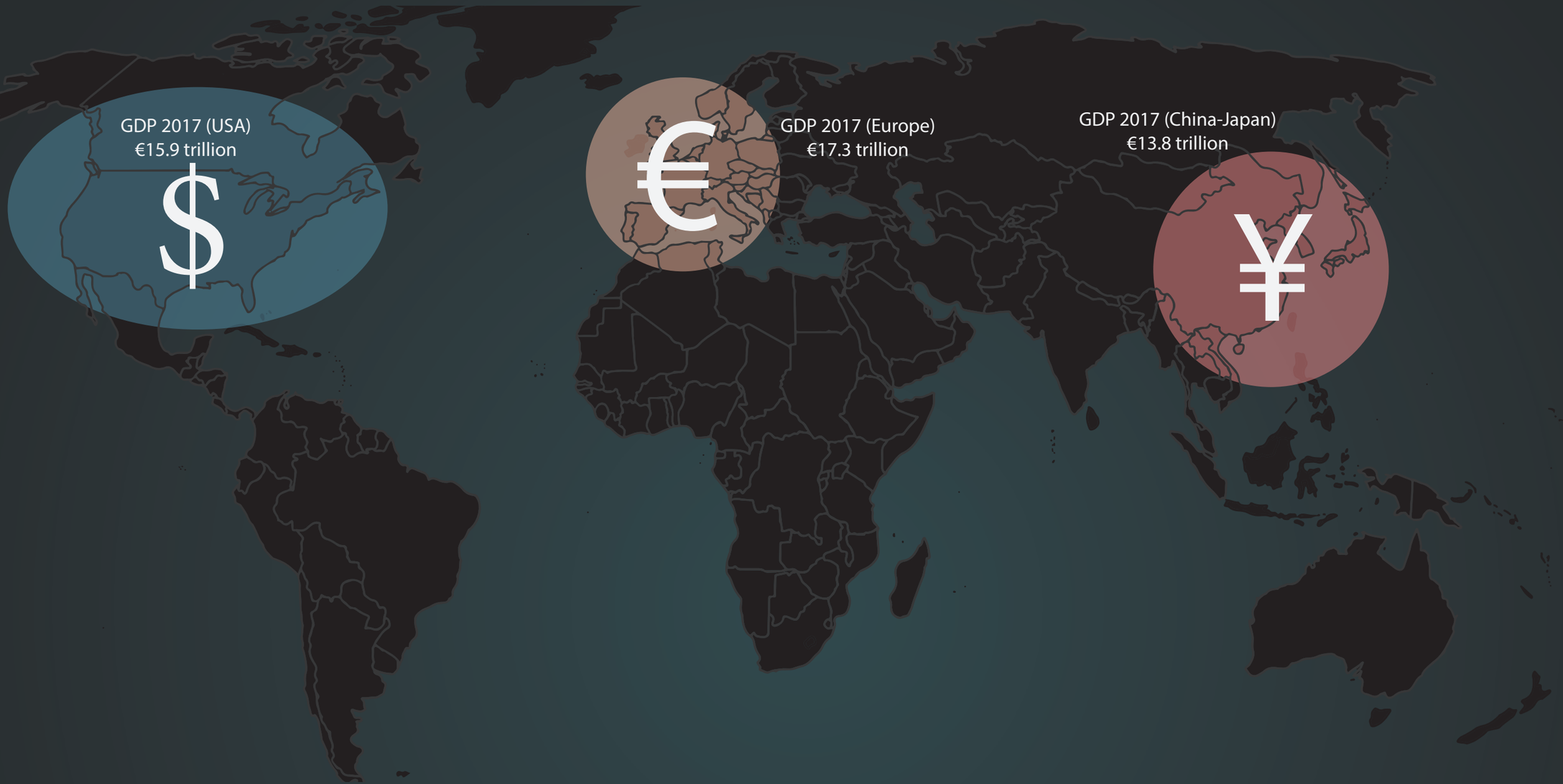
Frankfurt Airport (FRA)
60,786,937 passengers







Travel time from airport to city centre


GDP 2017 (USA)
€15.9 trillion
$
€
GDP 2017 (Europe)
€17.3 trillion
GDP 2017 (China-Japan)
€13.8 trillion
¥

CP

GDP 2017 (USA)
€15.9 trillion

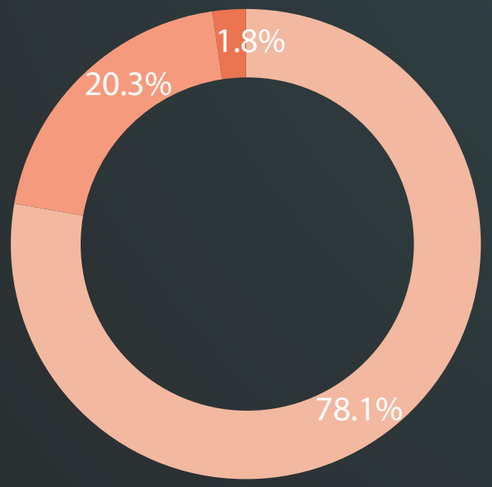
$

€

GDP 2017 (Europe)
€17.3 trillion

GDP 2017 (China-Japan)
€13.8 trillion

¥



Services

Industry

Argiculture

CP


CP

BOOMING INTERNATIONAL REAL ESTATE

Royal Bank of Scotland picks Amsterdam as post Brexit EU trading hub

Business Europe August 4, 2017



Royal Bank of Scotland has picked Amsterdam as its post-Brexit European Union trading hub and will deliver 150 jobs in the Dutch capital, chief executive Ross McEwan said on Friday.

Speaking at the presentation of the bank's second quarter results, McEwan said the bank will build up its minor Amsterdam unit so that its trading division NatWest Markets can continue operating after Brexit.

RBS needs an El
loses passporting
talks' on setting u

Features


DutchNews podcast – But Everybody Speaks English Edition – Week 3


Death in the Netherlands – how to deal with inheritance issues


English is no longer a foreign language in NL, but it has a unique character here


Blog Watching: The word 'expat' has become muddled in its meaning

Daily newsletter SIGN UP

Search Keywords... SEARCH

Best of the web

- Check me out: the library where you can borrow clothes instead of books
- How Dutch startup Bloomon became the Netflix of flowers
- New slaughtering rules pit Dutch religious freedoms against animal rights


Vrij. Onverveerd
Het Parool
HOME AMSTERDAM OPINIE STADSGIDS ABONNEER LOGIN

Chanel opent internationaal hoofdkantoor op de Zuidas

AMSTERDAM ZUID

Wegwerker Van Woustraat ernstig gewond door dronken automobilist

Serviër Erol M. kreeg na vrijspraak 48.000 euro

Chanel opent internationaal hoofdkantoor op de Zuidas

Verdachte tientallen babbeltrucs aangehouden

Fietser zwaargewond na botsing met lantaarnpaal in Zuid

BEKIJK HELE LIJST

MEEST GELEZEN

1 Kinderen van Mokum kraken 'met het verhaal van alle Amsterdammers'

2 Deskundigen houden park tijdens festival in de gaten

3 Stortvloed aan verzoeken en

Property investments in the Netherlands hit new record, nearing €20bn



DutchNews.nl

12° drizzle

Tuesday 21 November 2017

Amsterdam wins race to host the European Medicines Agency

Europe November 20, 2017 - By Robin Pascoe



The EMA's headquarters will be in Amsterdam's Zuidas district. Photo: DutchNews.nl

Amsterdam has succeeded in its bid to host the European Medicines Agency when the organisation leaves London following Brexit.

Features


How to buy a house in Amsterdam and Amstelveen - ask the experts in person


A Thanksgiving story: How the Netherlands played a part in the American holiday


Six classic Dutch winter warmers - all involving mashed potatoes and bacon


DutchNews podcast – The Dog Ate My Flag Edition – Week 46

Daily newsletter SIGN UP

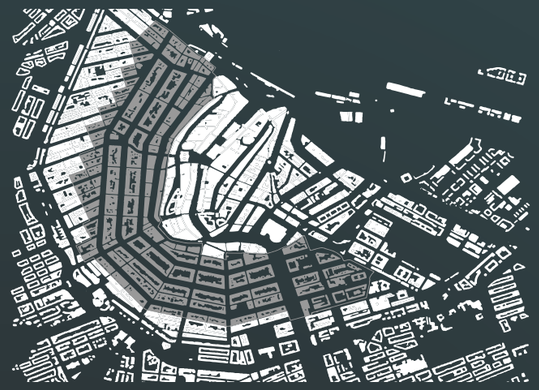
Search Keywords... SEARCH

Best of the web

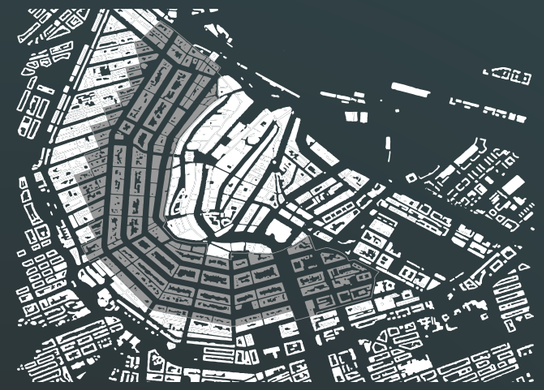
- Brexit: How the Netherlands is braced for 'no deal'
- Could Dutch indoor farming help address food shortages?

CP

17th century development of
“Grachtengordel”



17th century development of
“Grachtengordel”

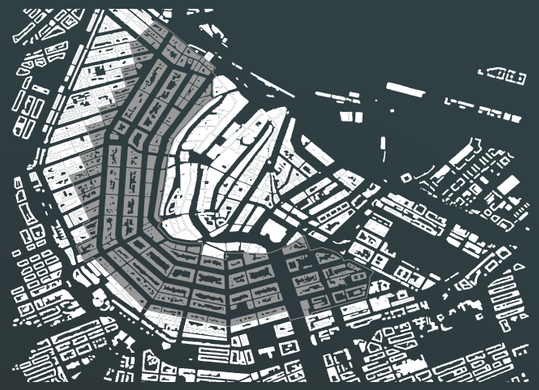


Excavation of 19th century
North Sea Canal



CP

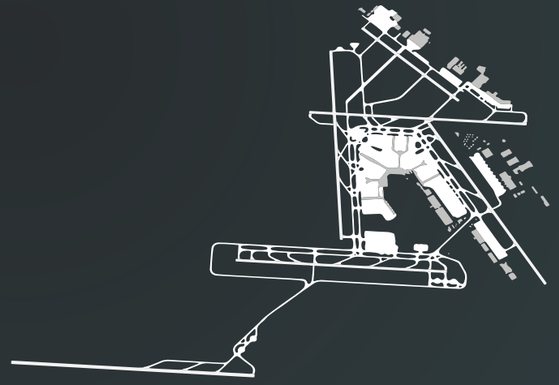
17th century development of
“Grachtengordel”



Excavation of 19th century
North Sea Canal

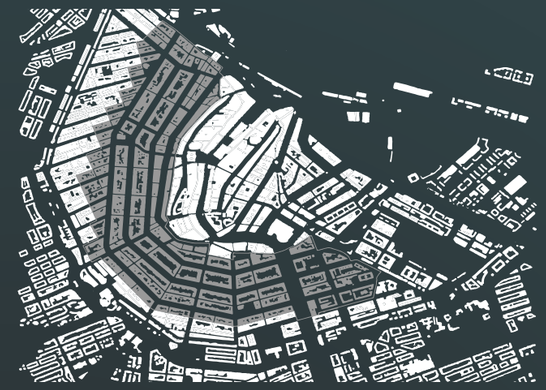


Development of Schiphol in the 20th century



CP

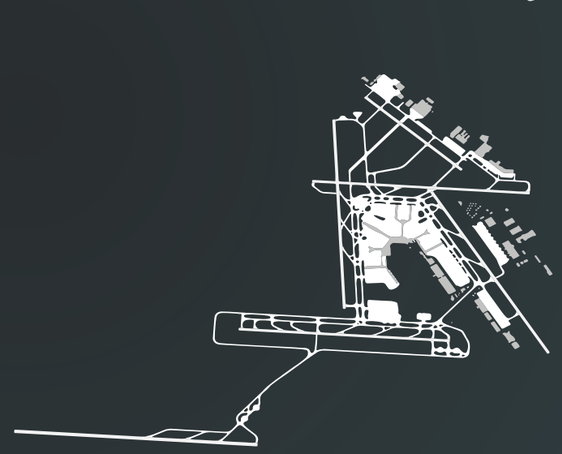
17th century development of
“Grachtengordel”



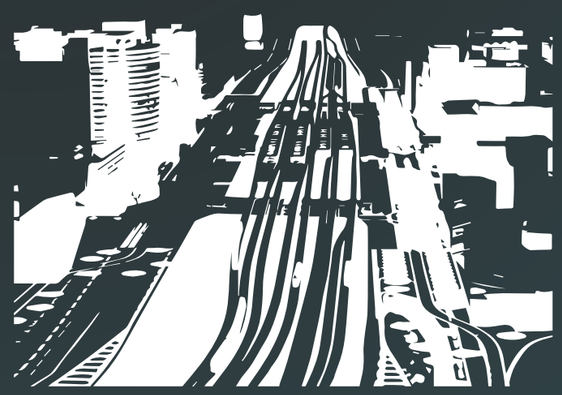
Excavation of 19th century
North Sea Canal



Development of Schiphol in the 20th century



Creation of Zuidas as international city center.



CP

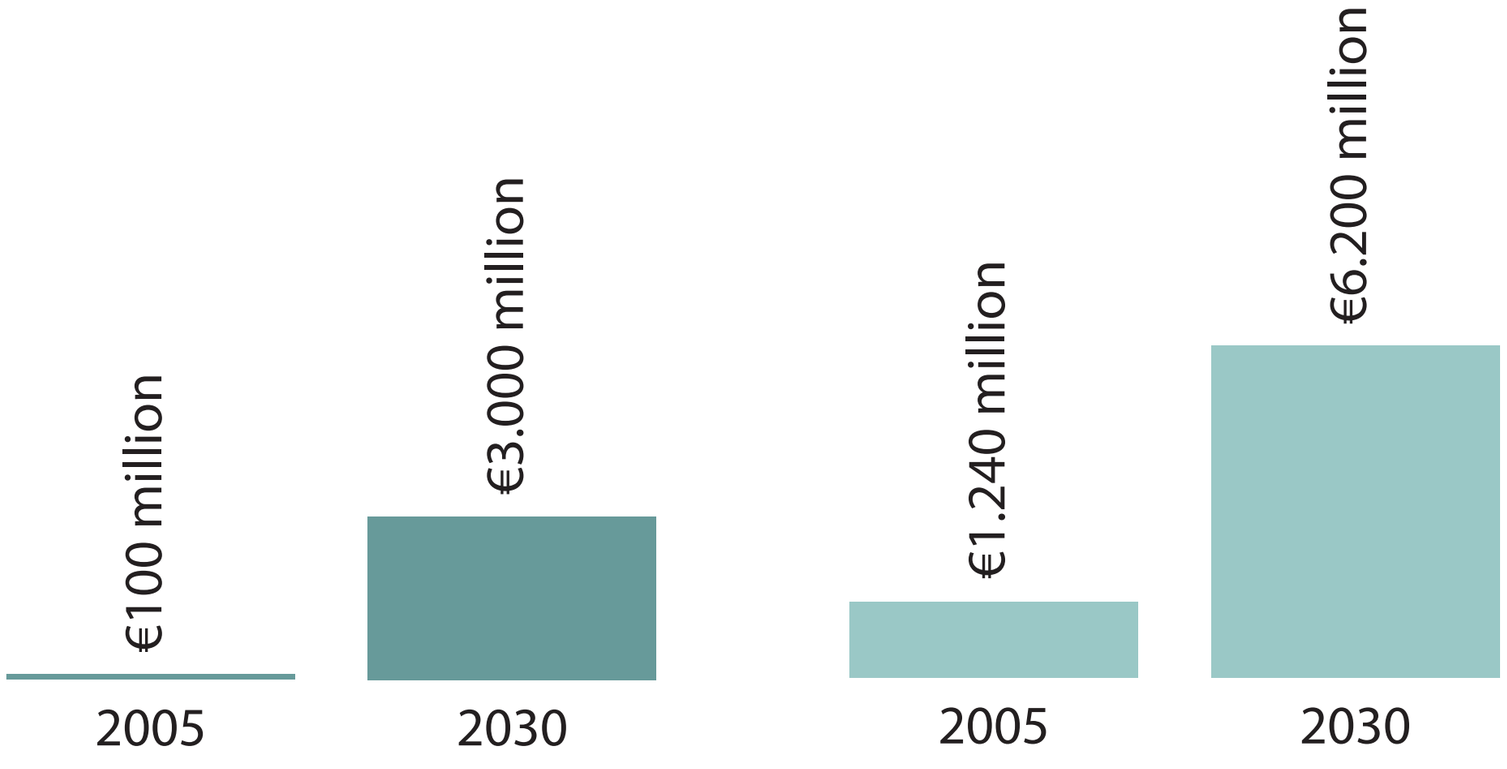
WHO'S FINANCING THE ZUIDAS?


€100 million
€3.000 million
€1.240 million
€6.200 million
2005
2030
2005
2030



€ 9.2 Billion

CP







€ 9.2 Billion



Returns of 3.7 percent on housing, retail and Offices



much interest that for every square metre of real estate there is 15 times the amount of investment capital available.



8th position on Mercer's international ranking of world cities in Europe

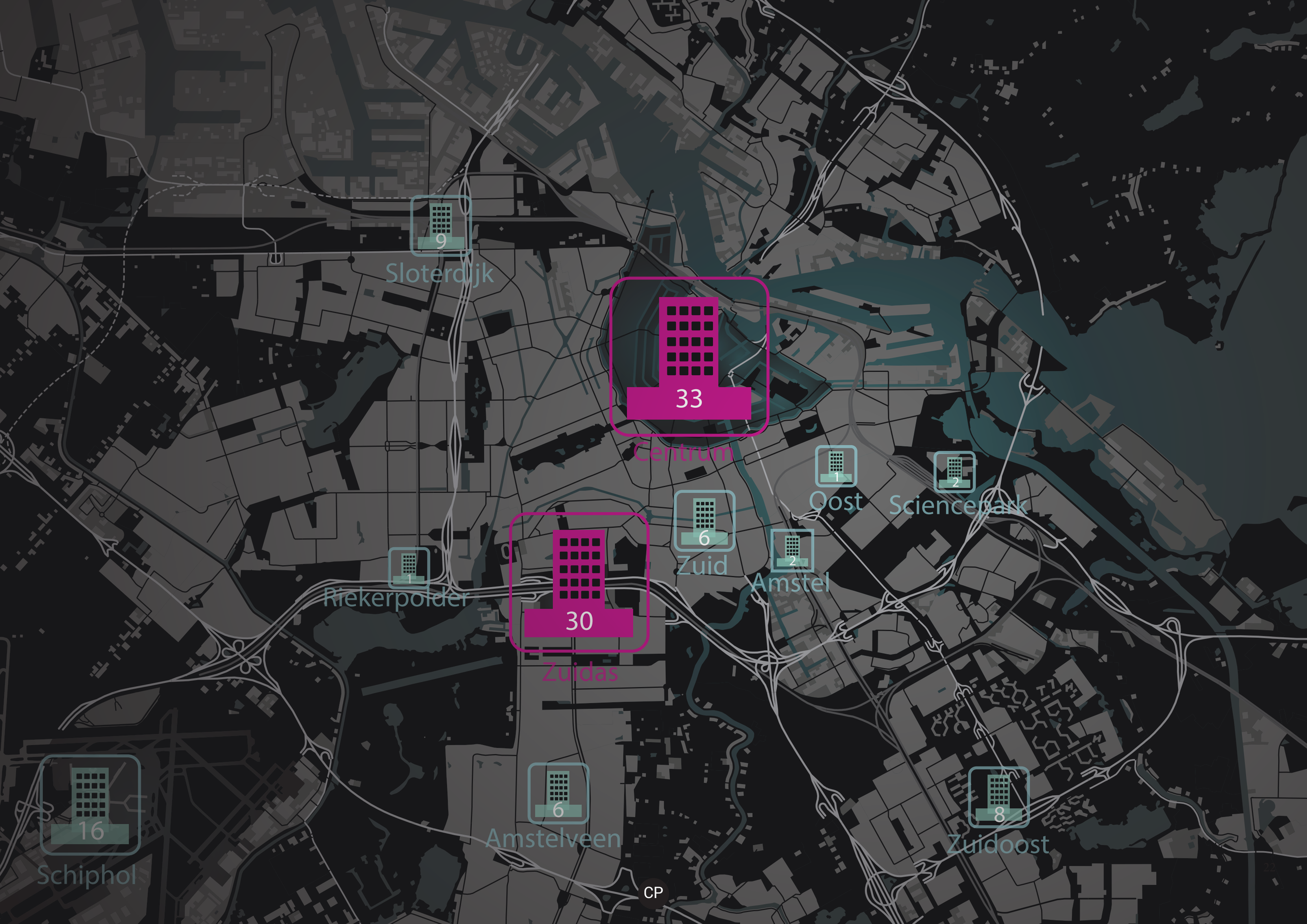


More than 240 international investors attracted



Lowest office vacancy in The Netherlands and decreasing each year

CP


9
Sloterdijk
33
Centrum
1
Oost
2
Sciencepark
6
Zuid
2
Amstel
1
Riekerpolder
30
Zuidas
16
Schiphol
6
Amstelveen
8
Zuidoost
CP


KLM

RESEARCH

THE NODE OF TOMORROW

VARIOUS FACES OF OUD-ZUID











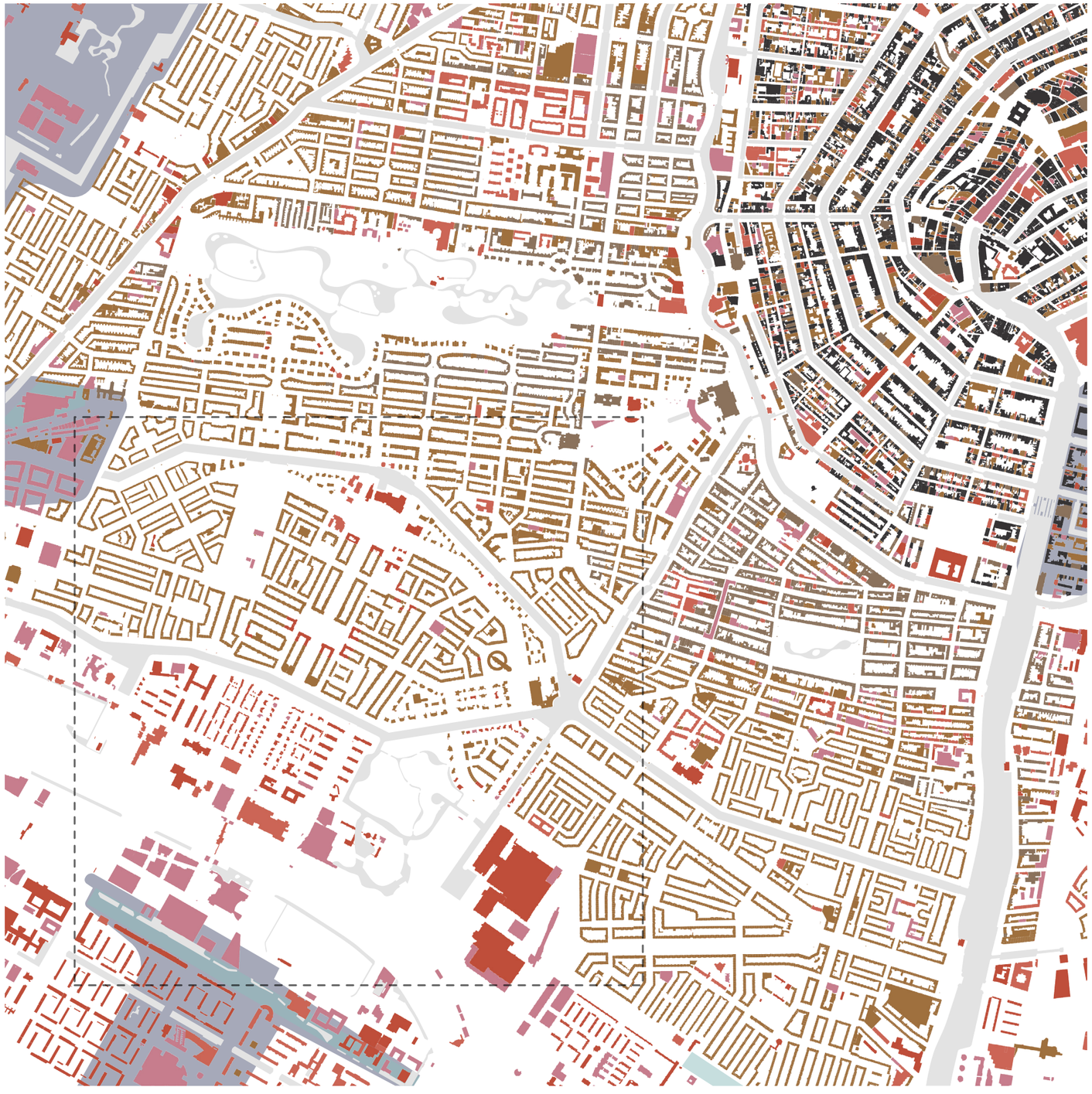






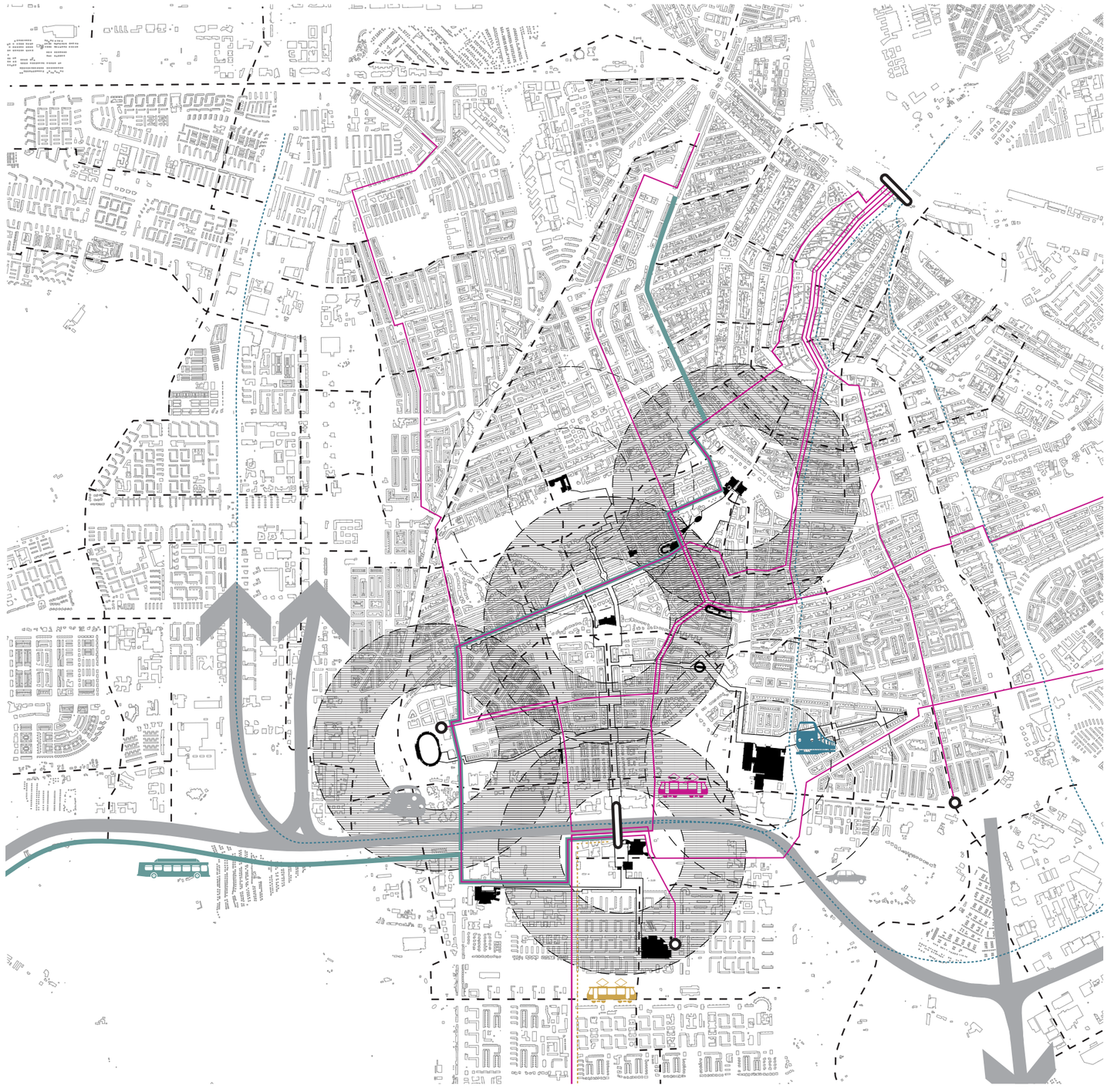


FULLY DEVELOPED PART OF THE CITY



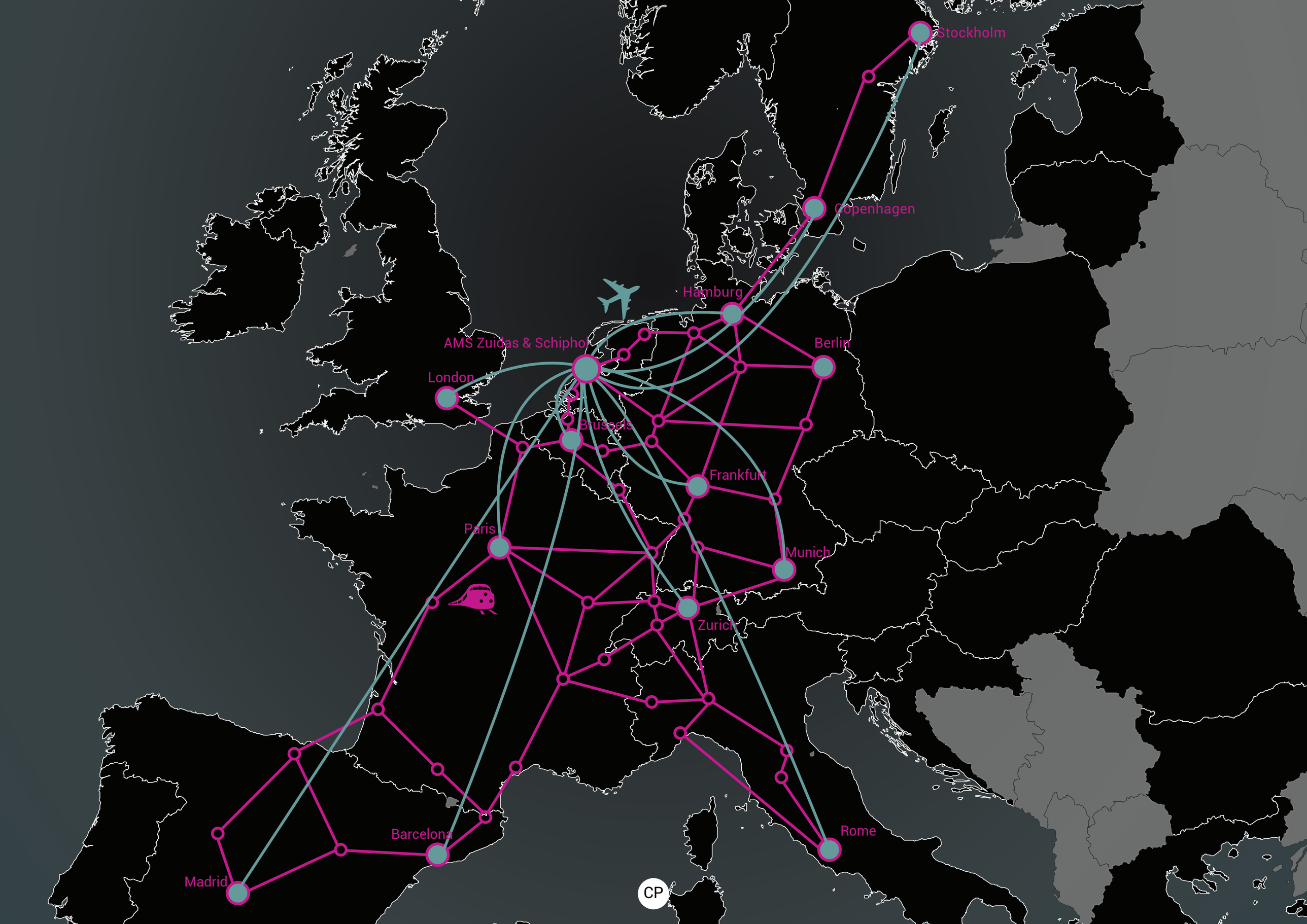
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GROUP VISION

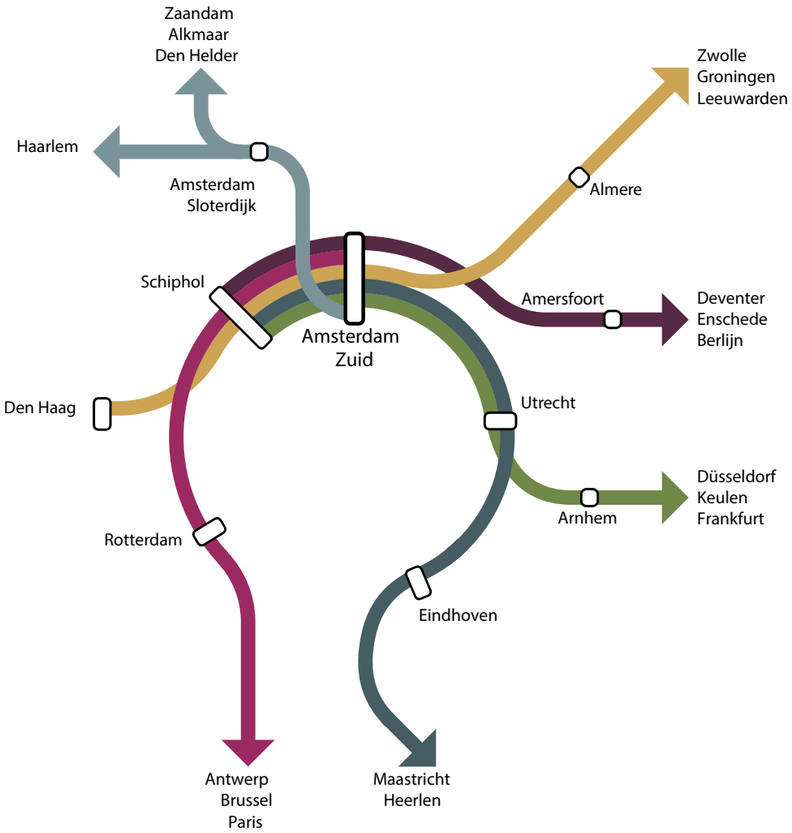


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OUD ZUID IS NOT DONE


Stockholm
Copenhagen
Hamburg
AMS Zuidas & Schiphol
Berlin
London
Brussels
Frankfurt
Paris
Munich
Zurich
Barcelona
Rome
Madrid
CP

ZUIDAS STATION NATIONALLY CENTRERED

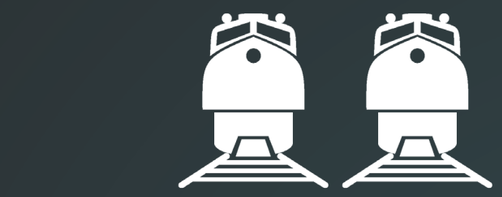


- Den Haag - Amsterdam Zuid - Almere
- Schiphol - Amsterdam Zuid - Eindhoven
- International from Amsterdam Zuid towards Rotterdam, Brussel and Paris
- Schiphol - Amsterdam Zuid - Utrecht - Arnhem
- Schiphol - Amsterdam Zuid - Amersfoort
- Amsterdam Zuid - Haarlem/ Zaanstad

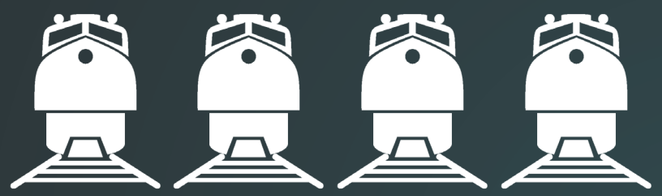


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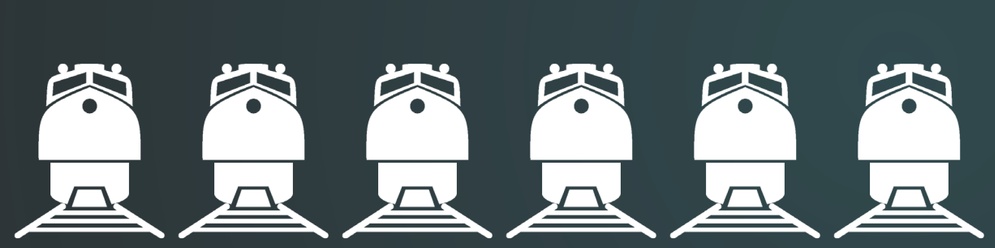
GROWTH IN MOBILITY



2005



2015



2030

Amount of railtracks at Zuidas station



2005



2015



2030

Train



40,000 → 130,000

Metro



34,200 → 118,000

Tram



9,100 → 57,000

2010 - 2030

CP

INTERNATIONAL TRAINS ARE MOVING TO THE ZUIDAS

BANEN TOPICS DIGITALE KRANT SERVICE WINKEL INCLUSIEF ABONNEER

Nieuws Cultuur & Leven **deVolkskrant** ZOEKEN INLOGGEN

Binnenland



Amsterdam CS. © ANP

Amsterdam CS krijgt minder sporen, Zuid krijgt er juist twee bij

Amsterdam CS krijgt minder sporen, negen in plaats van de huidige vijftien. Het snelstgroeiende station van Nederland, Amsterdam Zuid, dat nu vier sporen heeft krijgt er twee bij. Door onder meer de internationale treinen via station

AANBEVOLEN ARTIKELEN

Cees Veeger kon niet tegen onrecht en wetenschappelijk onderzoek moest deugen
plus
13 maart 2018

Het weer: wisselvallig, maar bovenal flink zacht
11 maart 2018

Teun van de Keuken: Dat ING-topman Hamers maar om één ding geeft, en dat dat niet liefde is, is volkomen duidelijk
11 maart 2018

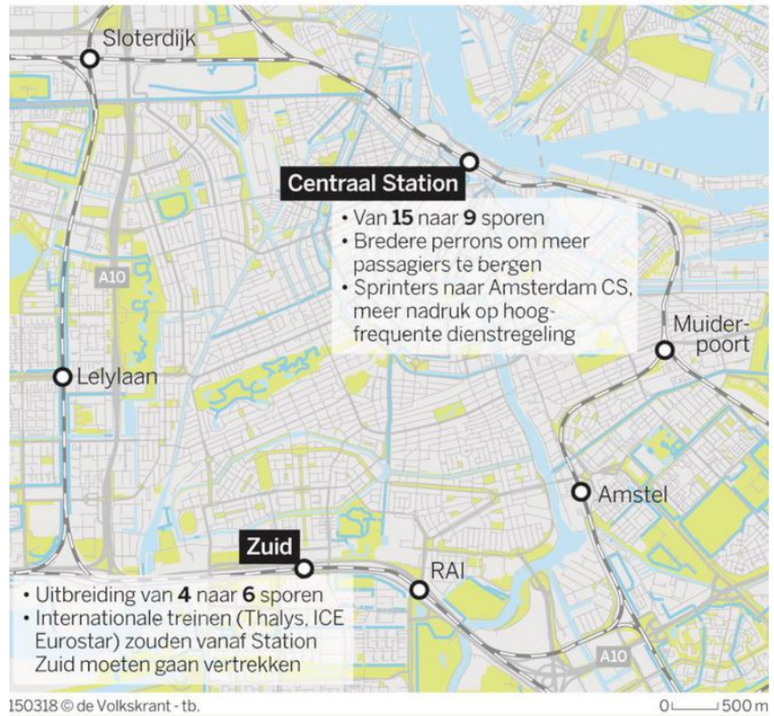
MEEST GELEZEN BINNENLAND

1. Unilever hakt knoop door en kiest voor hoofdkantoor in

sources

Nieuws Cultuur & Leven Binnenland ABONNEER

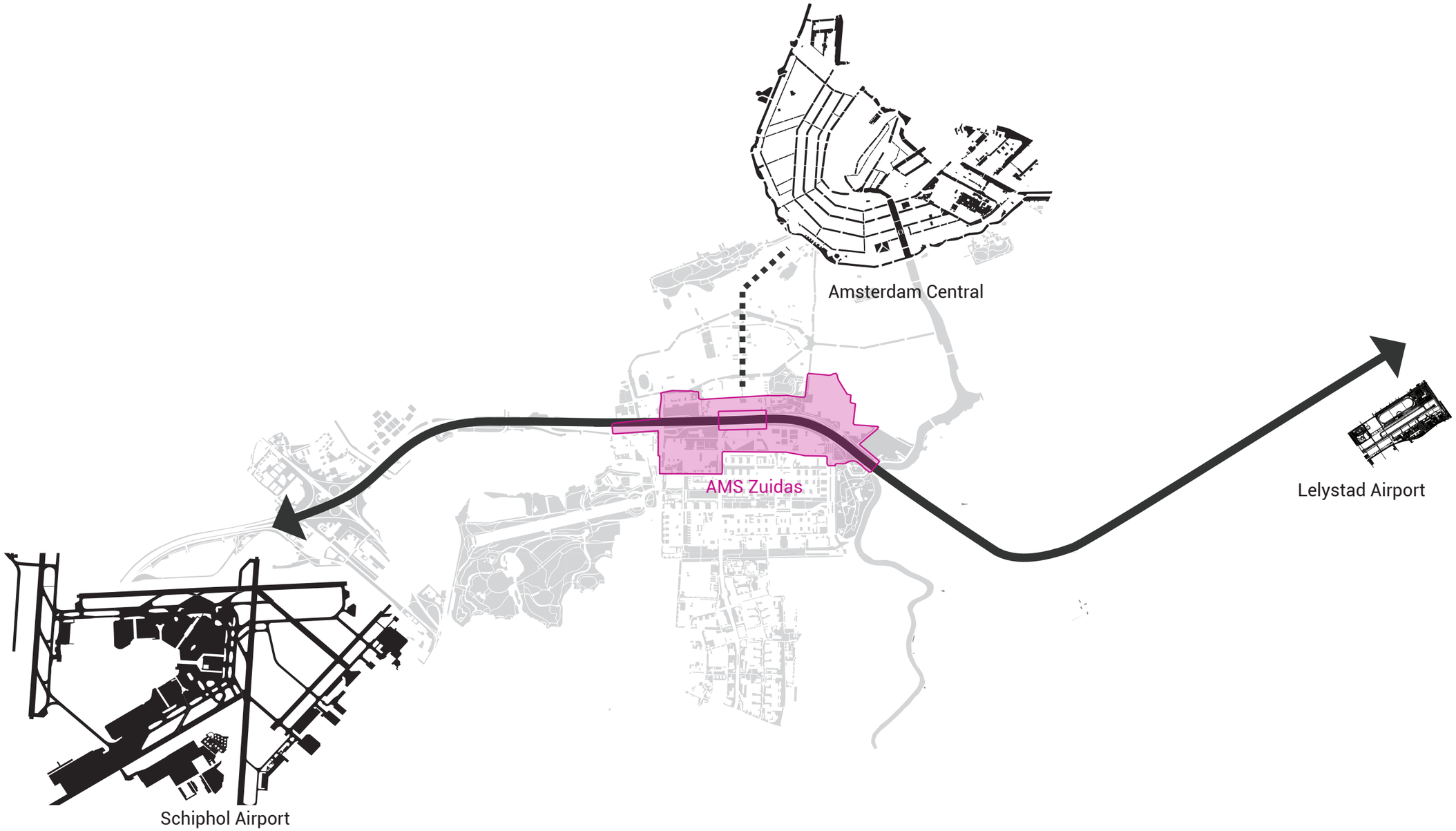
PLAN HERINRICHTING TREINVERKEER AMSTERDAM



© de Volkskrant

sources

CONNECTION SCHIPHOL, AMSTERDAM & LELYSTAD AIRPORT



CP

"STATION AMSTERDAM ZUID is the fastest growing station in the Netherlands. With the arrival of the North-South Line in 2018 and the growth of train traffic on the Schiphol-Amsterdam-Almere-Lelystad route, 250,000 passengers are expected to arrive on the train station a day."



CP


06:30


Club World
Make yourself comfortable
Top Gear
Top Gear
Patagonia Special, Part 2
07:03


Baggage hall
Arrivals hall
07:47


14:38 Intercity direct
Rotterdam Centraal
5
4
Niet instappen
Do not board
E 186 037
07:59


08:04


LEBARA
MOBILE
08:07


08:10


08:12


08:13


08:15

THE MONEY SHOT



THE REALITY



CP



...going to Amsterdam tomorrow again.

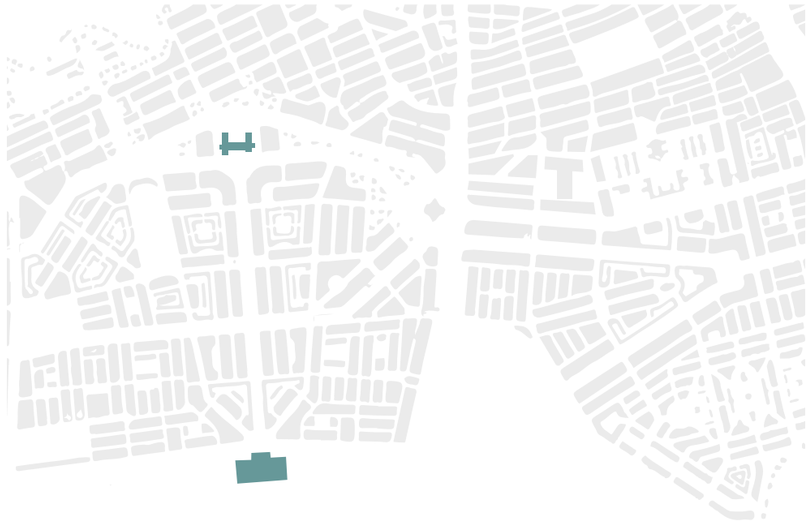
SITE ARGUMENTATION

FRONTDOOR TO THE CITY

PLAN VAN ZUID CENTRAL STATION
INITIAL DESIGN



WHY WAS ZUIDAS STATION NEVER BECAME THE CENTRAL STATION?

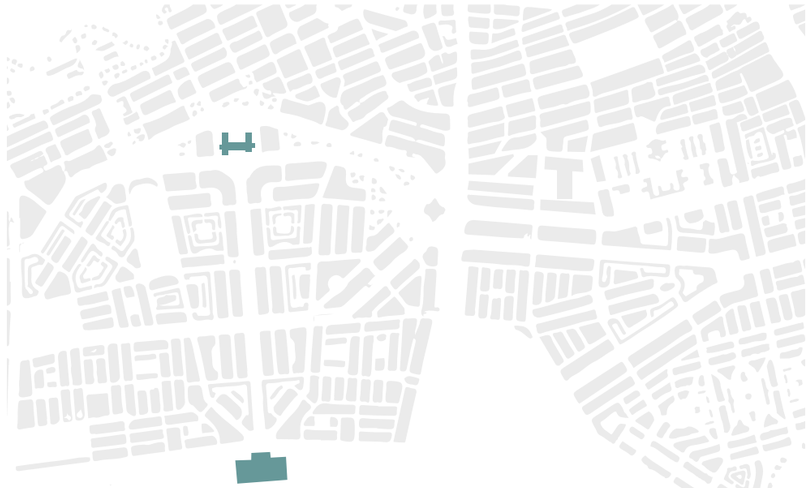


ENTRANCE TO AXIS

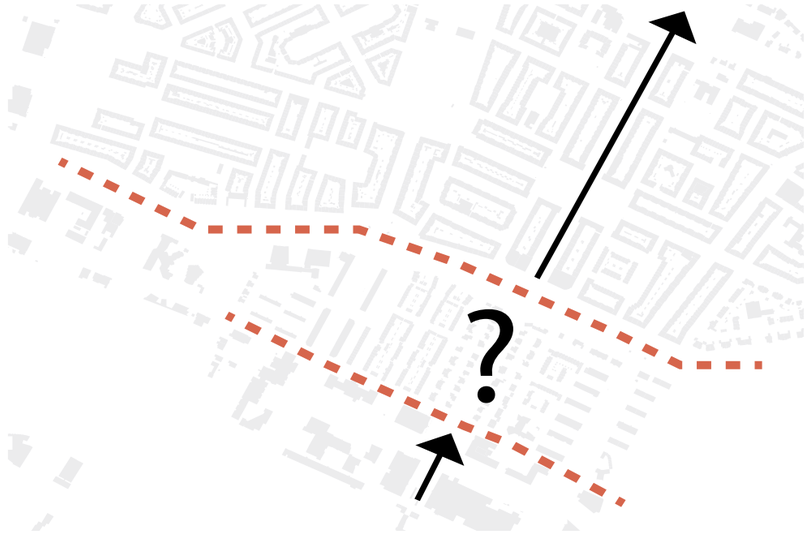
AWKWARD VILLAS

LACK OF CERTAIN FUNCTIONS

WHY WAS ZUIDAS STATION NEVER BECAME THE CENTRAL STATION?



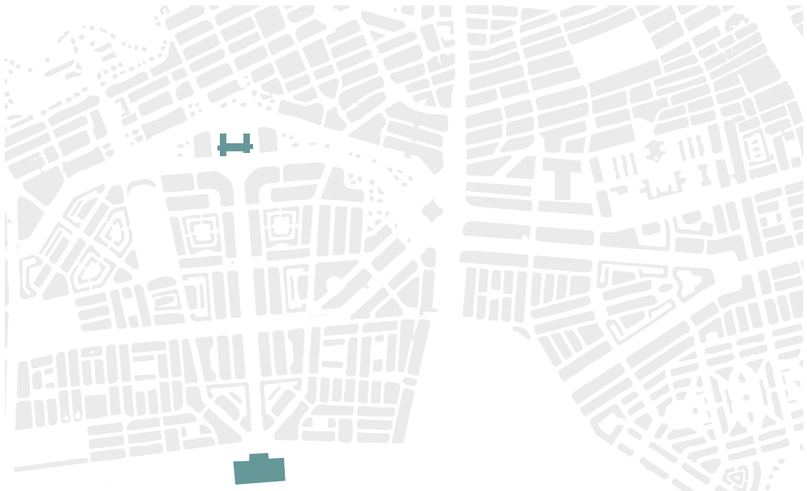
ENTRANCE TO AXIS



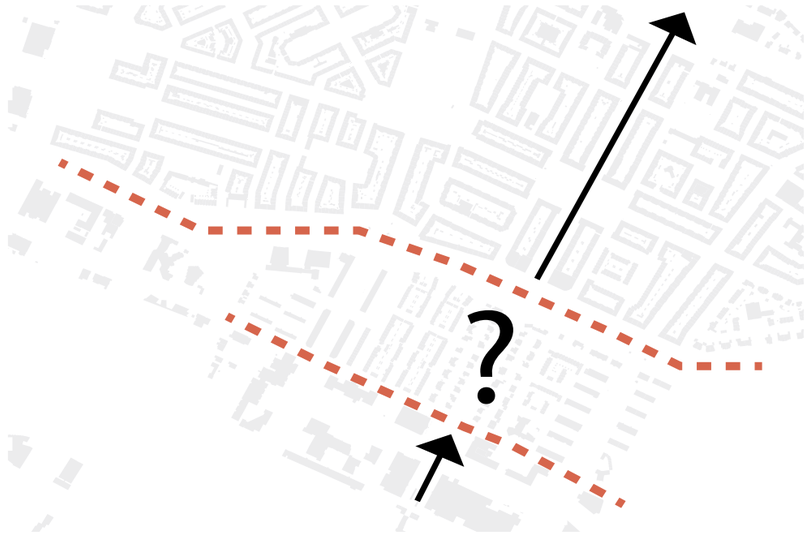
AWKWARD VILLAS

LACK OF CERTAIN FUNCTIONS

WHY WAS ZUIDAS STATION NEVER BECAME THE CENTRAL STATION?



ENTRANCE TO AXIS

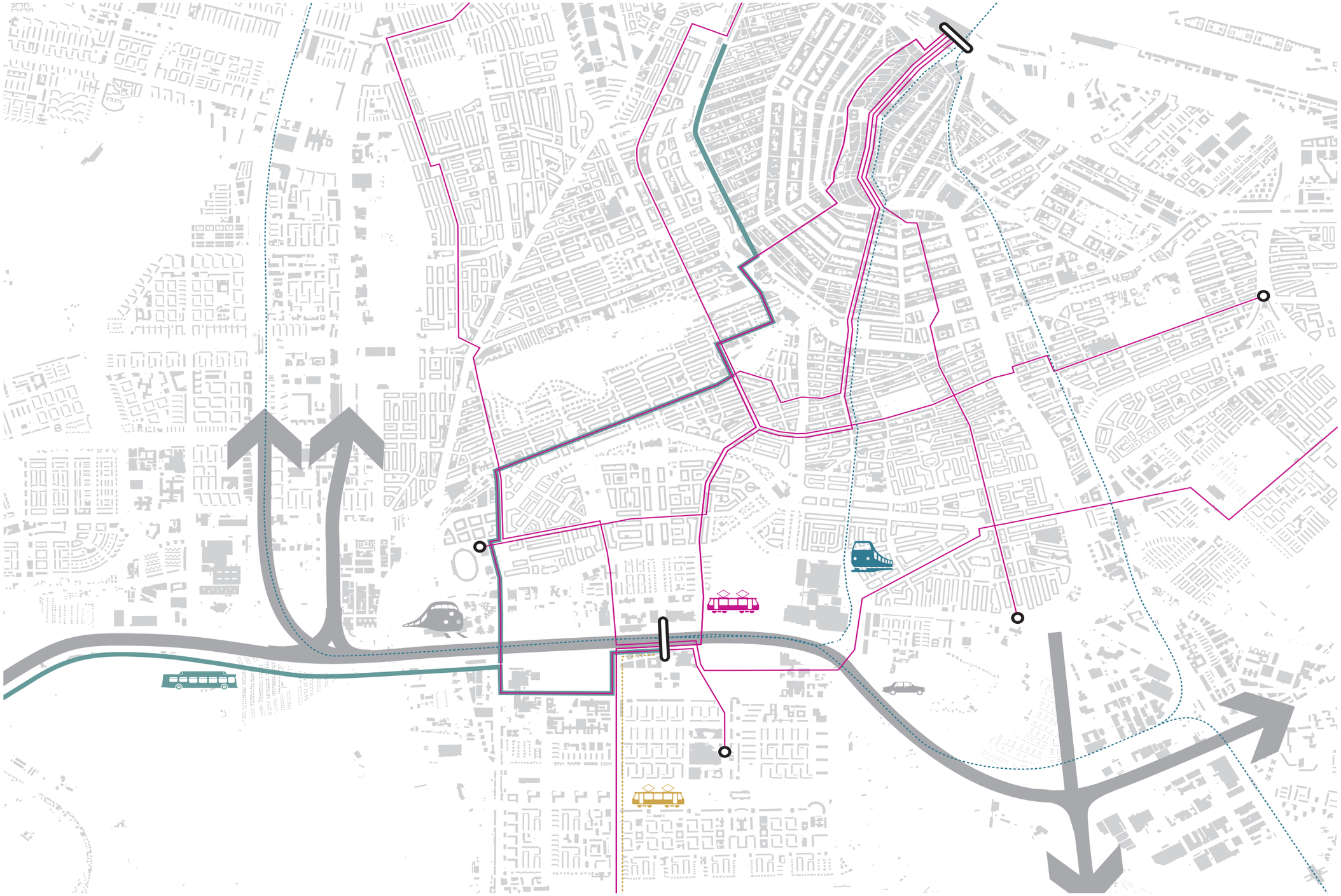


AWKWARD VILLAS



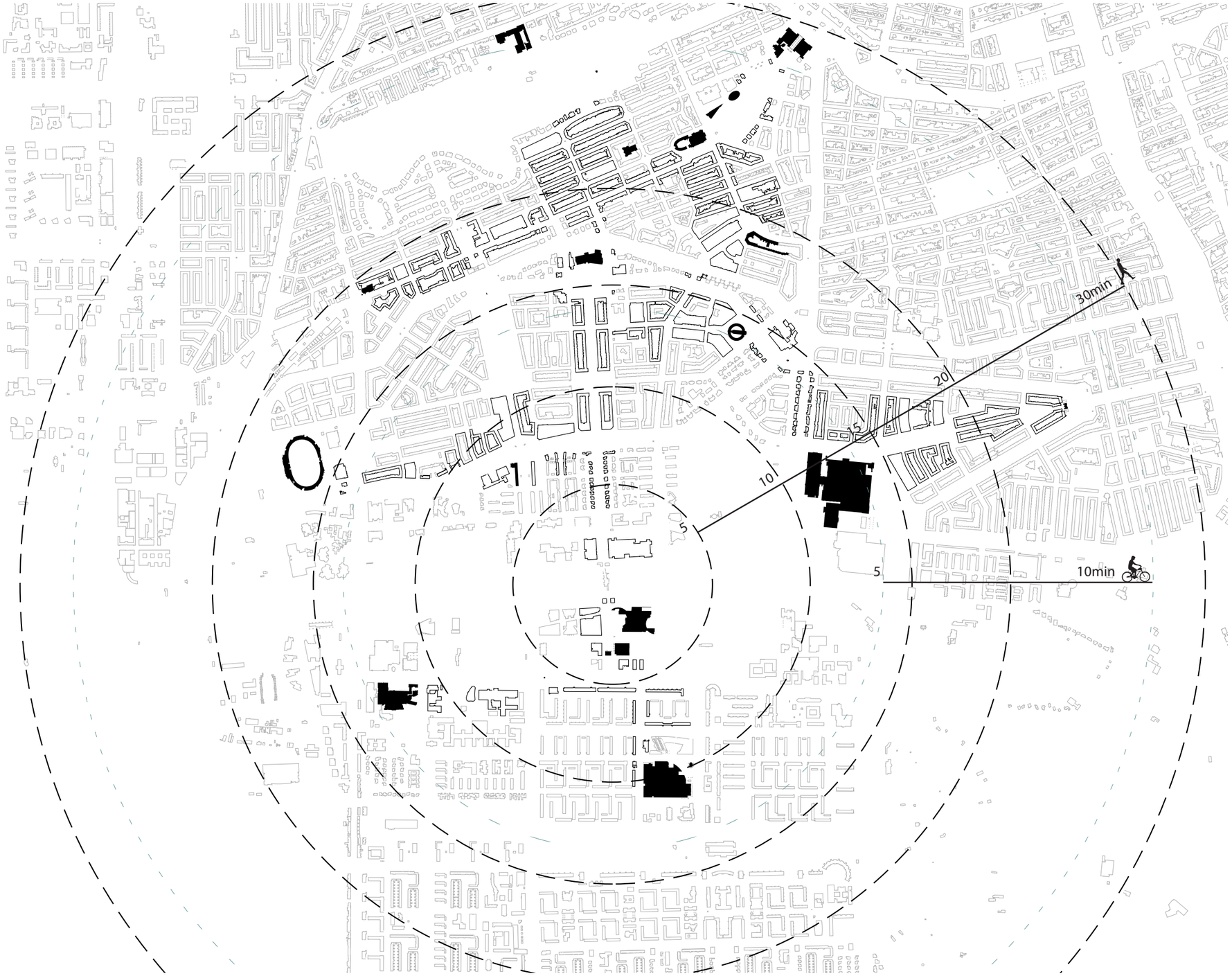
LACK OF CERTAIN FUNCTIONS

TRANSITION POINT ON LOCAL & NATIONAL LEVEL

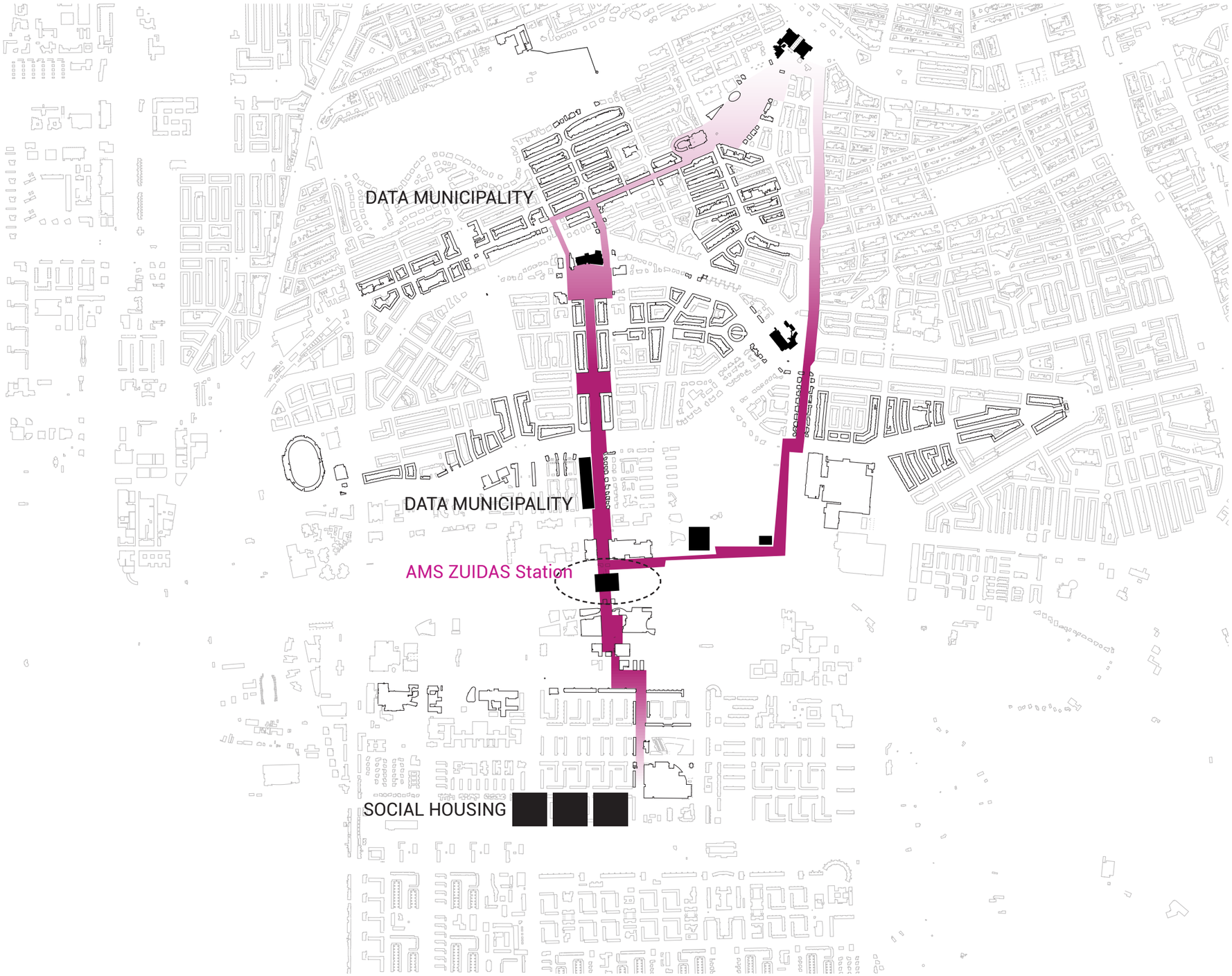


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EXCELLENT SLOW MOTION



START, MIDDLE & END POINT WITHIN THE OUD-ZUID



CP

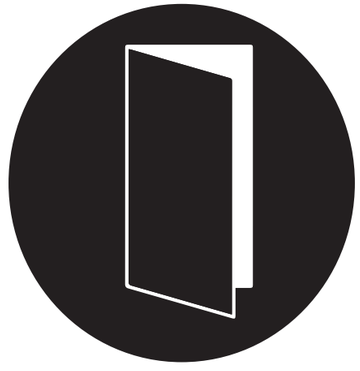
ZUIDAS STATION IS THE 2ND “CENTRAL STATION"

-Hendrik P. Berlage

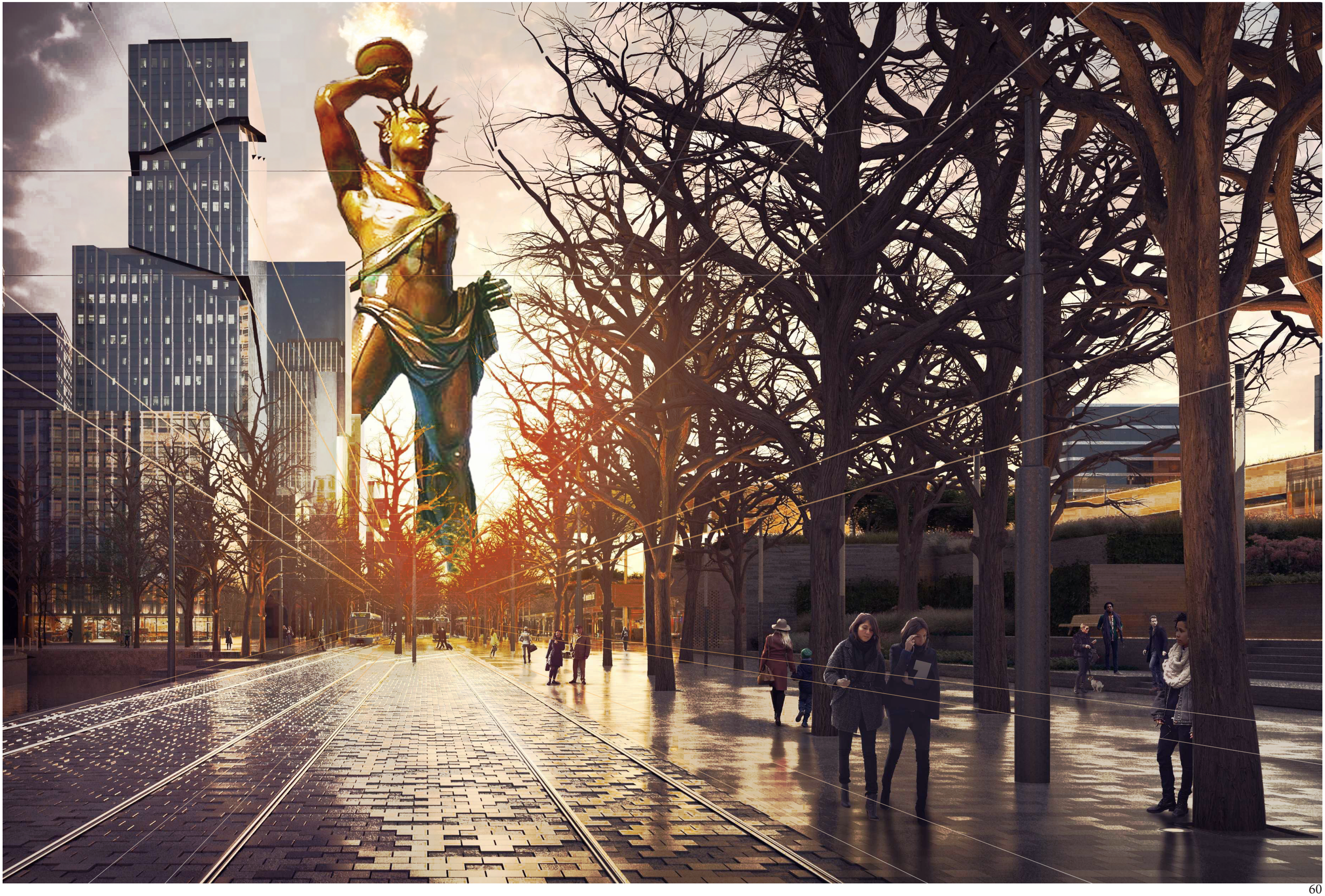
ZUIDAS STATION IS THE ~~2~~ 2ND CENTRAL STATION

-Hendrik P. Berlage





ZUIDAS STATION IS THE NEW FRONTDOOR TO AMSTERDAM 2050



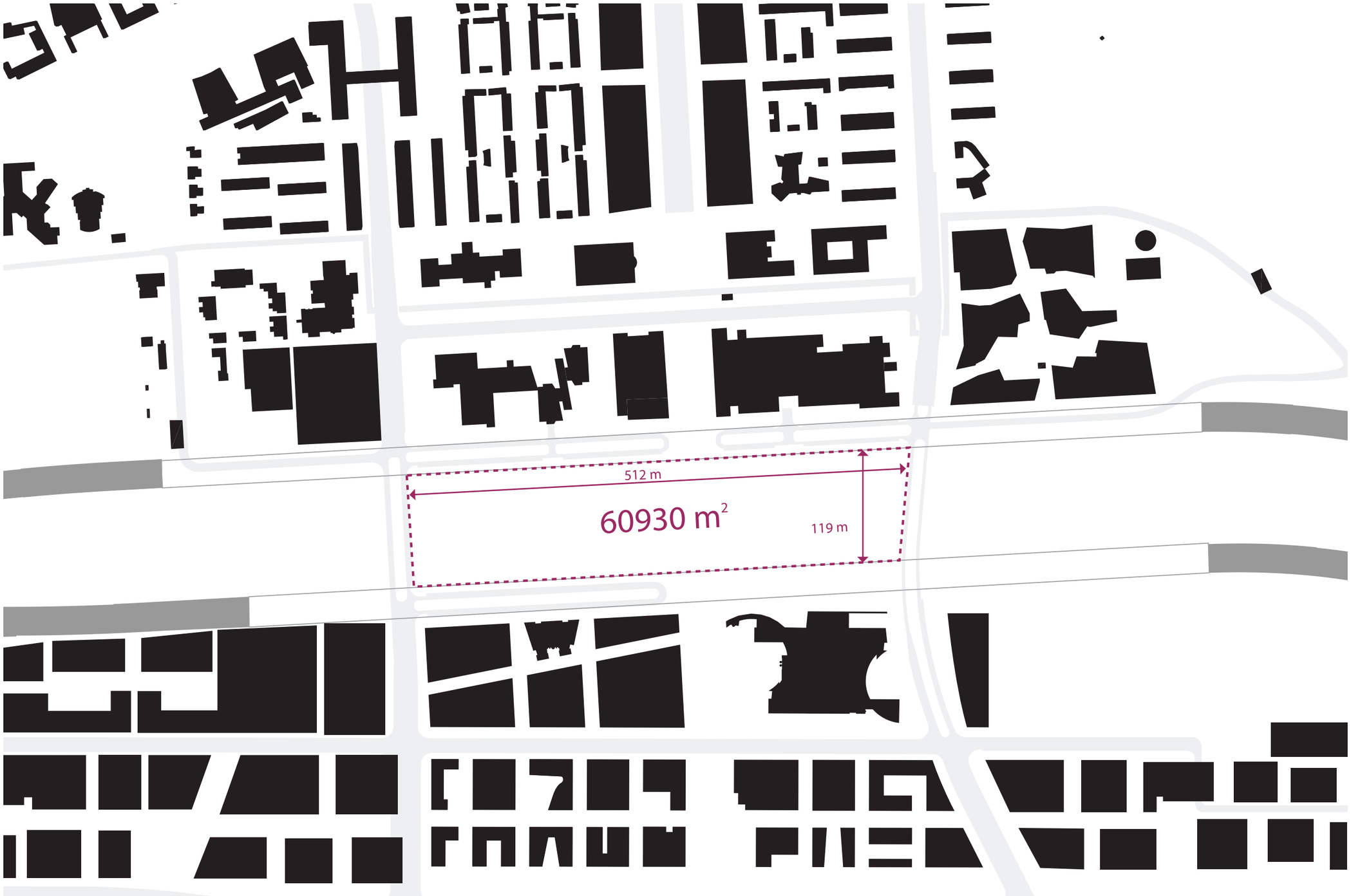
ZUIDAS Station the next GLOBAL MOBILITY NODE OF EUROPE. How should this MOBILITY NODE be architecturally realized?

CP

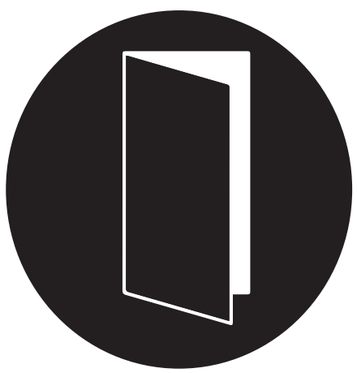
DESIGN

A NEW CONNECTION POINT

PROPOSED SITE LOCATION



CP



FRONTDOOR TO
AMSTERMDAM 2050



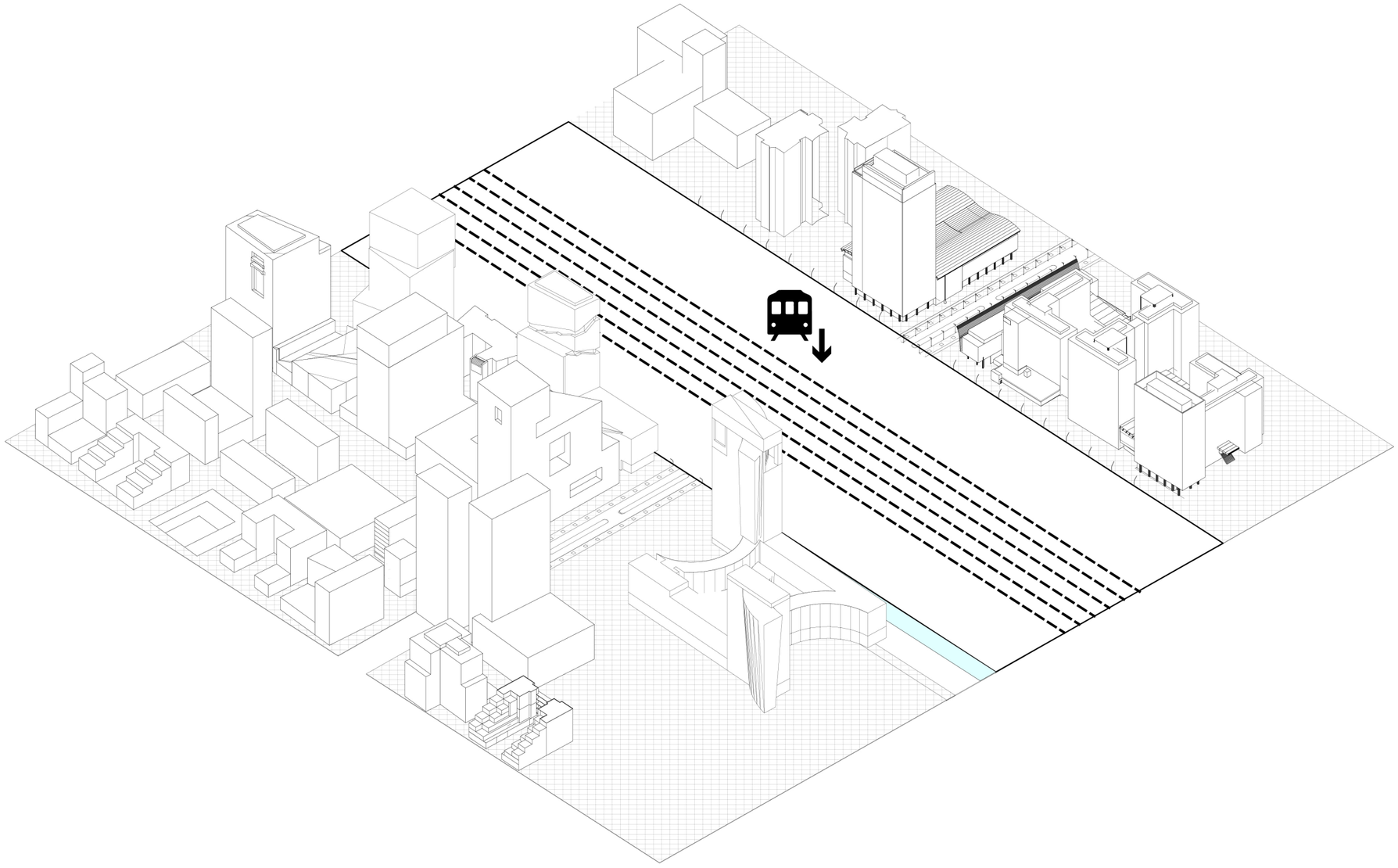
TRANSPORT &
TRANSITION POINT



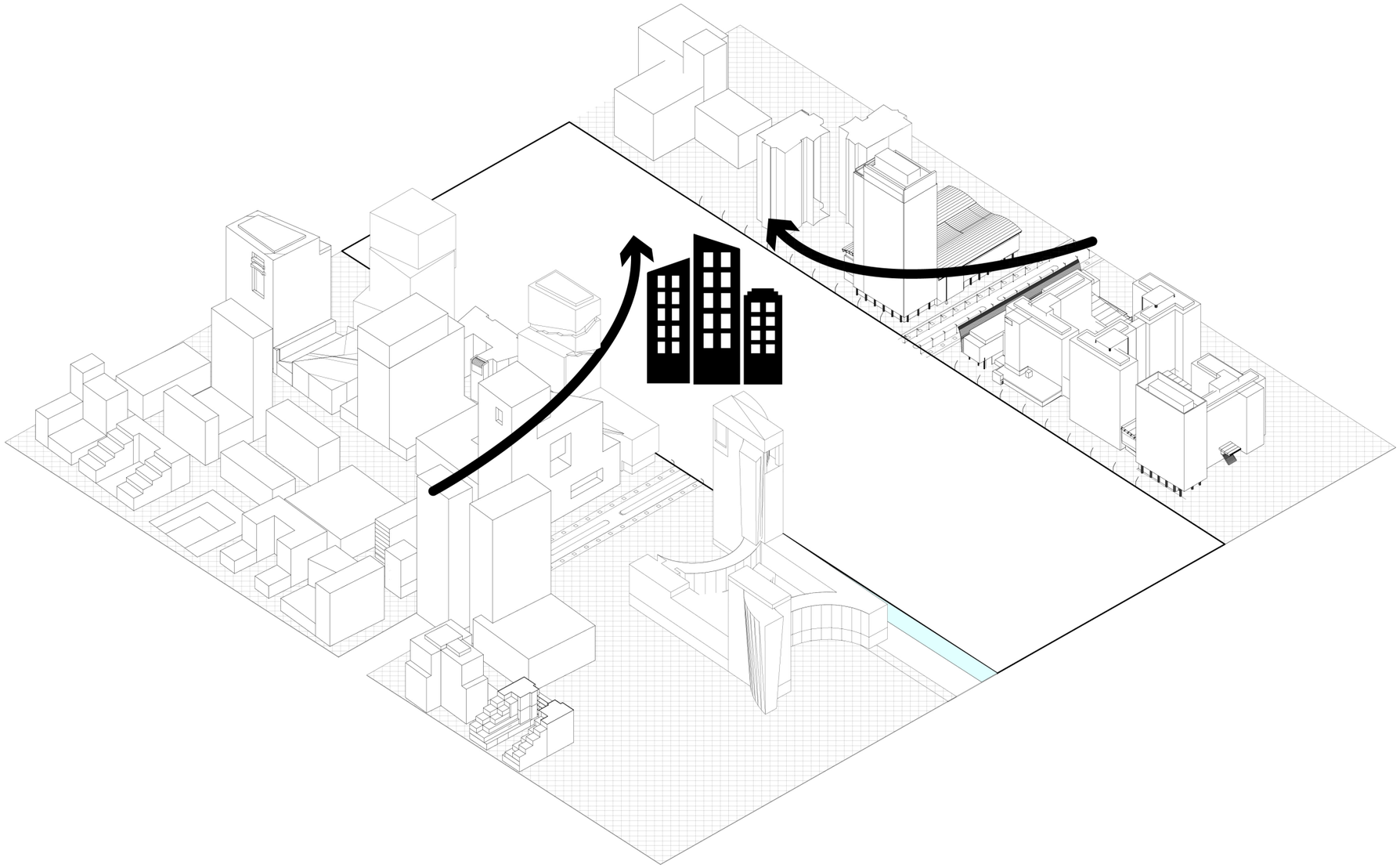
(INTER)NATIONAL
COMMUNITY

CP

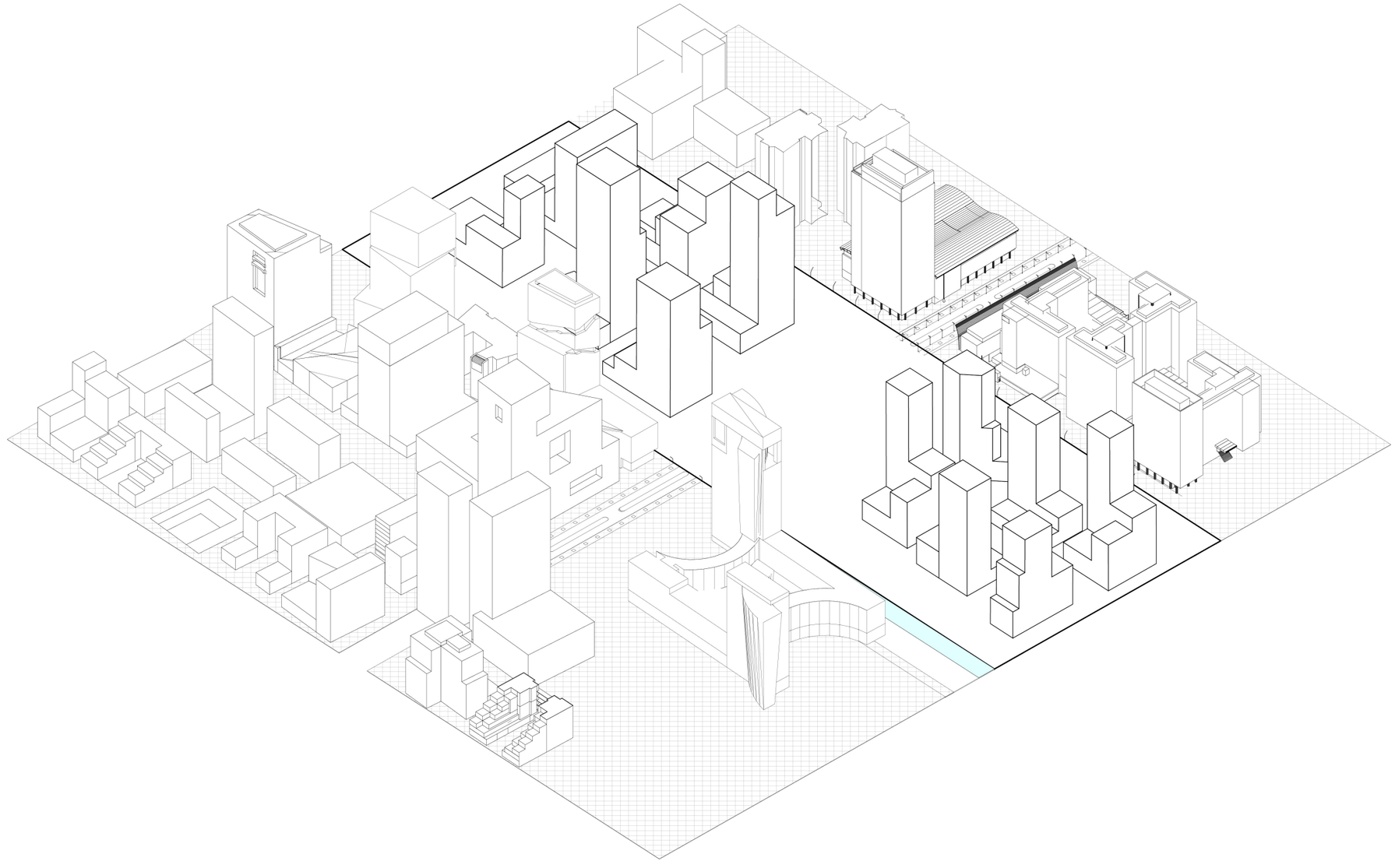
PLACNG TRAIN RAILS UNDERGROUND



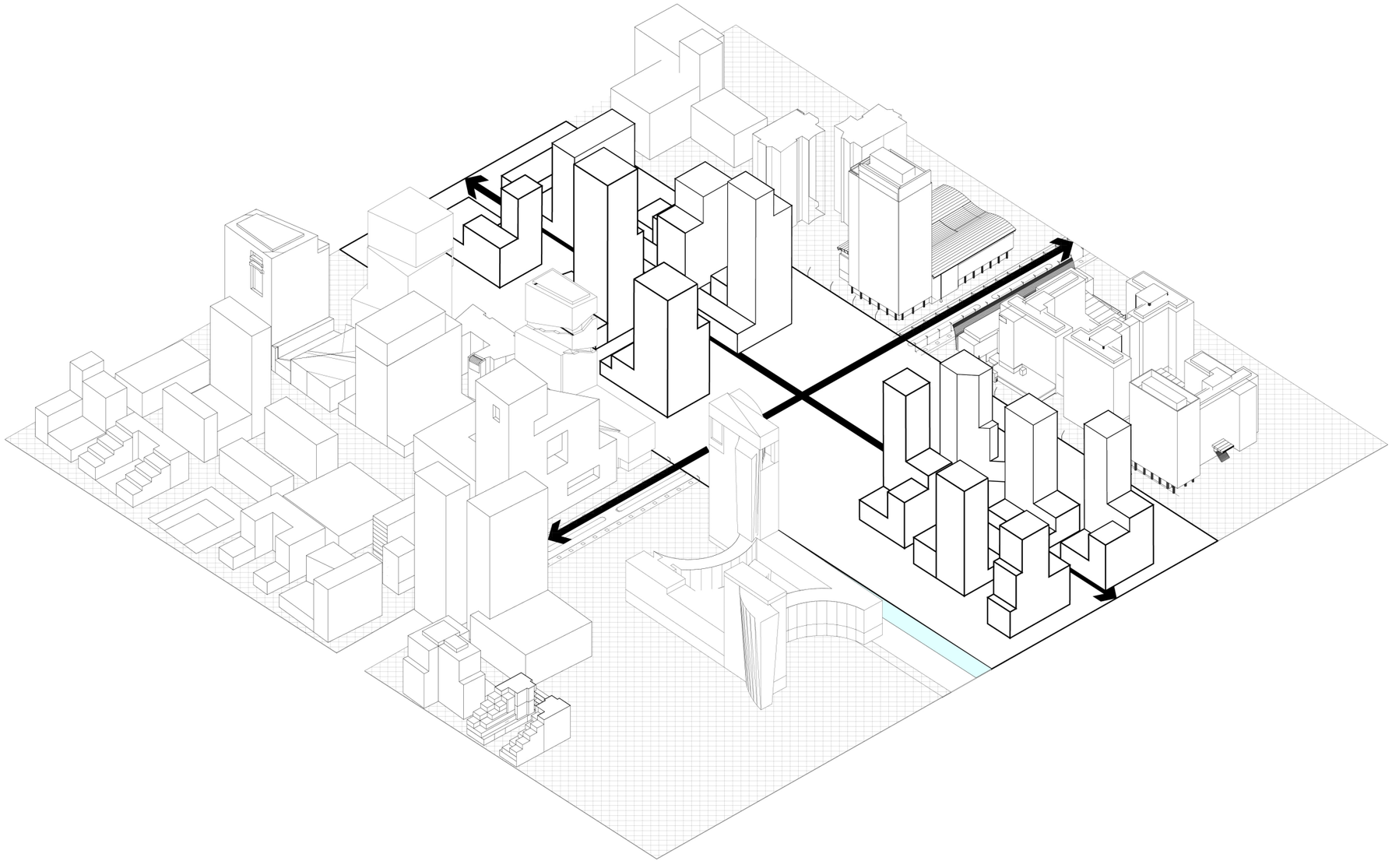
CONNECTING NORTH AND SOUTH ZUIDAS



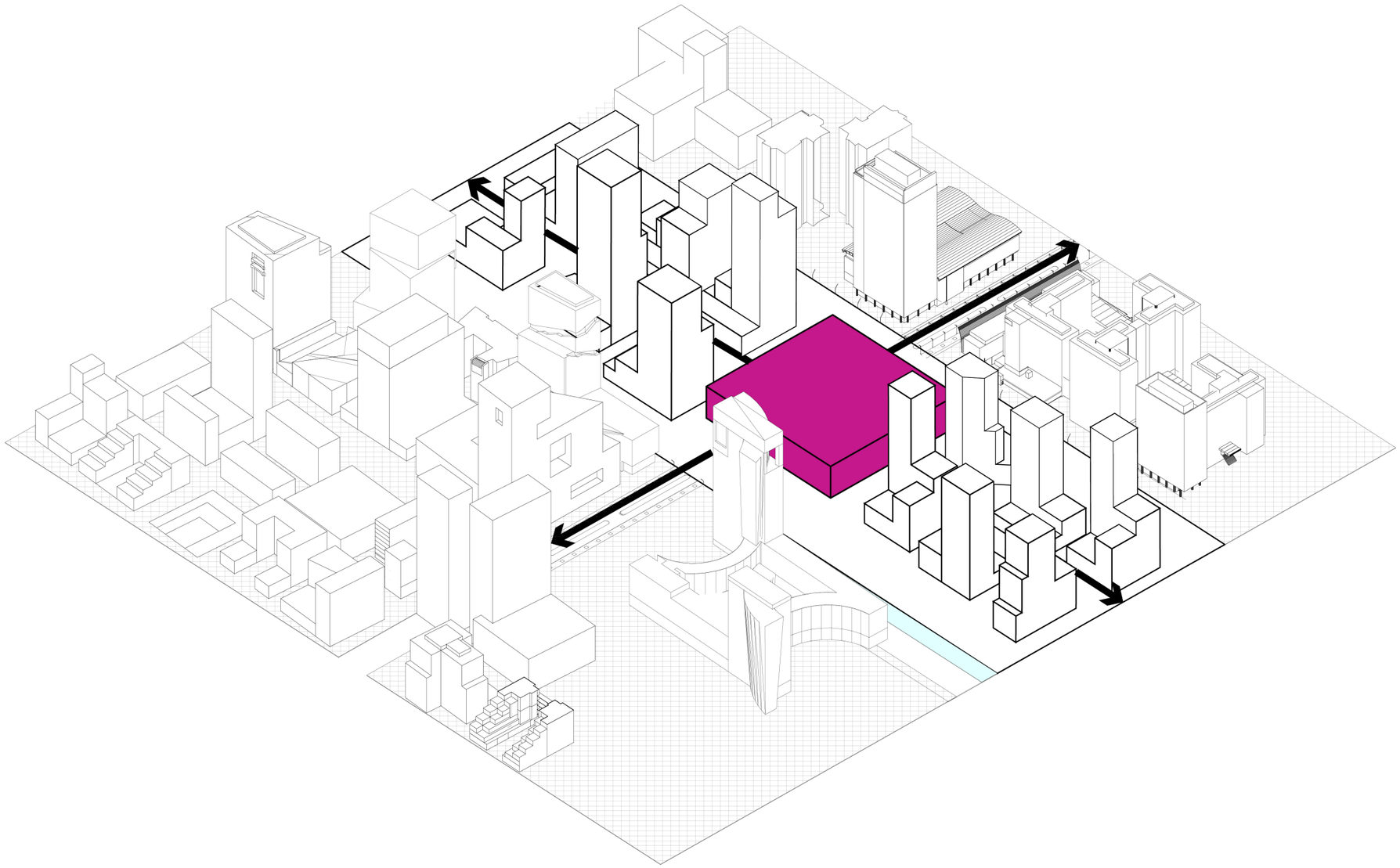
CONNECTING NORTH AND SOUTH ZUIDAS



USE MAIN AXIS AS PART OF CORE DESIGN

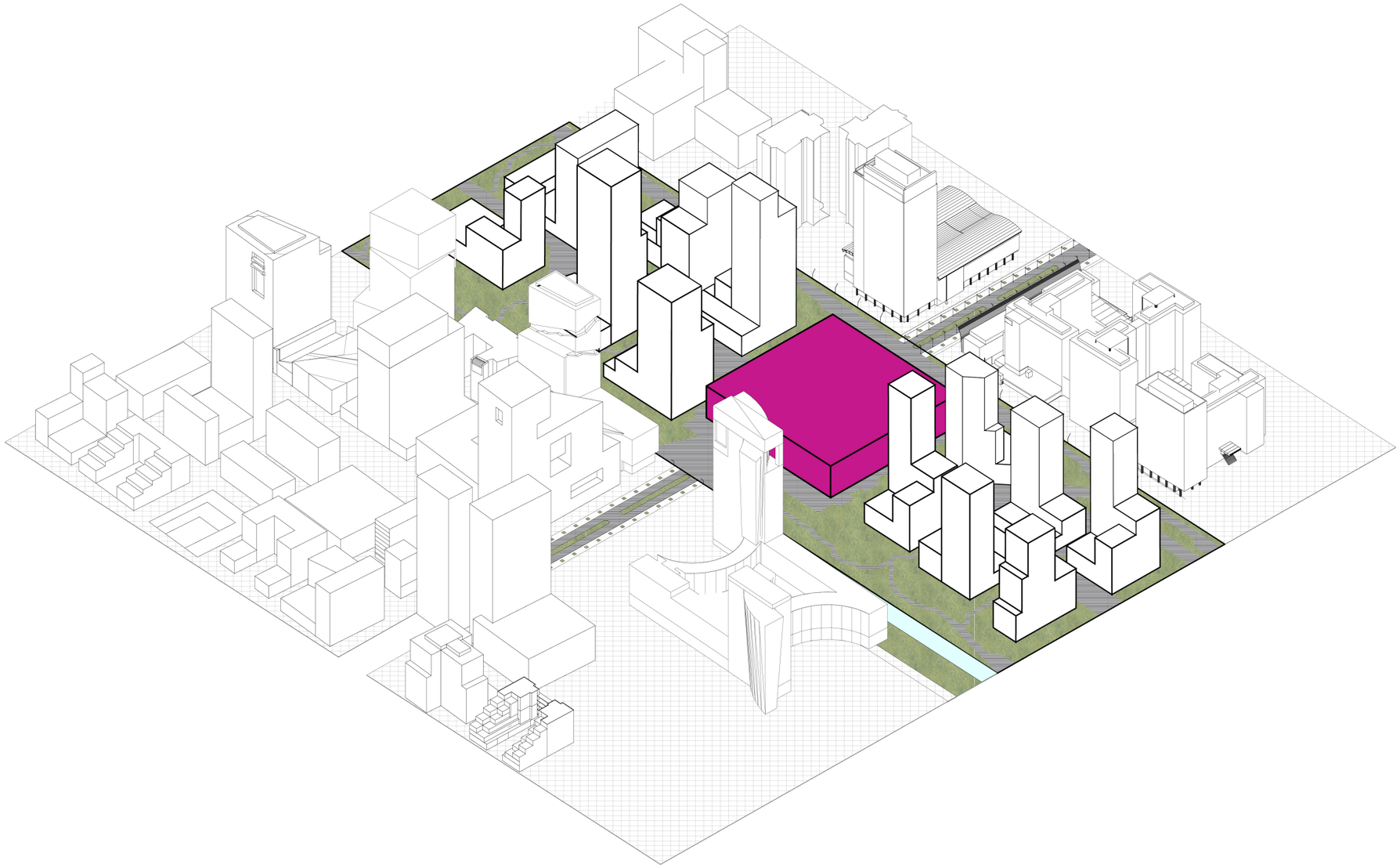


PLACE ZUIDAS TERMINAL AS CENTRE POINT OF ZUIDAS

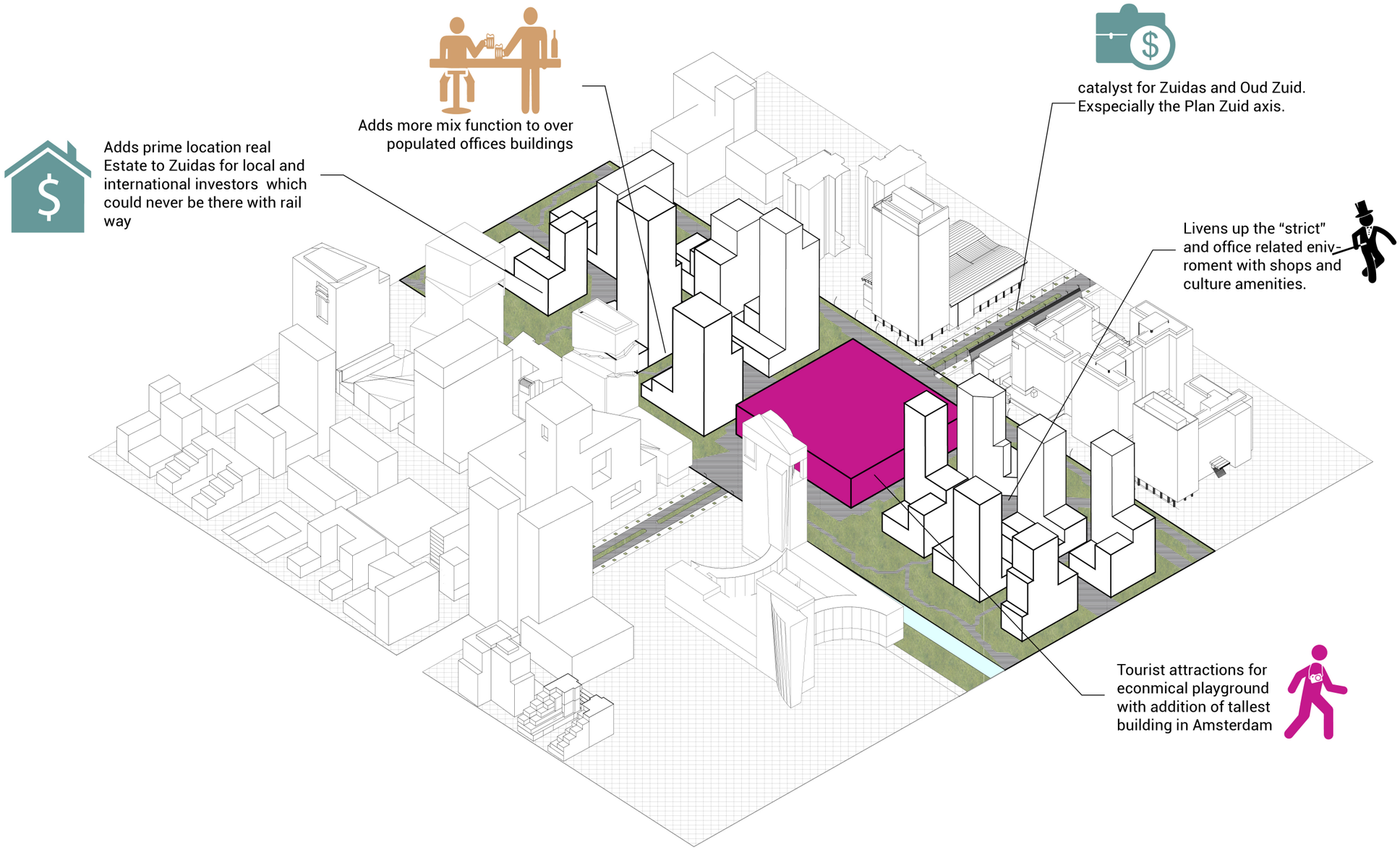


CP

ADD GREEN ZONES TO NEW DISTRICT

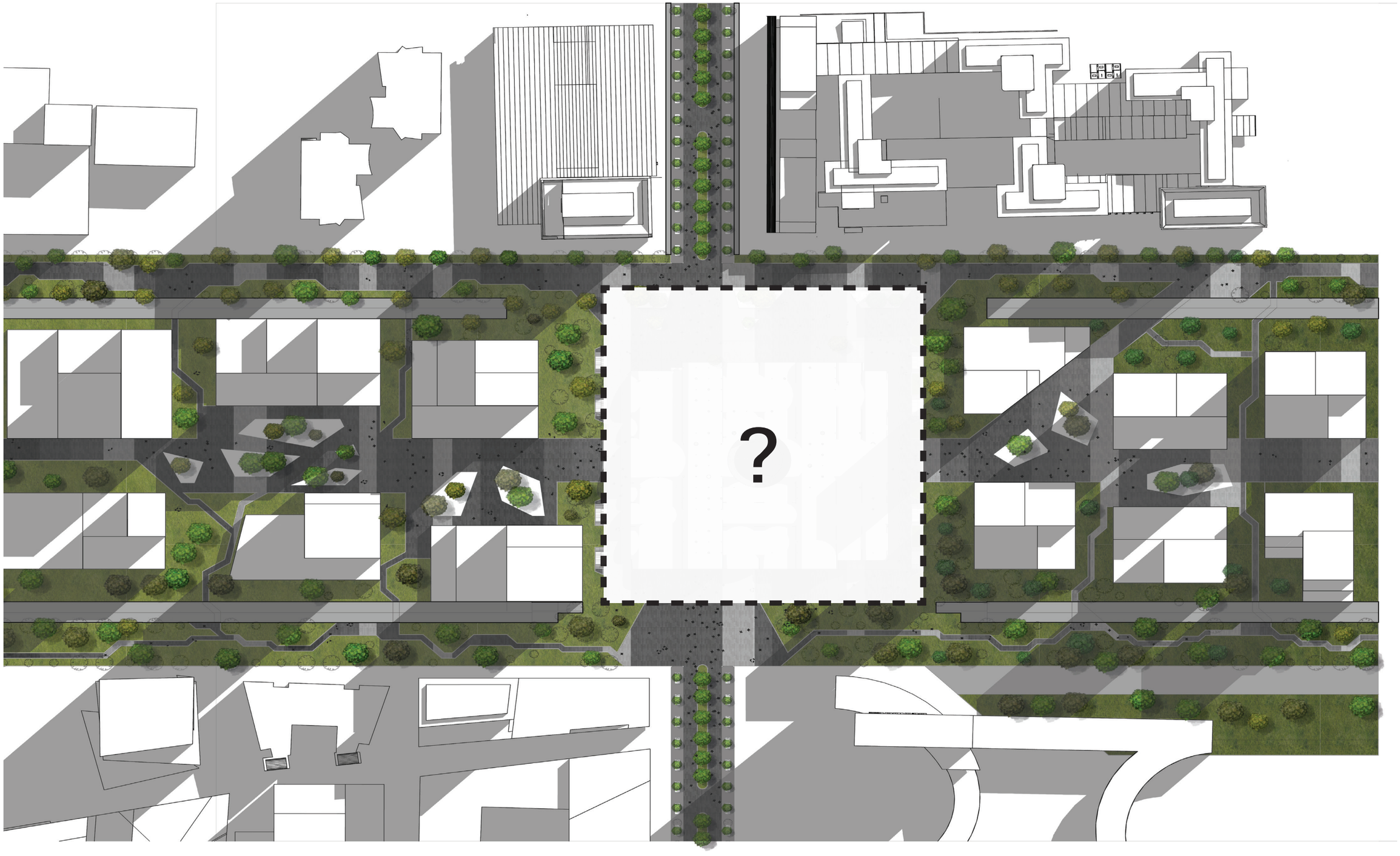


ZUIDAS STATION AS PART OF A NEW GLOBAL DISTRICT



CP

PROPOSED MASTERPLAN



CP


CENTRAAL STATIO




Leiden Centraal






CRH





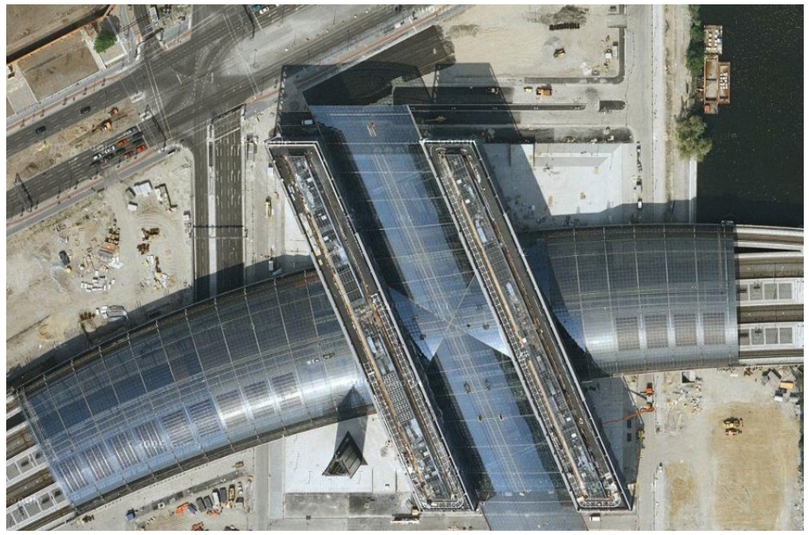








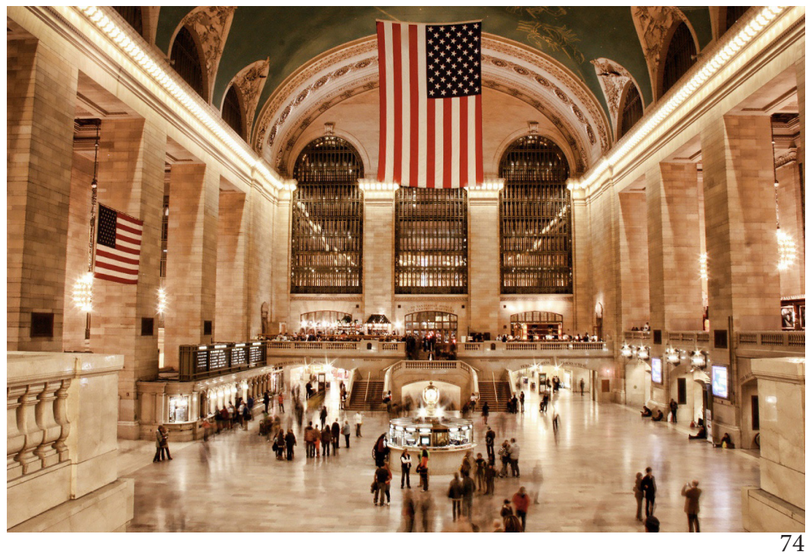








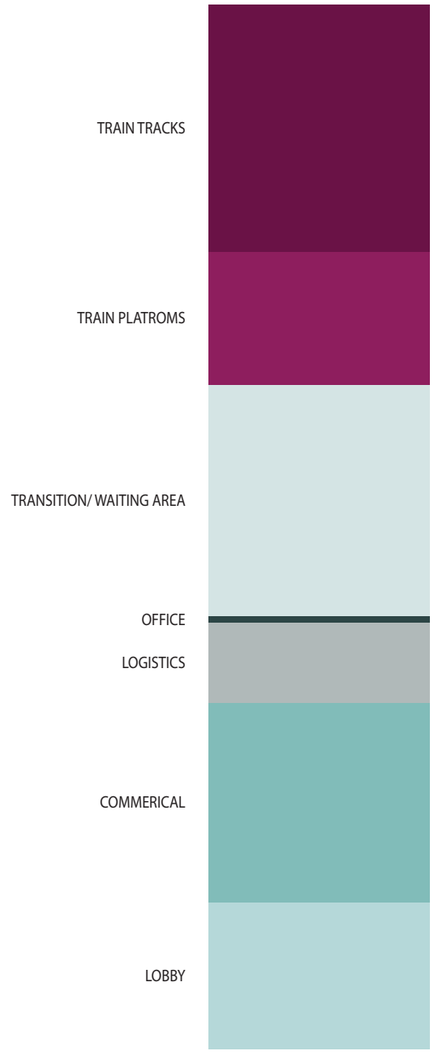


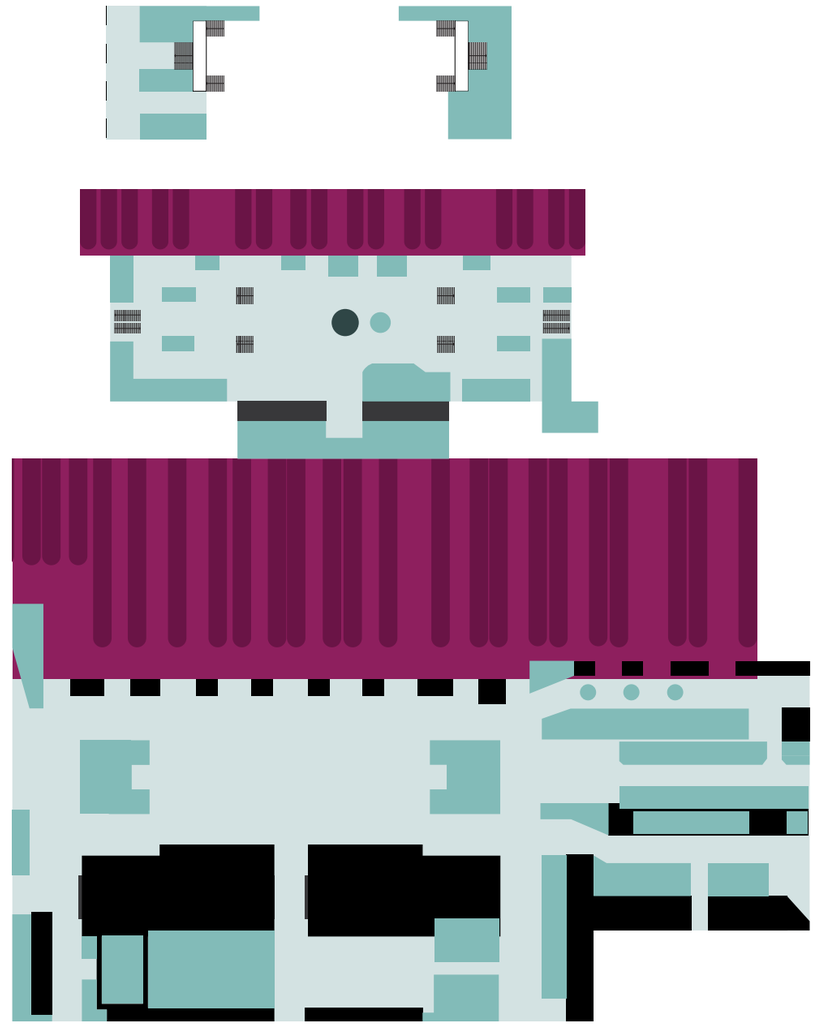


CP

TRAIN STATION ANALYSIS



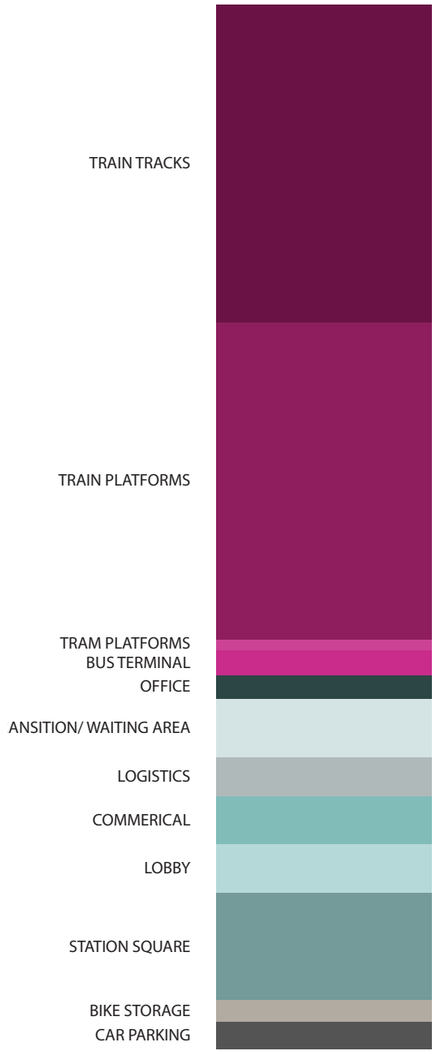


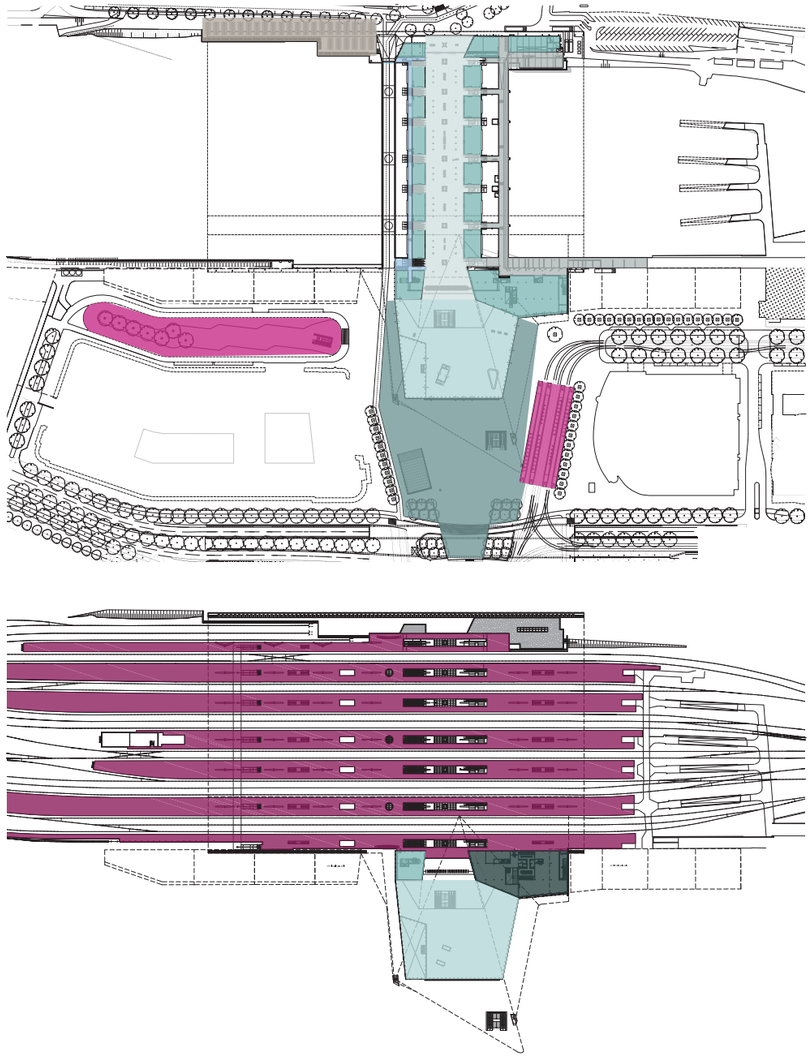


GRAND CENTRAL TERMINAL

TRAIN STATION ANALYSIS



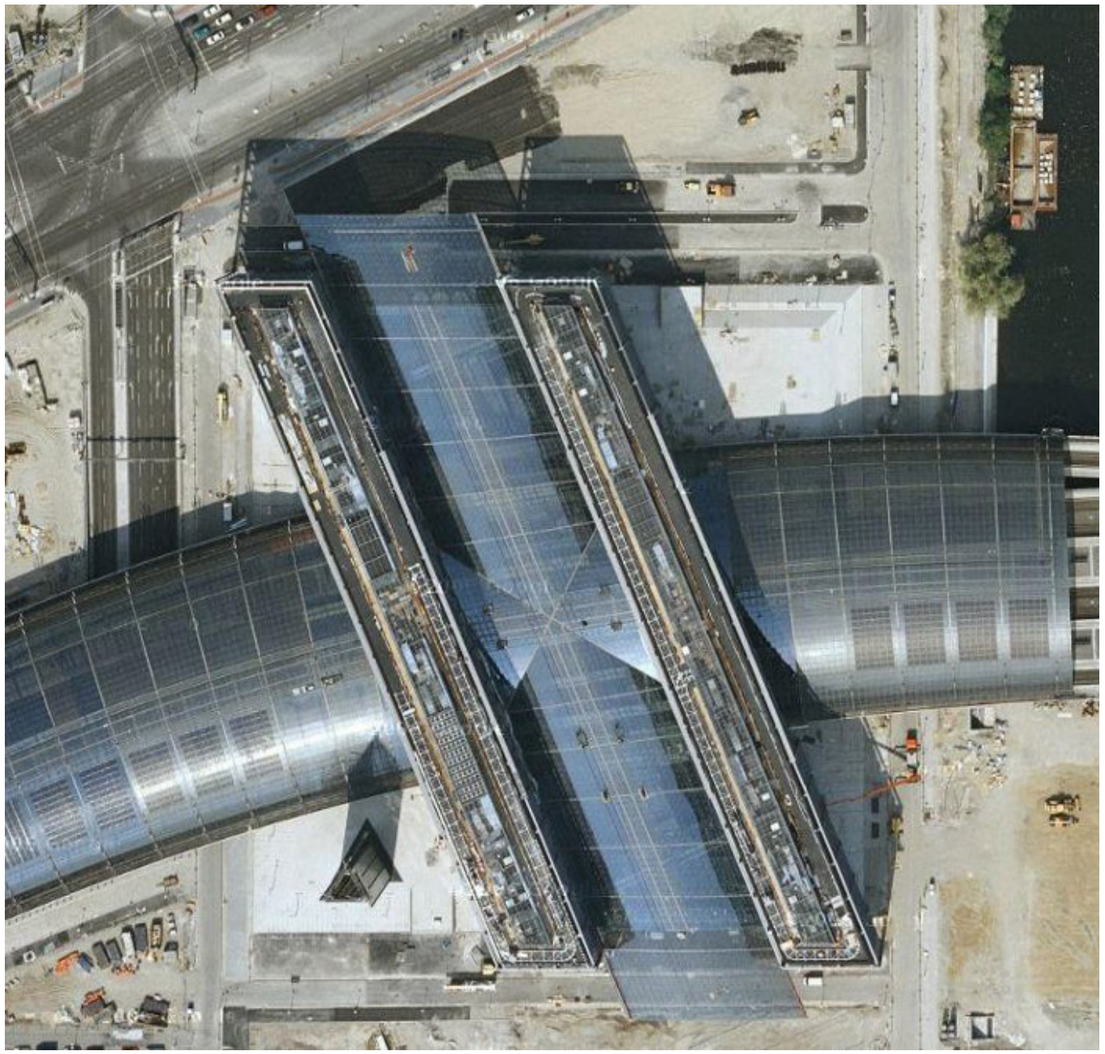


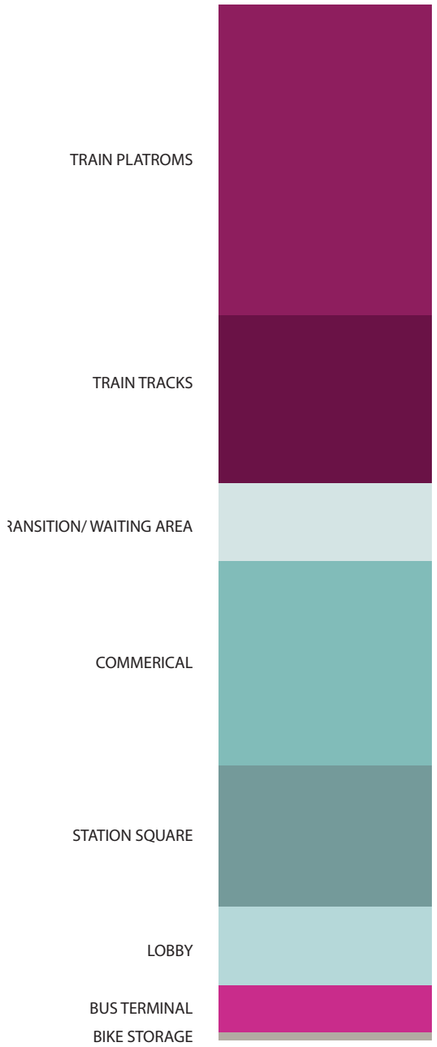


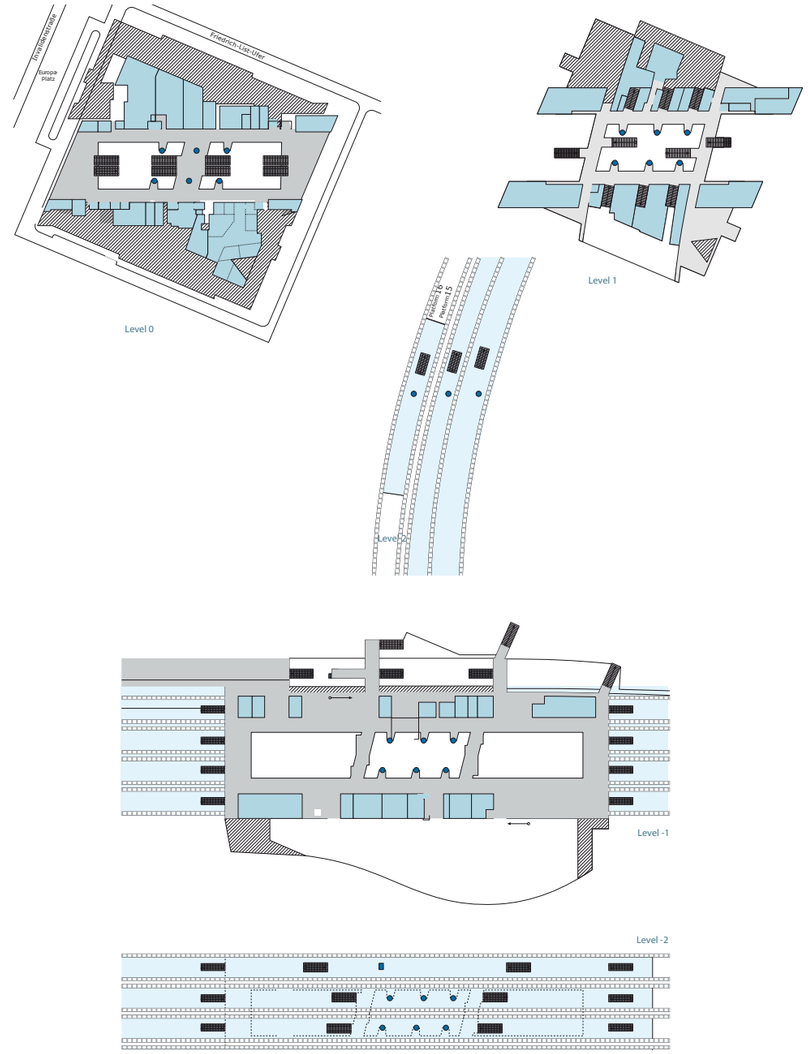
ROTTERDAM CENTRAL

CP

TRAIN STATION ANALYSIS



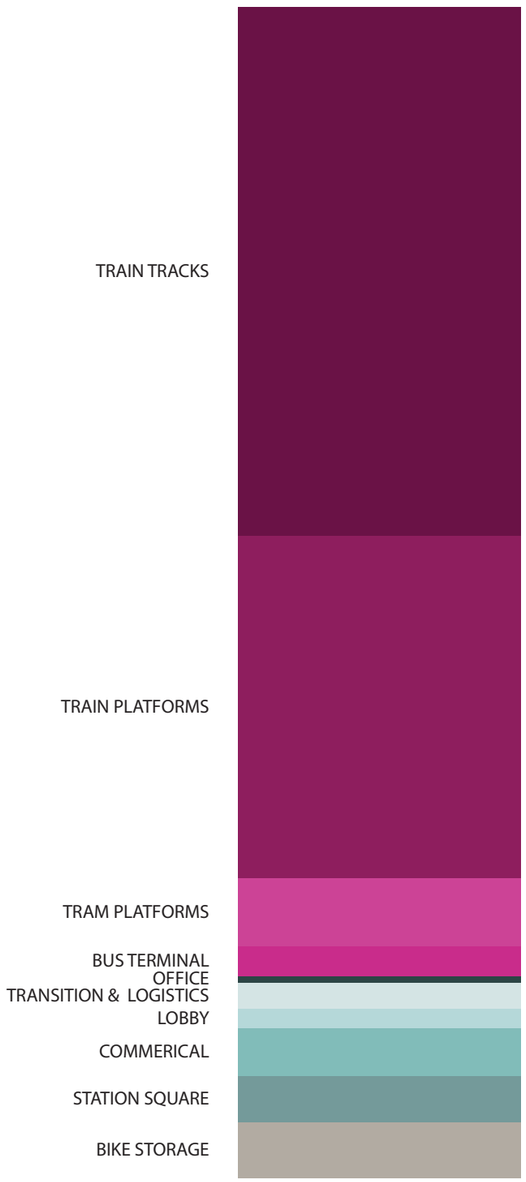




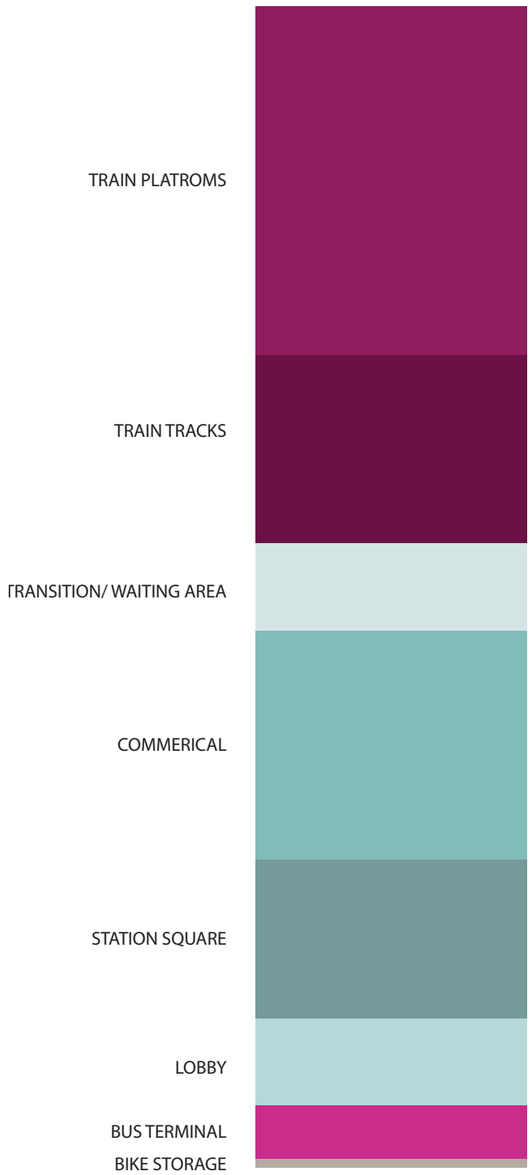
BERLIN HAUPTBAHNHOF

PLACED IN ZUIDAS

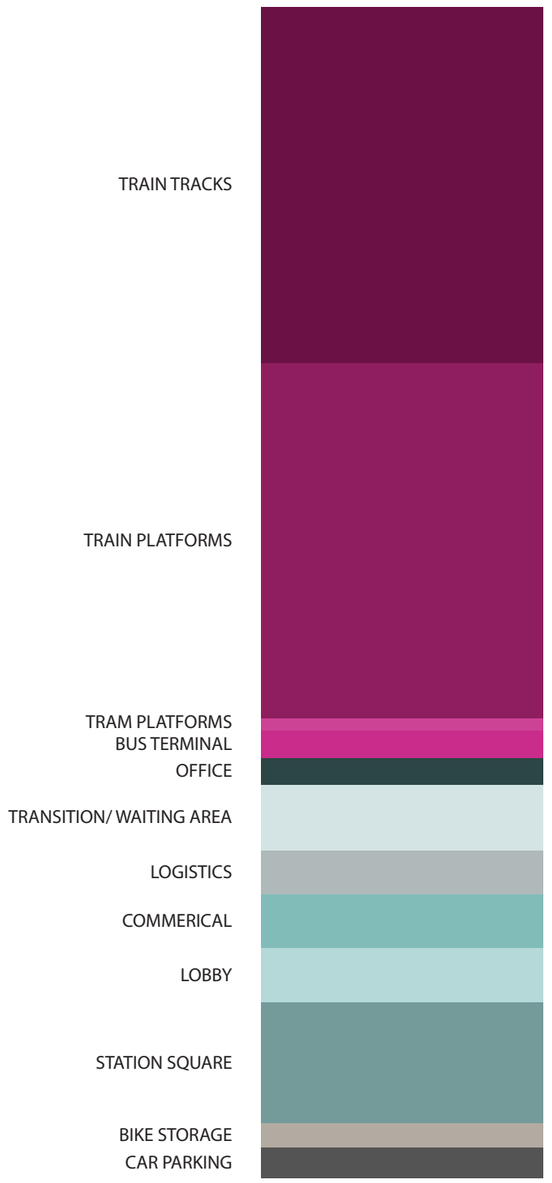
PROGRAM BAR



GRAND CENTRAL STATION
INTERIOR EXPERIENCE

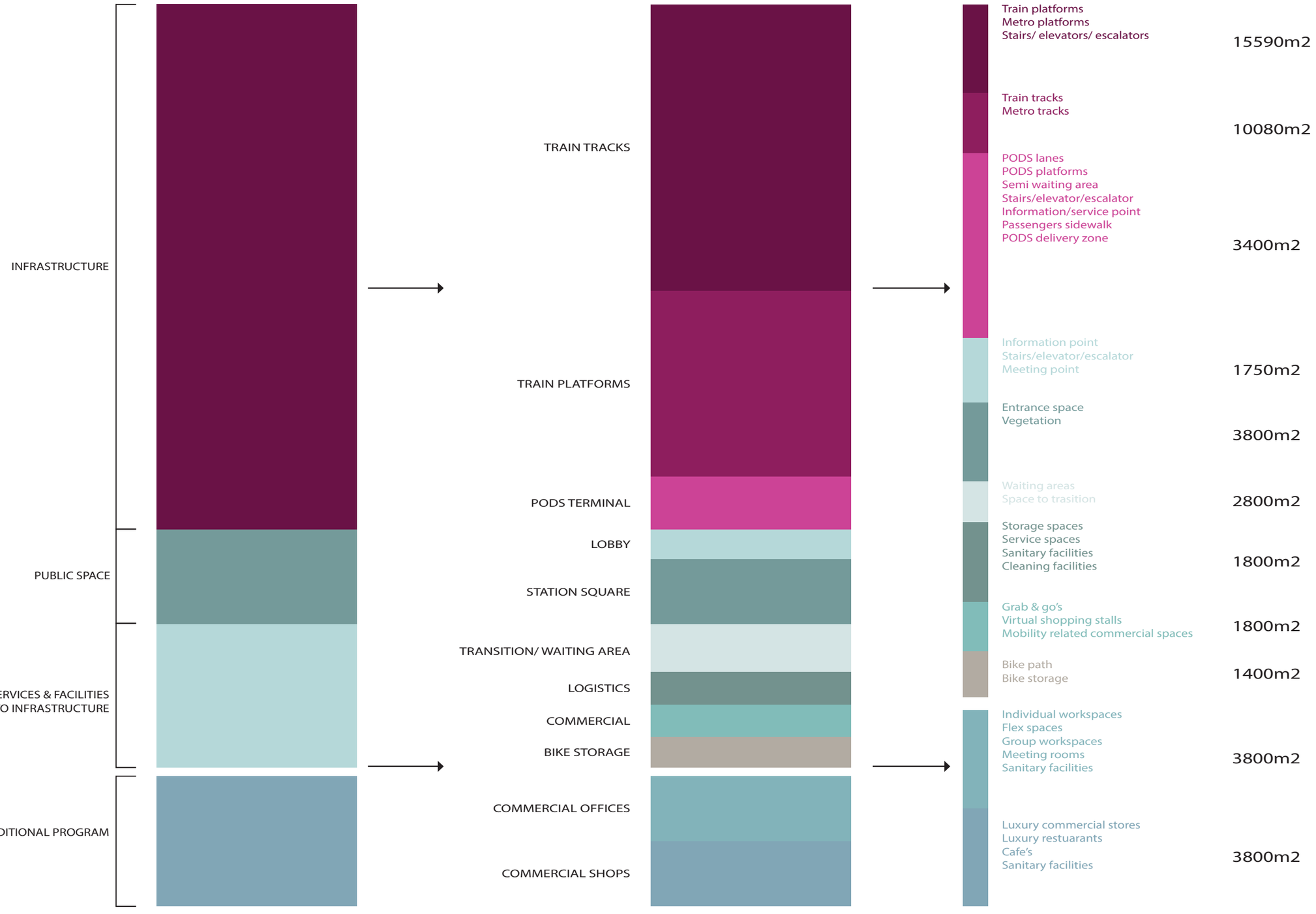


BERLIN HAUPTBAHNHOF
CONNECTIVITY



ROTTERDAM CENTRAL
PUBLIC EXPERIENCE

PROGRAM BAR IN M²



CP

PODS VS BUS/ TRAM



• Operational 24/7 and on-demand

• Fully automated, including vehicle control, routing, and collection of fares

• Opimized shared multiple users

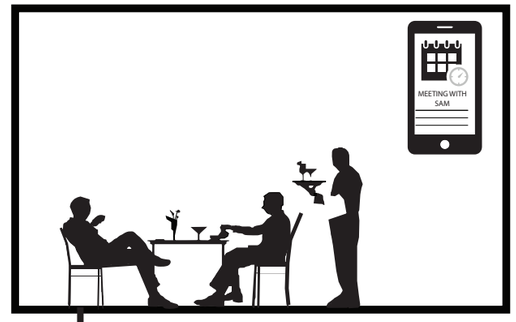
• Small vehicle size allows small “roads”

• System vehicles can travel close together and decrease traffic jams

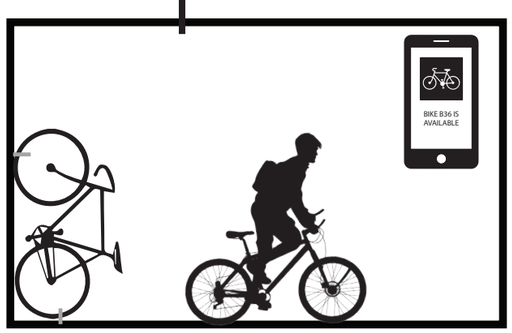
• little to none infrastructure needed

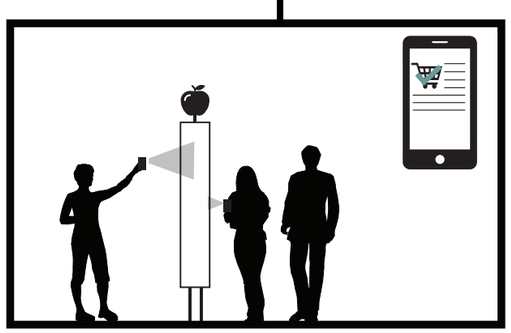


YOUR DEVICE IS CONNECTED TO THE T3



TRANSITION TRADE TERMINAL



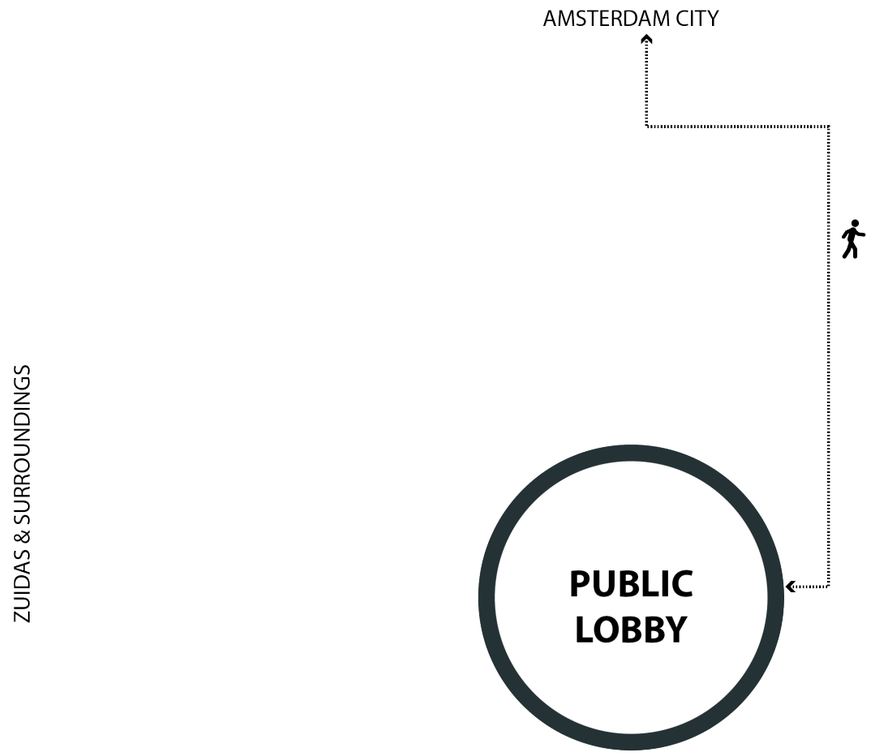






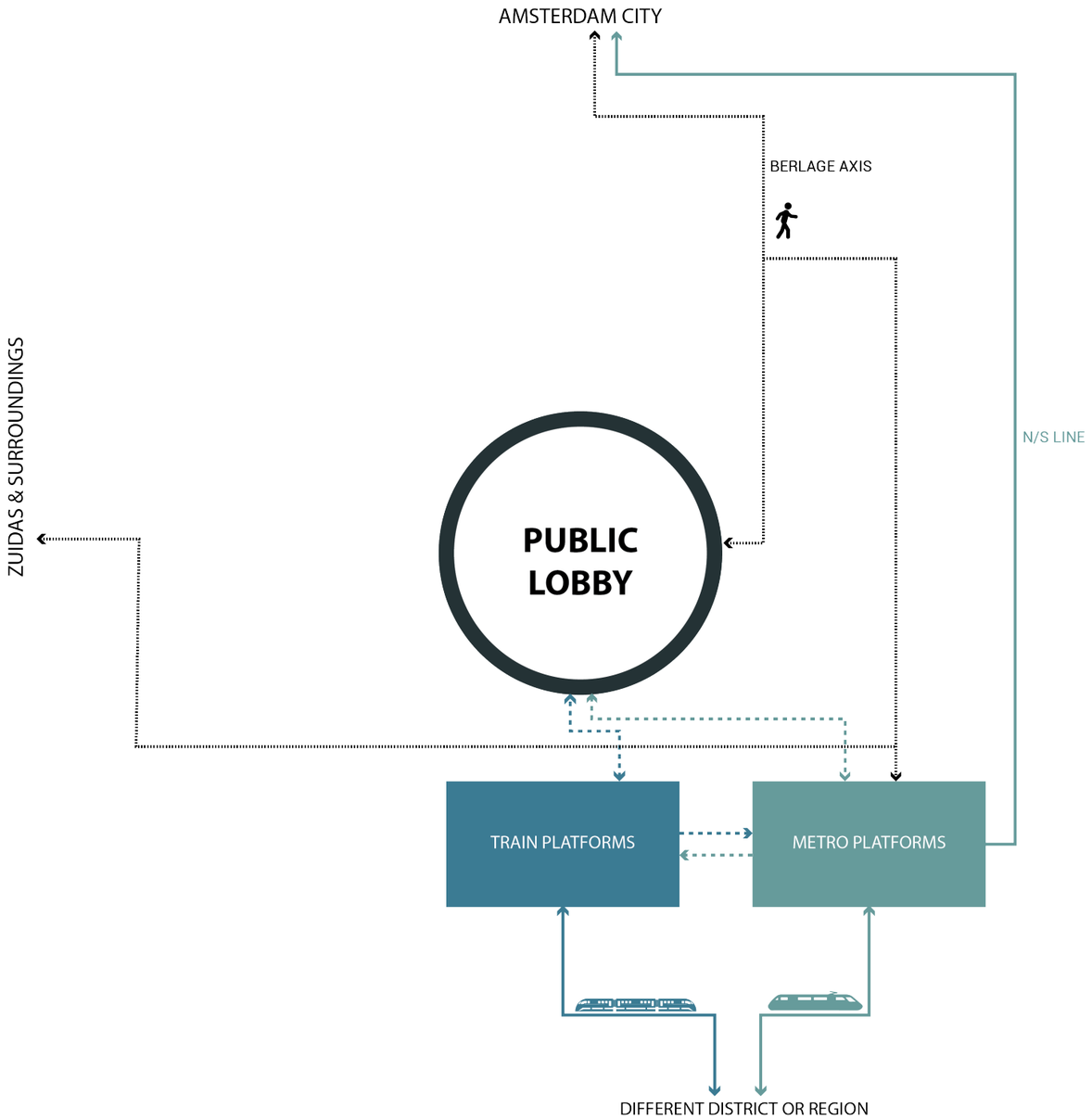
CP

PUBLIC LOBBY

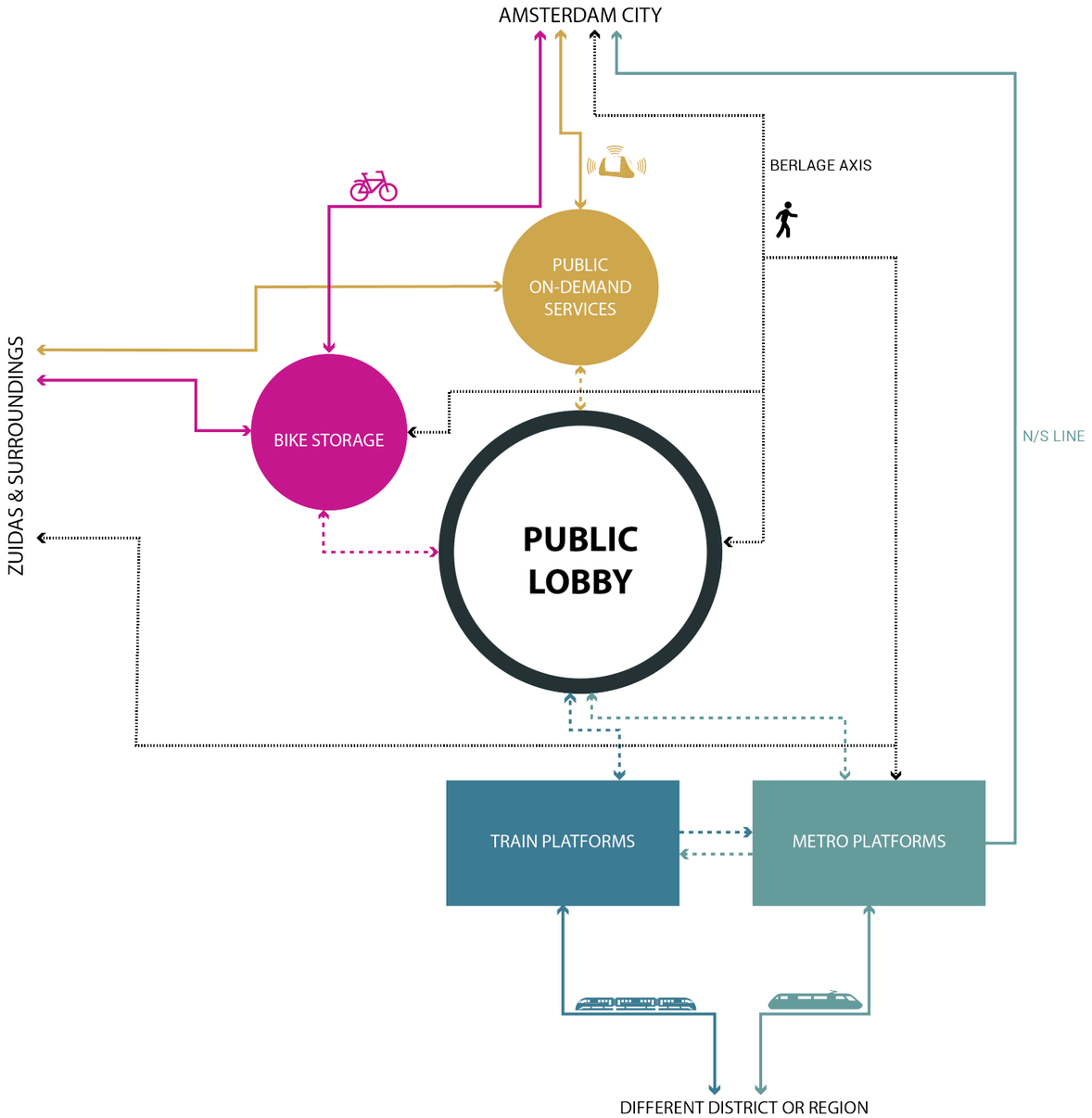


CP

TRANSPORTATION SYSTEMS

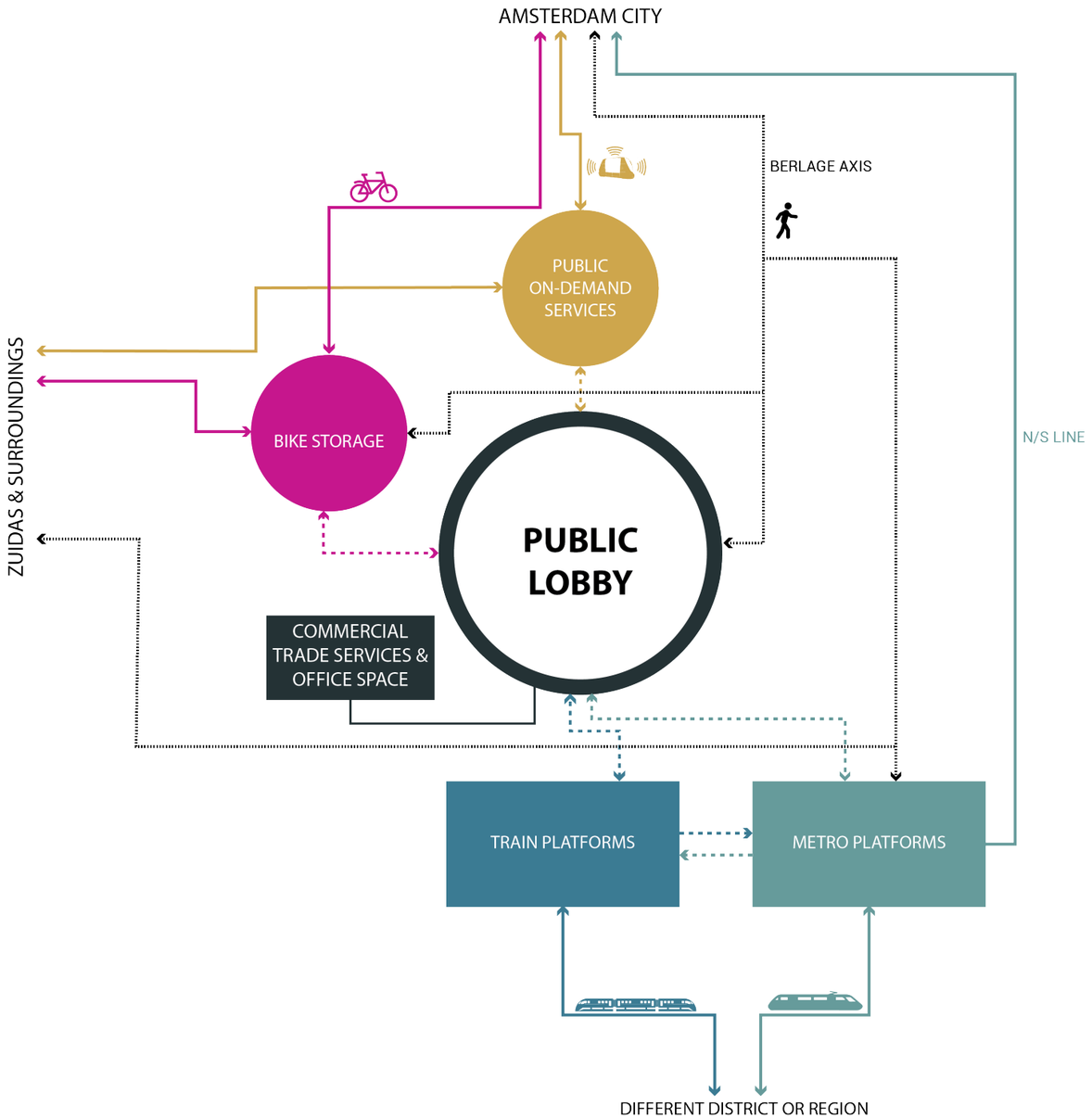


TRANSPORTATION SYSTEMS



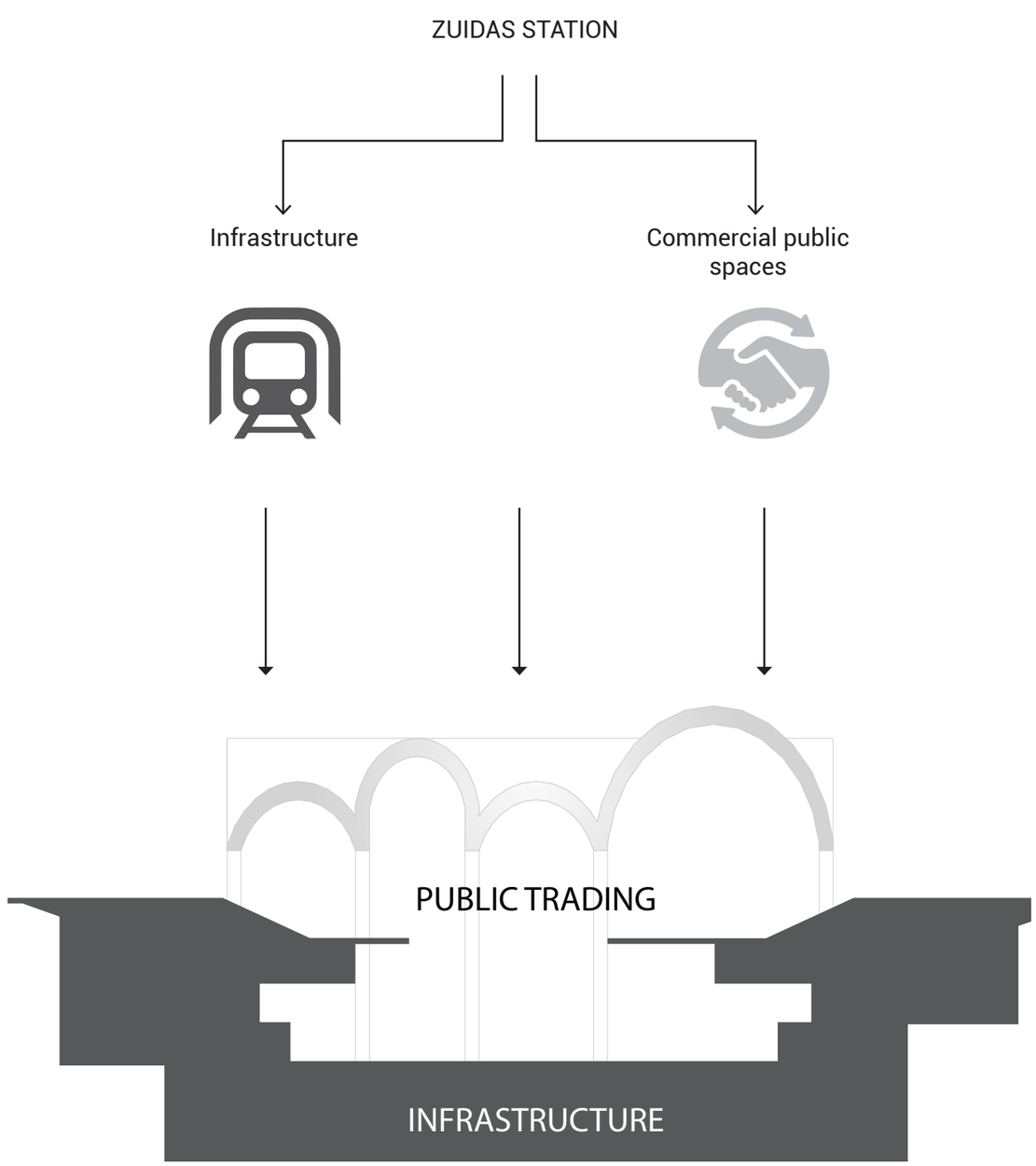
CP

COMMERCIAL



CP

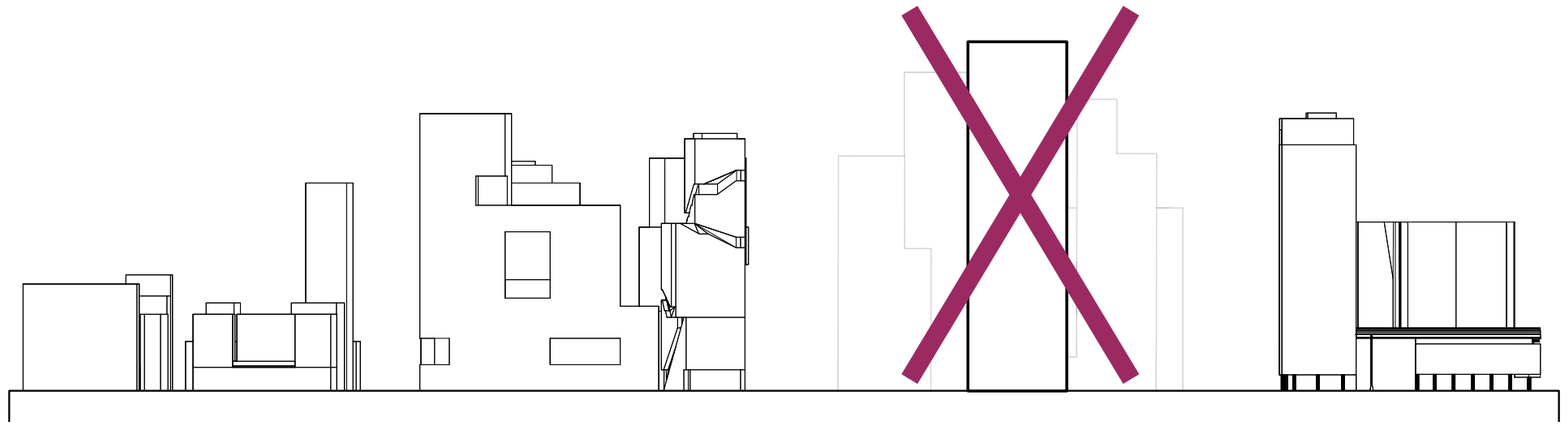
TWO CONTRASTING GESTURES

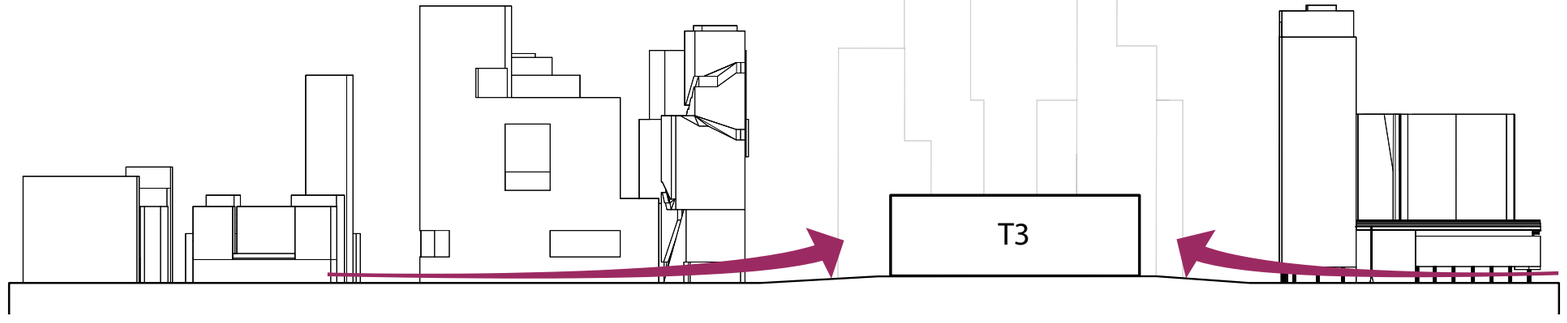


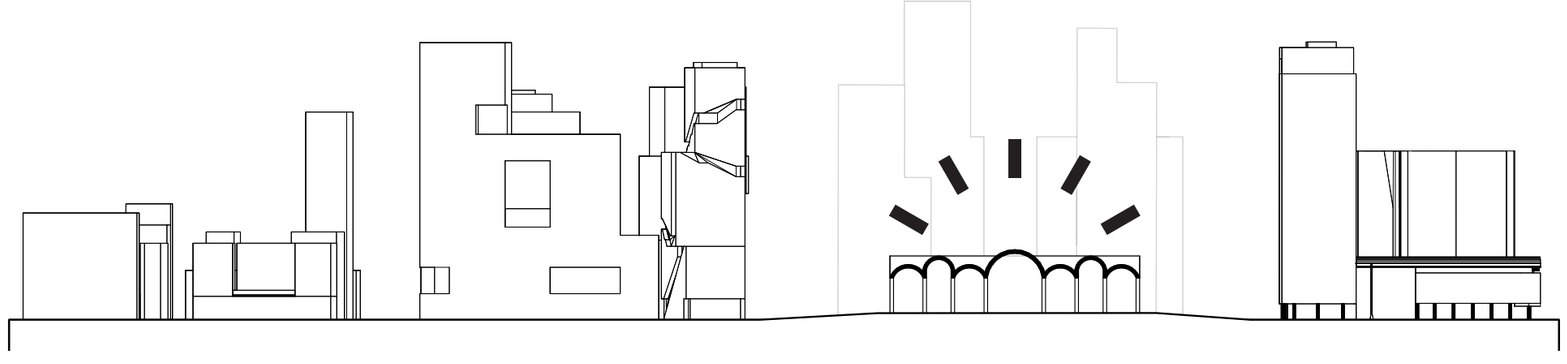
The terminal is a
distination...

where people gather and drawn to rather
than a station which they rush through...

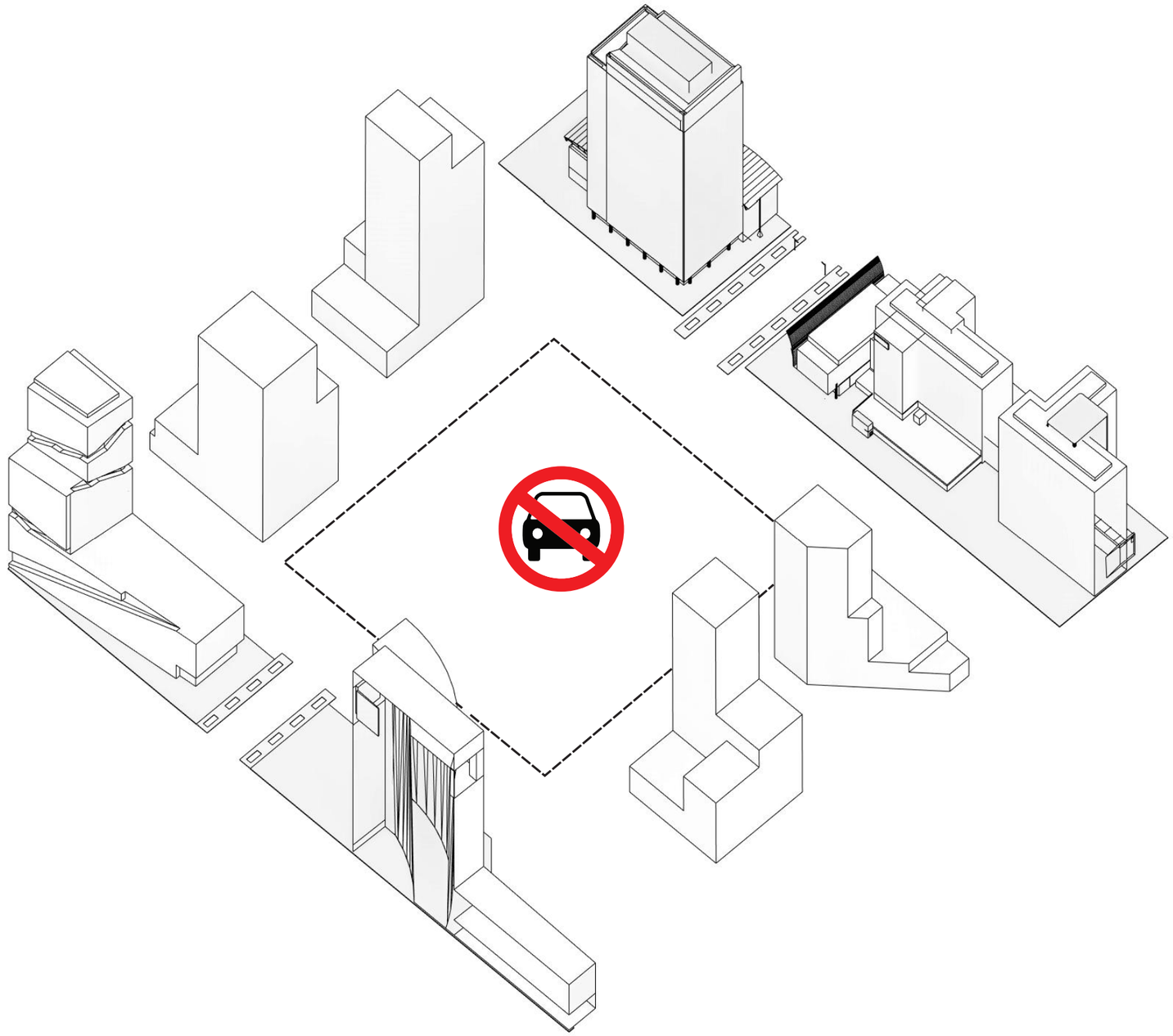
BEING DIFFERENT, RATHER THAN STANDING OUT



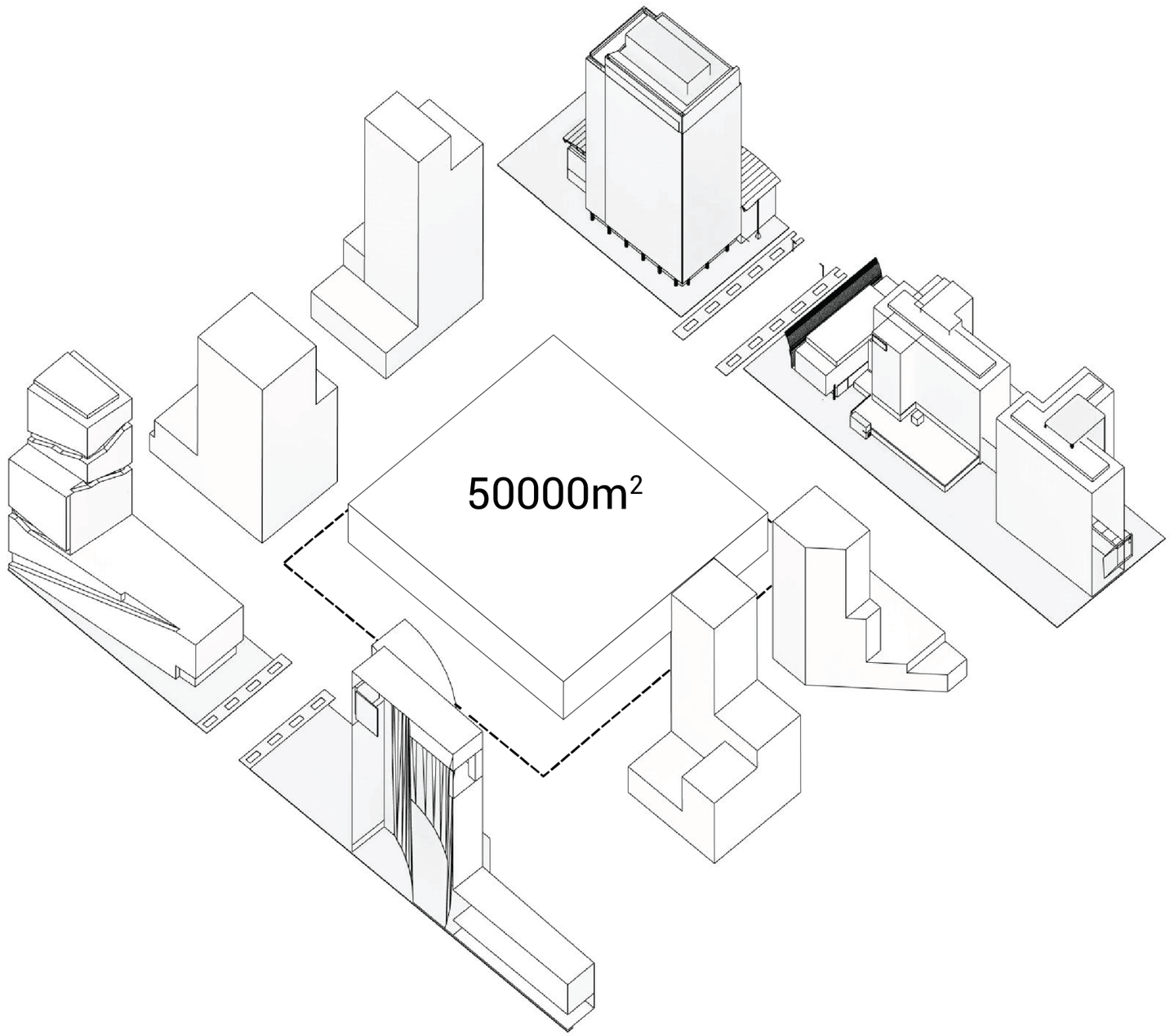




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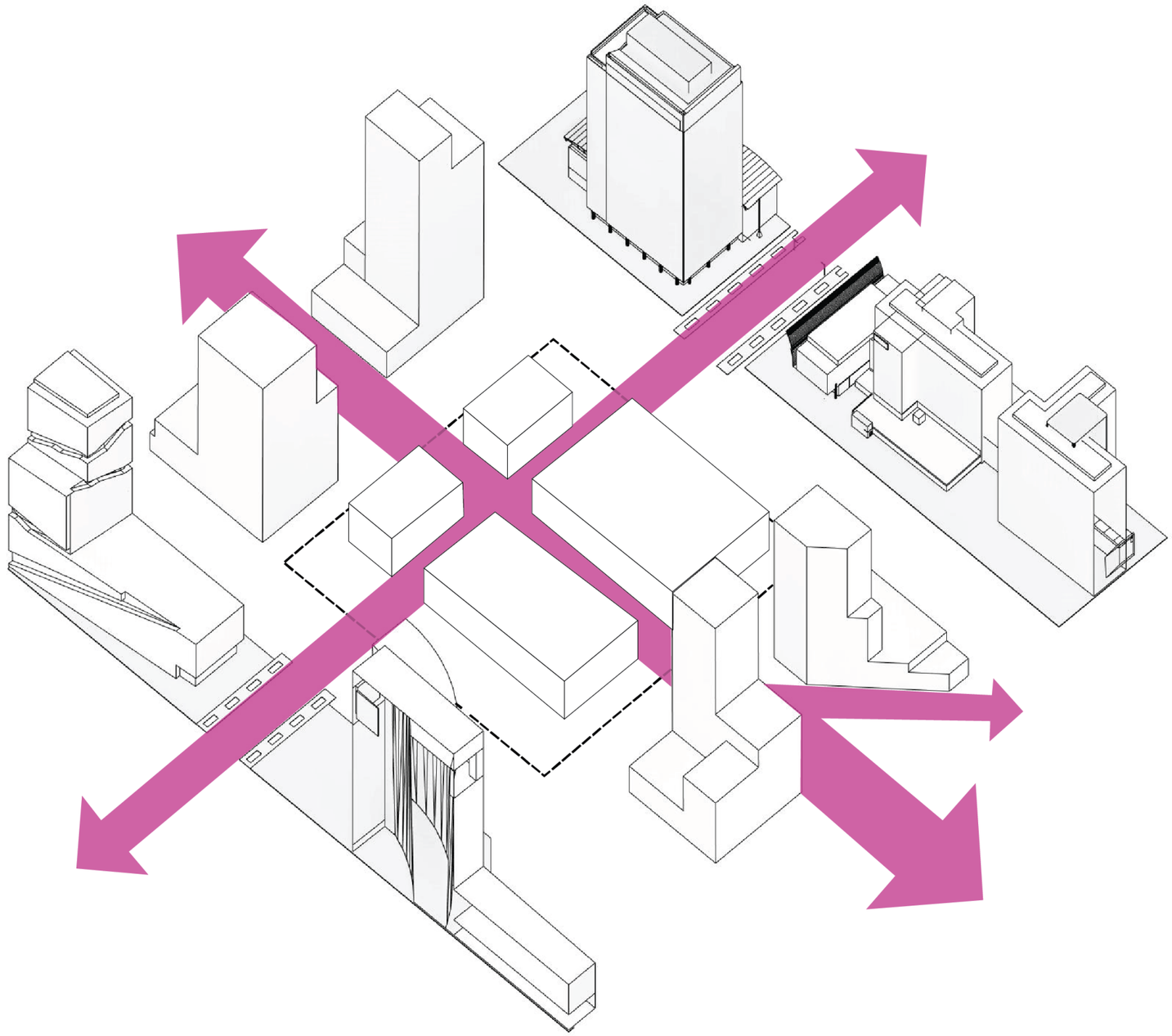


NO infrastrcture

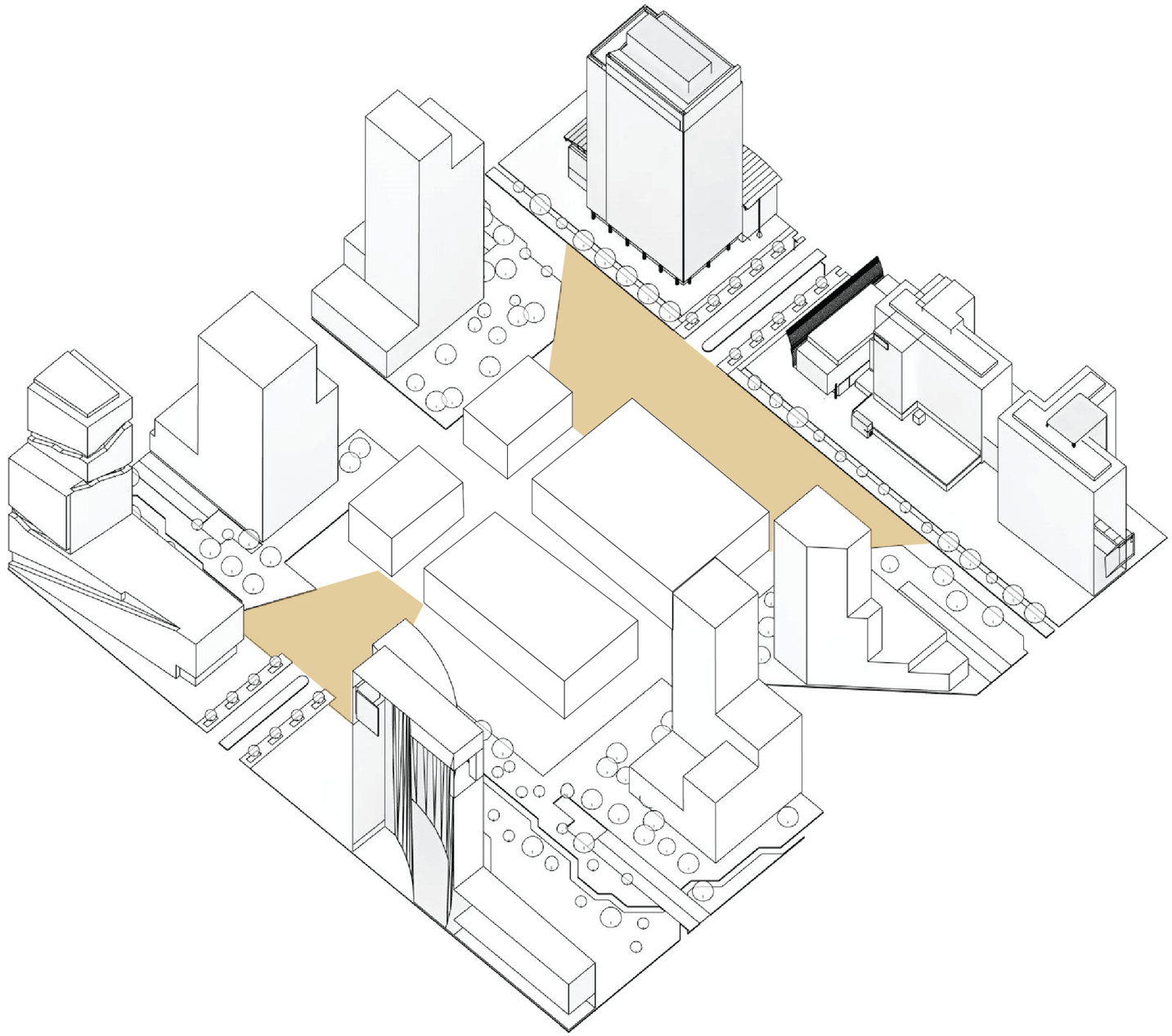


Program on site

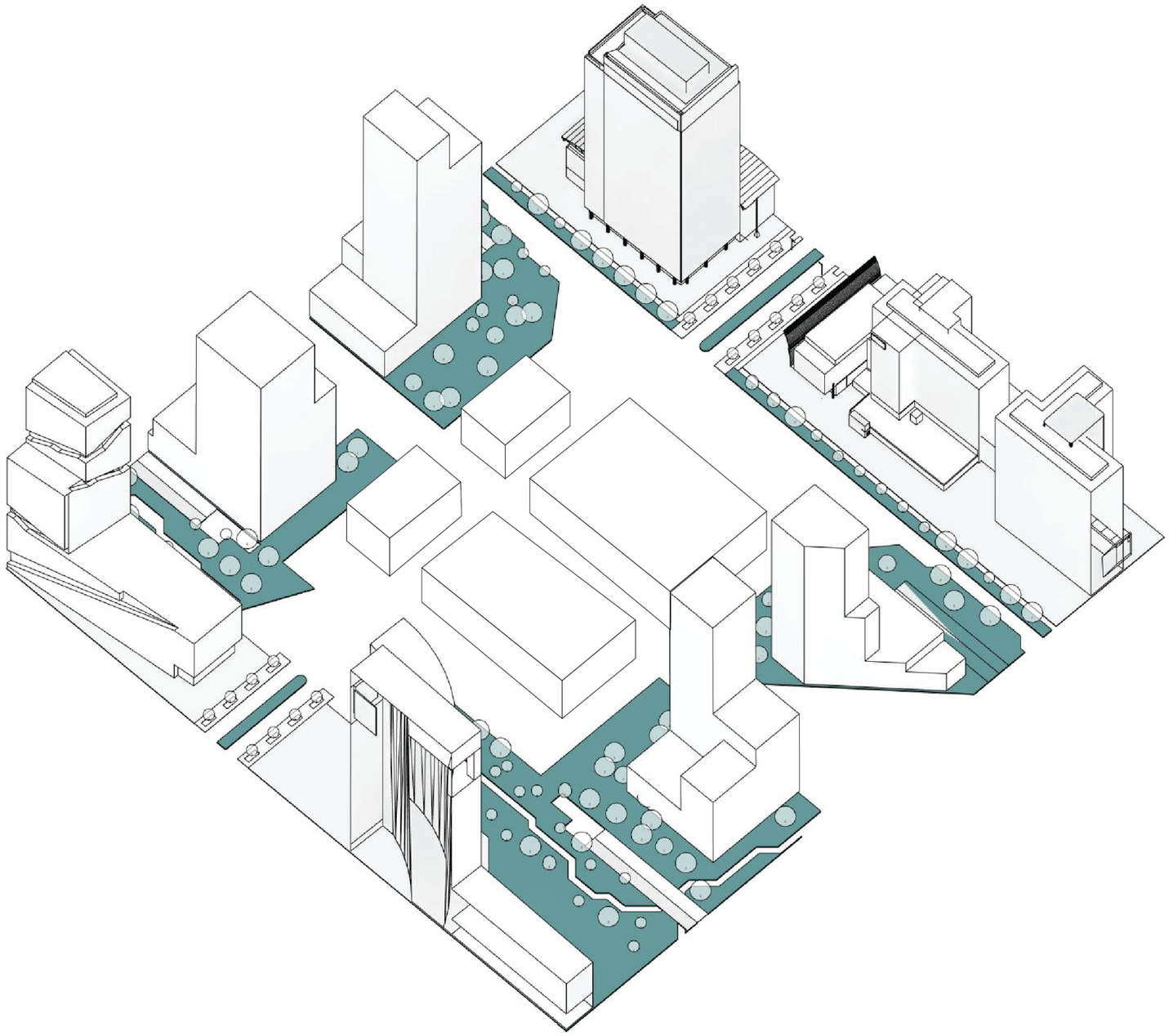
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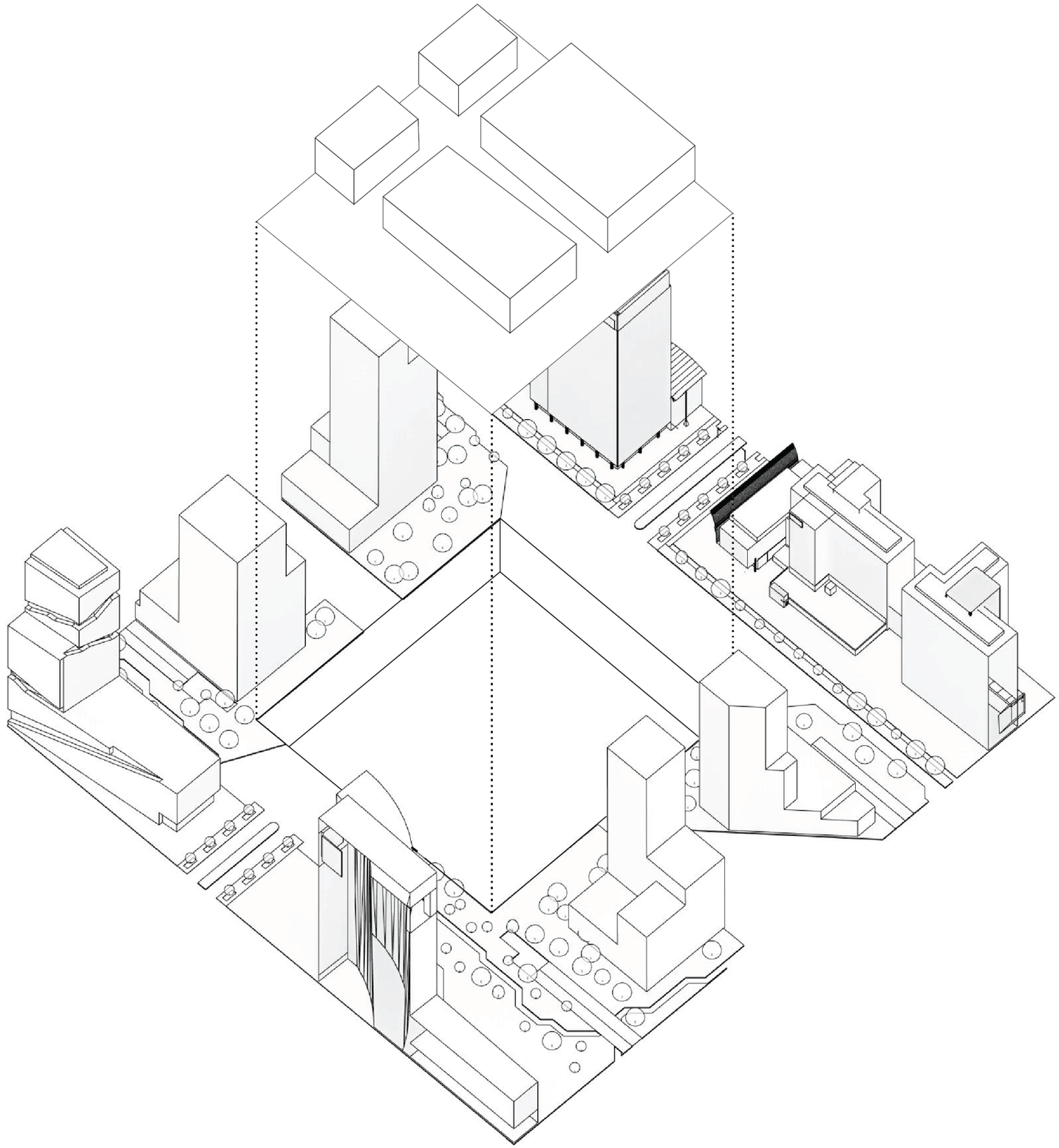
Main axes

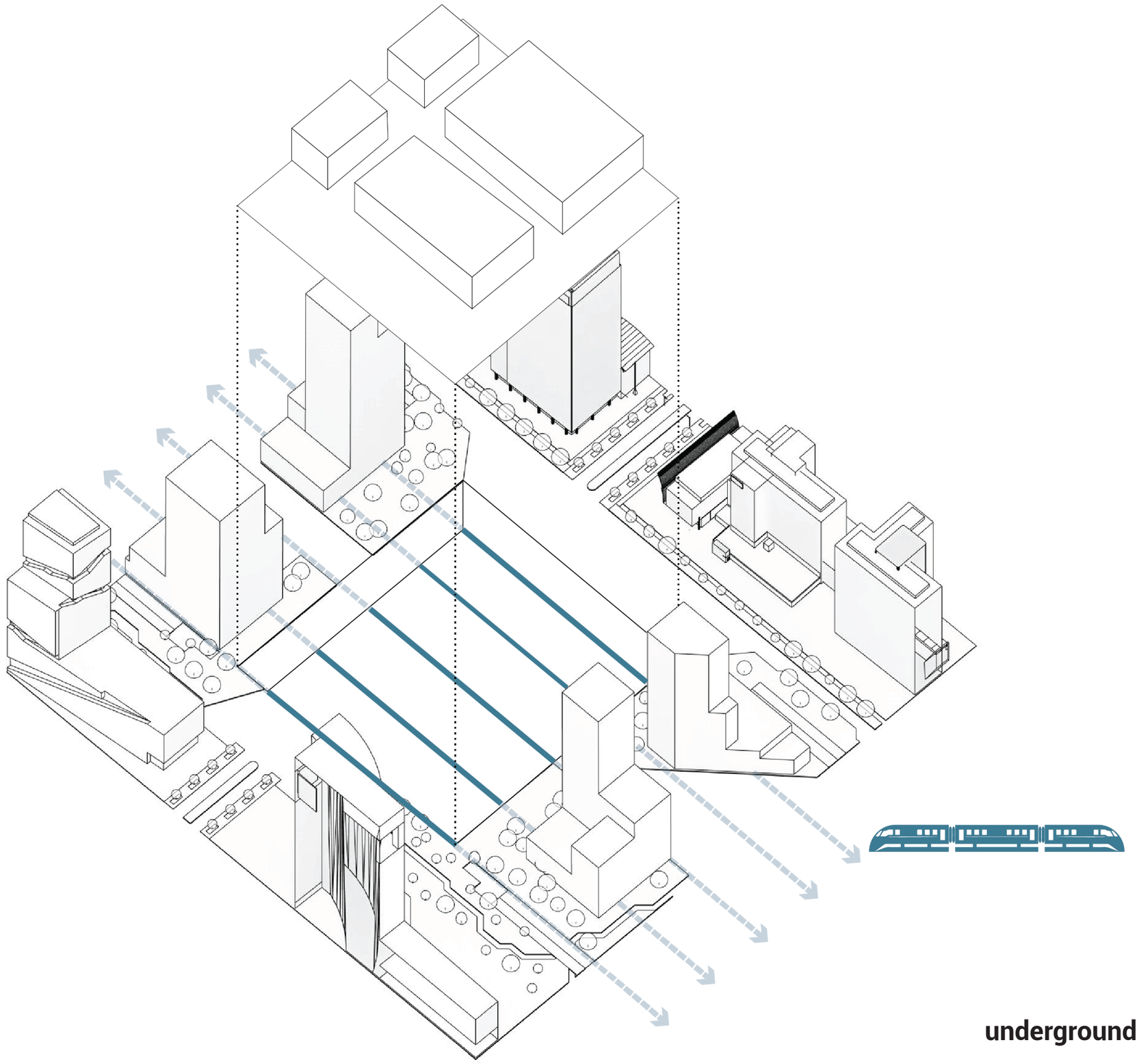


Public sqaures

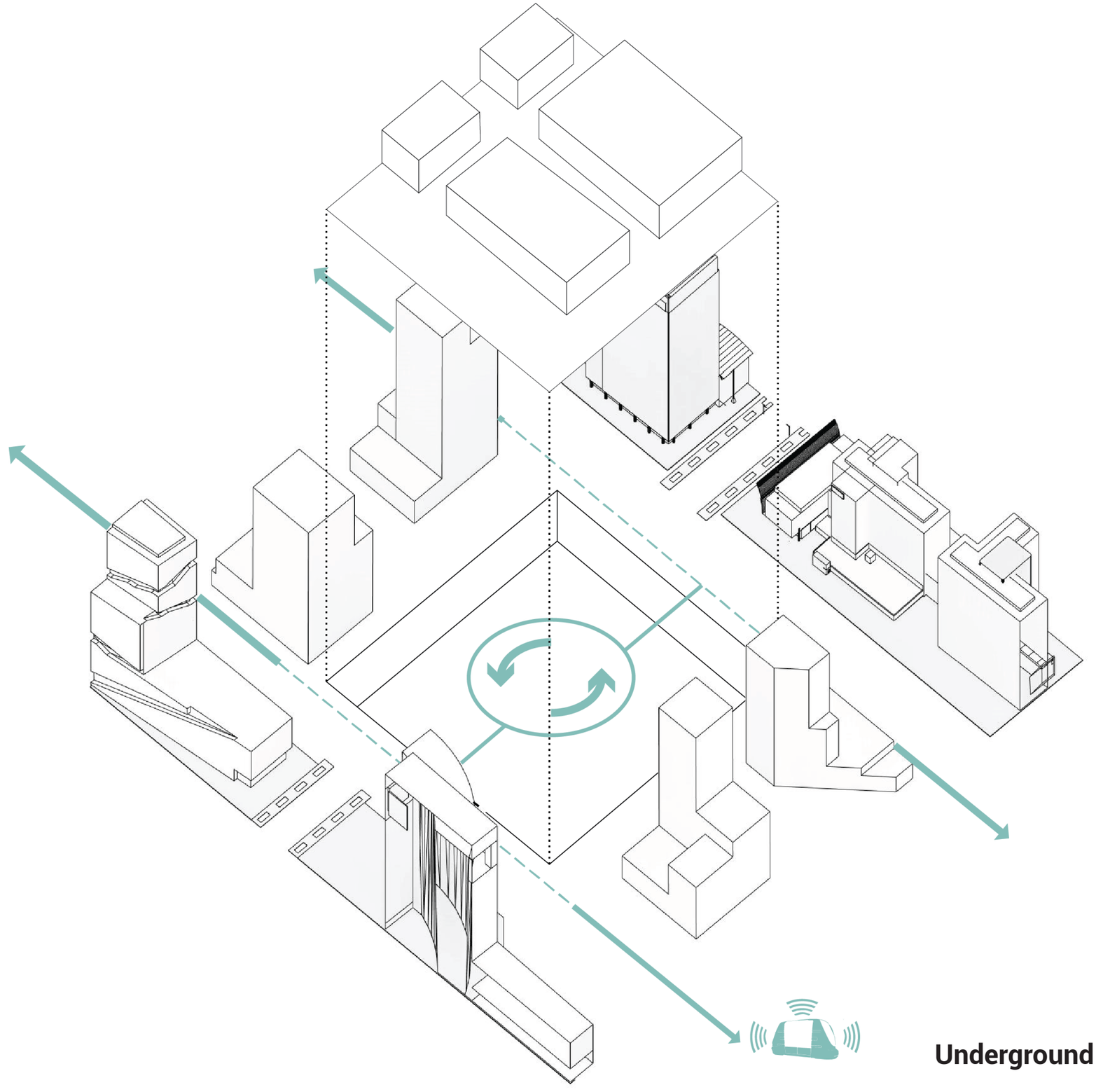


Green intervention

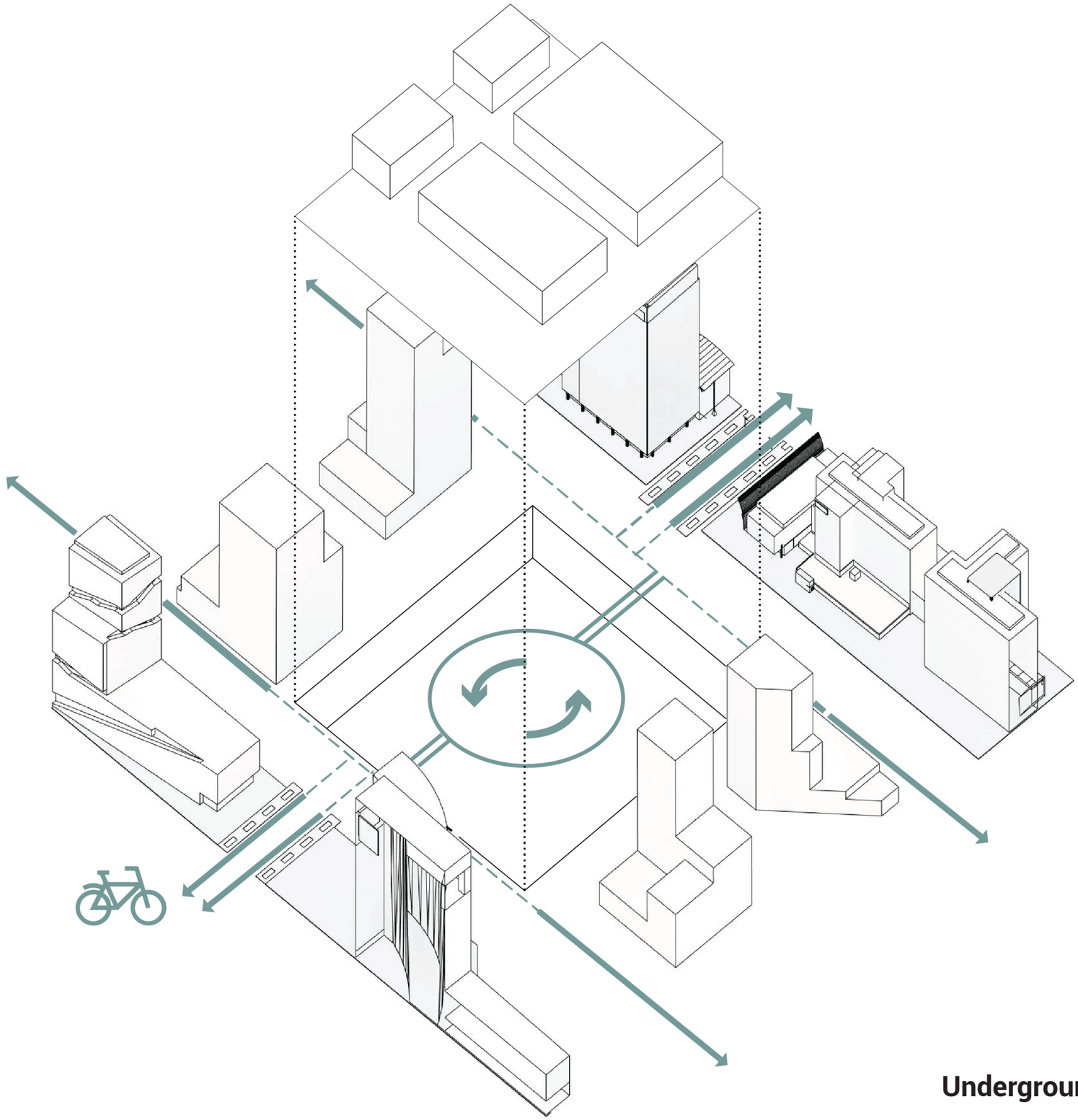




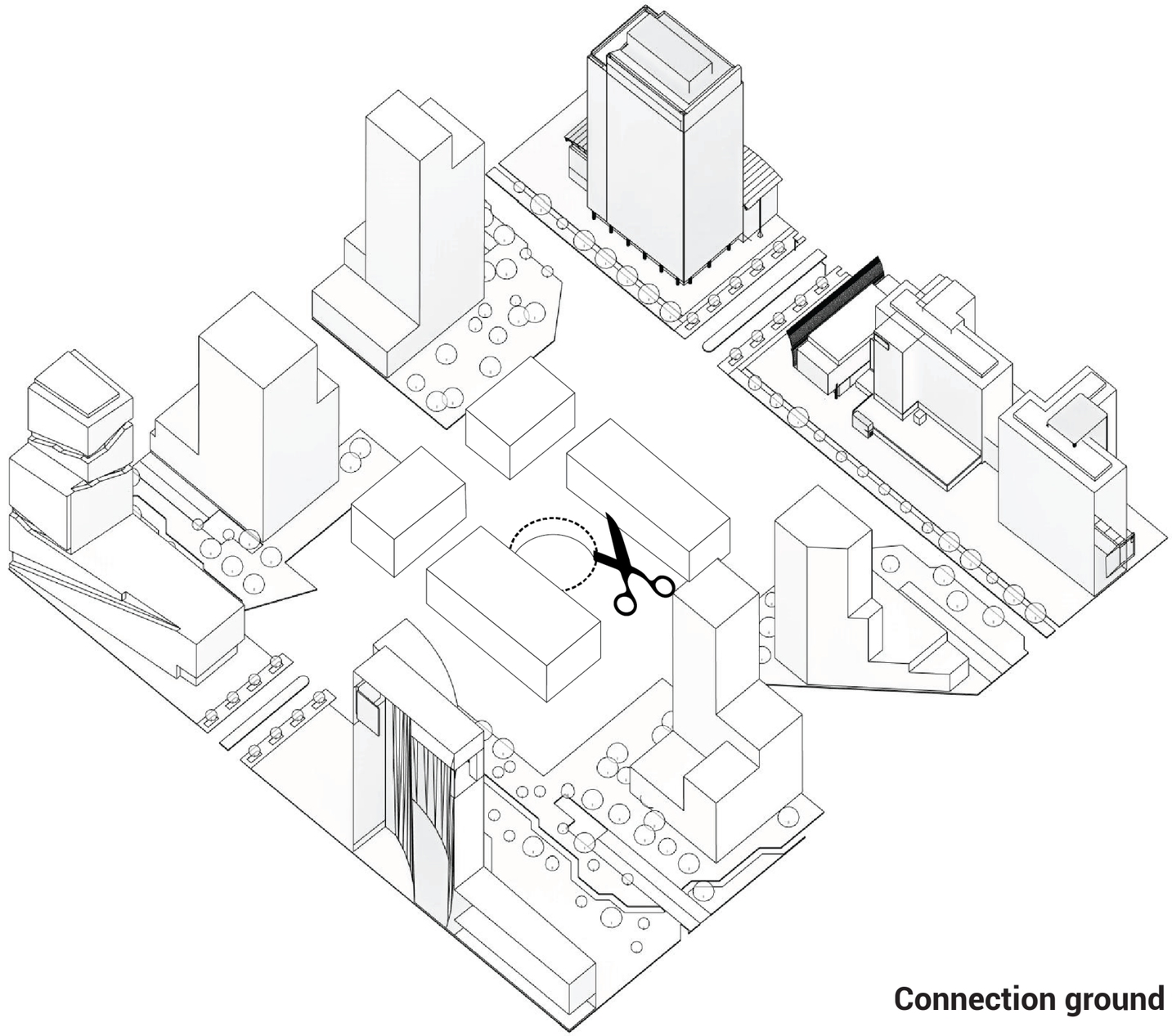
underground tracks



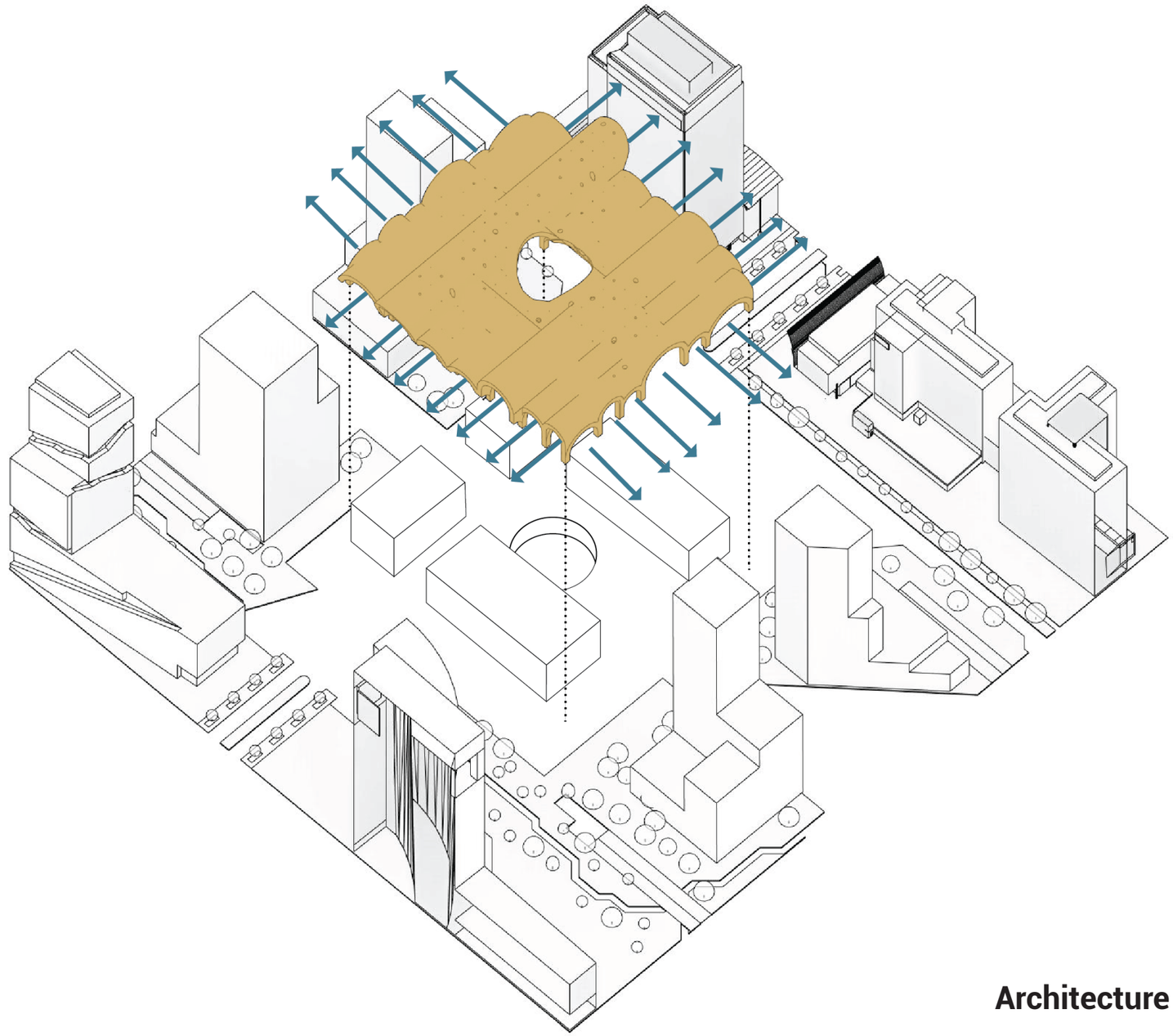
Underground PODS infrastrcture



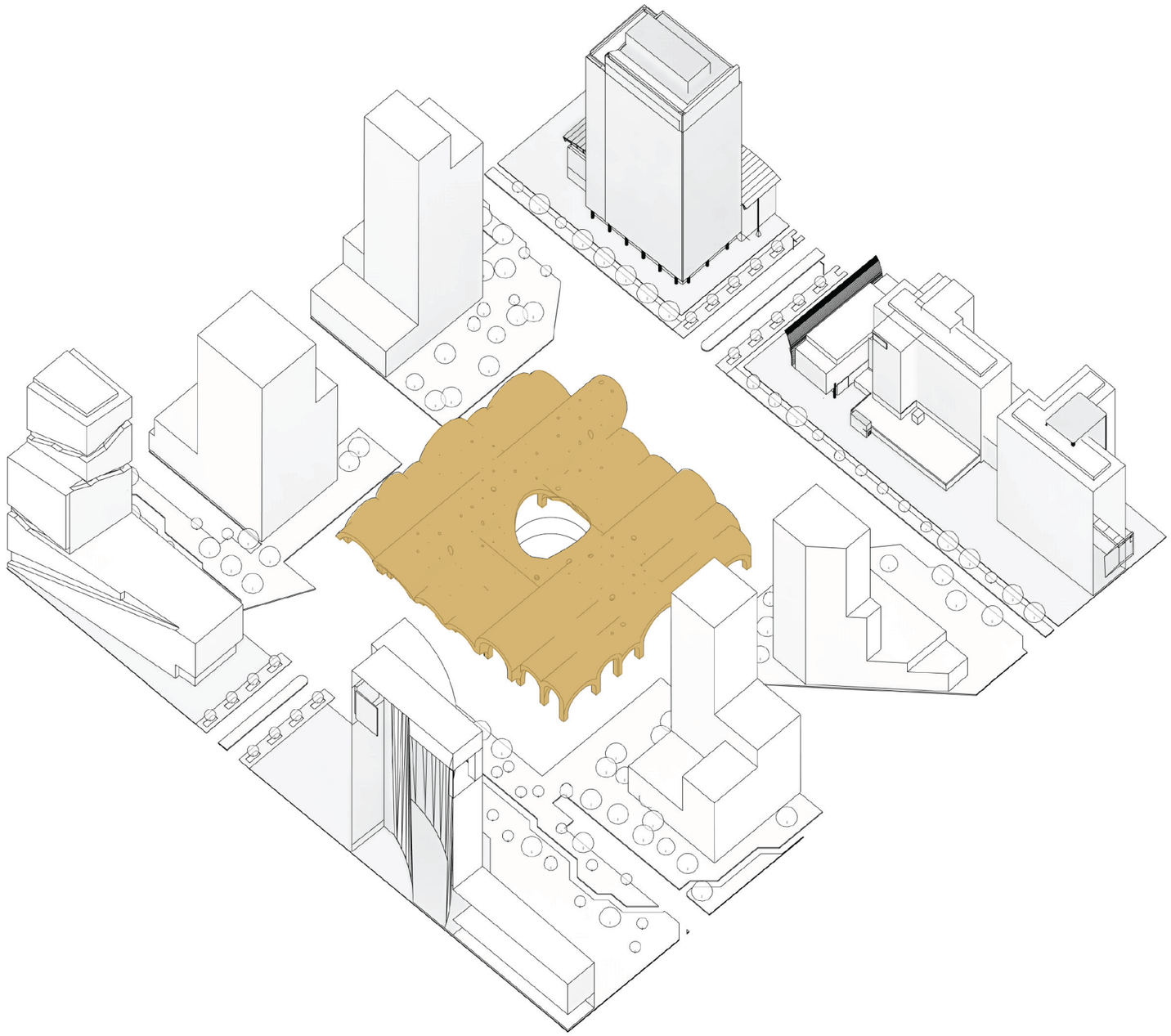
Underground bike infrastrcture



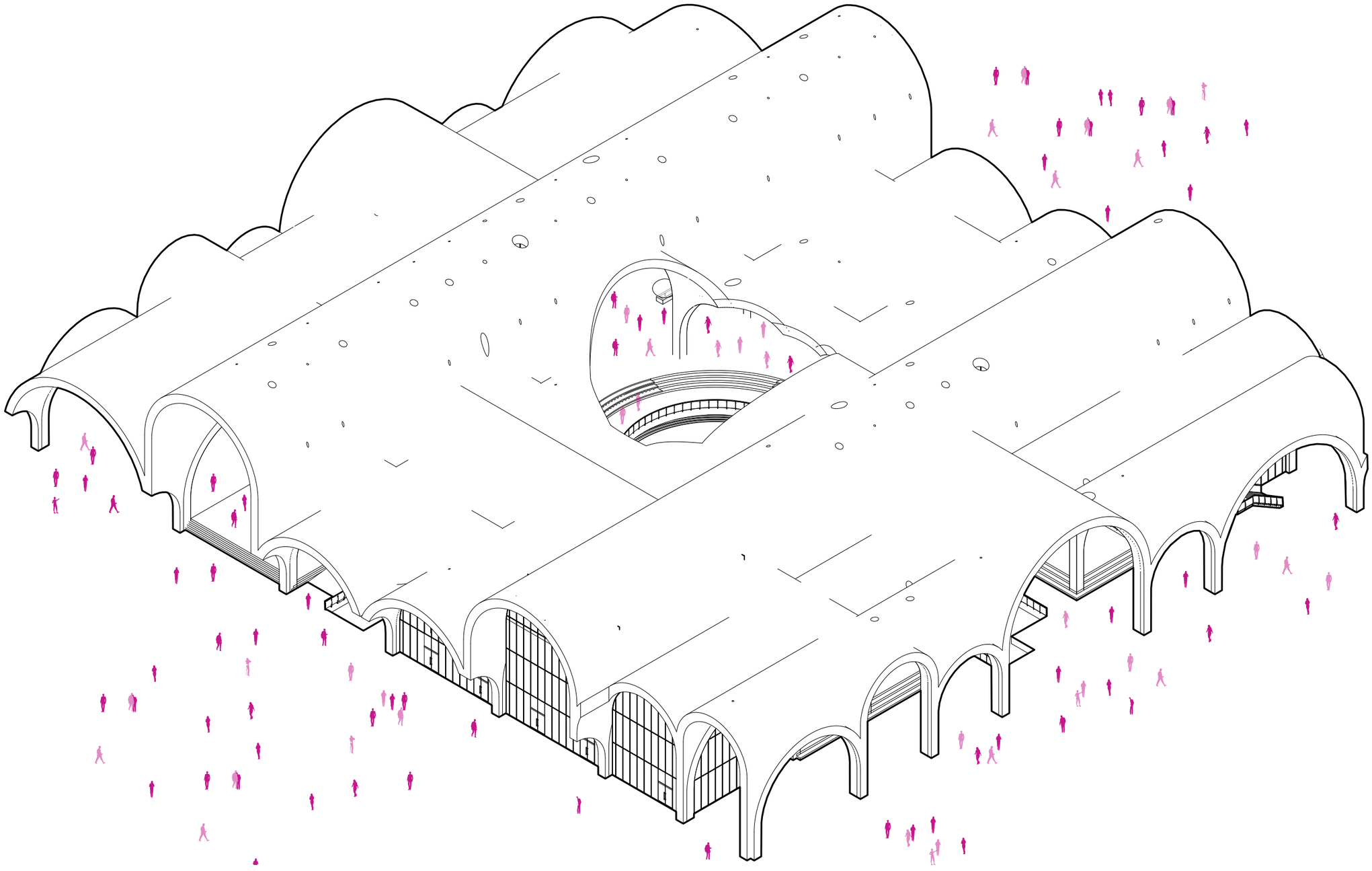
Connection ground floor & underground



Architecture displaying direction

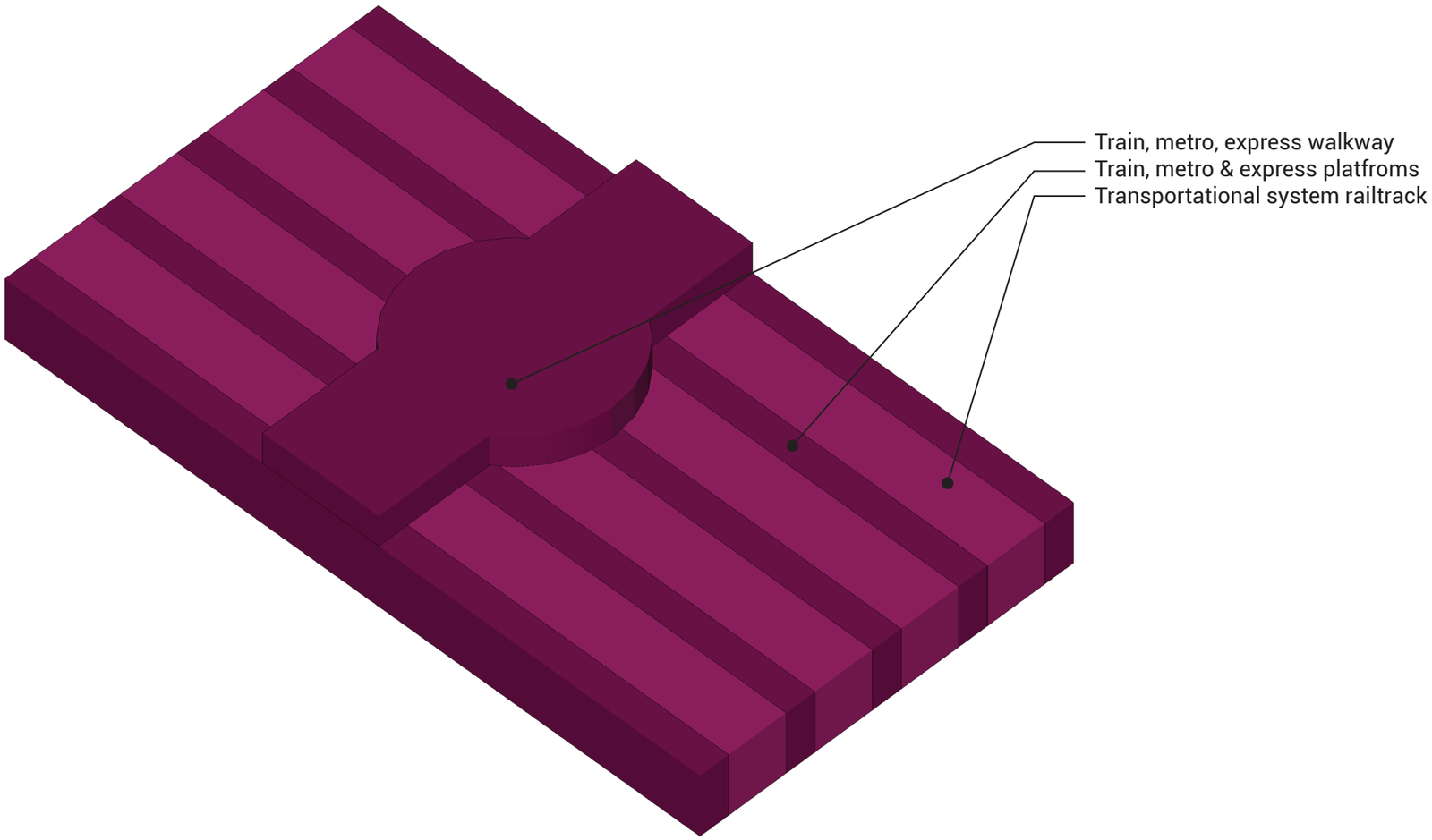


AN ARCHITECTURE THAT IS RECONIZED FOR PUBLIC TRADE & TRAVEL



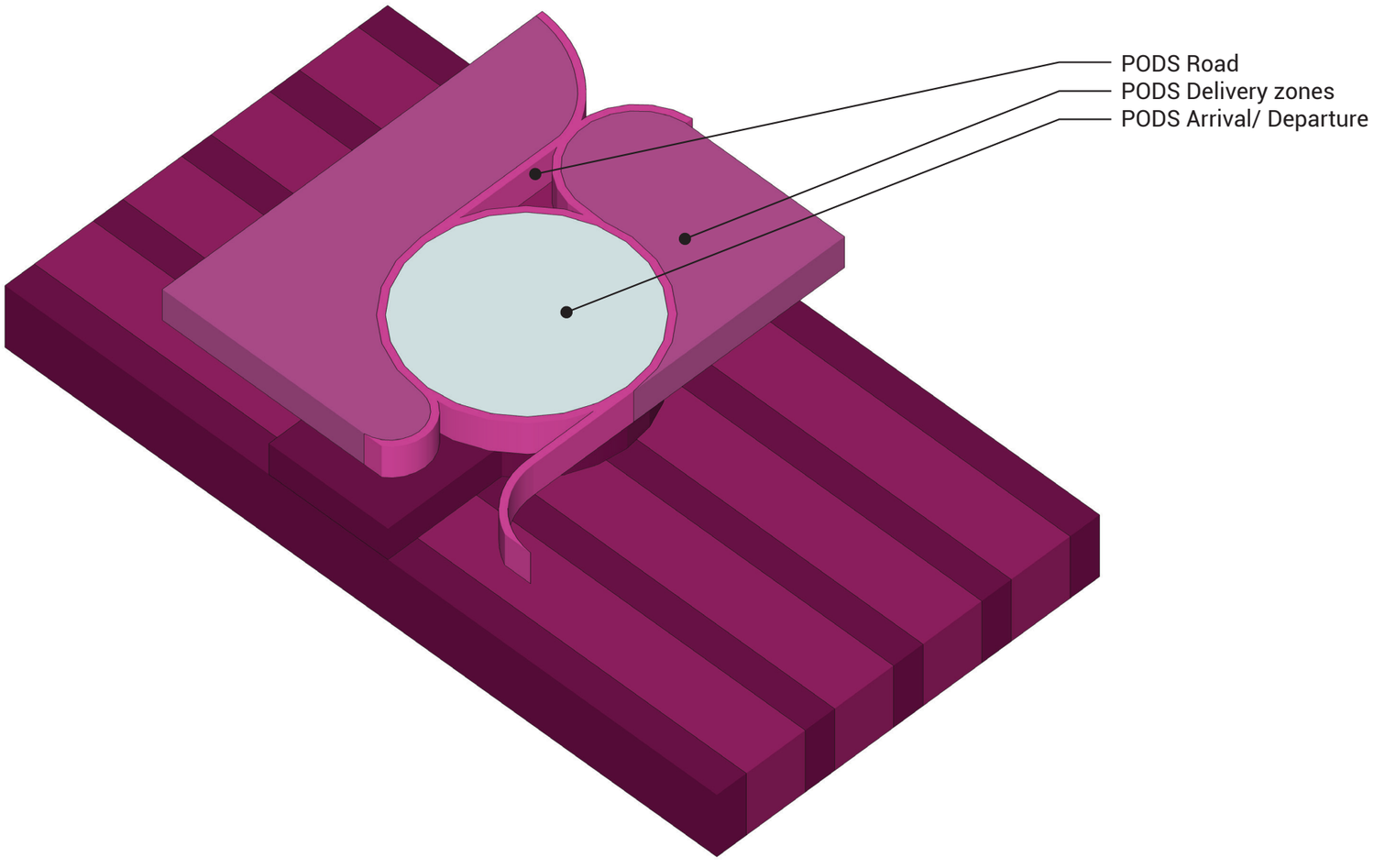
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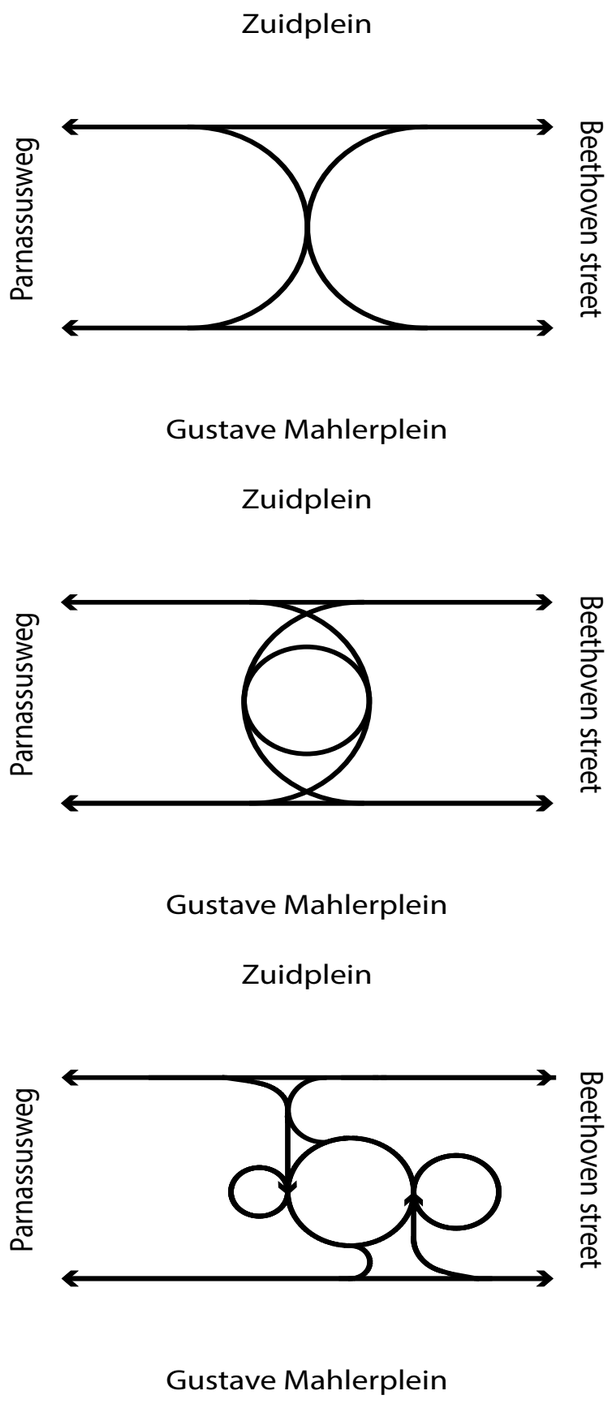
PROGRAM STACKING
PLATFORMS & TRACKS



CP

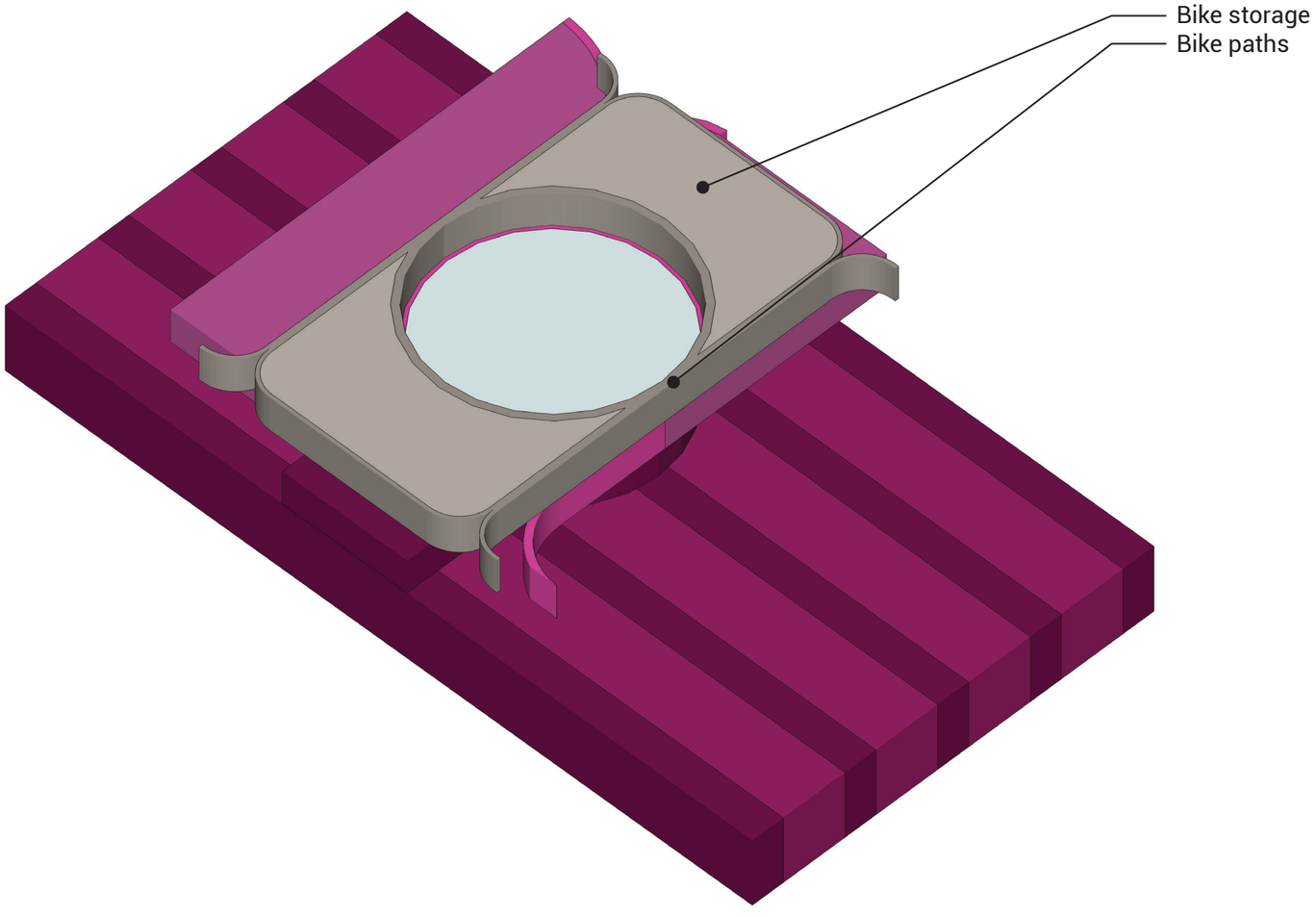
PROGRAM STACKING
PODS

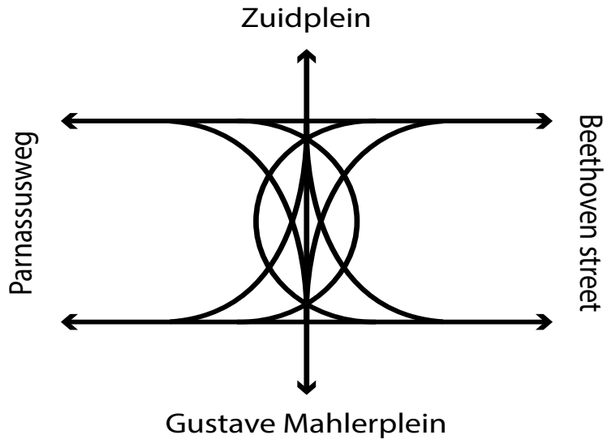


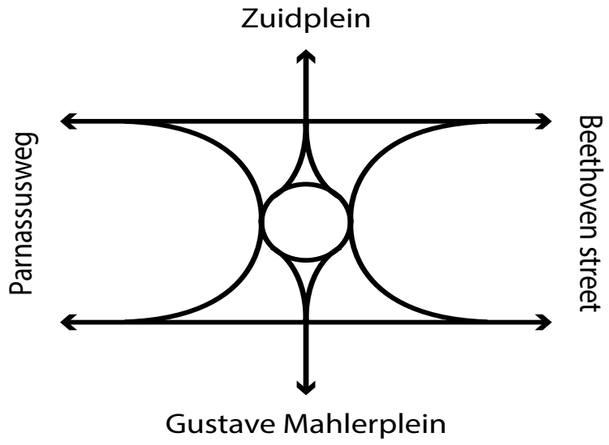


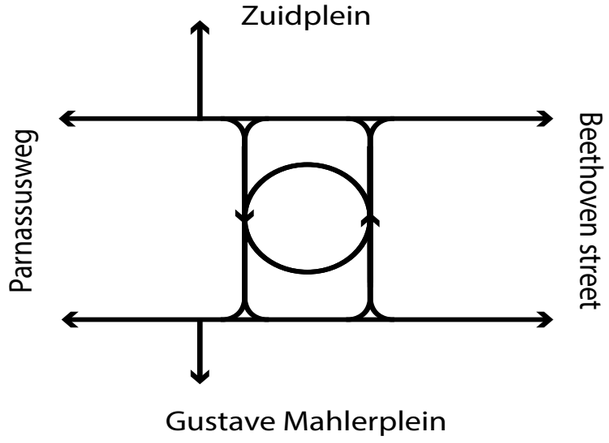
CP

PROGRAM STACKING
BIKE PATHS & STORAGE



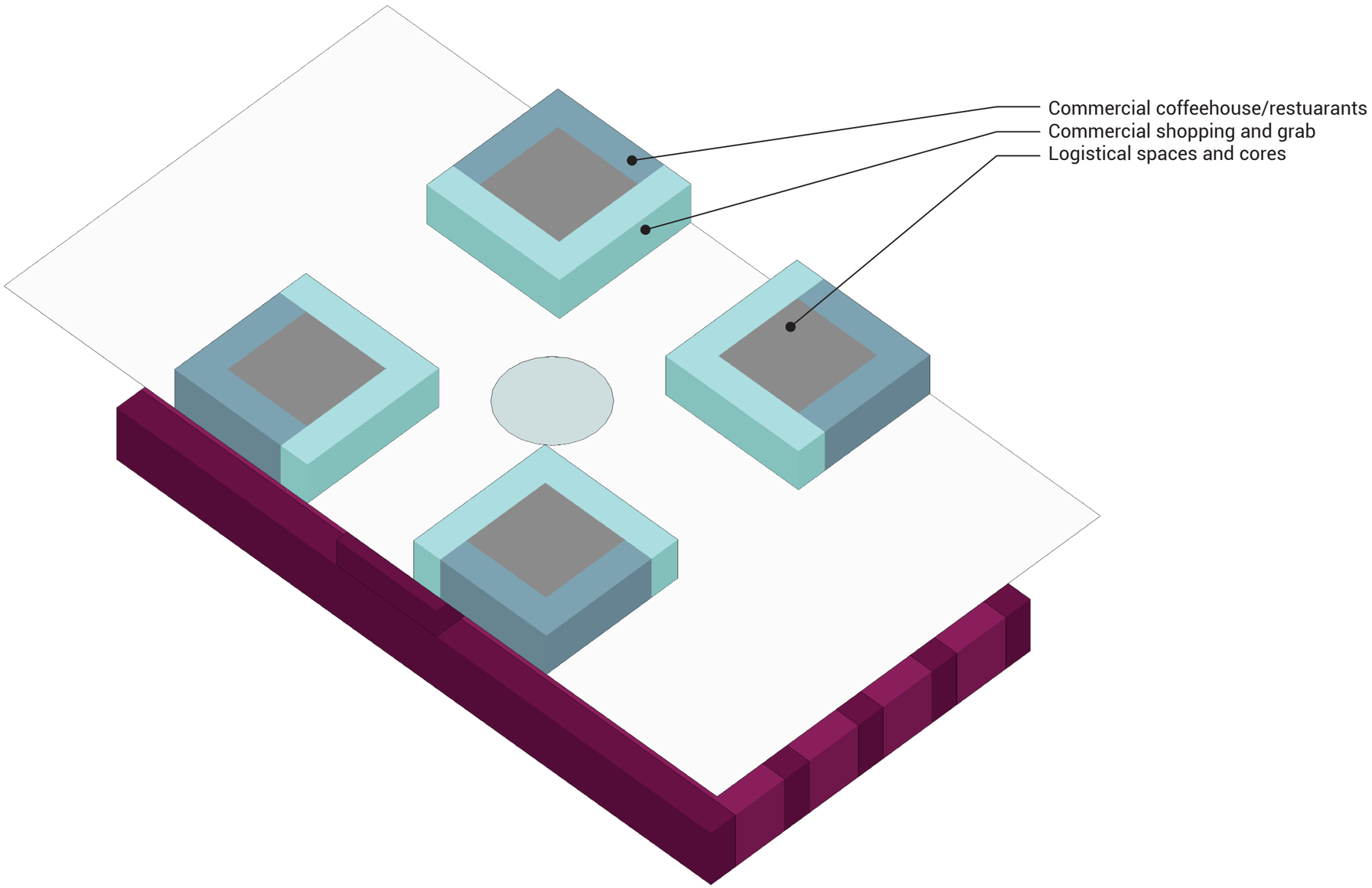




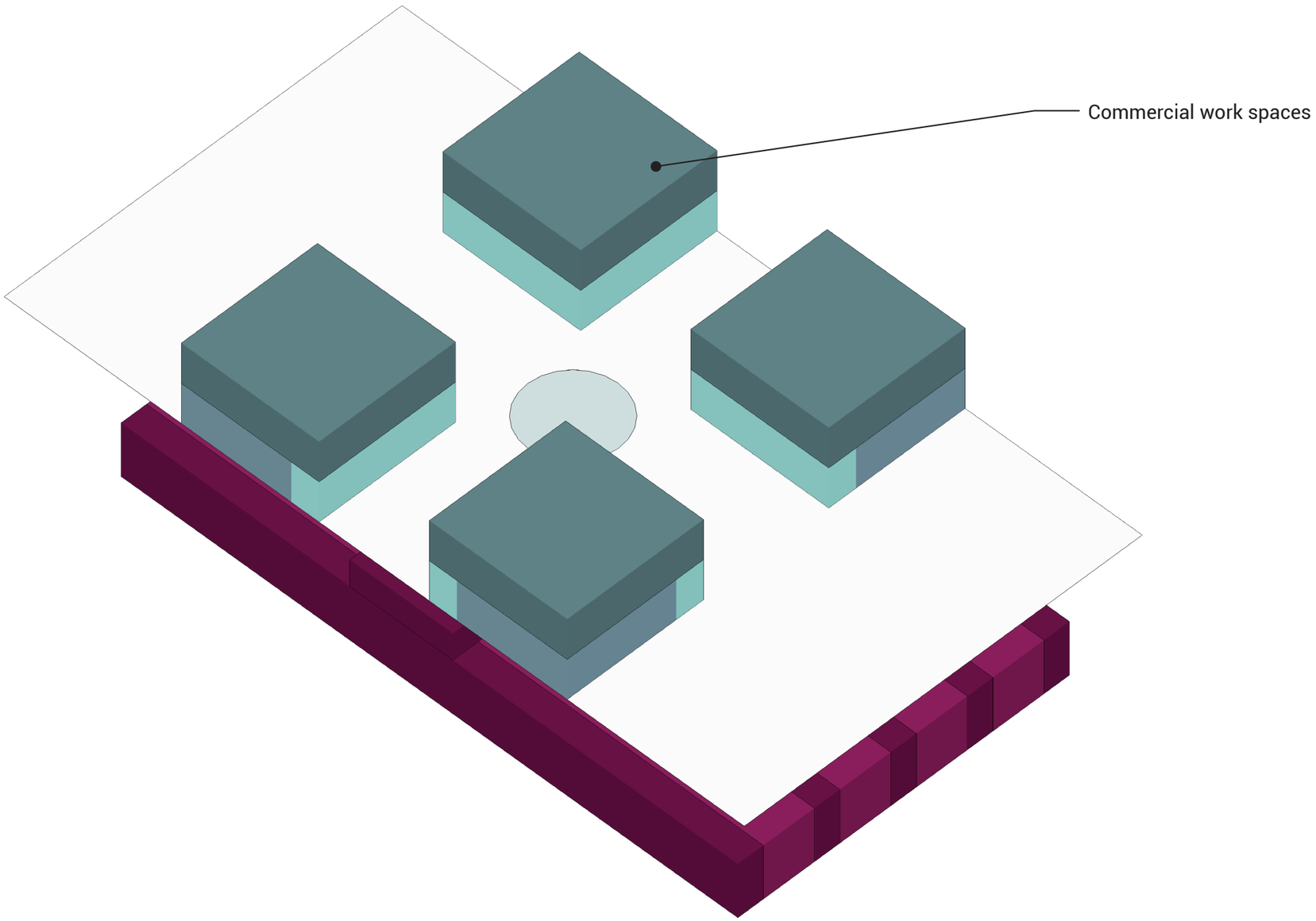


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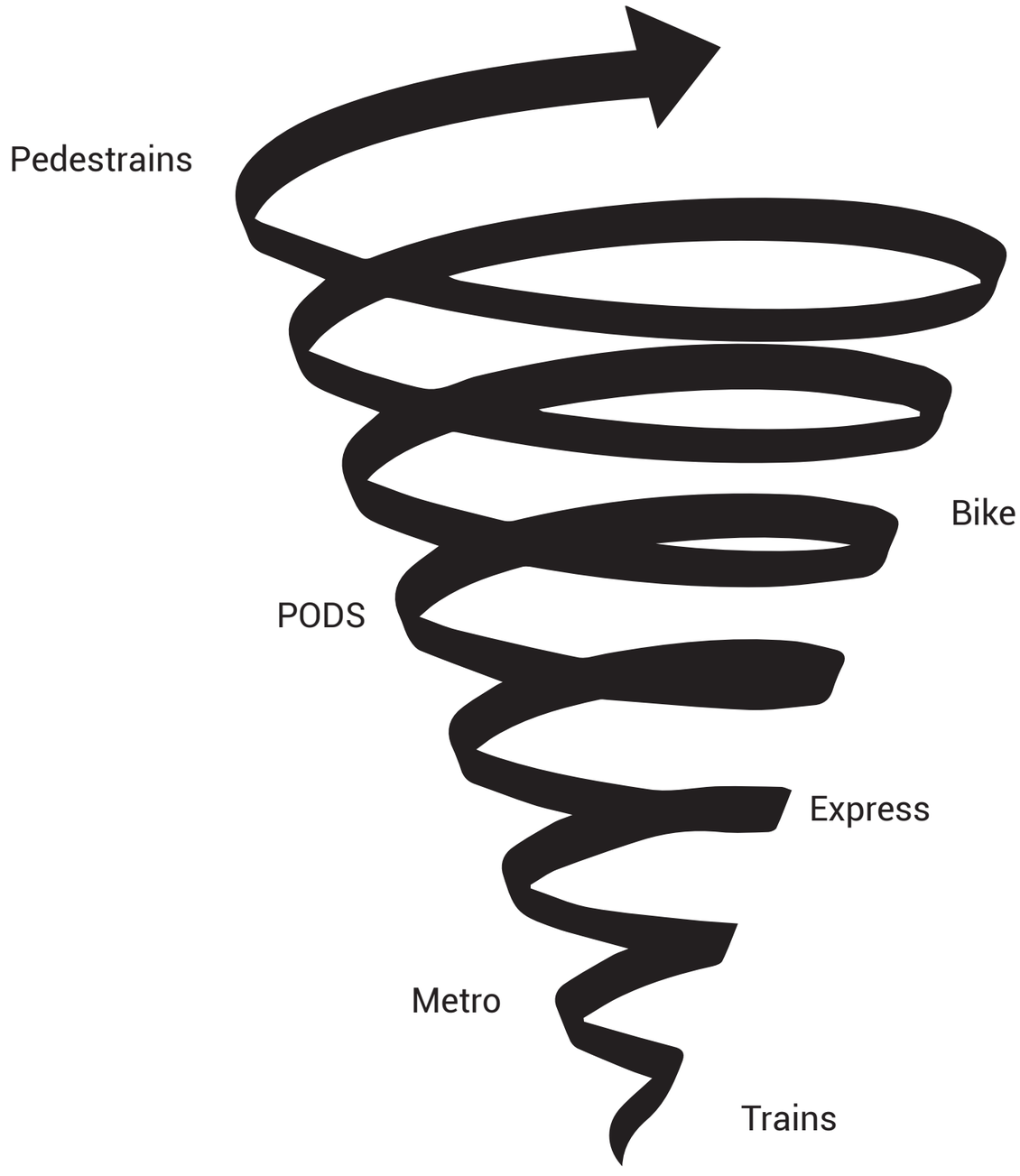
PROGRAM STACKING
COMMERCIAL SHOPPING



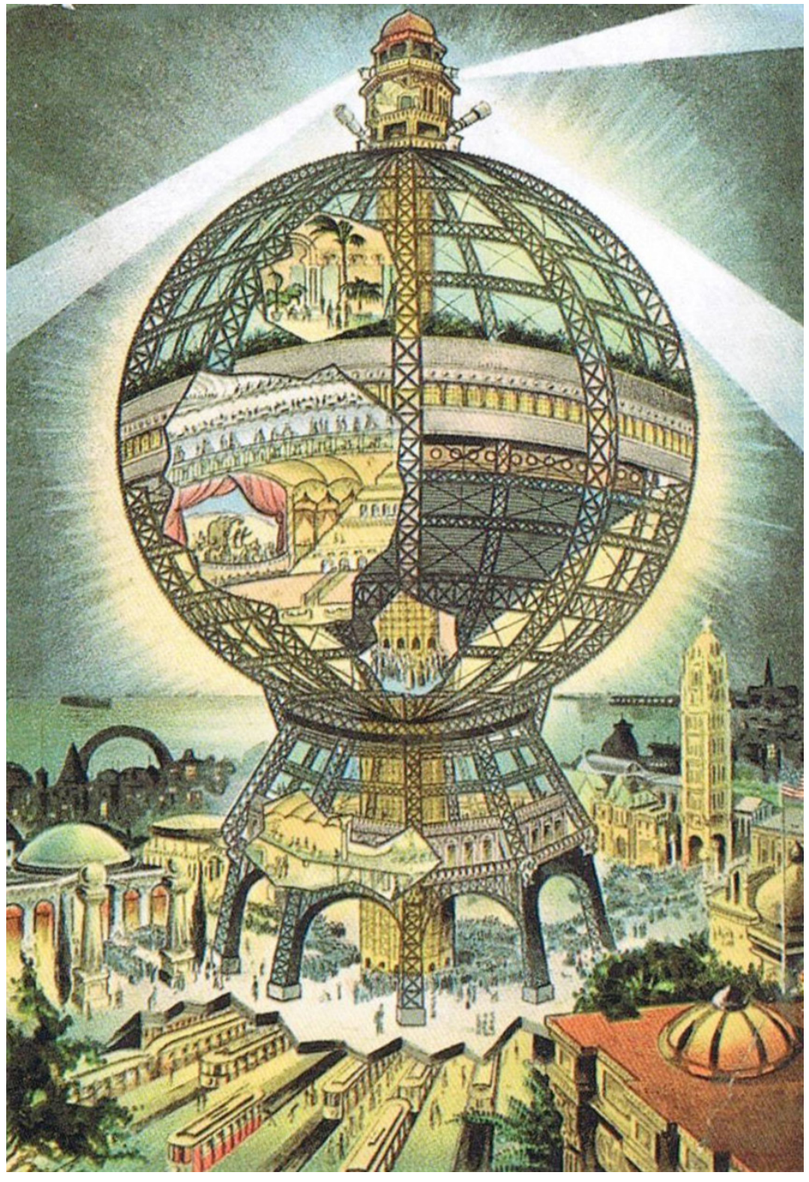
PROGRAM STACKING
COMMERCIAL OFFICES



SPIRALING CENTRAL POINT FOR TRANSPORT SYSTEMS



REFERENCE TO THE PAST



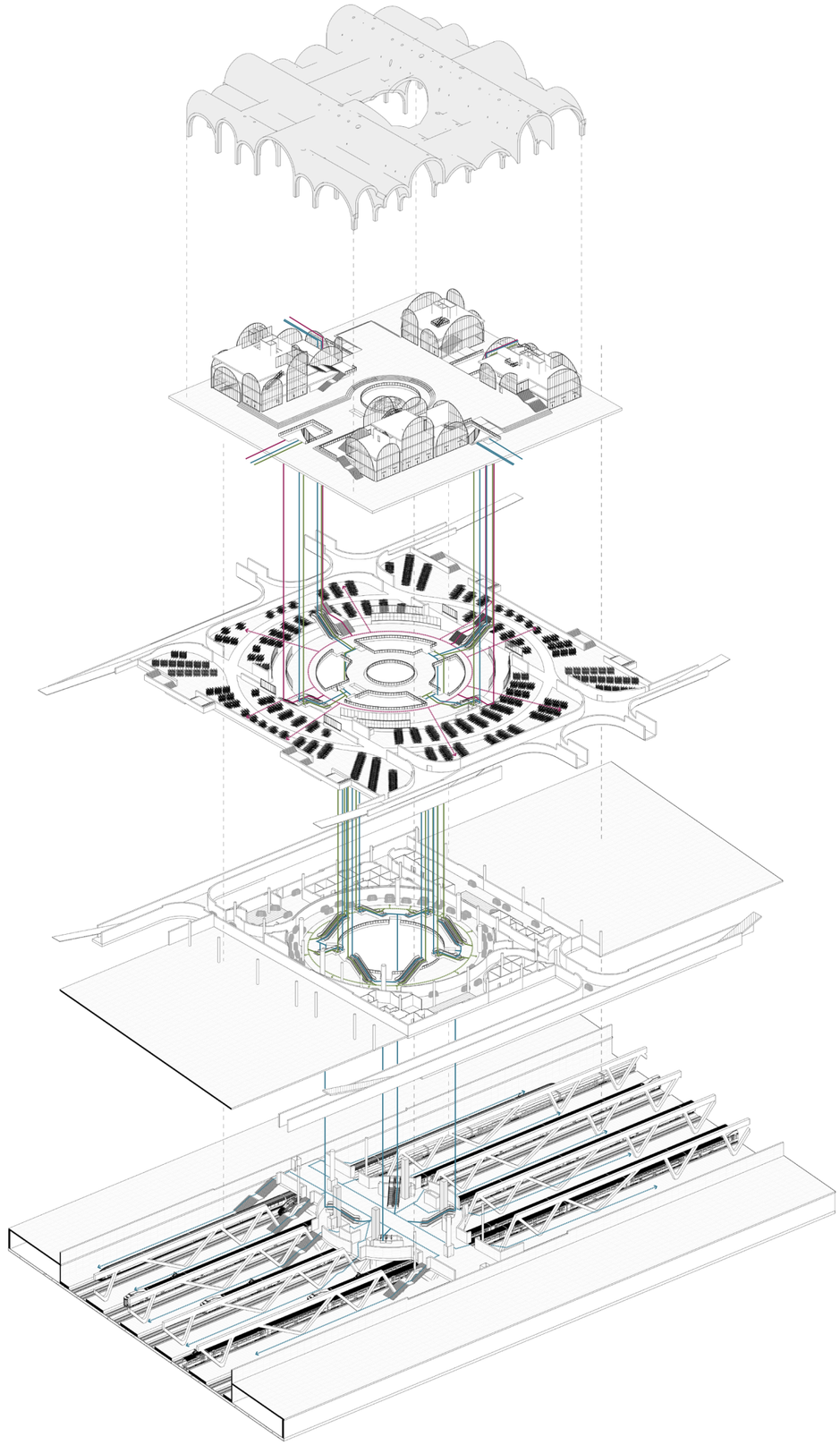
Samuel Friede, Coney Island Globe Tower (1906)

MULTI FUNCTIONAL

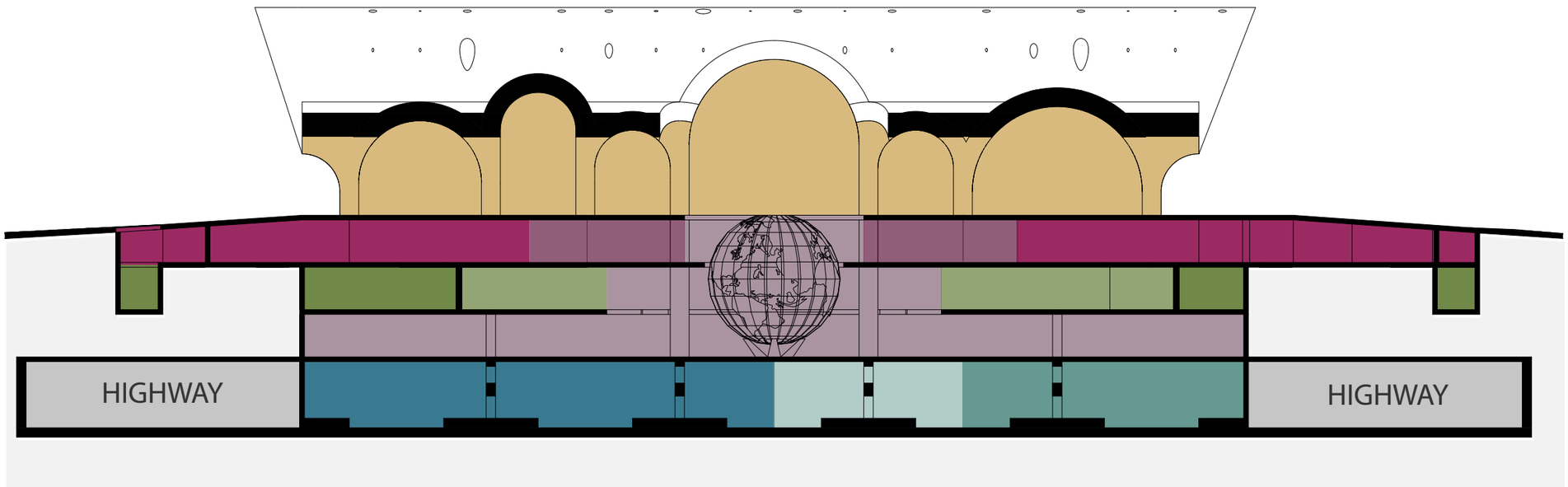
VERTICAL TRANSPORT
BETWEEN “WORLDS"

INTERACTIVE PUBLIC SPACE

NODE-TYPE INFRASTRUCTURE

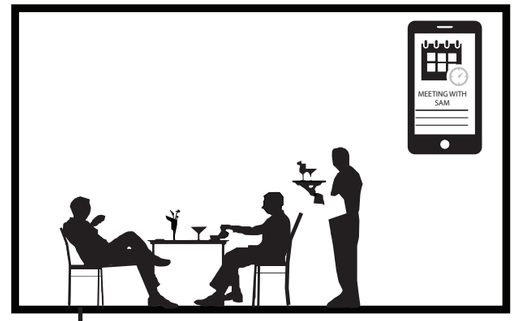


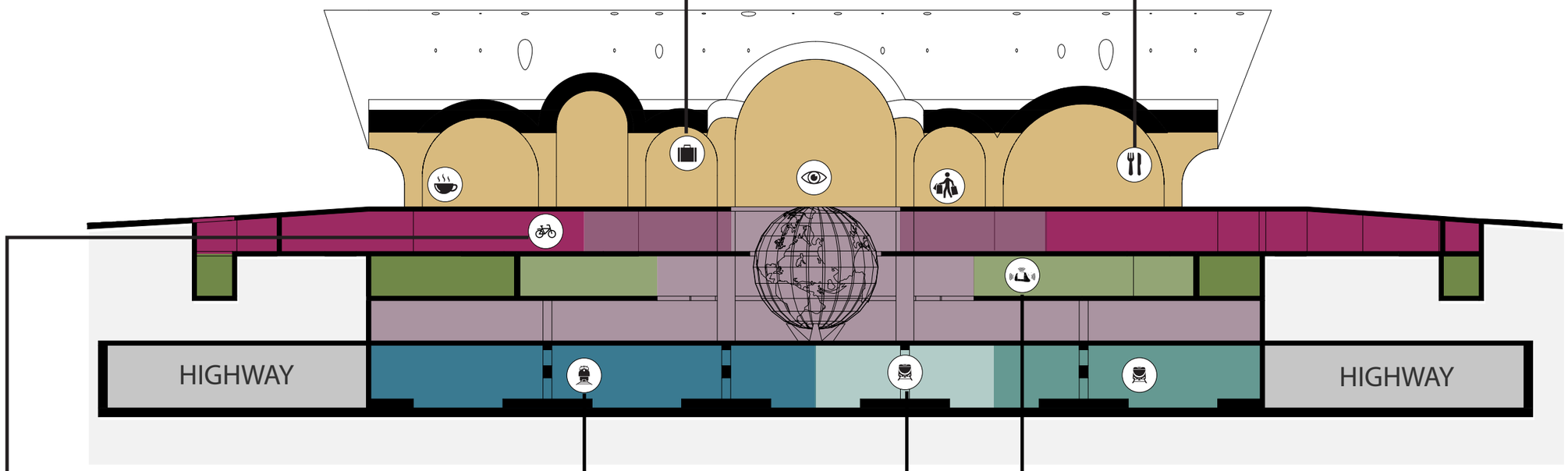
OVERALL PROGRAM

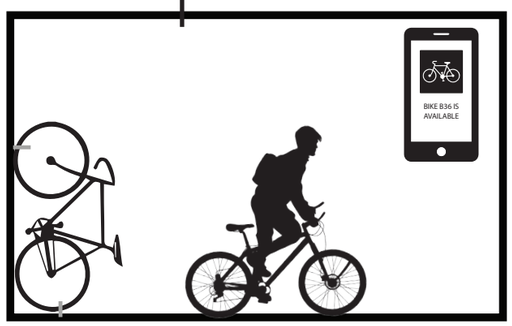


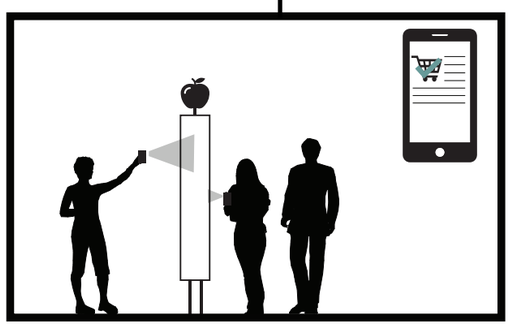
OVERALL PROGRAM









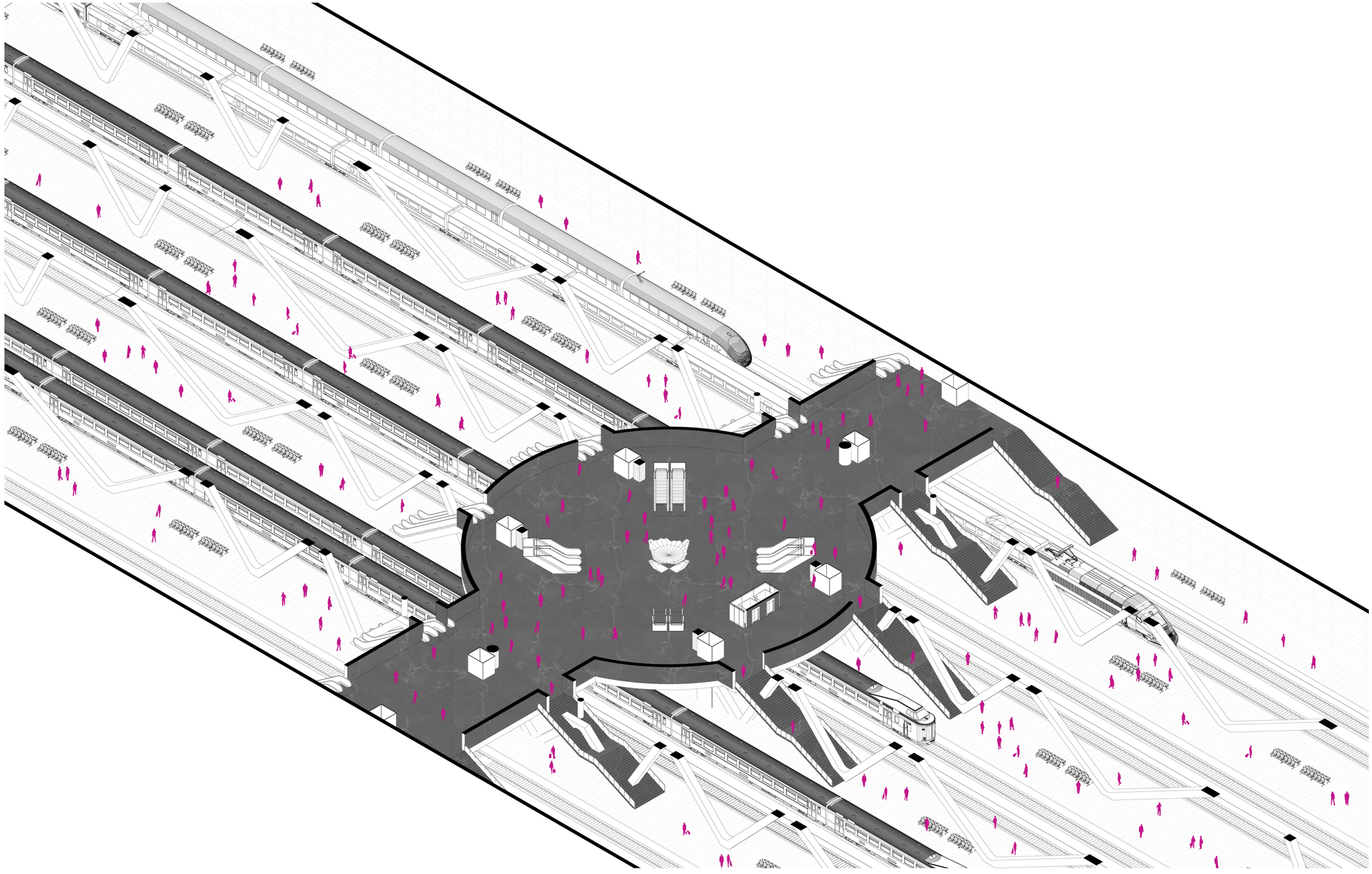






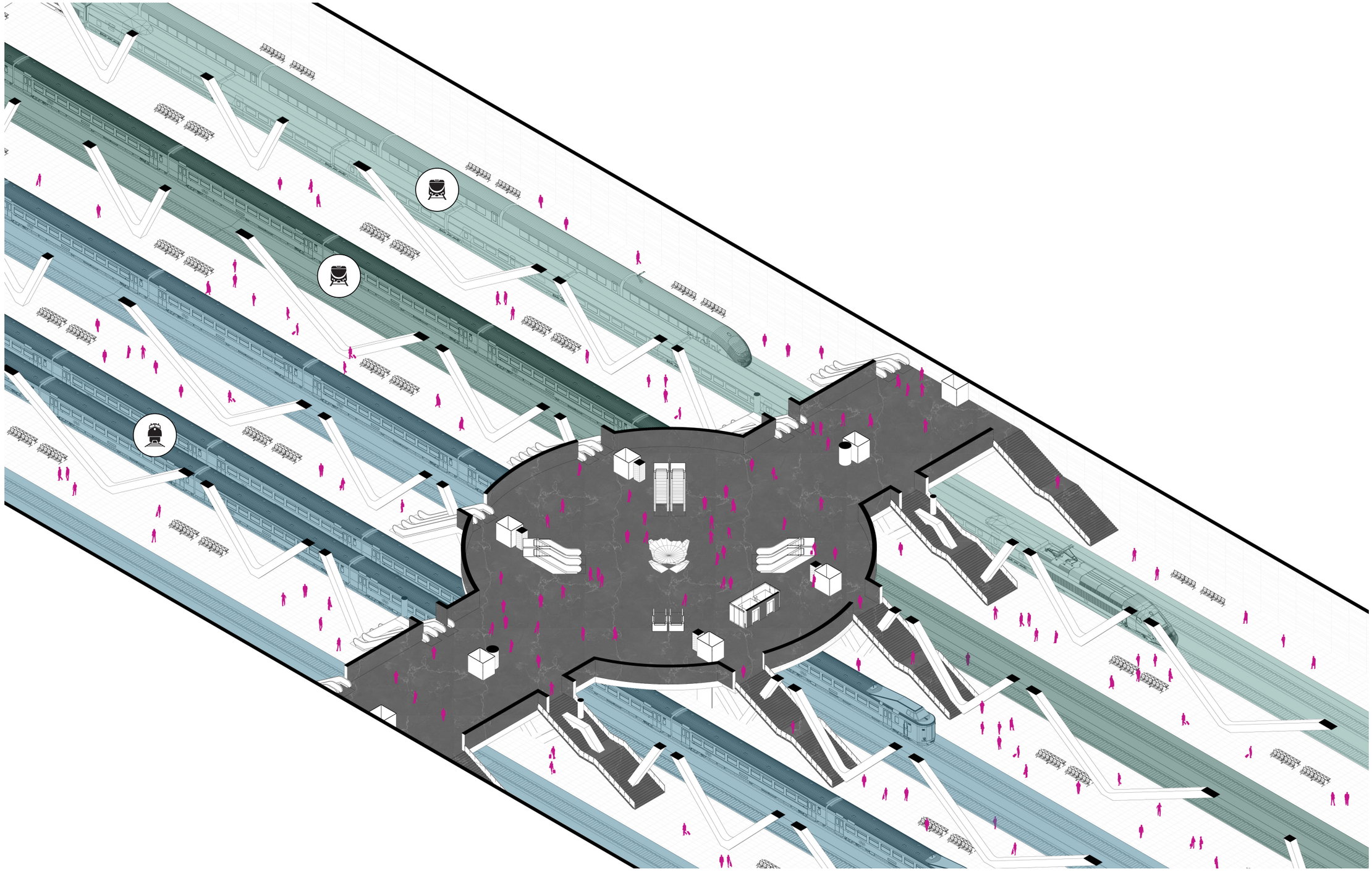
CP

BASEMENT 3 & 4:
TRAIN, METRO AND EXPRESS PLATFORMS



CP

BASEMENT 3 & 4:
TRAIN, METRO AND EXPRESS PLATFORMS

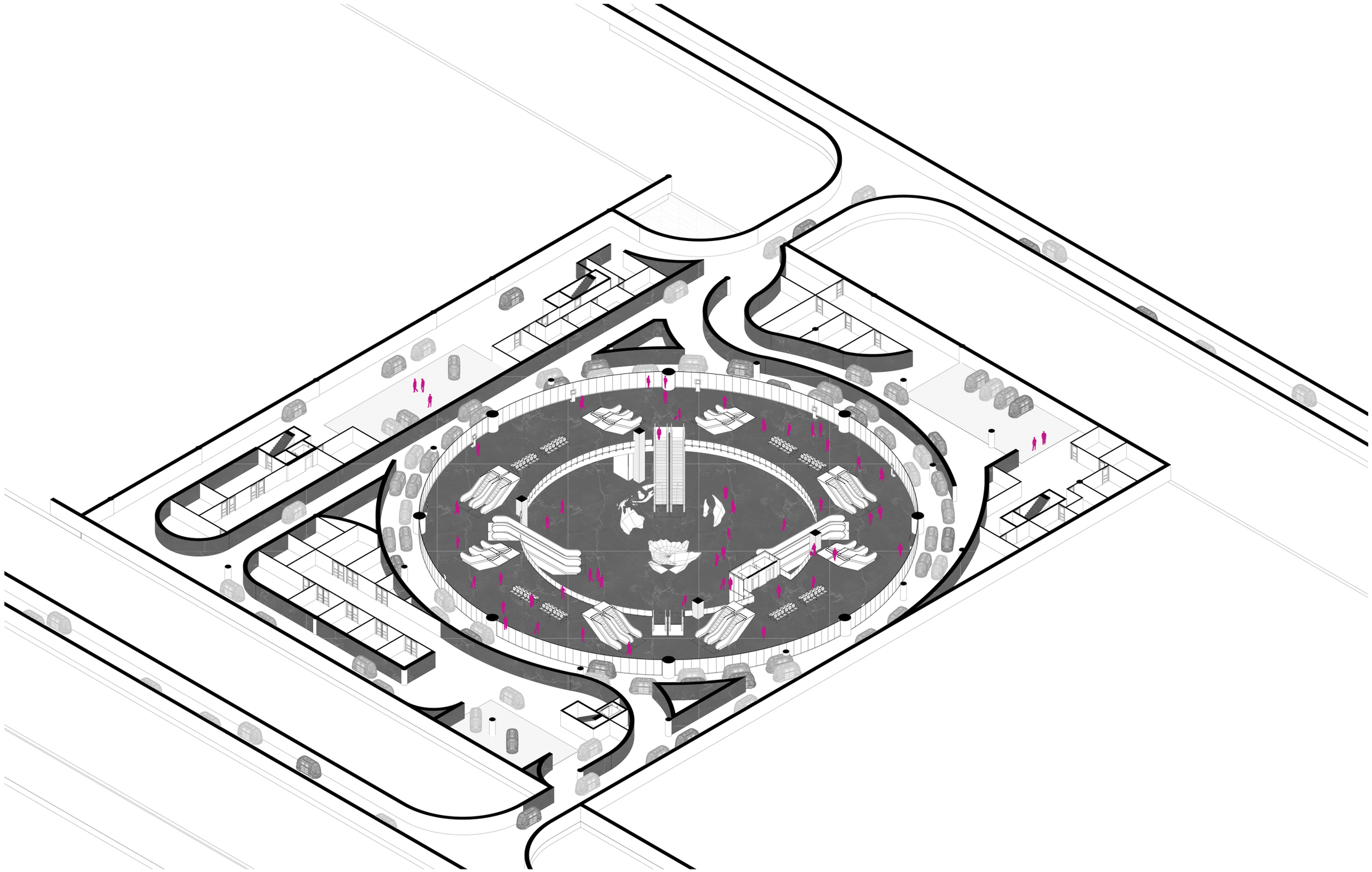


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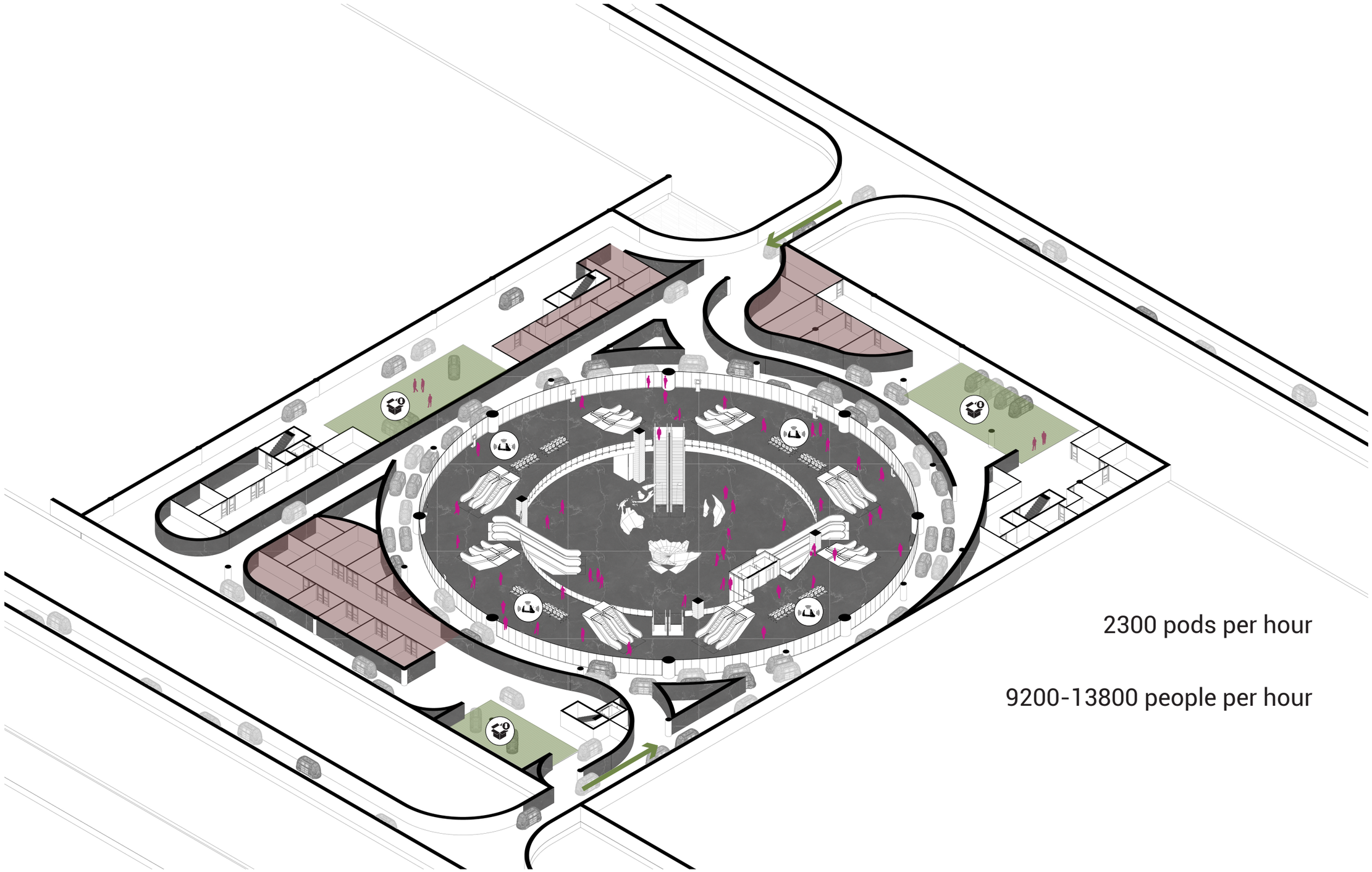
MAIN TERMINAL HALL



BASEMENT 2: POD TERMINAL



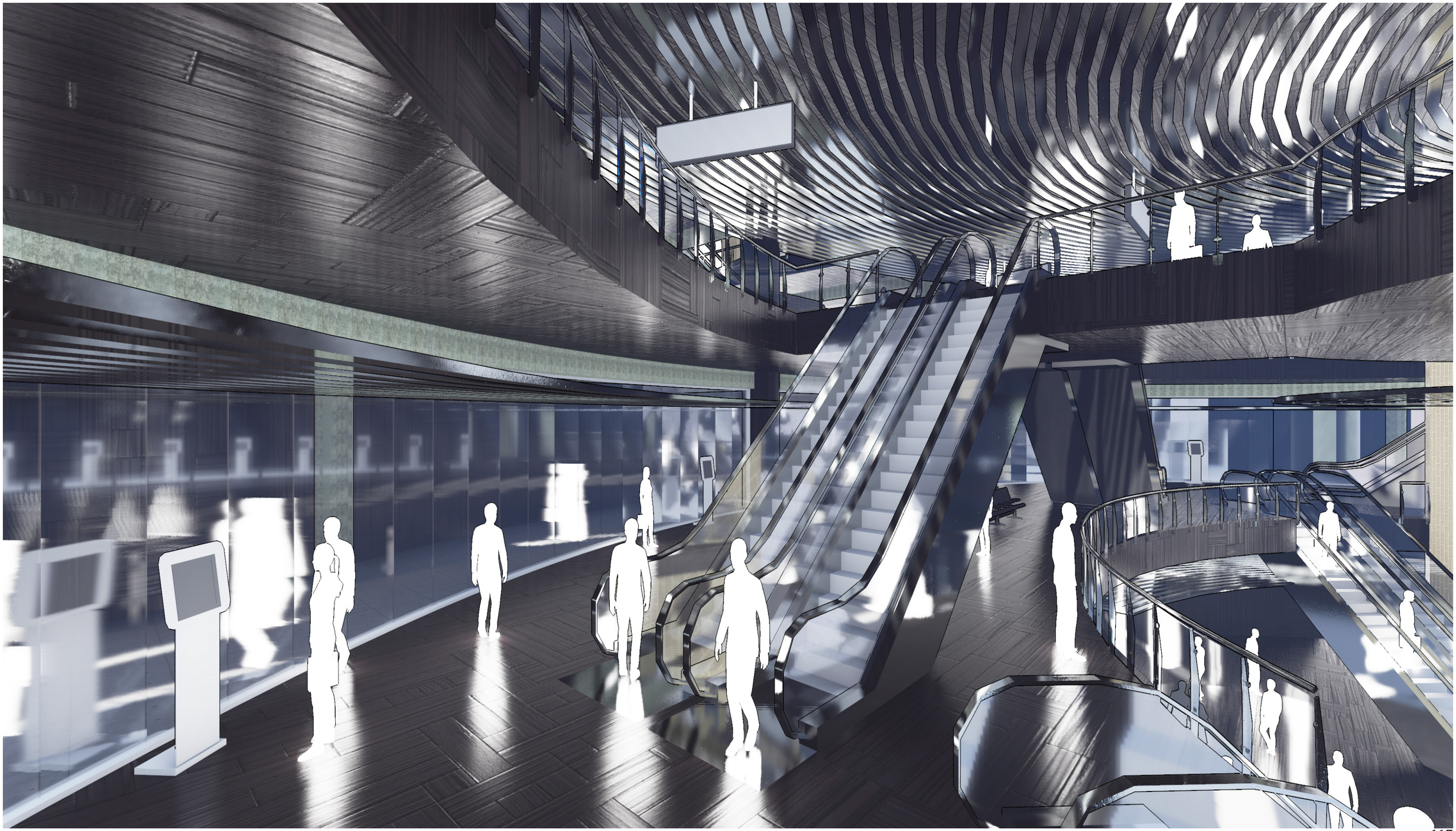
BASEMENT 2: POD TERMINAL



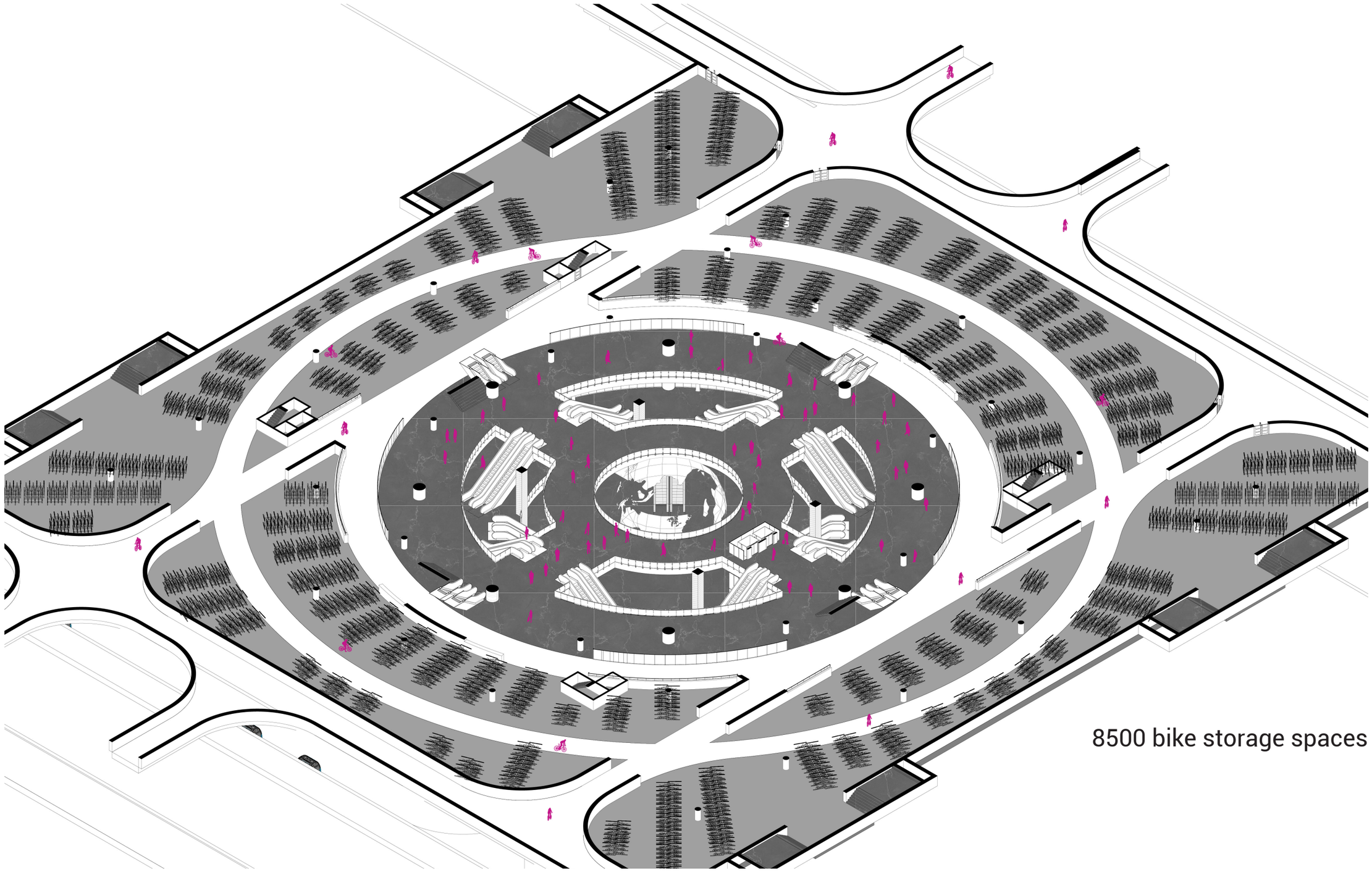
2300 pods per hour

9200-13800 people per hour

BASEMENT 2: POD TERMINAL



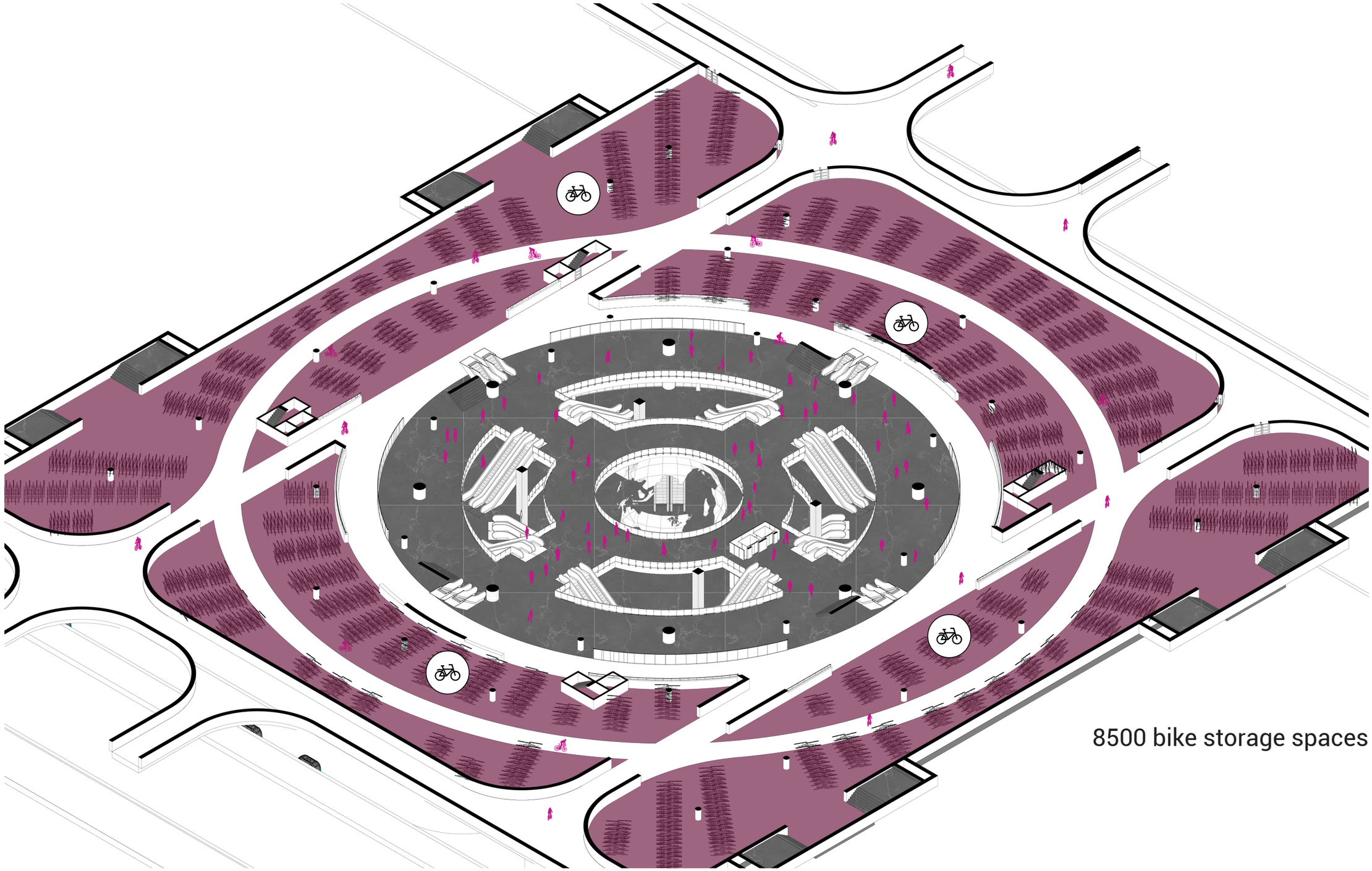
BASEMENT 1: BIKE LANES & STORAGE



8500 bike storage spaces

CP

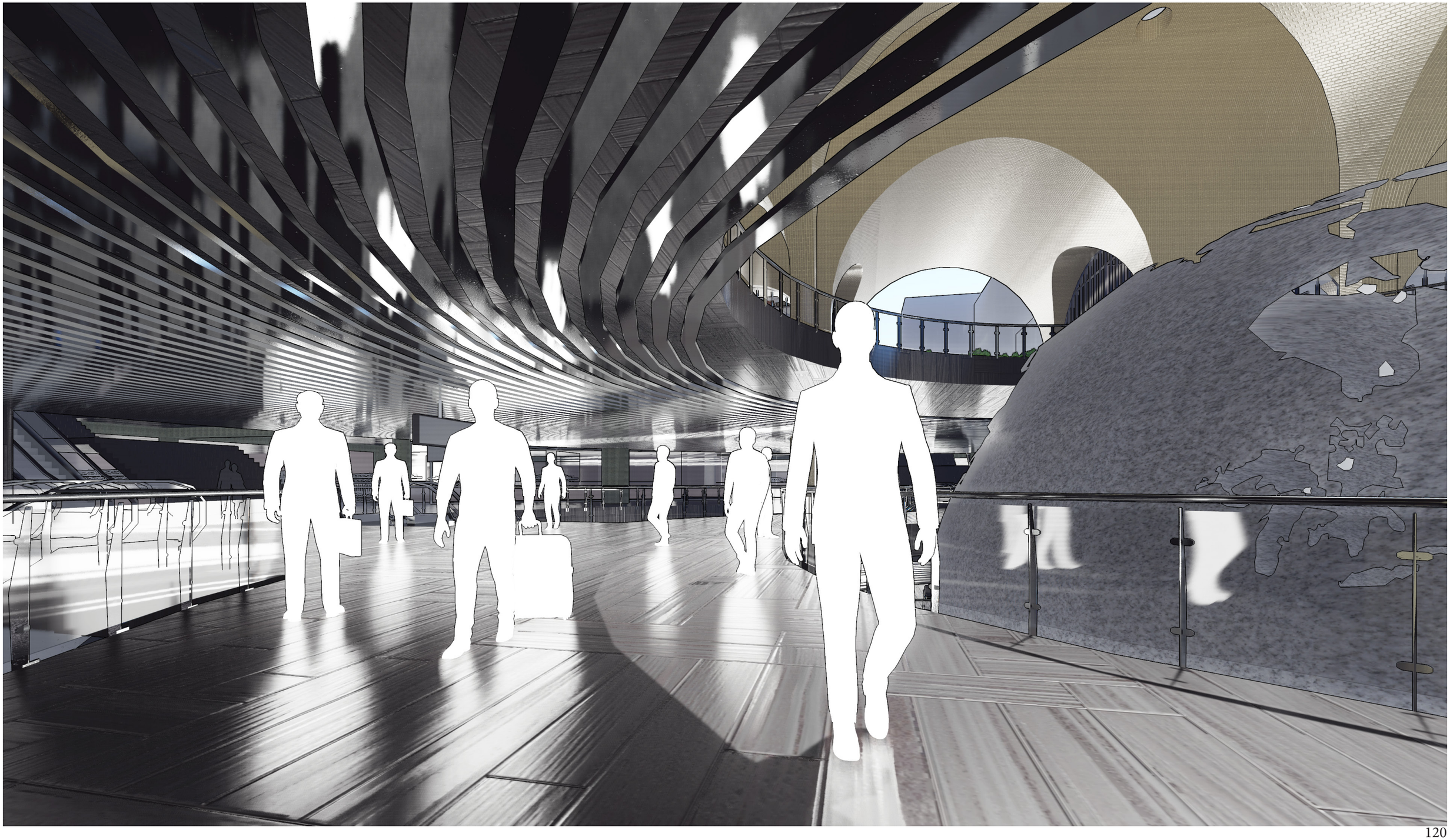
BASEMENT 1: BIKE LANES & STORAGE



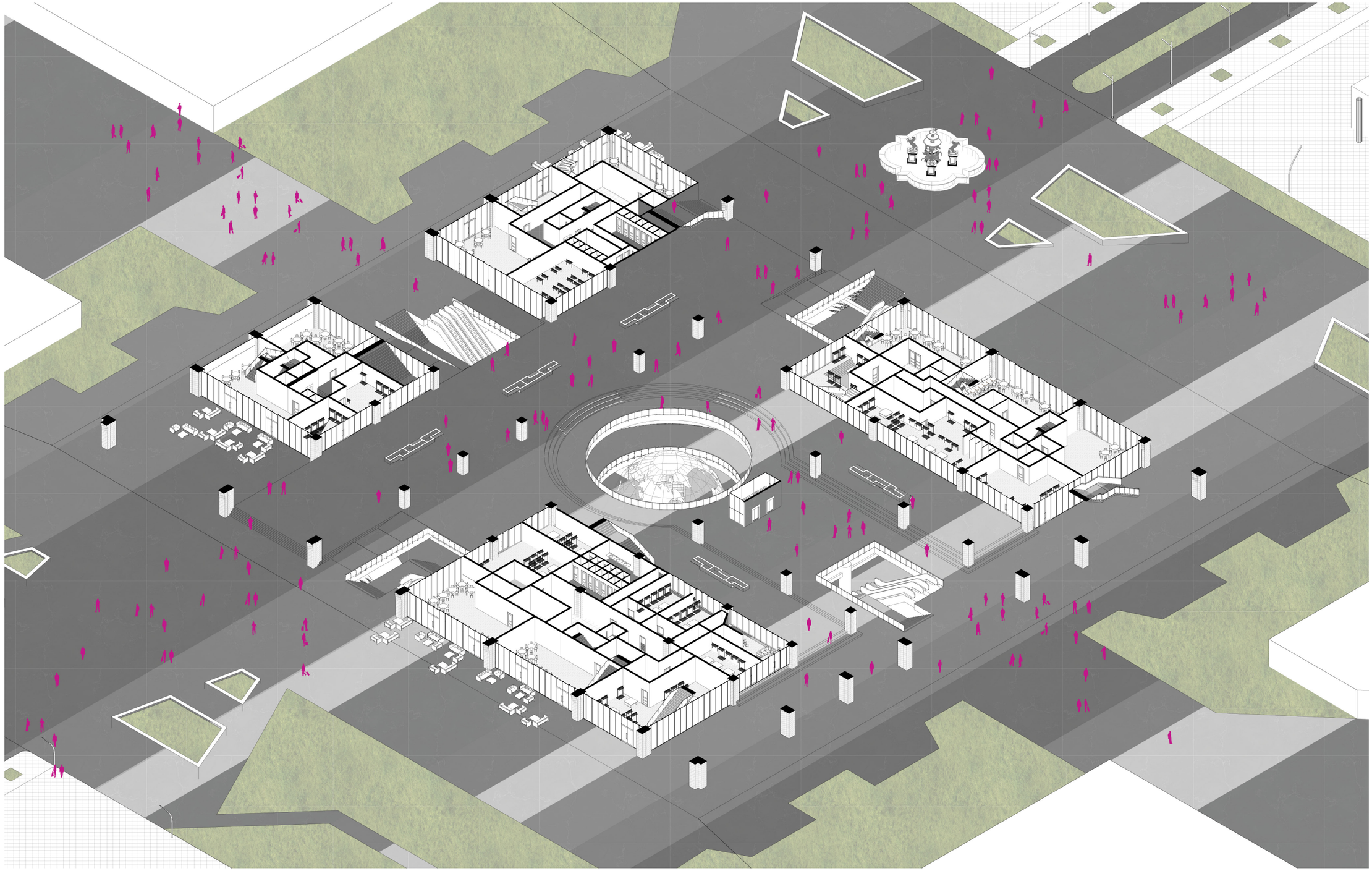
8500 bike storage spaces

CP

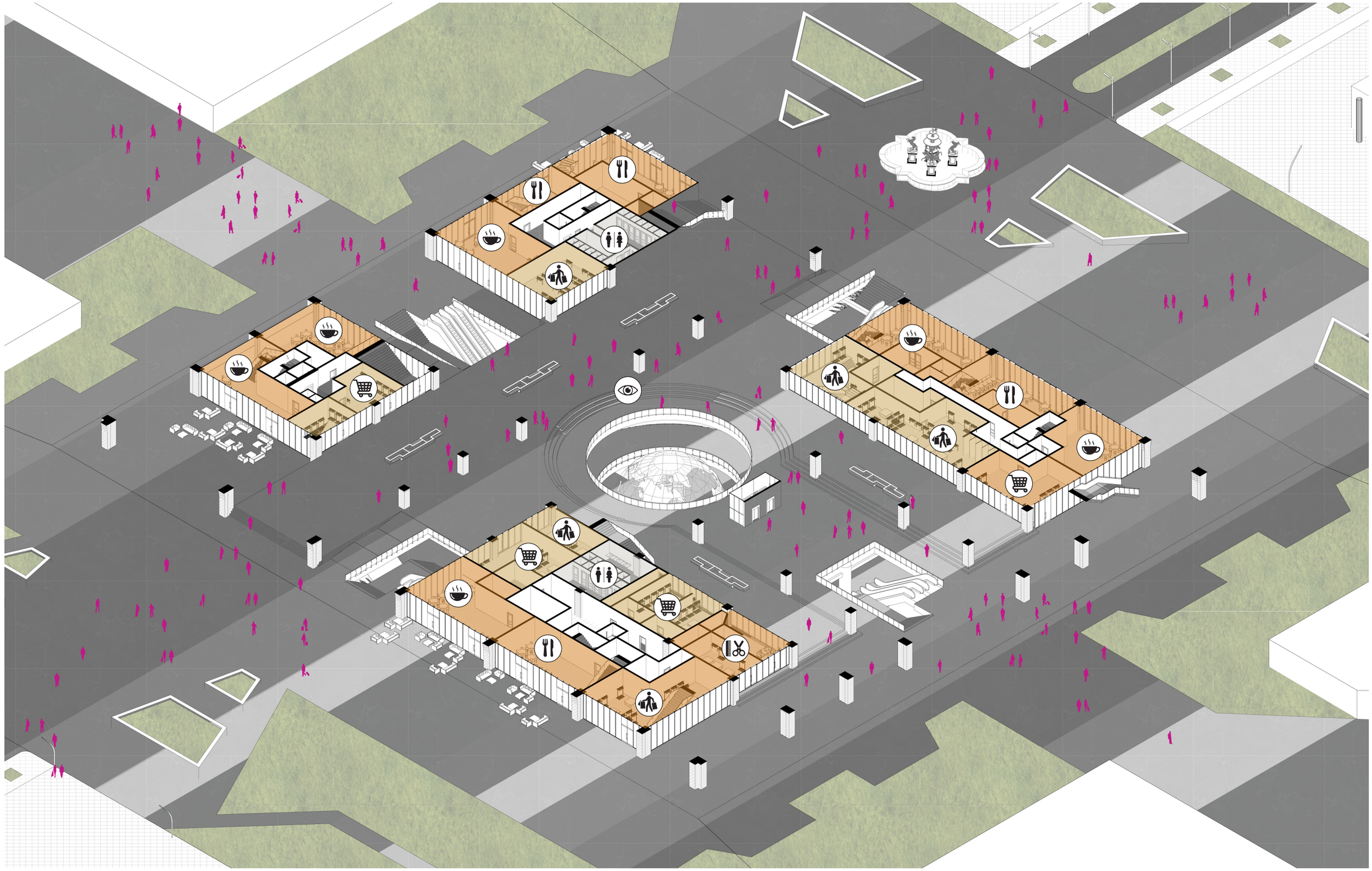
BASEMENT 1: BIKE LANES & STORAGE



GROUND FLOOR



GROUND FLOOR



CP

GROUND FLOOR

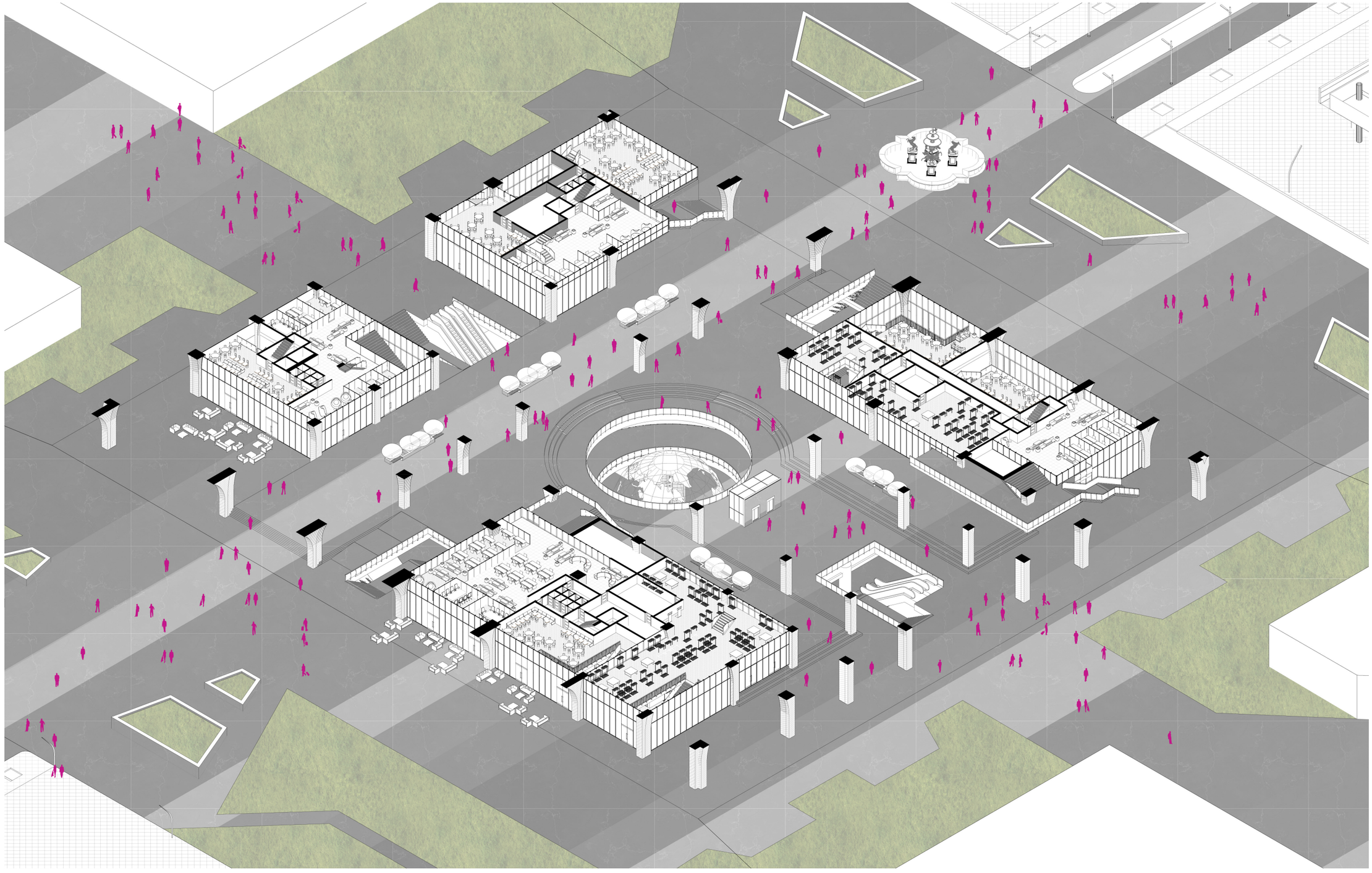


PUBLIC SPACE

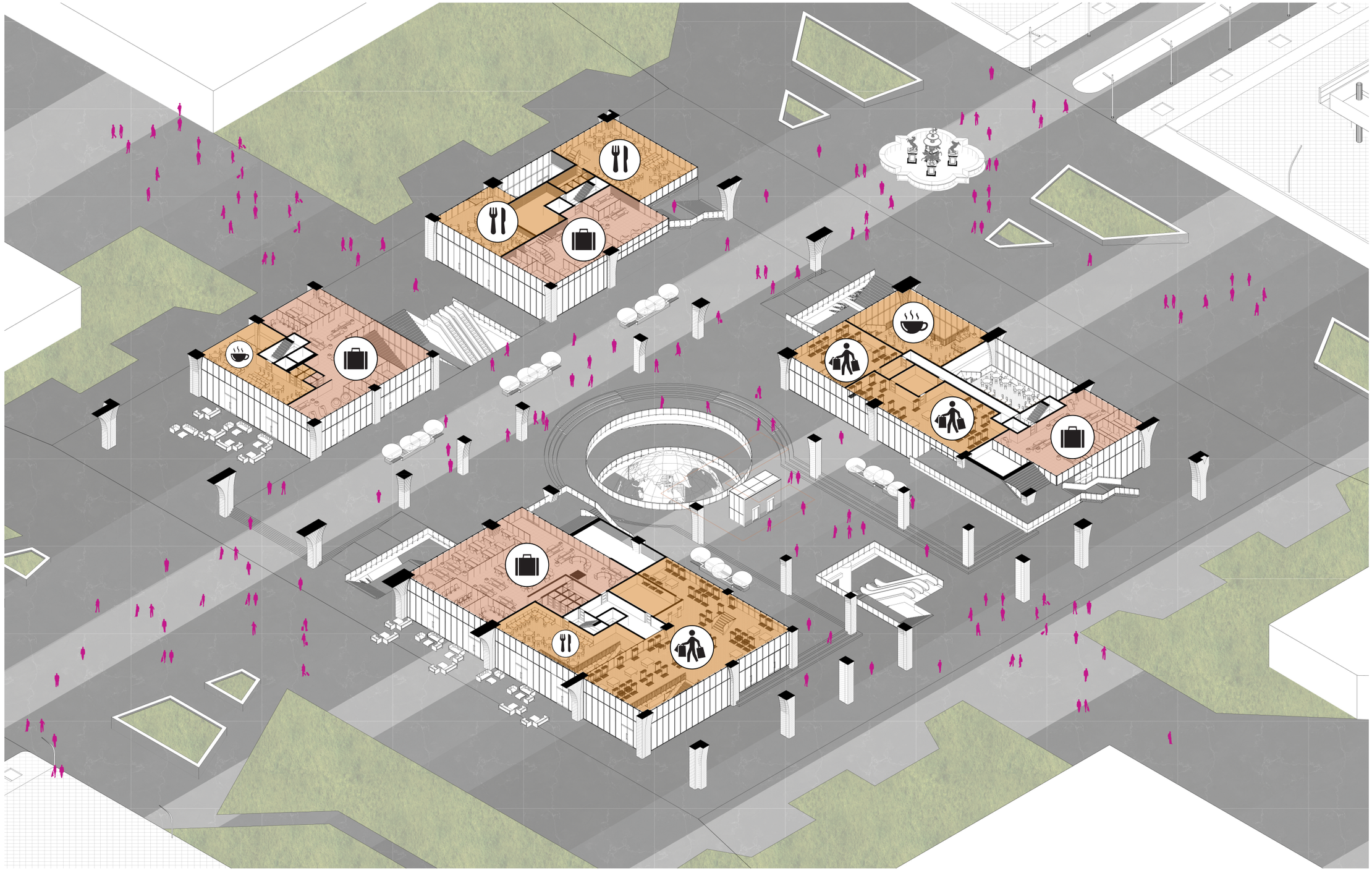


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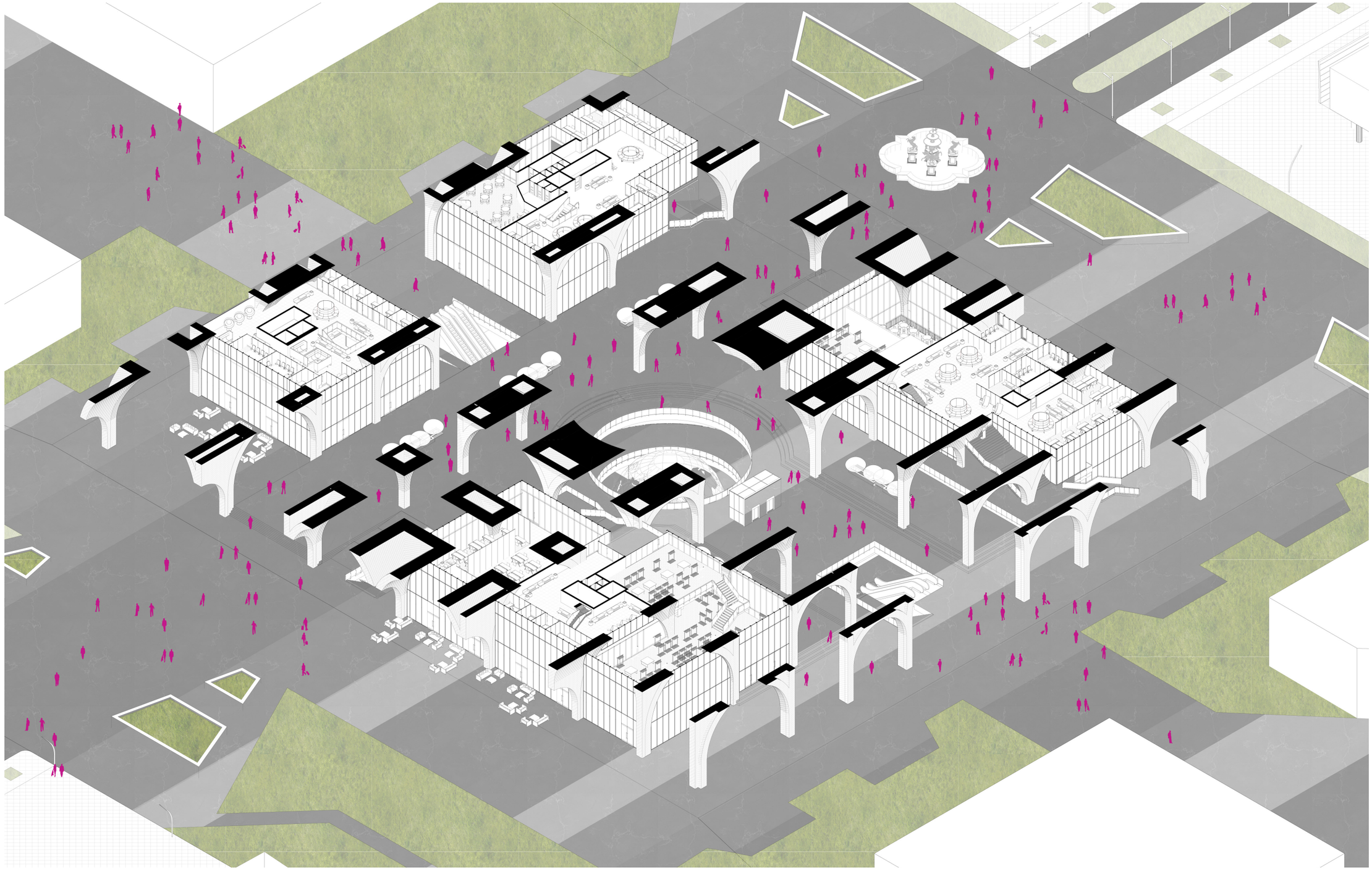
FIRST FLOOR



FIRST FLOOR



SECOND FLOOR



CP

SECOND FLOOR



CP

COMMERCIAL CAFE



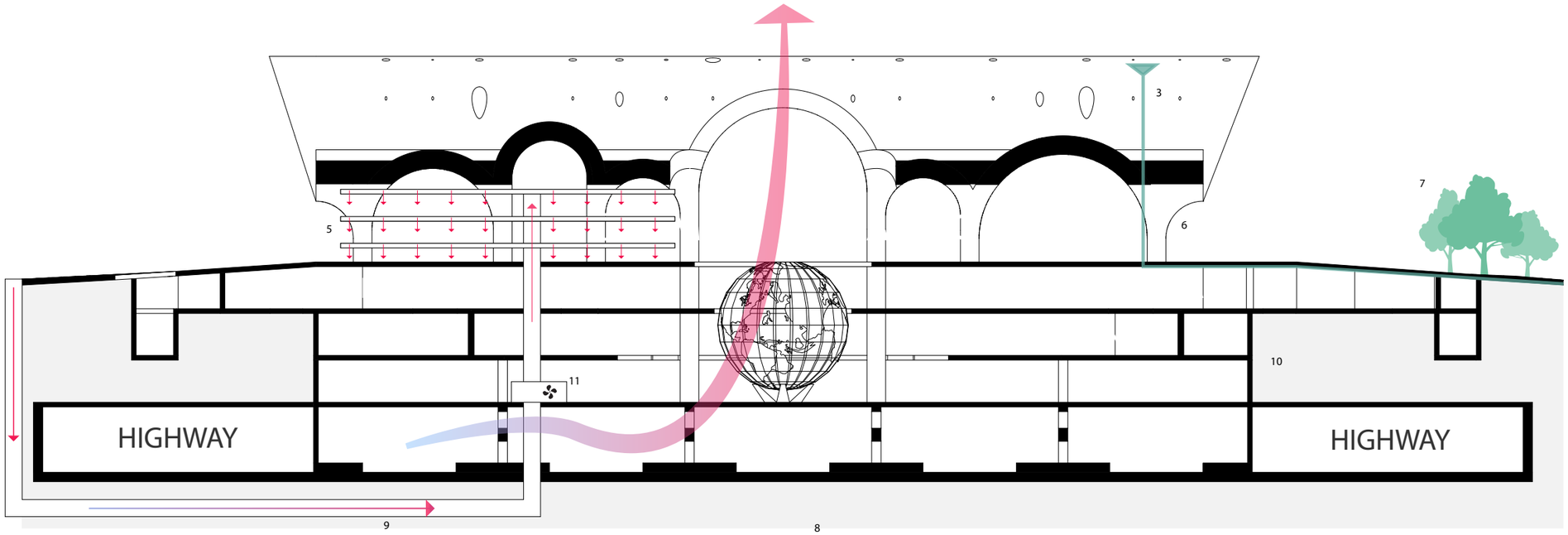
COMMERCIAL SHOPS



CITY LOUNGE WORKSPACES



CLIMATE SCHEME - VENTILATION

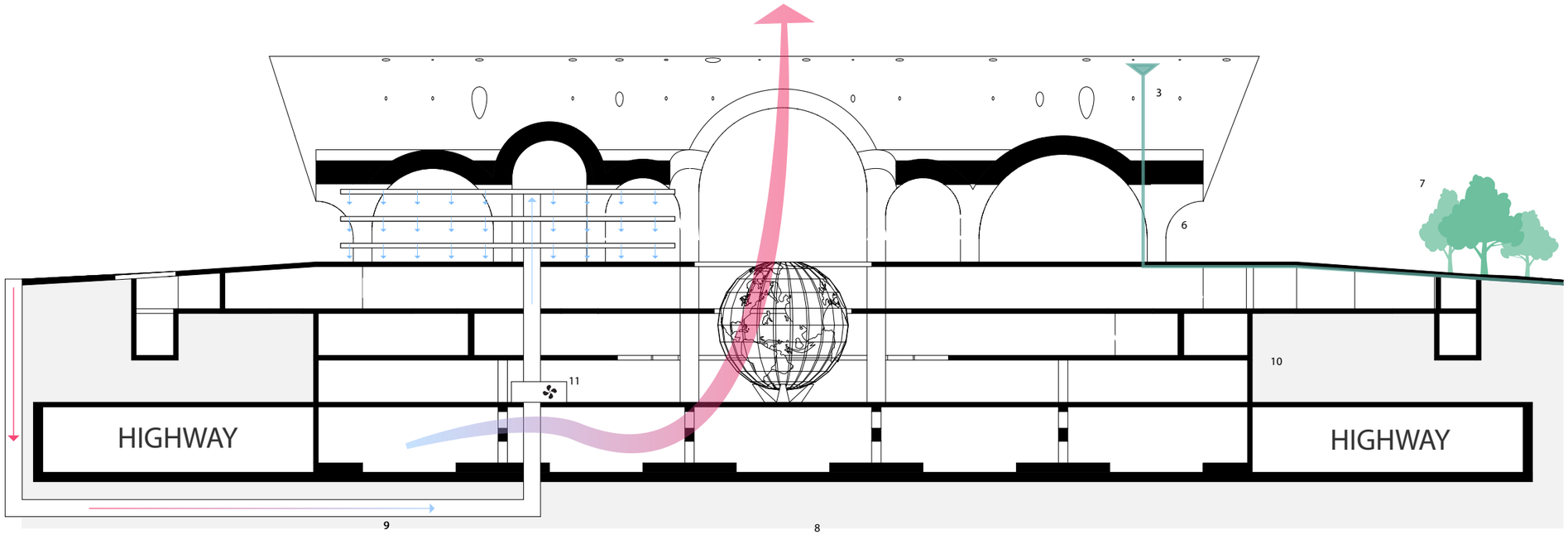


1 Solar panels bricks
2 Winter sun
3 Rain water harvesting roof
4 Under floor heating
5 Mechanically ventilation
6 HR +++ Glass
7 Water harvesting output in surrounding green zones
8 Thermal storage
9 Fresh air pre-heated ground temperature
10 Geothermal heating
11 Heat exchanger

WINTER

CP

CLIMATE SCHEME - VENTILATION

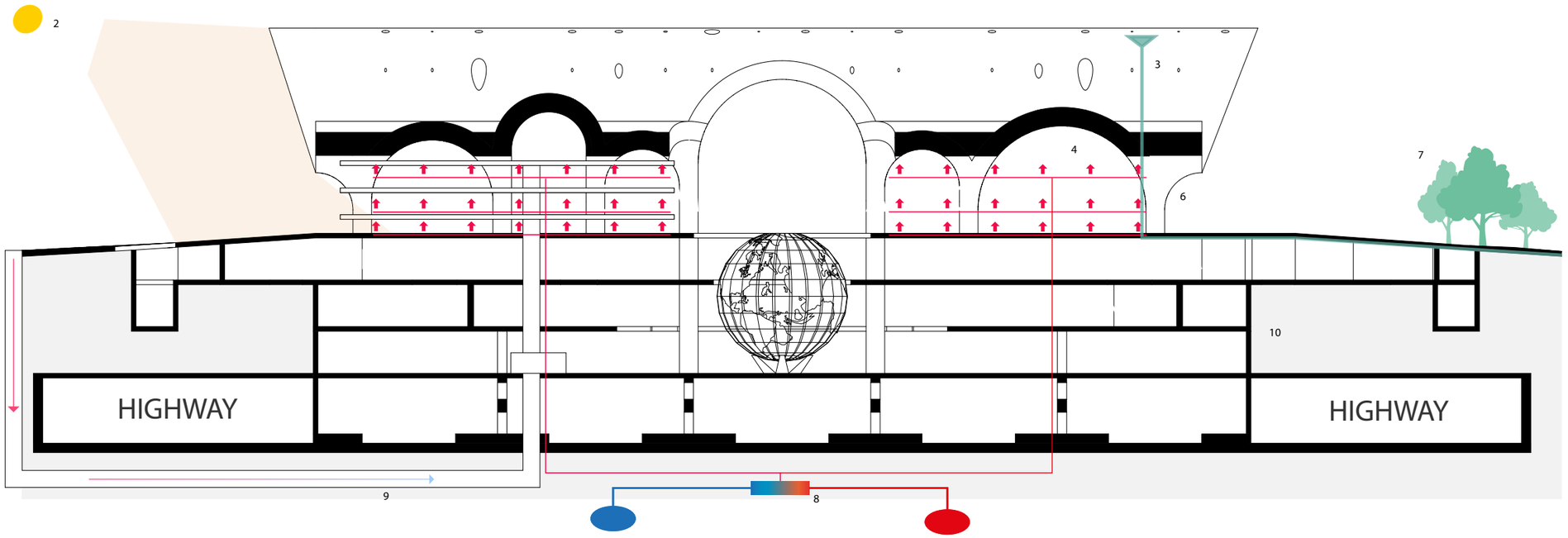


1 Solar panels bricks
2 Winter sun
3 Rain water harvesting roof
4 Under floor heating
5 Mechanically ventilation
6 HR +++ Glass
7 Water harvesting output in surrounding green zones
8 Thermal storage
9 Fresh air pre-heated ground temperature
10 Geothermal heating
11 Heat exchanger

SUMMER

CP

CLIMATE SCHEME - HEATING

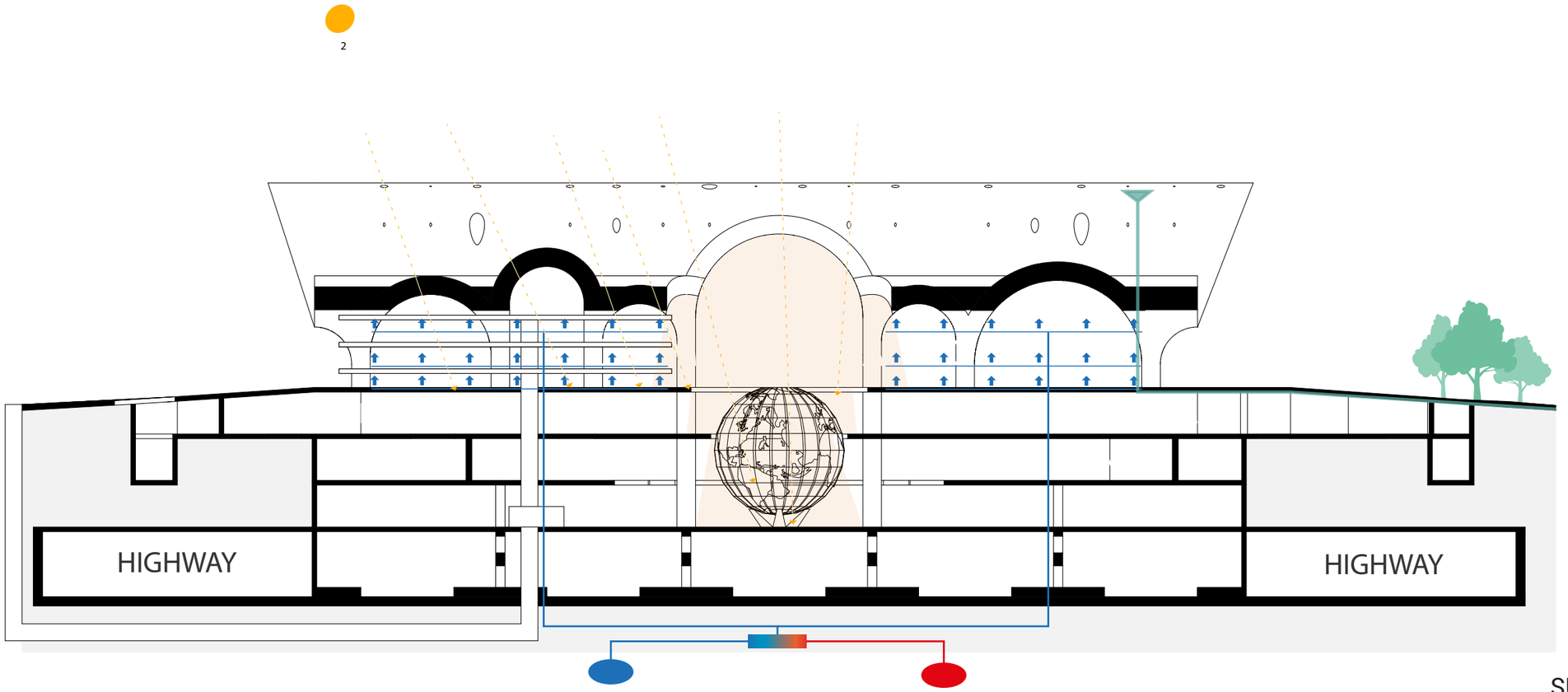


1 Solar panels bricks
2 Winter sun
3 Rain water harvesting roof
4 Under floor heating
5 Mechanically ventilation
6 HR +++ Glass
7 Water harvesting output in surrounding green zones
8 Thermal storage
9 Fresh air pre-heated ground temperature
10 Geothermal heating
11 Heat exchanger

WINTER

CP

CLIMATE SCHEME - COOLING



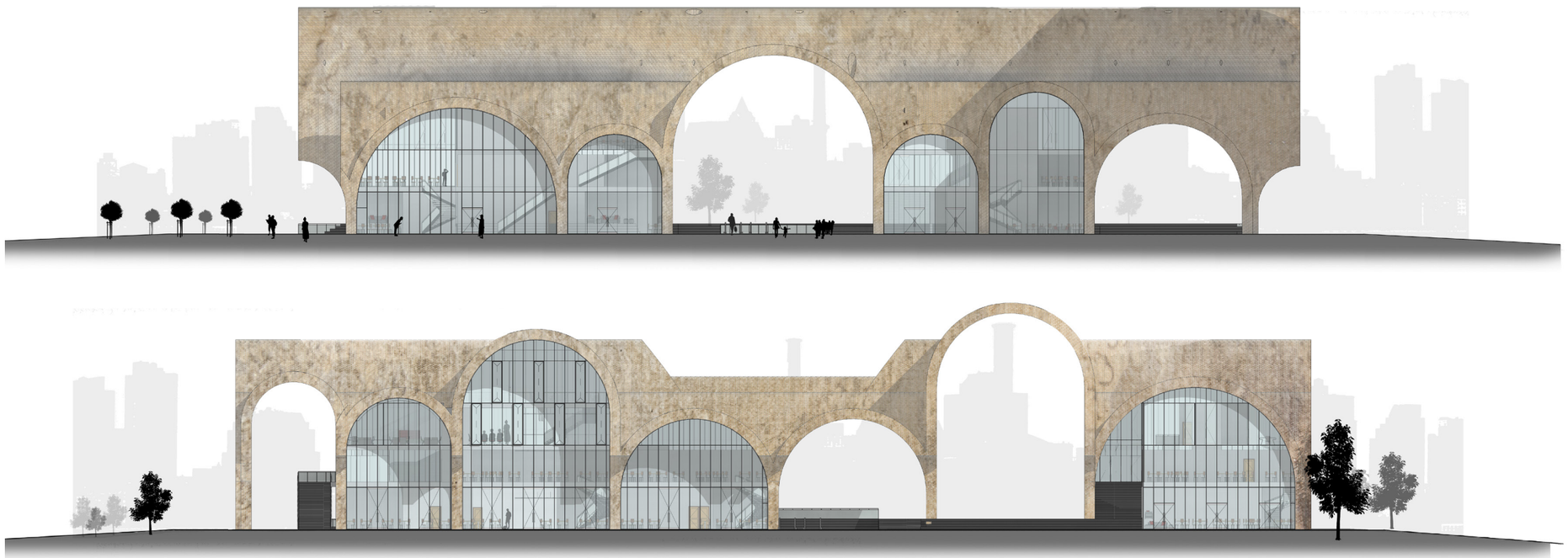
1 Solar panels bricks
2 Winter sun
3 Rain water harvesting roof
4 Under floor heating
5 Mechanically ventilation
6 HR +++ Glass
7 Water harvesting output in surrounding green zones
8 Thermal storage
9 Fresh air pre-cooled ground temperature
10 Geothermal heating
11 Heat exchanger

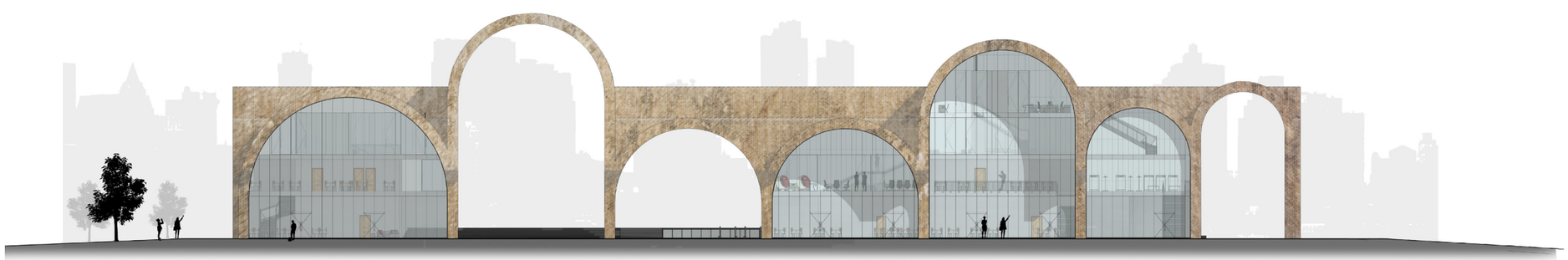
SUMMER

CP

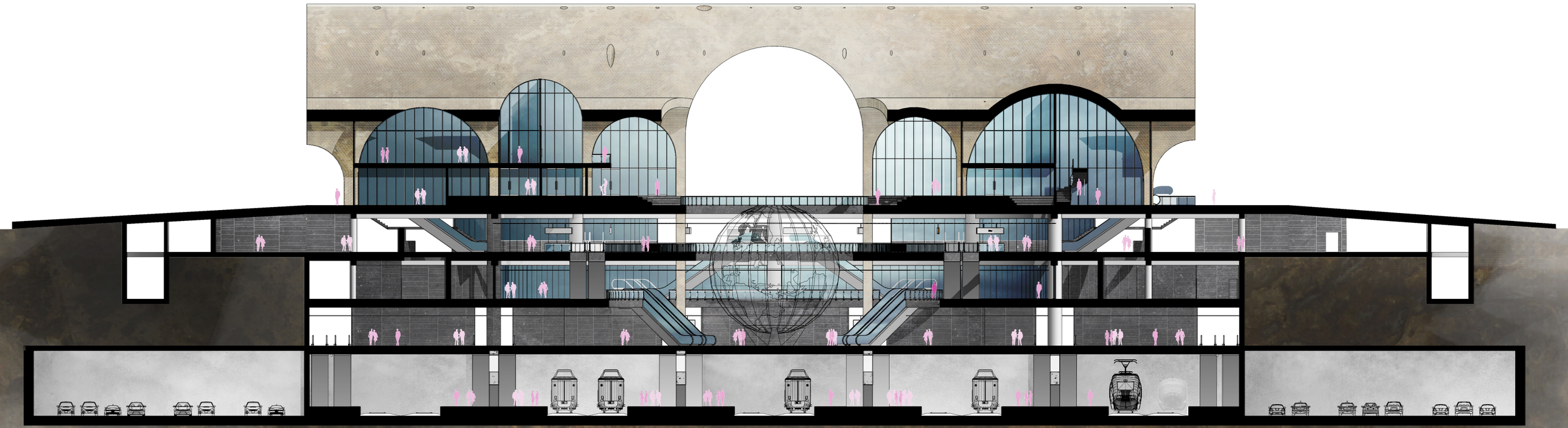
ELEVATIONS



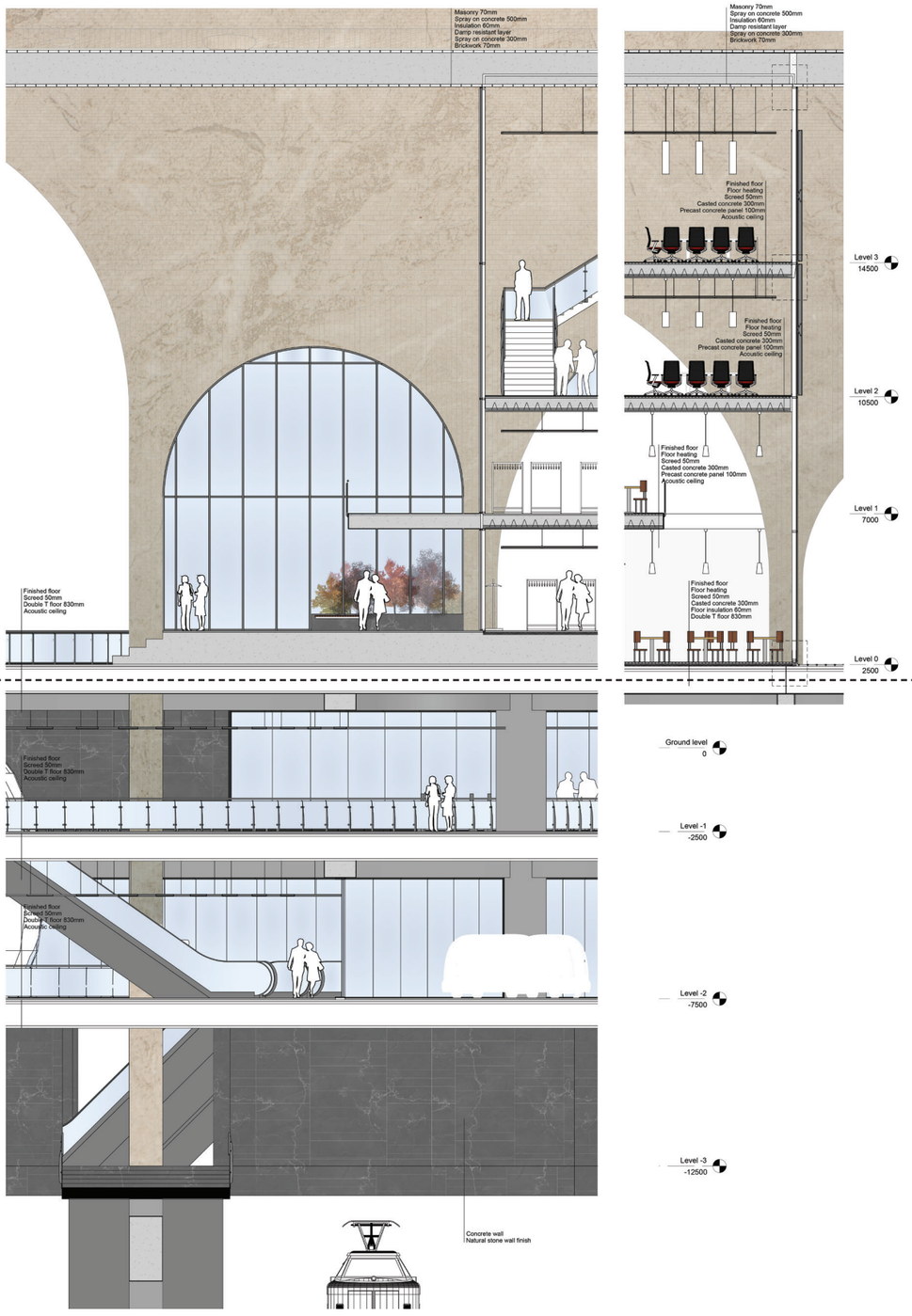




THE TRANSPORT HUB OF TOMORROW

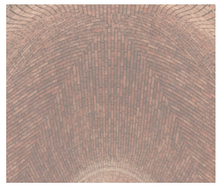


SECTION FRAGMENT





Wood



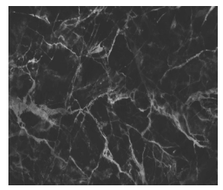
brickwork



Natural stone



Concrete



Black marble

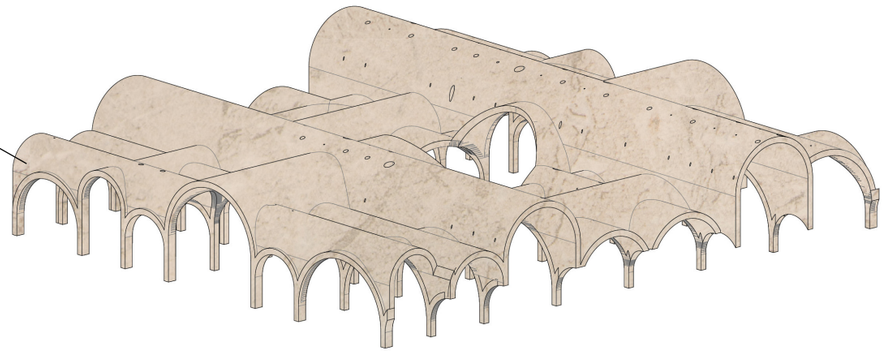


Glass interior walls

CP

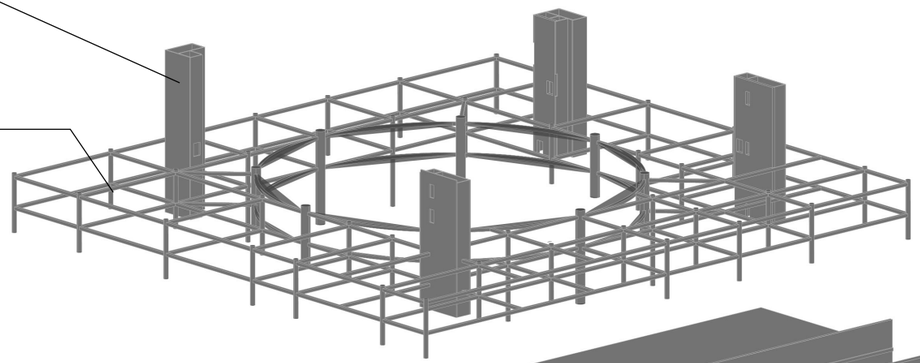
STRUCTURE

Brick & casted concrete arch stucture

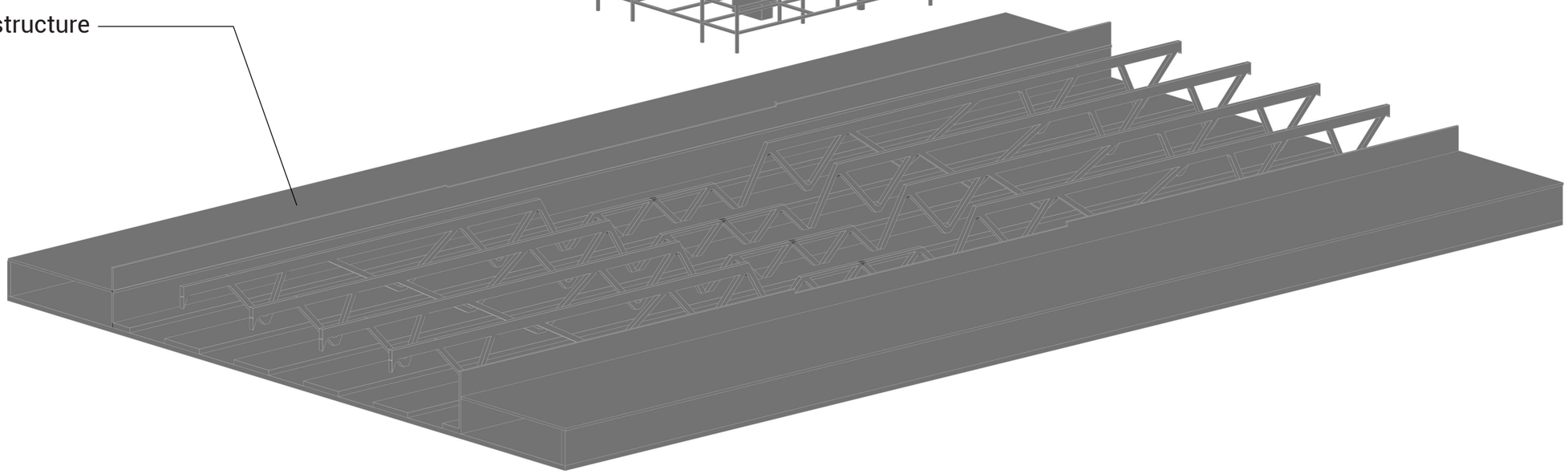


Concrete cores

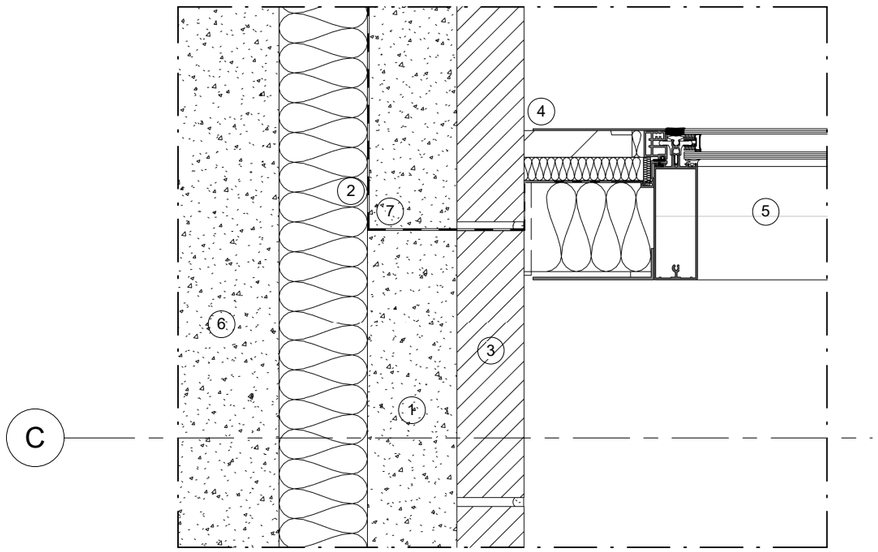
TT floor slabs, concrete coloumn & beam structure



Concrete frame structure



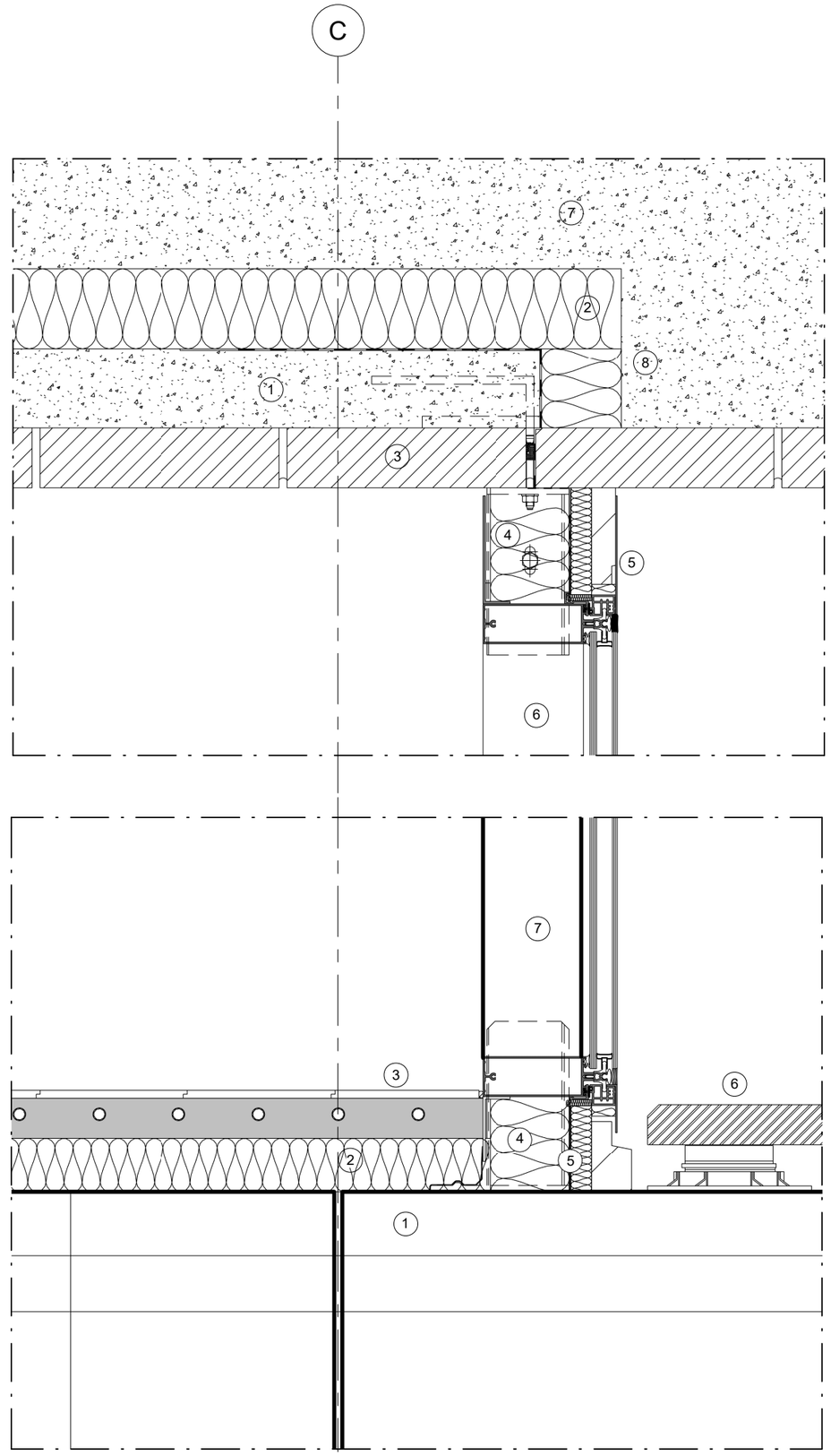
DETAILS



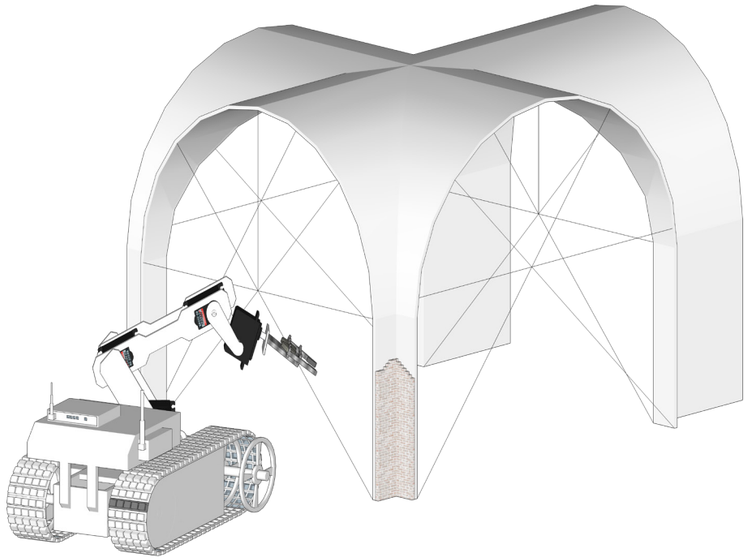
1. Spray on Casted Concrete 300mm
2. Spraying insulation 100
3. Masonry structure (interior finish)
4. Curtain wall finish 100mm
5. Curtain wall System
6. Final Spray on casted concrete layer 500mm
7. Damp resistant layerd concrete layer 500mm

1. Spray on Casted Concrete 300mm
2. Spraying insulation 100
3. Masonry structure (interior finish)
4. Three-way adjustable curtain wall anchor
5. Curtain wall finish 100mm
6. Curtain wall System
7. Final Spray on casted concrete layer 500mm
8. Damp resistant layer

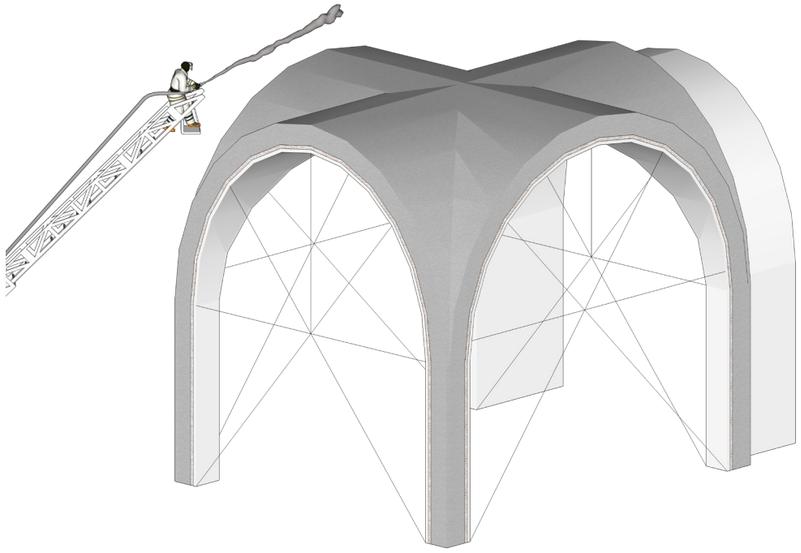
1. TT panel floors
2. Floor insulation 60mm
3. Floor finish 10mm
   Screed with floor heating piping 70mm
4. Curtain wall floor anchor
5. Water proofing
6. Outdoor natural stone tile
7. Curtain wall System



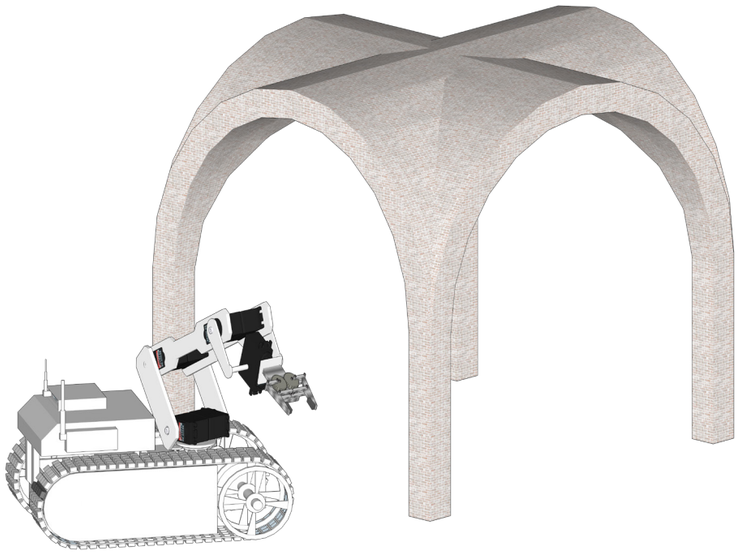
BUILDING METHOD



Phase 1
Brick structure



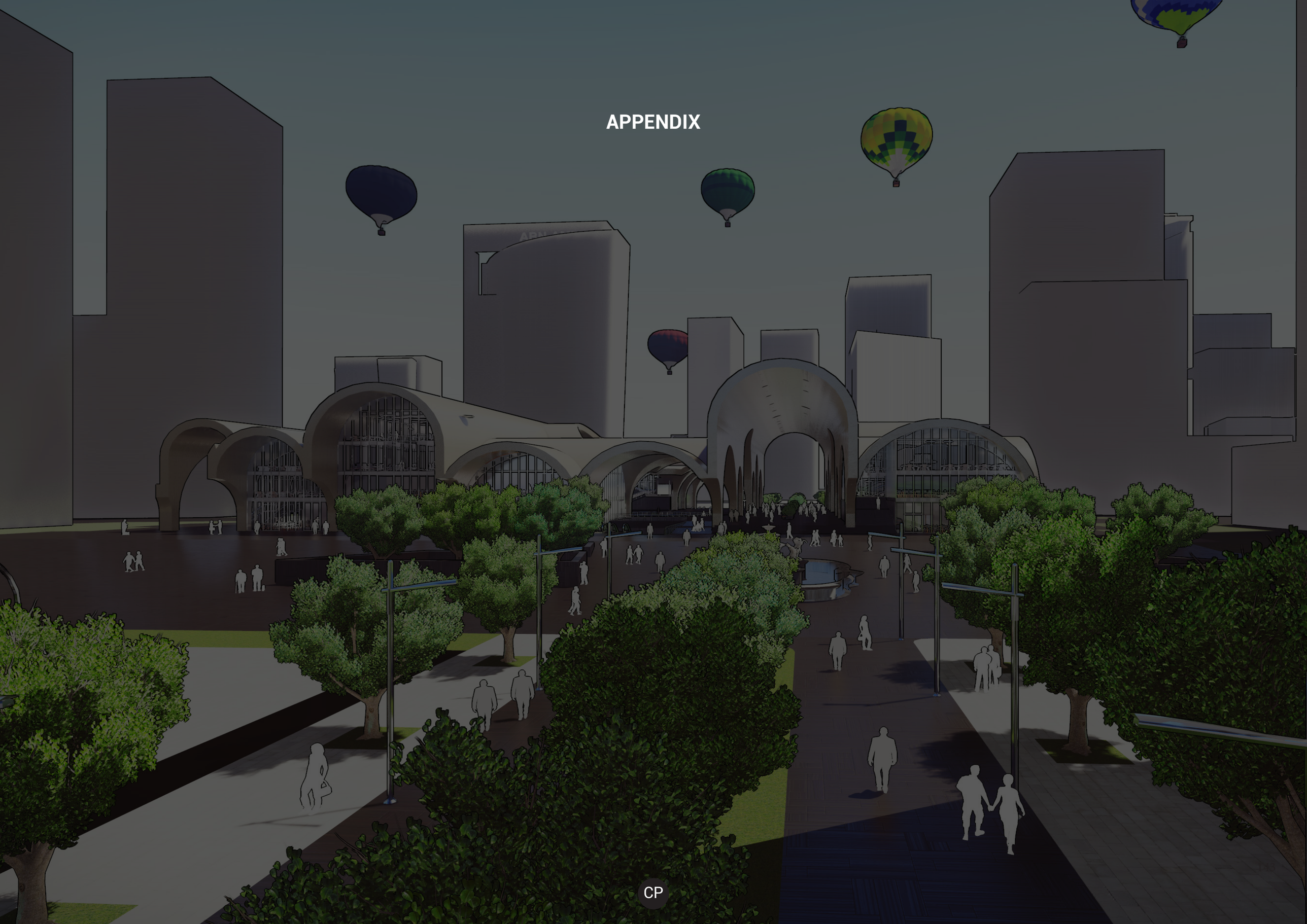
Phase 2
Shot concrete in multiple layers



Phase 3
Final brick layer

BUILDING THAT ACTS AS A FRONTDOOR &
SERVES IT COMMUNITY, DISTRICT AND COUNTRY

APPENDIX



THE TRANSPORT HUB OF TOMORROW

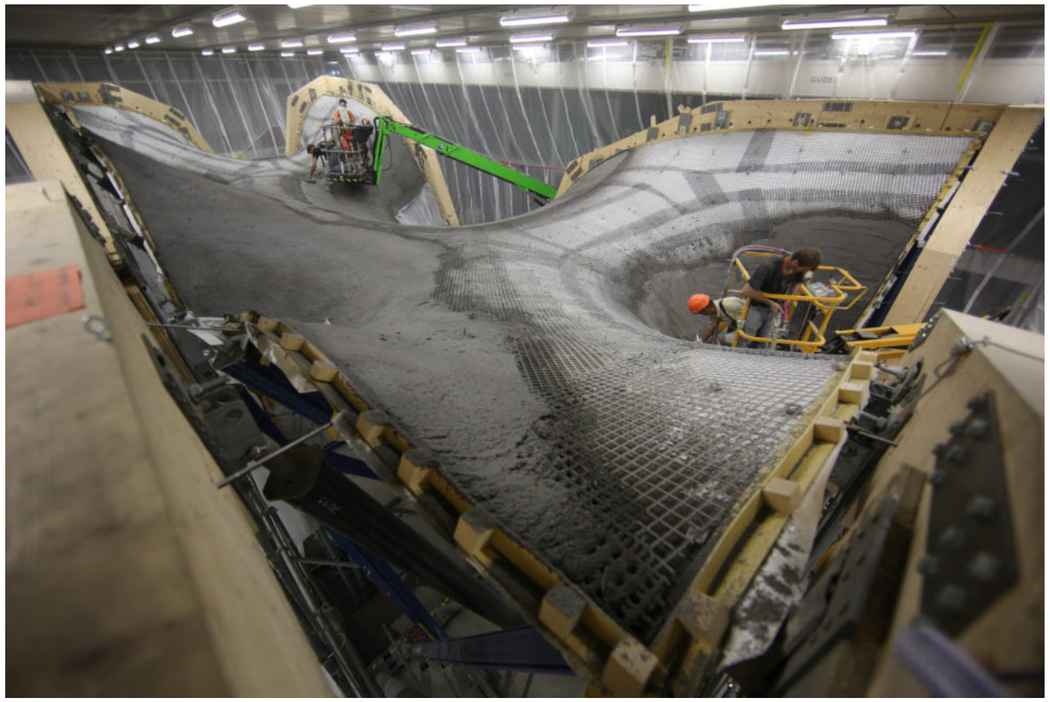


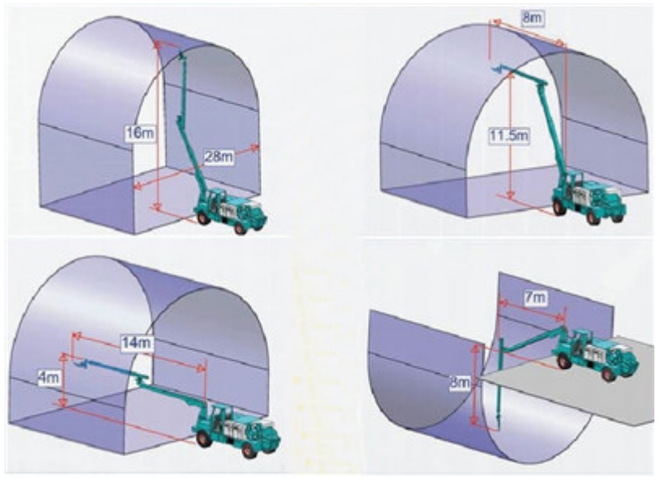
STRUCTURE



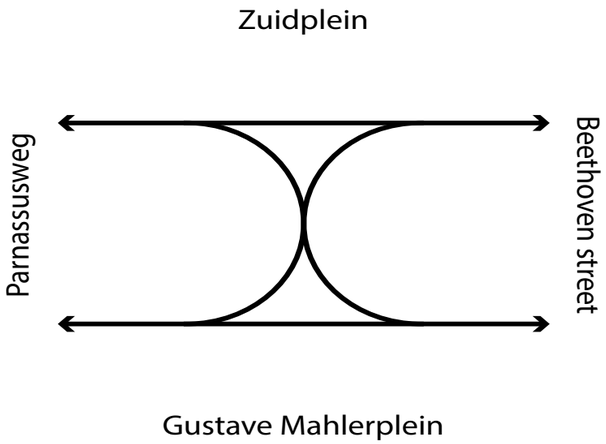


SPRAY ON CONCRETE

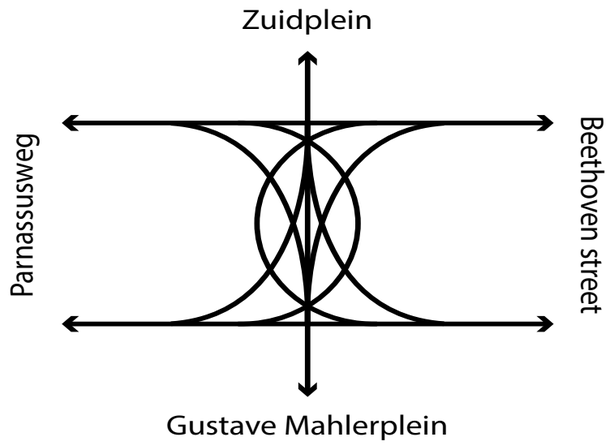




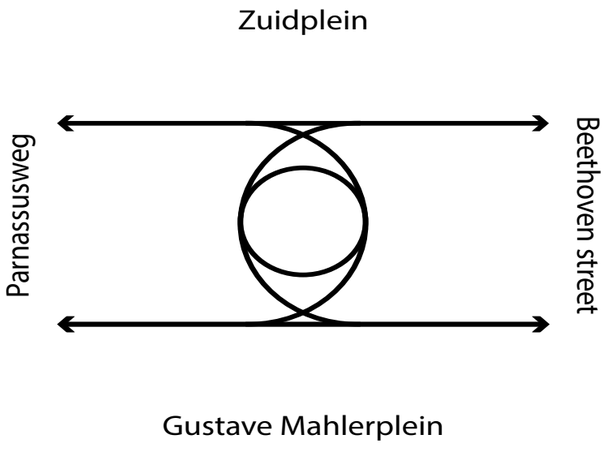
PODS ROUTES

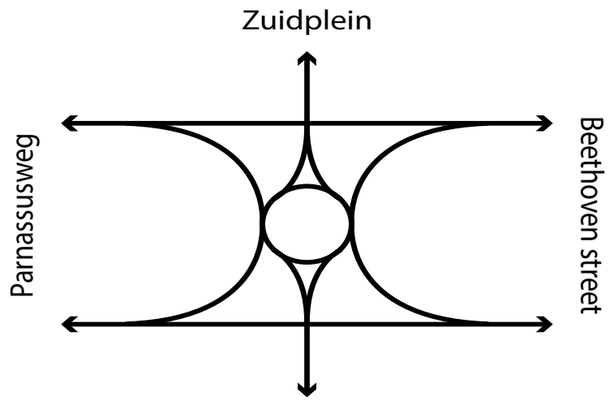


CYCLIST ROUTES



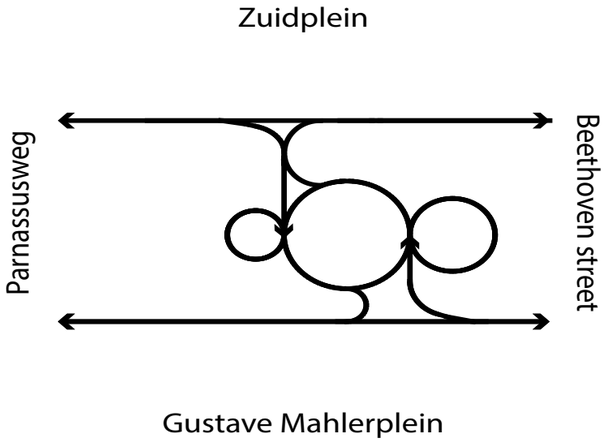
Goal:
• Determine directions of PODS

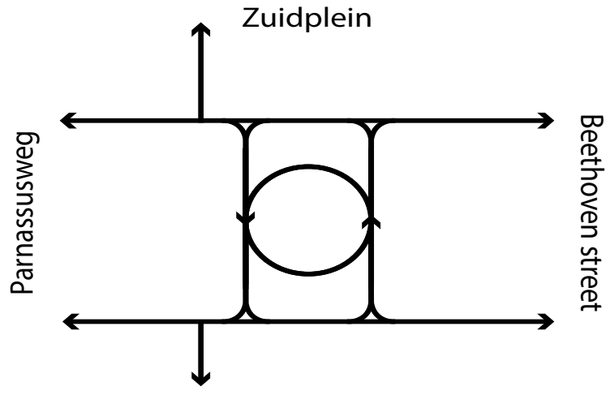




Goal:
• Optimize system
• Less linear system

Issues:
• Strict linear system
• Jammable system
• Too many cross points





Goal:
• Optimize system
• Less linear system
• Not jammable
• Add storage and maintance
• Single direction
• Less cross points

CP

BASIC IDEAS



CASE STUDY: STATIONS AS DESTINATIONS



Rail stations will become destinations and lifestyle centres that further blend our commute with our lives. People are increasingly using stations, not just as places to catch a train, but as centres for leisure and business. Of nearly a million weekly visitors to London's St Pancras station, a quarter come to eat, drink or shop rather than take a train. This trend will continue as stations become places of experiential retail and also provide facilities such as gyms, hairdressers, meeting spaces and offices.New York's Grand Central Terminal is also a destination in its own right. Some features of the station include the ceiling mural above the vast main concourse, the famous Oyster Bar, and The Campbell Apartment, an elegantly restored cocktail lounge. The stations also has delis, bakeries, newsstands, a gourmet and fresh food market, an annex of the New York Transit Museum, and more than forty retail stores.

(Top) London's St Pancras station
(Inset) New York's Grand Central Terminal



(Top) Arup provided infrastructure design for the world-first Ultra PRT Heathrow pod. (Inset) The pods in Milton Keynes will be booked using a smartphone app and will be equipped with touchscreens.

CASE STUDY: PERSONAL RAPID TRANSIT (PRT) PODS



PRT systems, like the one in use at Heathrow Airport in London, may find more applications in the future. PRTs can be powered by clean energy, and some proposed systems use magnetic levitation to connect vehicles to a high-speed guideway, eliminating vibration, pollution, noise and the usual wear caused by moving parts.

Arup, in collaboration with Transport Systems Catapult, Cambridge University and the Automotive Council, is working on a futuristic autonomous pod system for the city of Milton Keynes. The scheme will see autonomous pods, large enough to accommodate two people, run on special pathways in the city. It is envisioned that by 2017 one hundred fully autonomous pods will run alongside people and employ sensors to avoid obstacles. The vehicles would travel at a maximum speed of around 20km per hour and would allow passengers to check emails or read newspapers while travelling to their destination.



CASE STUDY: VIRTUAL SHOPPING WALL IN METRO STATION



Virtual supermarkets could become more common especially in metro stations. In 2011 in Seoul, South Korea, Homeplus (which is 95% owned by Tesco) set up the first virtual shop along the platform of the Seonreung subway station, displaying over 500 of its most popular supermarket products. Smartphone users scan the QR code of a product to order it. If the order is placed before 13:00, Homeplus will deliver the shopping the same day. After a trial in the Shanghai metro, China's biggest online retailer Yihaodian plans to open 1,000 virtual supermarkets in the country. As Smartphones or other smart devices become ubiquitous in the future, the opportunities for e- and m-commerce will continue to grow. There may even be virtual shopping walls inside the carriages themselves.

CASE STUDY: STATION OFFICE SUITES



Regus, the world's largest provider of flexible workspaces, has drop-in satellite work places at major stations around Europe, such as those at Luxembourg Central Station, Amersfoort Station in the Netherlands, and Geneva Station in Switzerland. The Regus station network offers a variety of facilities for the mobile professional worker, making working in noisy public areas a thing of the past. Members can use the business lounge or a private office to meet, email, print, and conduct business. These spaces can be booked at short notice and on a flexible basis.

CASE STUDY: RESEARCH FRONTIERS INC. PATENTED SPD-SMARTGLASS TECHNOLOGY



SPD-SmartGlass is Research Frontiers' patented electronic solar control glazing, which provides instantly customisable shading fully controlled by the passenger. It can be operated individually to create the effect of a shade being raised or lowered to precisely control incoming heat and glare. The light-control technology allows passengers to instantly, precisely and uniformly control the shading of glass or plastic. The smart glazing enhances passenger comfort and also reduces maintenance costs and saves energy by reducing climate control usage.

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