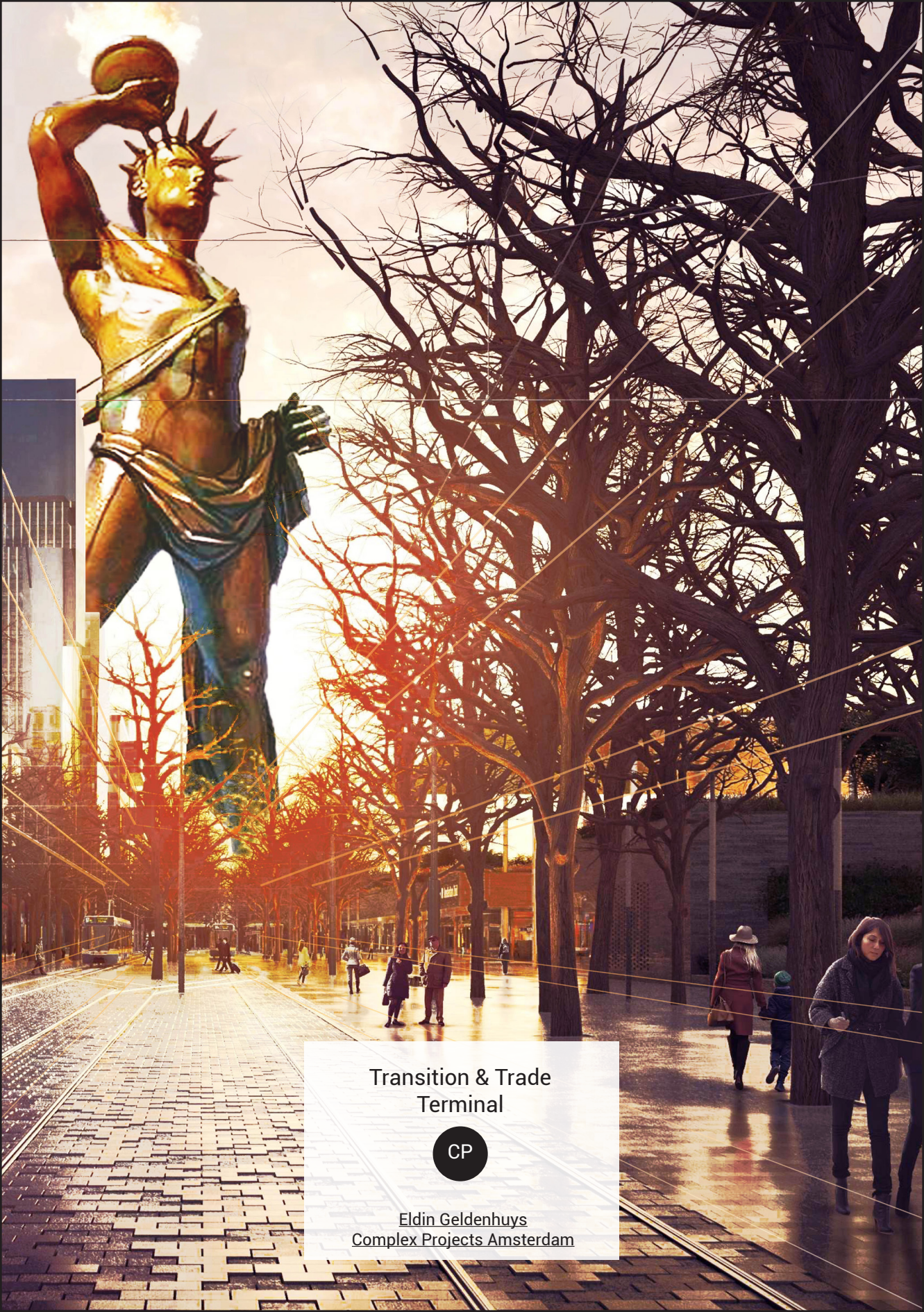

Transition & Trade Terminal

CP

Eldin Geldenhuys
Complex Projects Amsterdam

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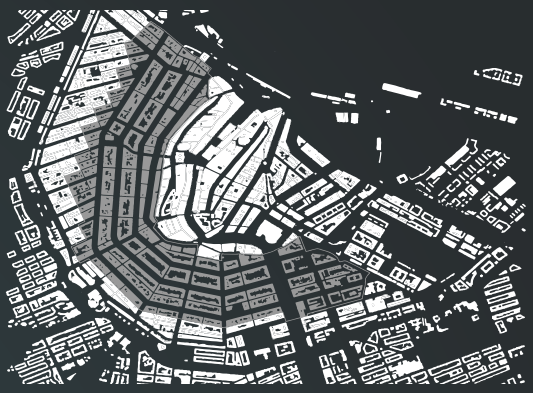
AMSTERDAM
THE GLOBAL DISTRICT

ELDIN GELDENHUYS CP COMPLEX PROJECTS

AMSTERDAM INTERVENTIONS

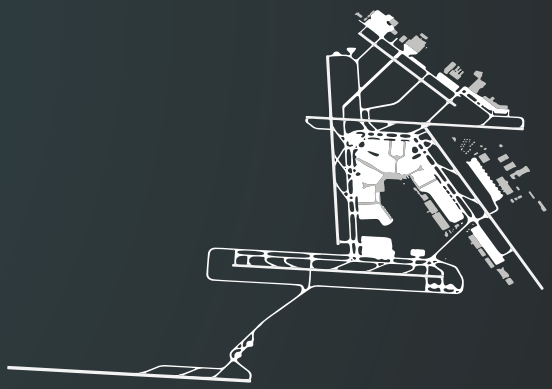
The extremely expensive and large-scale development proceeding in Amsterdam south alongside the Zuidas is not unknown to the city of Amsterdam. In the past Amsterdam has made courageous and gigantic infrastructural interventions to strengthen international competitiveness within a worldwide environment where spatial economic conditions are constantly changing. Zuidas' strive to become an international location is comparable to watershed developments of the "Grachtengordel" in the 17th century, the 19th century North sea canal as well as the Schiphol airport development in the 20th century.

17th century development of
“Grachtengordel”

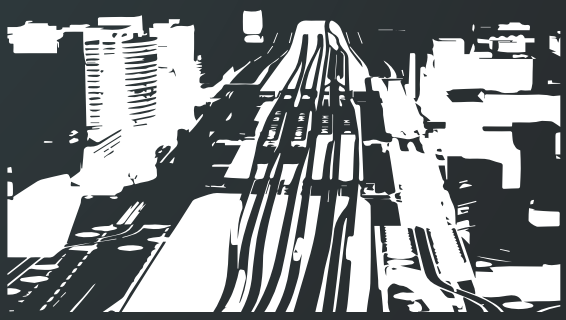


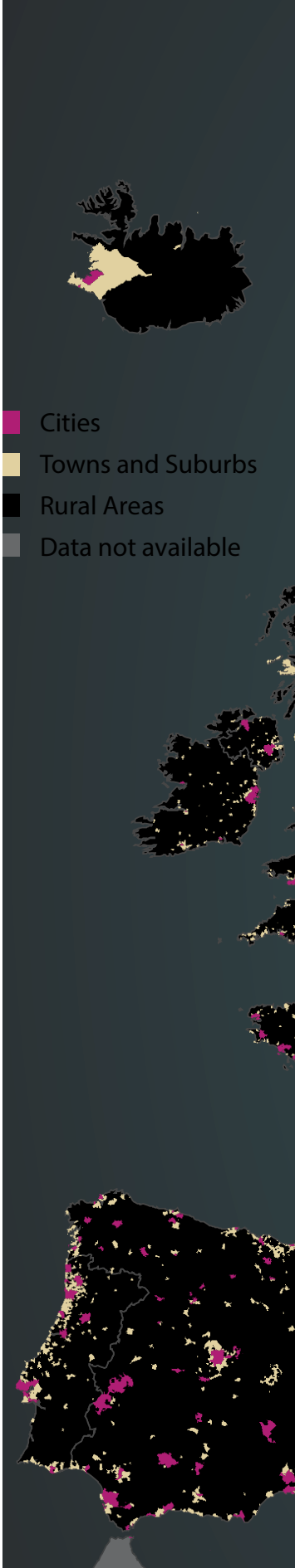
Excavation of 19th century
North Sea Canal

Development of Schiphol in the 20th century

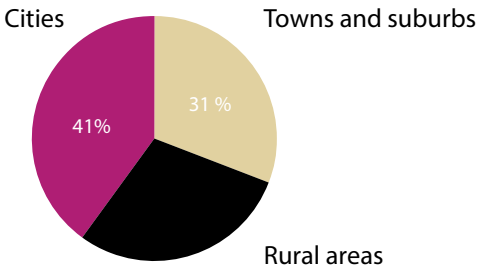


Creation of Zuidas as 21st century
international city center.

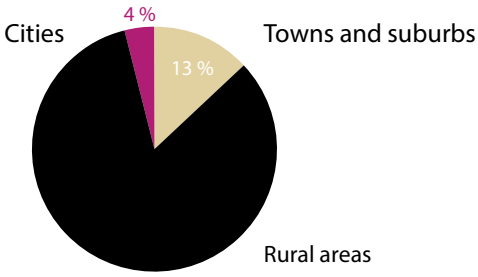




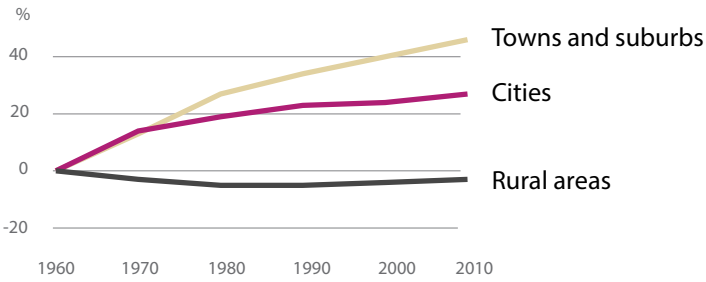
72% of the EU population lives in urban areas...

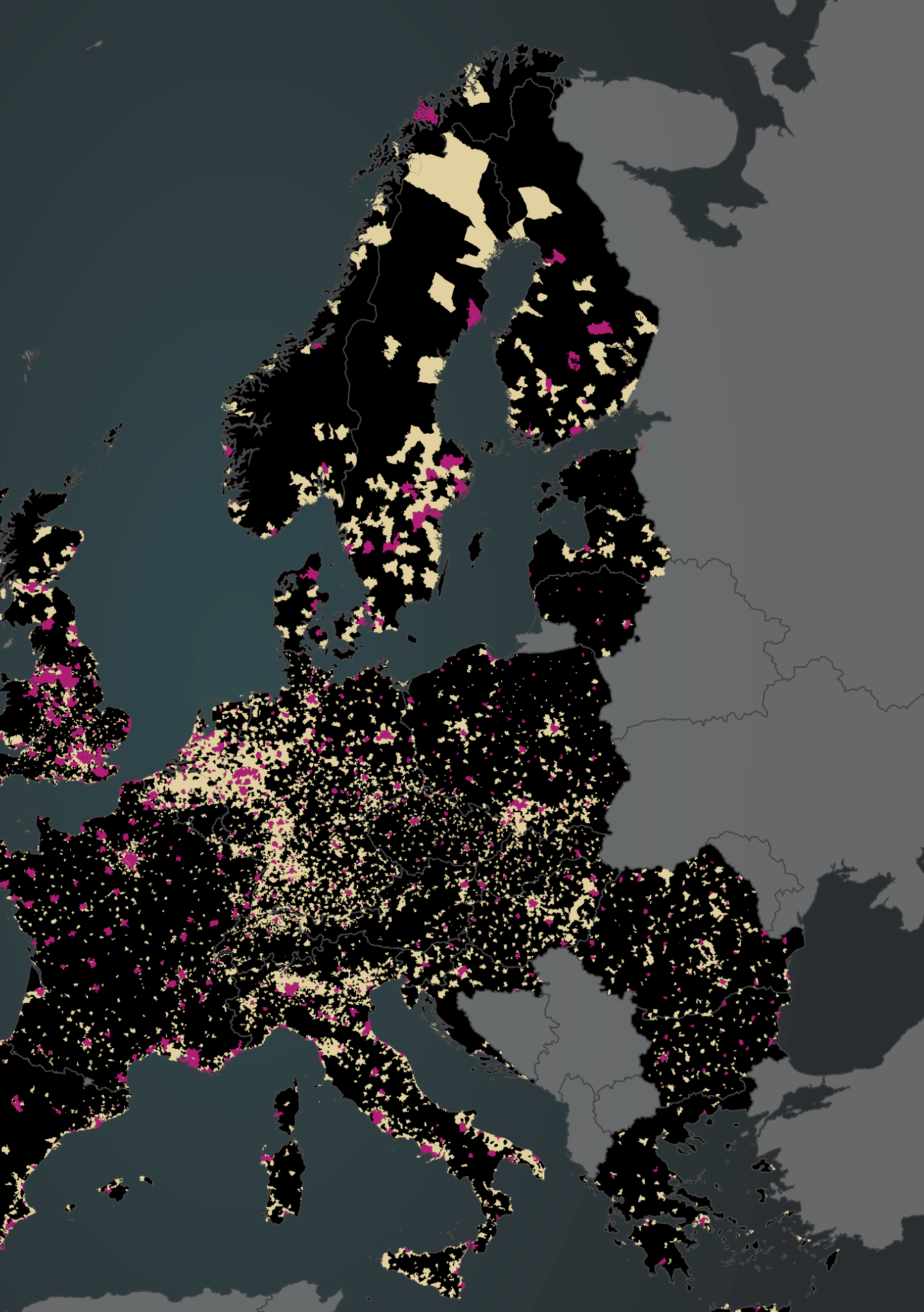


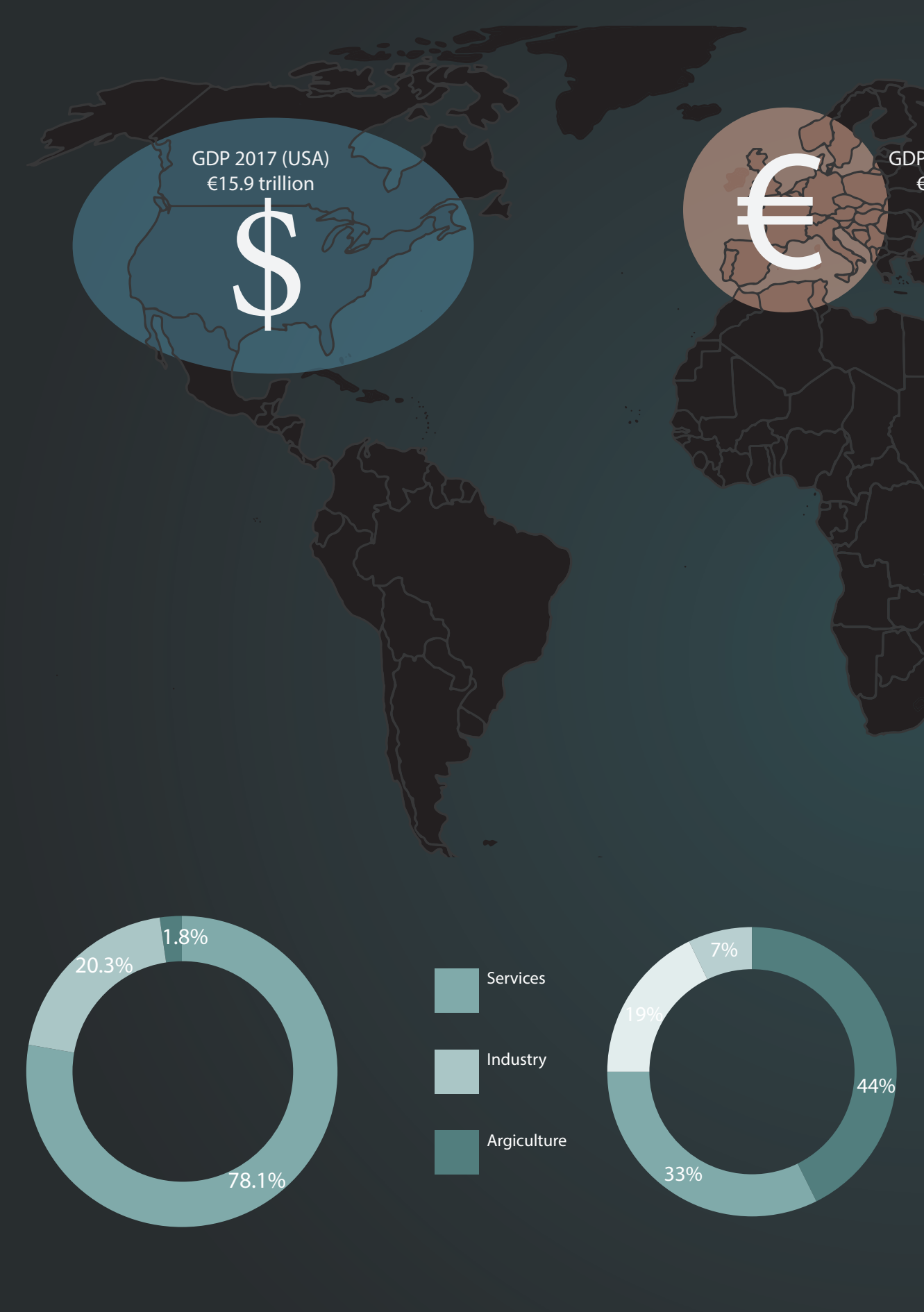
...on 17% of the land area.



The urban population is growing.






GDP 2017 (USA)
€15.9 trillion
$
€
GDP
€
1.8%
20.3%
78.1%
Services
Industry
Argiculture
7%
19%
44%
33%

Industry

Other Services

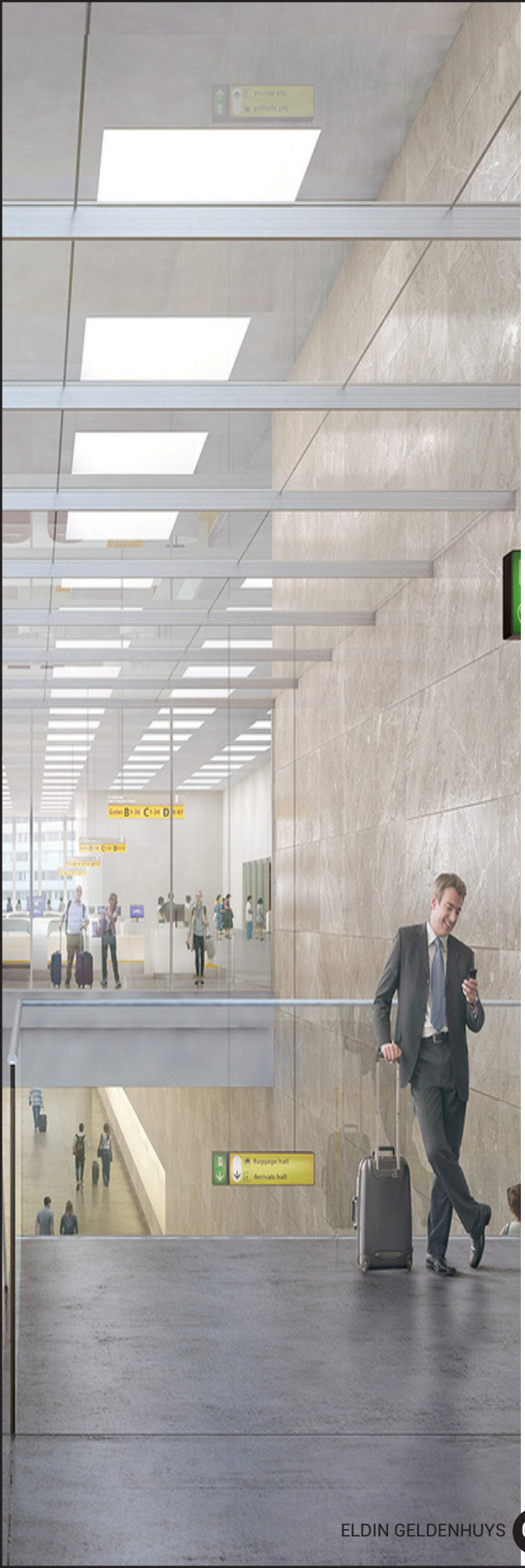
Commercial Services

Non-commercial Services

WOLRD ECOMONY

The European Union is widely accepted as the regional powerhouse of global economy. Being densely populated it hosts the top five European business centres. The GDP of the European Union is estimated at €17,3 trillion.

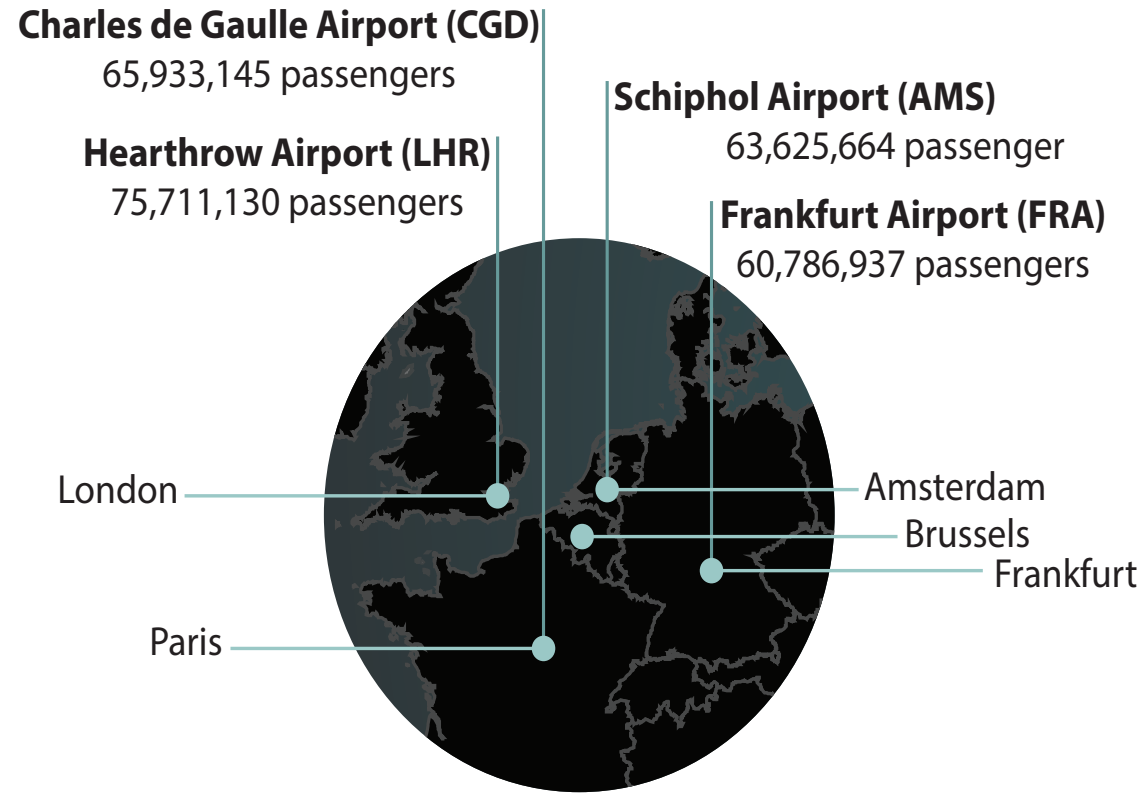
Within the context of the European economy, the aperous slice of the proverbial pie, one which depends grossly on foreign trade. Three major industries contribute to the economical structure of the national economy. The services sector is weighing in at a whopping 78.1% of the GDP as well as providing jobs to 80% of the workforce. The industry sector contributes 20,3% to the GDP employing 18% of the workforce. The agriculture sector trails by way of its 1.8% to the total GDP with a workforce consisting of 2% of the total man power involved in the economy of Netherlands.

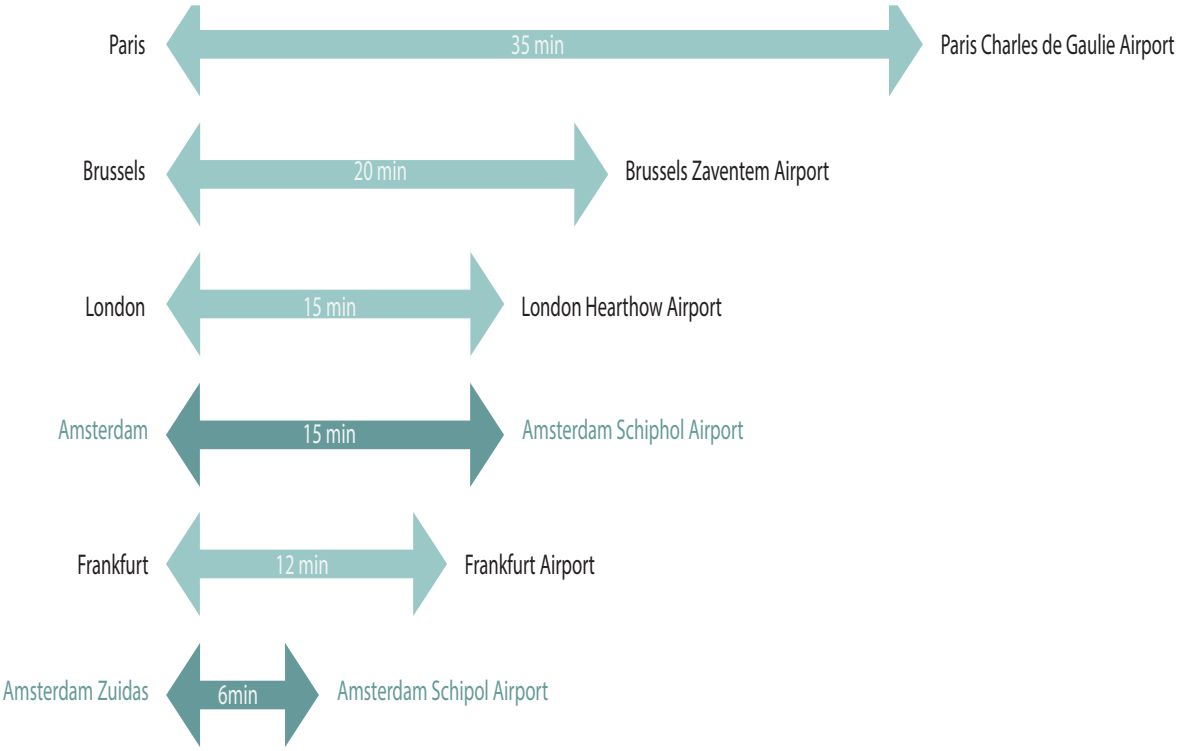


EUROPE'S CITY CENTRES AND AIRPORTS

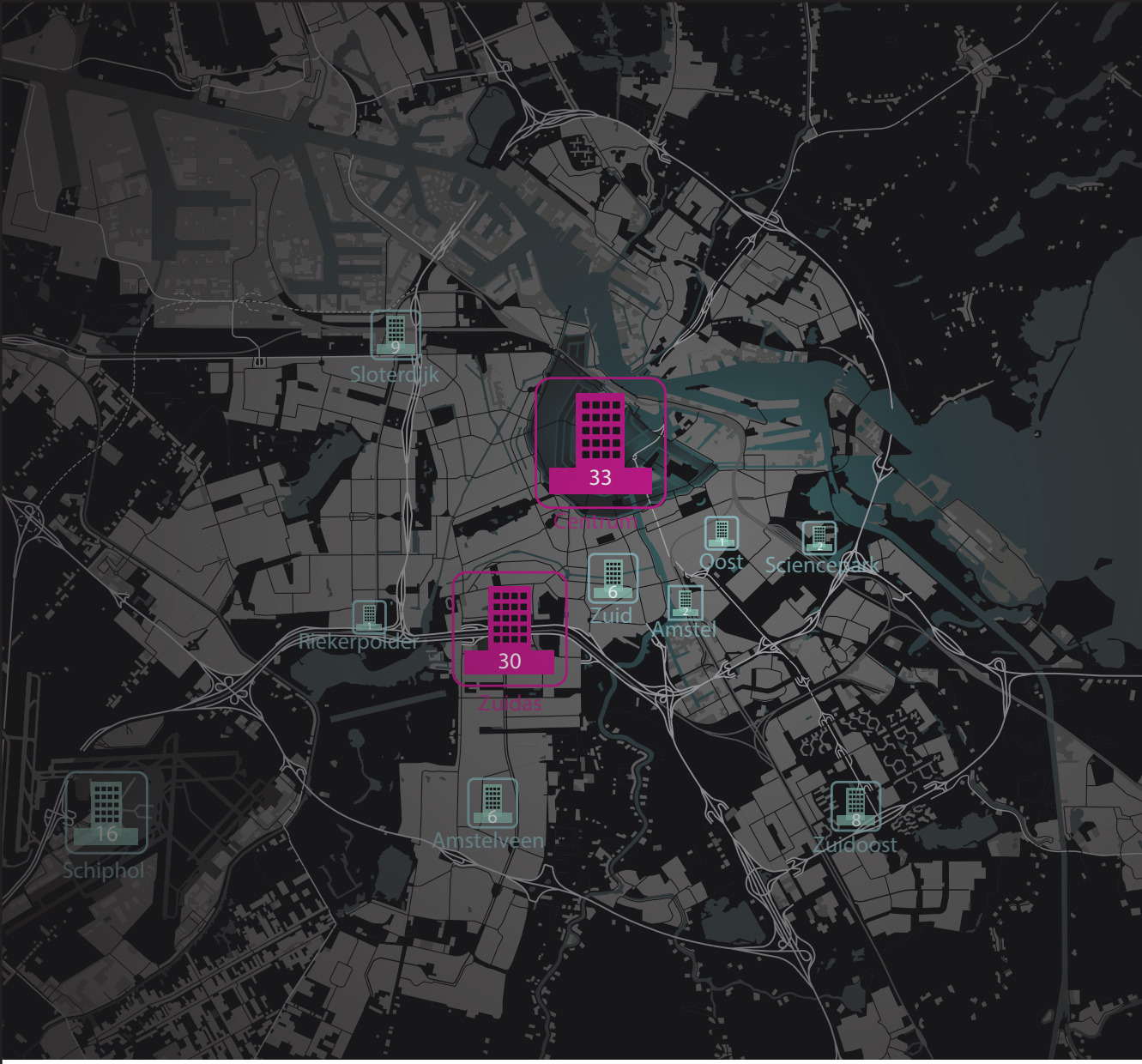
Thus qualitative interaction within and exchange of information and goods rather than a monotonous exercise of unit production has exerted itself within the European economy of Europe, applying specially to the Netherlands Therefore a simple matter to deduct your proximity to major hubs of trade and information will be of crucial importance. It will apply without indiscriminately to any type or form of businesses, from a small scale office to headquarters of a multinational cooperation. The Zuidas, located between Schiphol, the 4th largest airport of Europe, and the city centre of Amsterdam represents the perfect example of a global business location. Zuidas caters insolently for all criteria set out Aregarding the location of a major property investment. Well placed to be connected by all modes of transport to any destination on the planet not with standing its embed dement within the culture of a small historical town. Upon completion of this business property node the Zuidas should have integrated with the city of Amsterdam. Being linked through inter twining highways and high speed railroad systems connecting Amsterdam city centre directly with this macro development it will bridges the existing segmental 'rift' between two stretches of city infrastructures.

To reinforce the full potential of the Zuidas location whilst serving future needs, the existing infrastructure must be improved dramatically. Frequency and movement of passenger units will increase drastically, approximately five times the rate presenting itself to date. This enormous influx of people will require infrastructural support by way of additional highway lanes as well as multiple railroad tracks network.





Travel time from airport to city centre



INVESTING IN ZUIDAS

Major property developments are on many occasions funded through private enterprise. However the involvement of government related property investments had increased thirty times over during the past twenty five years, as for private investment showing an increment of five times during the past quarter of a century. In line with the latter the Dutch Government financing the lion share of the infrastructure located in the Zuidas at present providing a catalyst for future private funding. It is envisaged that by 2030 the public funding will be one third of the total investment in the Zuidas. Strengthening the argument that property funds developed a trust towards this location in terms of pure dividend levels as well capital growth.

With the excellent infrastructure implemented in Zuidas increasing numbers of dutch and global entities and are relocating to the 'financial mile district' securing a prominent property footprint within this prime property location.

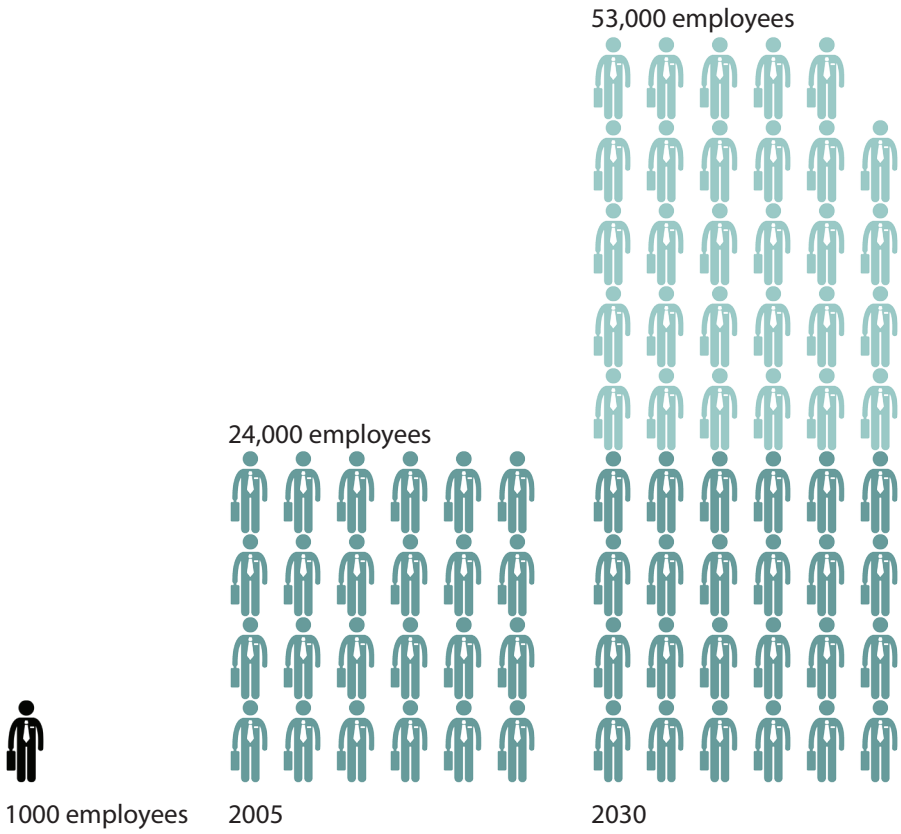
Although a mixed bag of property applications were envisaged initially or the Zuidas limited square meterage of residential space has been developed mainly due to as predicted due 2008 recession with many property investors opting for safe havens by investing in office related properties. Yet more private investments are realized as planned, functional diversity will inhabit all zones of the area. Top European brands, stylish restaurants and exclusive cafe's and shops scattered entertaining office workers during lunch breaks and after hours.

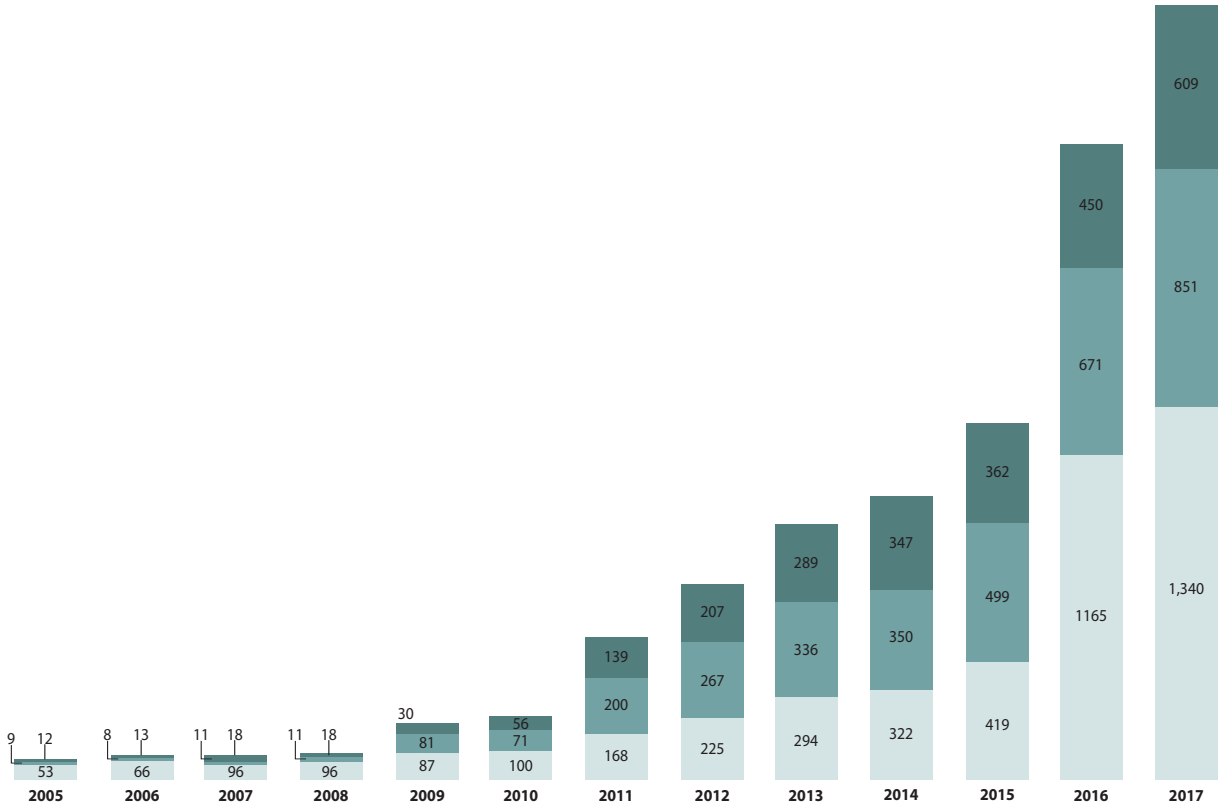
Zuidas located minutes away from both Schiphol international airport as well as the inner city of Amsterdam strive to become more than an economical

hub congested with business and offices space. In access of 700 companies, many of them leading brands are already established in Zuidas, with many more to follow. The two main employee initiators remain offices and services. Between 2005 and 2030 it is estimated employment to increase from 29,000 jobs to 53,000.

At present Zuidas urges towards the development of multiple housing projects. 200.000m2 dwellings have already been built with another 600.000m2 to be realized within the near future. In addition to approximately 1500 newly constructed dwellings around 7,000 homes are to be constructed by 2040. City authorities are determined on the development of approximate 1,000,000m2 towards leisure and musea.

New dwellings and services will target local and international citizens. With Amsterdam's population growing by 15,000 inhabitants each year, two-thirds of Zuidas' inhabitants are at present of an international flavour. The population has grown exponentially over the past 12 years and future growth is expected to even surpass historical numbers. The compilation of the current Zuidas inhabitant is quite equally divided between dutch, western internationals and non-western internationals. This fortuitous diversity of population adds charm and uniqueness to the Zuidas as a global hub.

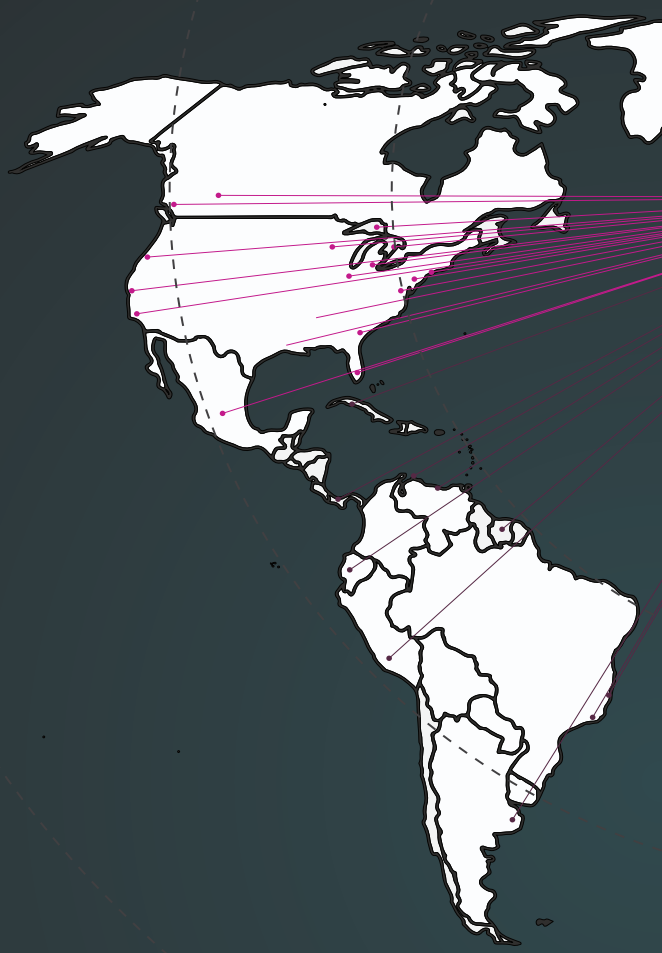




ELDIN GELDENHUYS CP COMPLEX PROJECTS

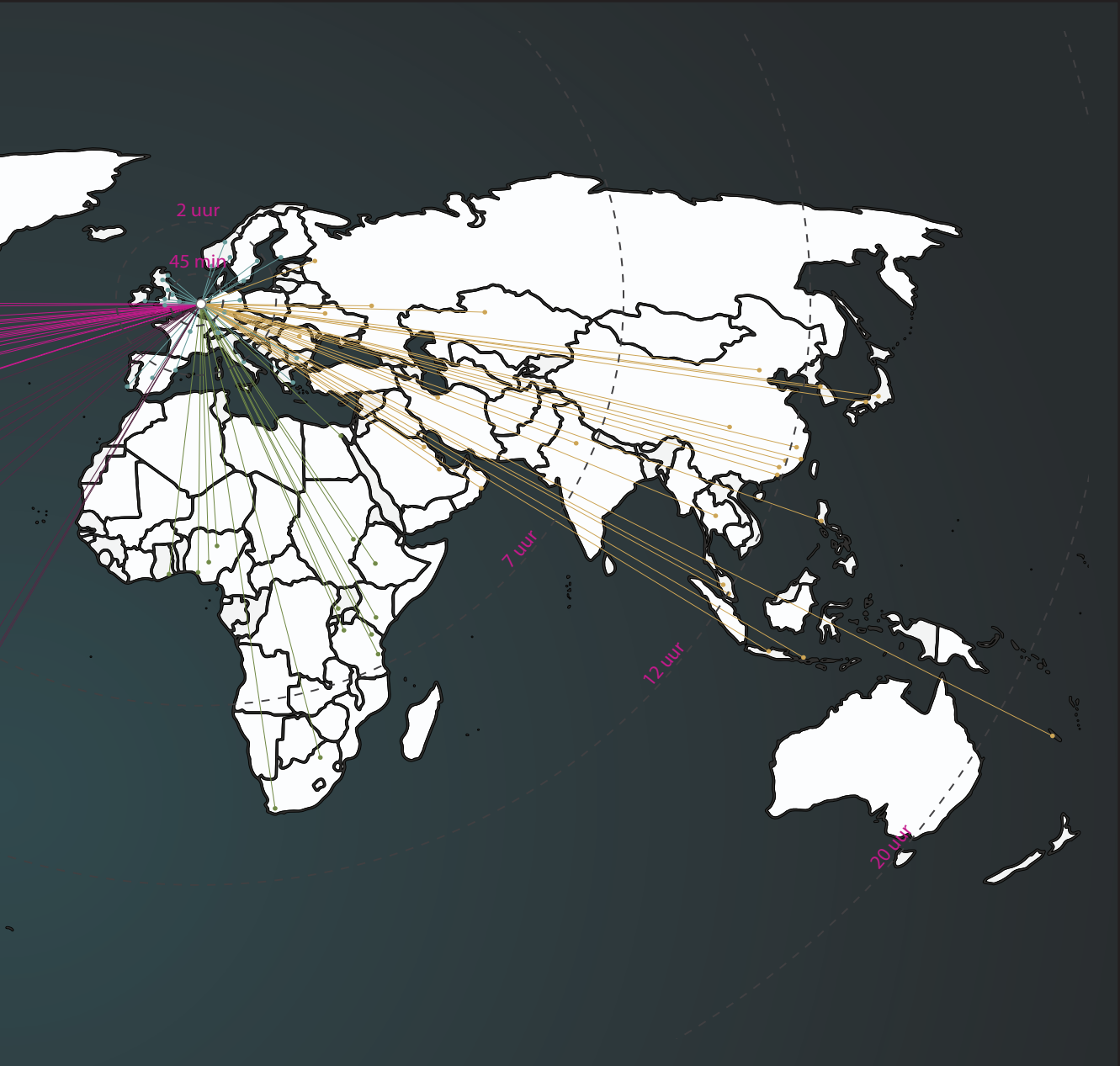
GLOBAL CONNECTION

The extremely expensive and large-scale development proceeding in Amsterdam south alongside the Zuidas is not unknown to the city of Amsterdam. In the past Amsterdam has made courageous and gigantic infrastructural interventions to strengthen international competitiveness within a worldwide environment where spatial economic conditions are constantly changing. Zuidas' strive to become an international location is comparable to watershed developments of the "Grachtengordel" in the 17th century, the 19th century North sea canal as well as the Schiphol airport development in the 20th century.

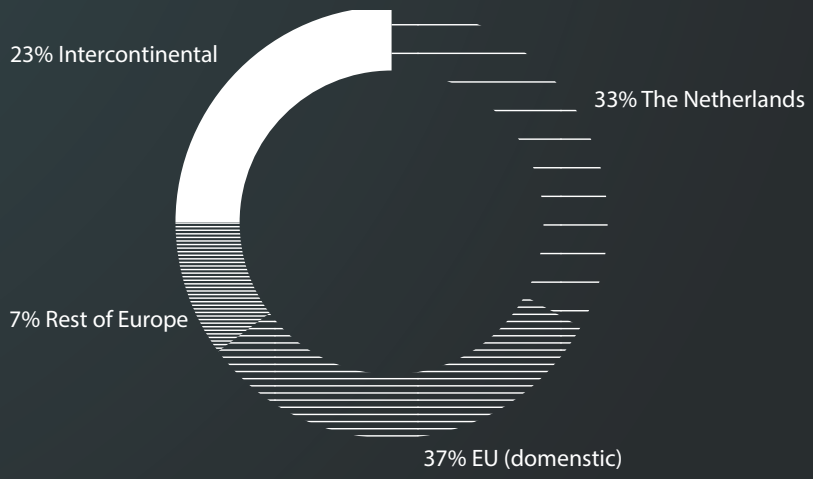


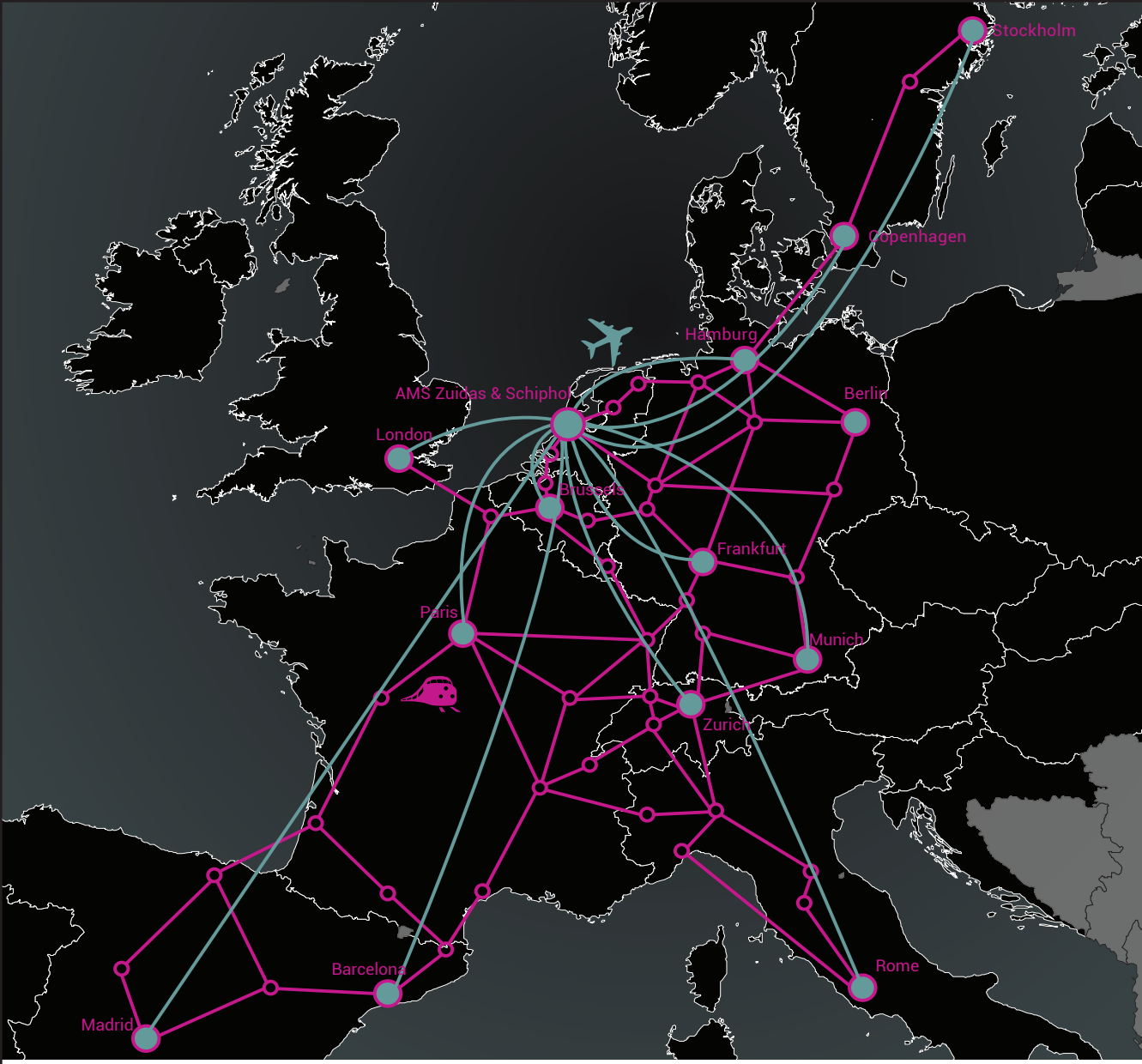
322 direct worldwide destinations
Offered by 108 airlines from AMS

Passenger
63,625,534



transport in 2016 was
with a growth of 9.2%





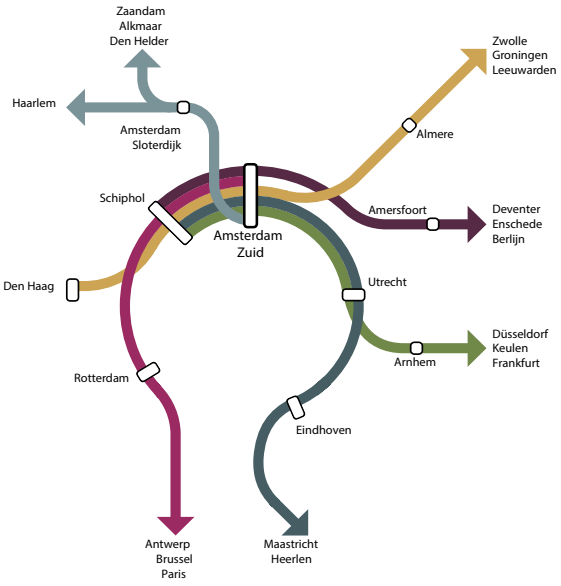
EUROPEAN CONNECTIONS

With the Zuidas property zone distinguishing itself as the major financial hub of Amsterdam, and for that matter the Netherlands associated with a strategically sound and well coordinated infrastructure, together with a futuristic mobility network such as the high speed over land travel, the Zuidas are to be integrated within the European travel network. Thus a high speed link between major European financial and services hubs located in Brussels, Frankfurt, Paris, Berlin and Zurich. Inventions related to super fast travel such as the Hyperloop which envisages traveling at up to 700mph will alter daily live patterns of employees residing all over western Europe – being employed at a location within the Zuidas development while residing in Zurich.

Great Britian's Brexit movement instigates more independence from Europe which could more than likely result in several multinational organizations, companies and entities, to relocate to Europe, accumulating a seamless trading network. Social borders may essentially disappear with the realization of a so called 'new European community'. Zuidas thrives within an atmosphere of mobility and vibrancy. In essence a culture of movement. Business being conducted is on a global scale with a large array of local and international residents all with different preferences towards lifestyles. A direct consequence the development of clusters of luxury homes for long, medium and short term accommodation providing state of the art technology combined with ultimate comfort targeting the international residential market.

ZUIDAS INTERCITY CONNECTOR

Amsterdam zuidas will become the gateway to Amsterdam and The Netherlands by 2050. Due to its central location within the Randstad, Amsterdam south station will be more influential then ever. Faster, cheaper and more reliable train connections will be implemented making traveling easier on a local and international scale. Among these connection are Den Haag to Groningen, Amsterdam South to Utrecht Central until Frankfurt and Düsseldorf. The most noteworthy change would be the Thalys connection which would start from Amsterdam South and not Amsterdam central via Rotterdam, Antwerp, Brussels and ends at Paris.



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

ZUIDAS PUBLIC TRANSPORT SYSTEMS

With the increasing amount of commutors and citizens working and living in the Southern part of Amsterdam the municipality has chosen to make Amsterdam South station a new transition point for many various public transportation systems.

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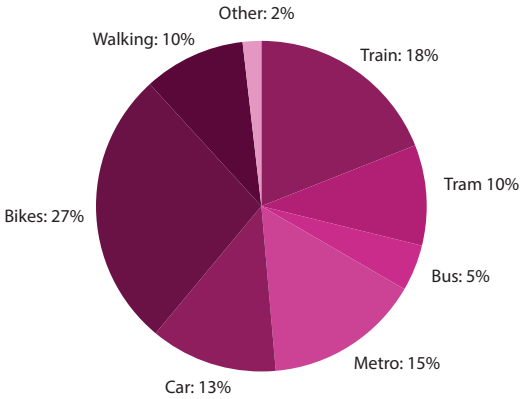
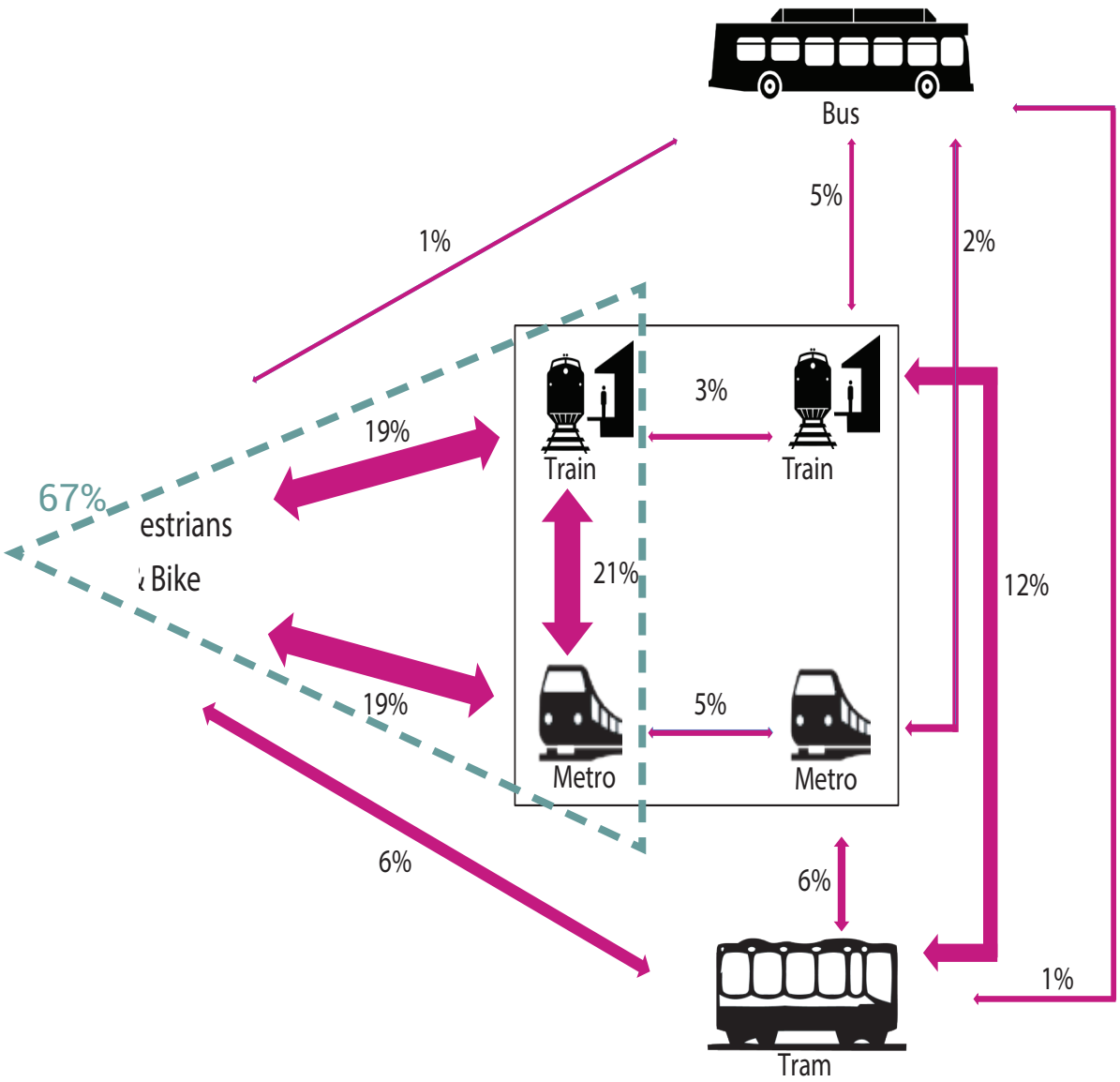


Transportation service usage(2030)



Transition between various public transport systems (2030)

5
GVB

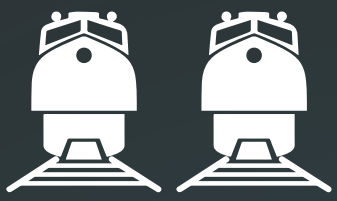
“Station Amsterdam South is the **fastest growing** station in the Netherlands...

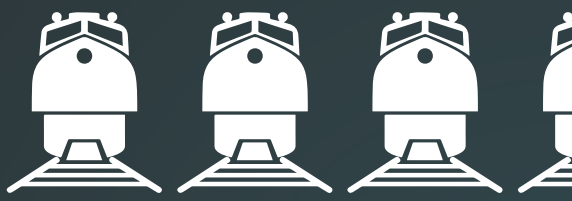
...The Arrival of the North-South Line in 2018 and the growth of train traffic on the Schiphol-Amsterdam-Almere-Lelystad route...

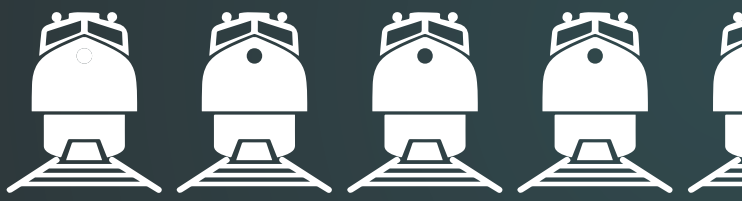
...250,000 passengers are expected to arrive on the train station a day."

ZUIDAS PUBLIC TRANSPORT SYSTEMS

To reinforce the full potential of the Zuidas location whilst serving future needs, the existing infrastructure must be improved dramatically. Frequency and movement of passenger units will increase drastically, approximately five times the rate presenting itself to date. This enormous influx of people will require infrastructural support by way of additional highway lanes as well as multiple railroad tracks network. The amount of railway tracks have doubled since 2005 till 2015 and will increase from four to six railway tracks within the next 15 years. Futhermore since 2005 the amount of trains per hour have increased from from 8 to 18 in 2015 and will increase to 27 trains per hour in 2030. Finally as discussed in the first chapter to achieved the status of a global hub Amsterdam South railway station must acquire and be able to accommodate a high speed train reticulation. Without this significant investment the hub cannot support its mobile citizens, businessmen and tourist and hope to become the new gateway to the city of Amsterdam



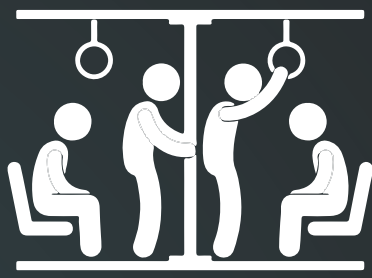




2005

2015

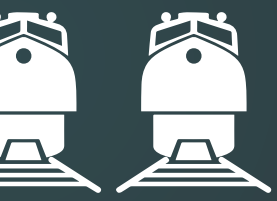
Train



x5

40,000 → 130,000

Tram

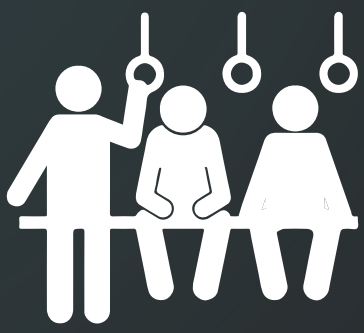


x5

9,100 → 57,000

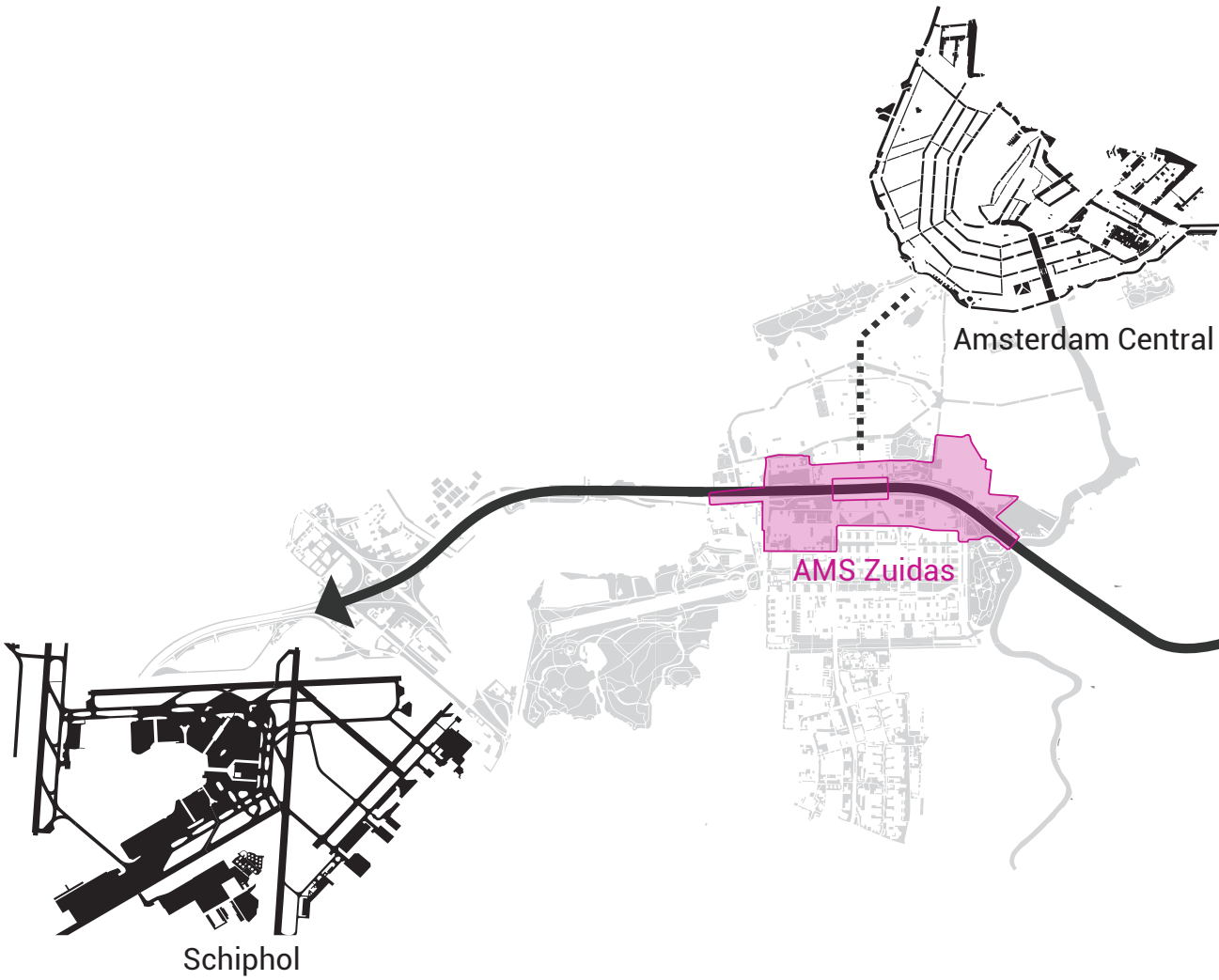
Metro

2030



x5

34,200 → 118,000



SCHIPHOL-ZUIDAS-LELYSTAD AIRPORT

In order to maintain and strengthen the economic function of Schiphol, it has been agreed that Lelystad Airport will be phased developed in the period up to approximately 2043. The development of Lelystad Airport provides for construction of the necessary infrastructure and facilities. The business plan drawn up by Schiphol Group and Lelystad Airport provides for phased growth in two installments, with a first installment to 25,000 aircraft movements and in the final phase approximately 45,000 aircraft movements with passenger aircraft. Amsterdam zuidas will become the gateway to Amsterdam and The Netherlands by 2050. With its strong connection to Schiphol airport and lelystad airport due to is location.

Lelystad
Airport
Lelystad Airport

IMPLICATIONS OF HYPERLOOP

There are four key differences. It's faster, as in two to three times faster than the fastest high-speed rail. It's on-demand and direct. Trains follow a schedule and typically have multiple stops. Hyperloop leaves when you're ready to go, and pods can depart up to several times per minute and can transport passengers and cargo direct to their destination with no stops along the way. It's environmentally friendly, with a smaller civil engineering footprint, more efficient energy consumption and no direct emissions or noise. It's less expensive and different technology: High-speed rail and maglev trains require power along the entire track. As a result, the track costs more to build and more to operate. Hyperloop One achieves better performance for less cost.

Our goal is to have operational systems by 2021.Difficult to say as it will depend greatly on the route, but the goal is to make it affordable for everyone.

About the same as riding in an elevator or a passenger plane. Although Hyperloop will be fast, the systems we are building will accelerate with the same tolerable G forces as that of taking off in a Boeing 747. With Hyperloop you will be accelerating and decelerating gradually and, depending on the route, we will incorporate banking into our designs to eliminate G forces even more. And there's no turbulence.We're energy-agnostic. Our system can draw power from whichever energy sources are available along the route. If that means solar and wind, then the entire system is 100% carbon free.

ROUTE

NETHERLA

Total Length: 428 k

Total Duration: 41m

COST

2/3
of High-speed rail

SPEED

3 x
High-speed rail

BENEFIT

3.5 - 4 x
High-speed rail

TRANSFORMATIONAL ECONOMICS

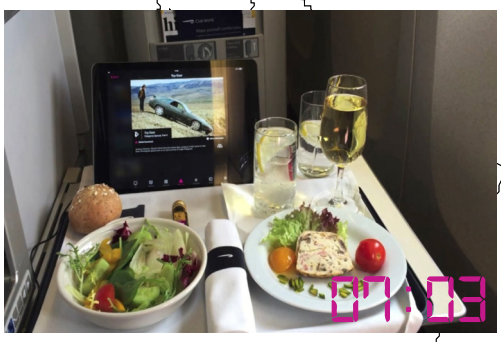
A

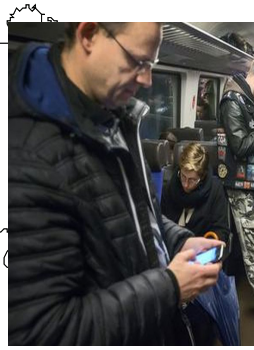
- Hyperloop One - 0h 18m
- High Speed Rail - 1h 10m
- Conventional Rail - 2h 10m
- Road - 4h to 5h

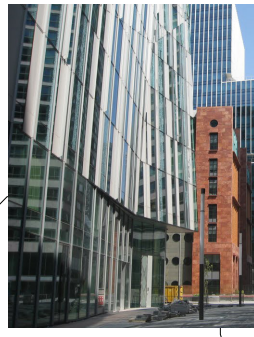
B

London

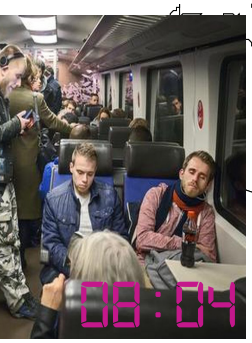
Zuidas

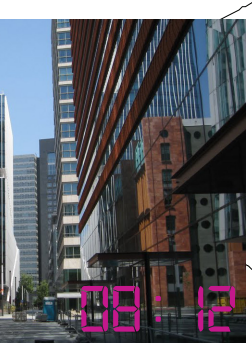




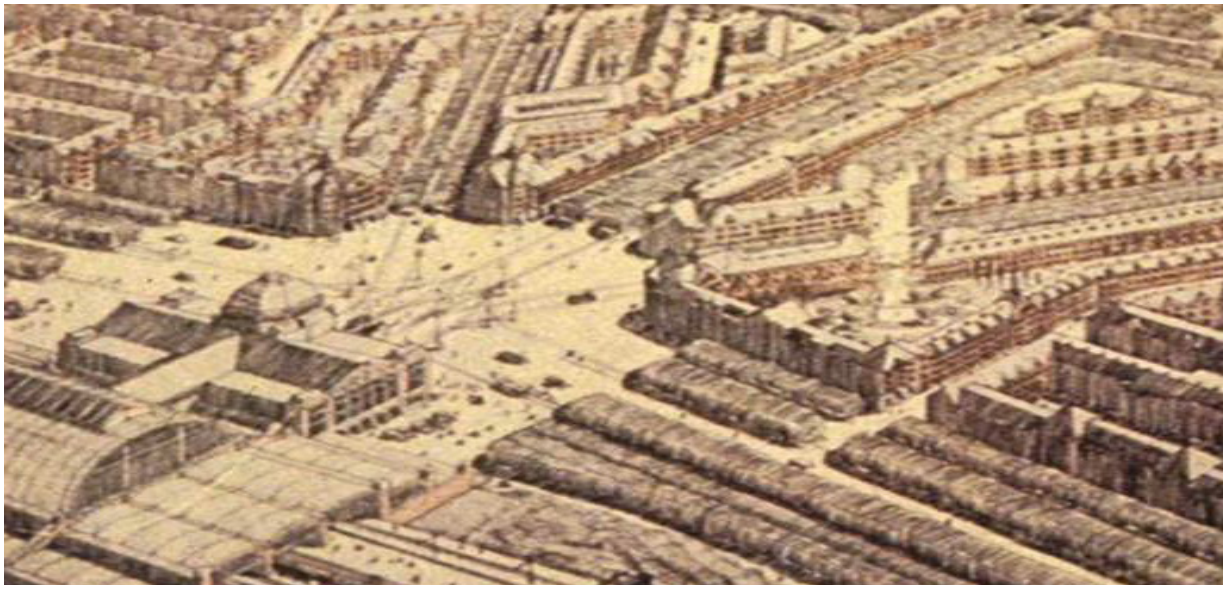


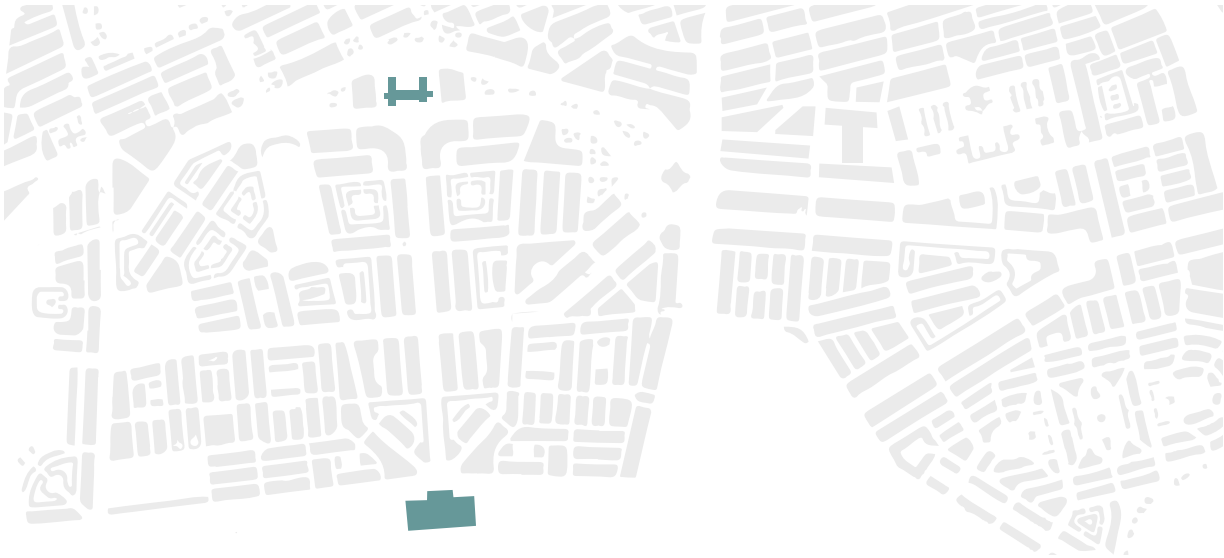
In our modern times mobility hsa changed ernomously. By refering to the sequence of slides seen here one could live abroad (like in London) and commute to the Zuidas due to excellent mobility and infrastructural connections made by the Dutch. In the Future of 2050 many internations will commute to the Zuidas on a daily bases. This is why it is so important to implement the right “image” in the future for these commutors when they are visiting the Zuidas.





ELDIN GELDENHUYS CP COMPLEX PROJECTS





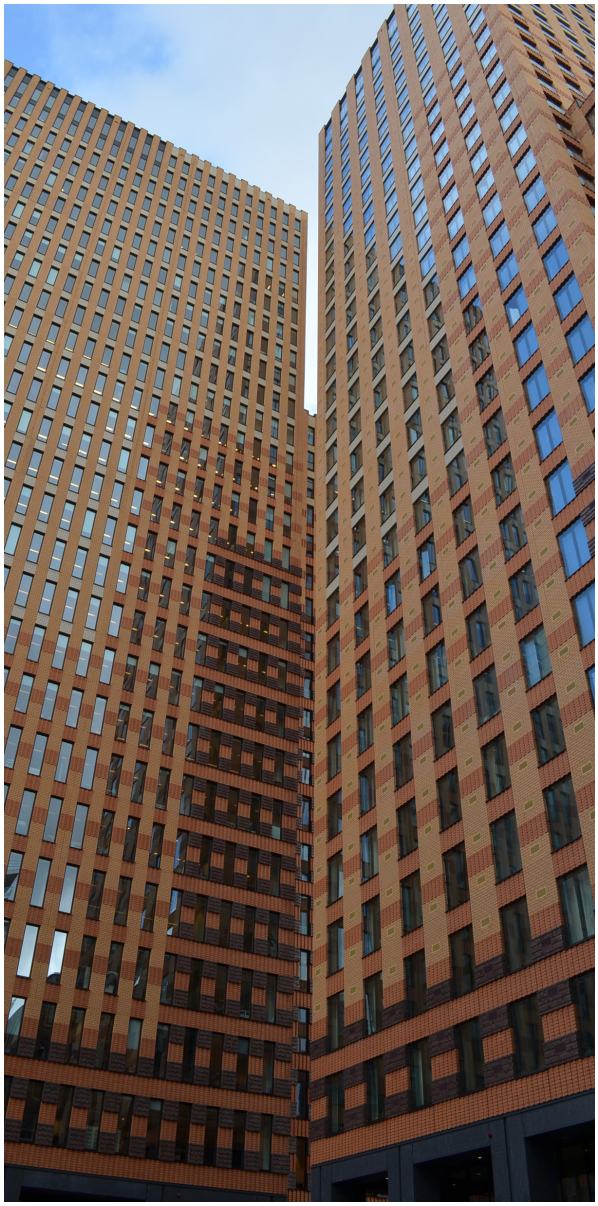
SOUTH STATION' STRUGGLE

Amsterdam South railway station has for many a decade never really been considered a show case service facility to the city of Amsterdam. Yet by way of this article one should recognize that times are changing and the Zuidas station has earn to become the 21st century doorway to Amsterdam - due to its becoming status of establishing itself as one of the social, dynamic and financial hubs of all Europe. Reflecting on the history of this station one notes the hurdles preventing the station from a status of 'the doorway to Amsterdam'. When observing Berlage's Plan Zuid of 1914, he placed Amsterdam South station at the bottom of the his north-south axis. Berlage wanted the station to be a large monumental station which would take centre stage in the new urban plan. The station was to be quoted: " a second central station of Amsterdam." Oddly city planners at that time did not agree with Berlage, a simple train station to realize only 61 years later.

LOW RISK INVESTMENTS

Within the “vision for Zuidas” made by the municipality of 1998 and 2004 it endeavours Amsterdam South as a “top location” by adding attractive housing and cultural milieu. But with the recession of 2008, investors halted property developments planned for the Zuidas, limited to few office developments. Construction of all cultural related buildings and most of the housing projects were cancelled. Among these investments were the Musical Theatre Van den Ende and the Design Museum.

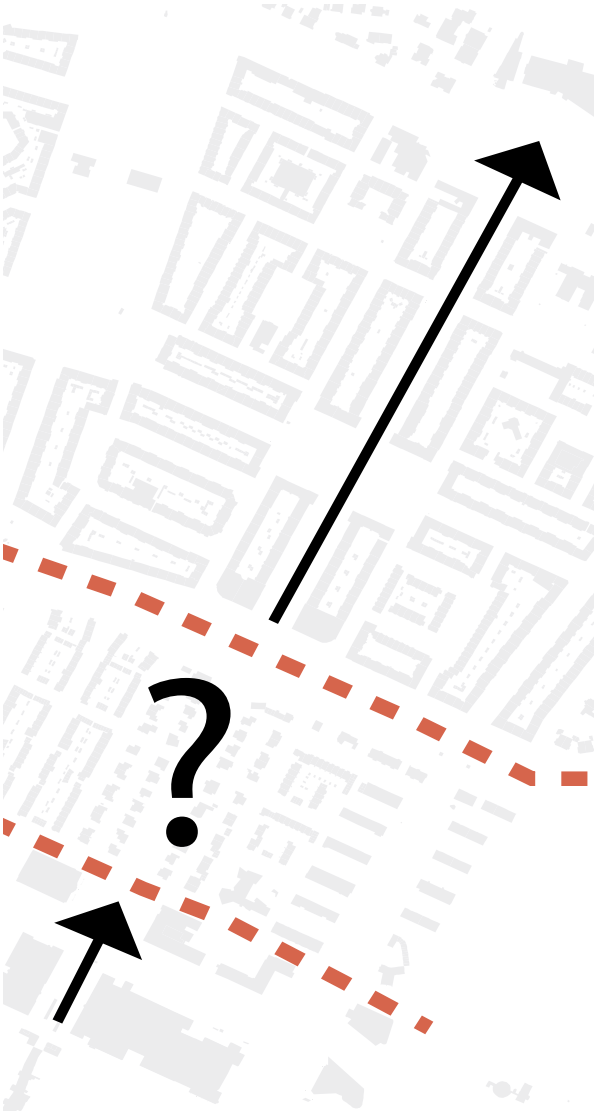
Finally to achieved the status of a global hub Amsterdam South railway station should acquire and be able to accommodate a high speed train reticulation. Without this significant investment the hub cannot support its mobile citizens, businessmen and tourist and hope to become the new gateway to the city of Amsterdam.



VandenEnde THEATER

CRIPPLING VILLAS

The out of place villa district located just north of the Zuidas was originally planned to be part of Plan Zuid but was replaced by a villa district probably because at that time it was located on the edge of the city giving a luxurious view over the countryside. But with the extension of the city i.e. the A10 highway as well as several 1960's and 1970's housing projects built just south of the villa district, this area has become out of place and made the Amsterdam South station a odd place to enter the city of Amsterdam. If Berlage's original plan was executed or kept in mind by future city planners, the (monumental) axis would have given Zuidas station more confidence and purpose to become a doorway to the city.



ZUIDAS' COLOSSUS OF RHODES

I believe that we are currently only acknowledging the establishment of the Zuidas as a multi-disciplinary hub. The Zuidas however has the potential to become an internationally acclaimed integrated and mobile network amid other major European city hubs. Multicultural boutiques and entertainments surrounding office space of globally renowned organizations and companies. Various well-connected infrastructural options are available to the inhabitant and visitors of the Zuidas. With this in mind a building complex flowing from a masterminded architectural design will visually display the mobility of the global district known as the AZD (Amsterdam Zuidas District), but also illuminate the economical strength and global culture of the hub.

In Conclusion I believe that the Zuidas /Amsterdam South station should be properly design as the new front door of Amsterdam. Additional to being an infrastructural intervention the Zuidas station should be more than just a connection point for public transport but more...

MANIFESTO & GROUP RESEARCH

Amsterdam Zuid M
HEMA

Fietsenstalling
Singel

TOPWATCH
TOPWATCH

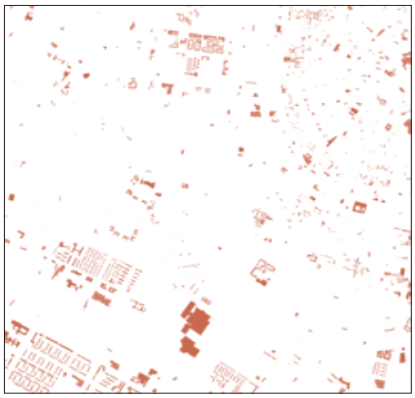
THE MANY FACES OF AMSTERDAM

Building is a kind of witness to history. Mapping the age of the building could display the city's development process. Depending on the age, the background behind a building, a community and a city could gradually become clear.

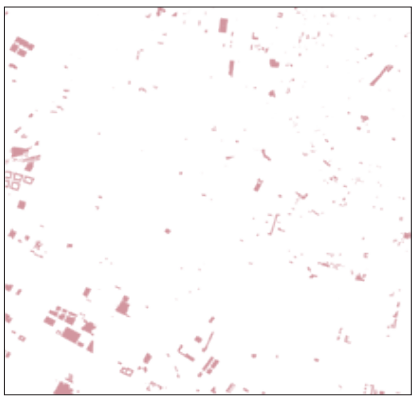
This analysis was based on the history resource and mapping of building age in research area. According to the result, the city has gone through a unique and unusually distinct series of expansions as its merchant economy boomed requiring more ship berths and warehouses and its population increased demanding more space for housing. Several major expansions that have shaped layout of the city.

Before 1900

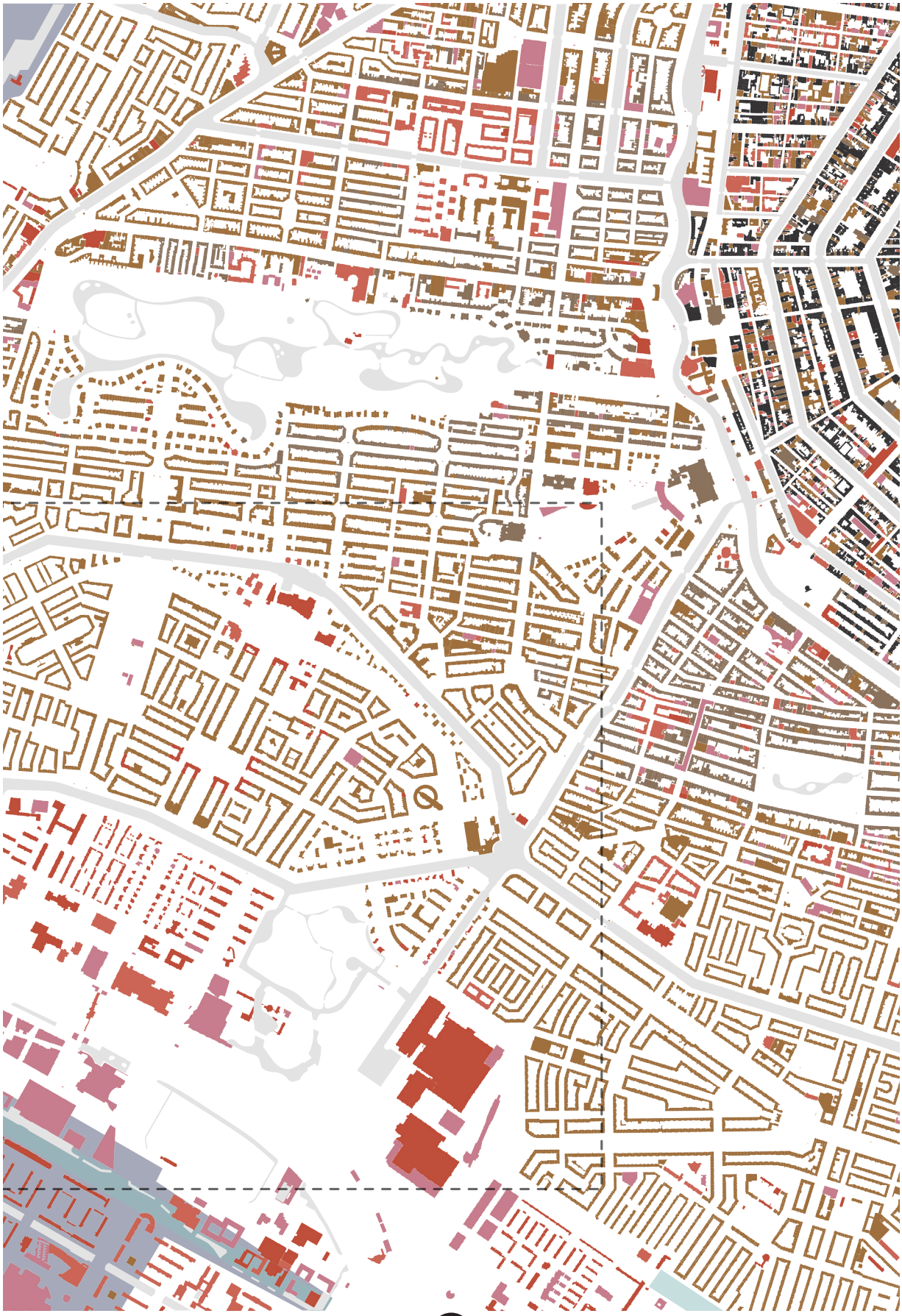
1900-1950



1950-2000



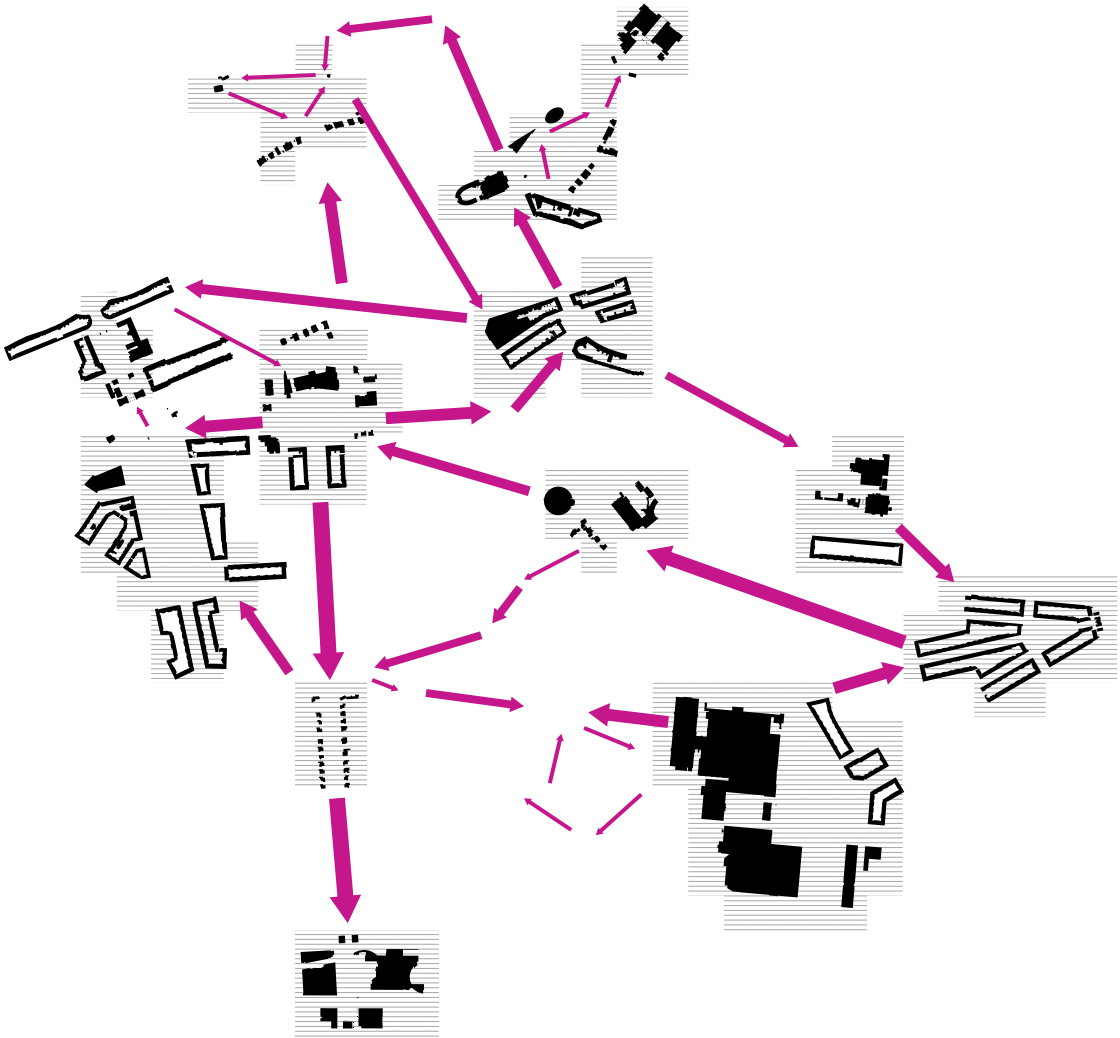
2000-2017



SLOW MOTION MOVEMENT

Landmarks as a backbone of the walking structure of the city. Creating connections from a pedestrian perspective involves using a spatial language that an observant can read and use to navigate. An example of such a tool are axes (top, right) that create both physical and visual connections over specific borders.

To improve walkability I realised that unlike other types of transport it is not always tied to absolute rationality. Following ideas of Theory of the Derive, the city should allow to be read in a playful way, where usual aims and motives become secodary. (bottom)



CP

WALKING AND CYCLING DISTANCES

While analyzing Oud Zuid one realises that the walking and cycling distance from example central Zuidas to Museumplein is not quite far. It seems there is a strong psychological barrier when it comes walkability between Zuidas and the inner city of Amsterdam. By improving the connection and expereince between Zuidas and central Amsterdam people would walk or take the bike much more frequently.

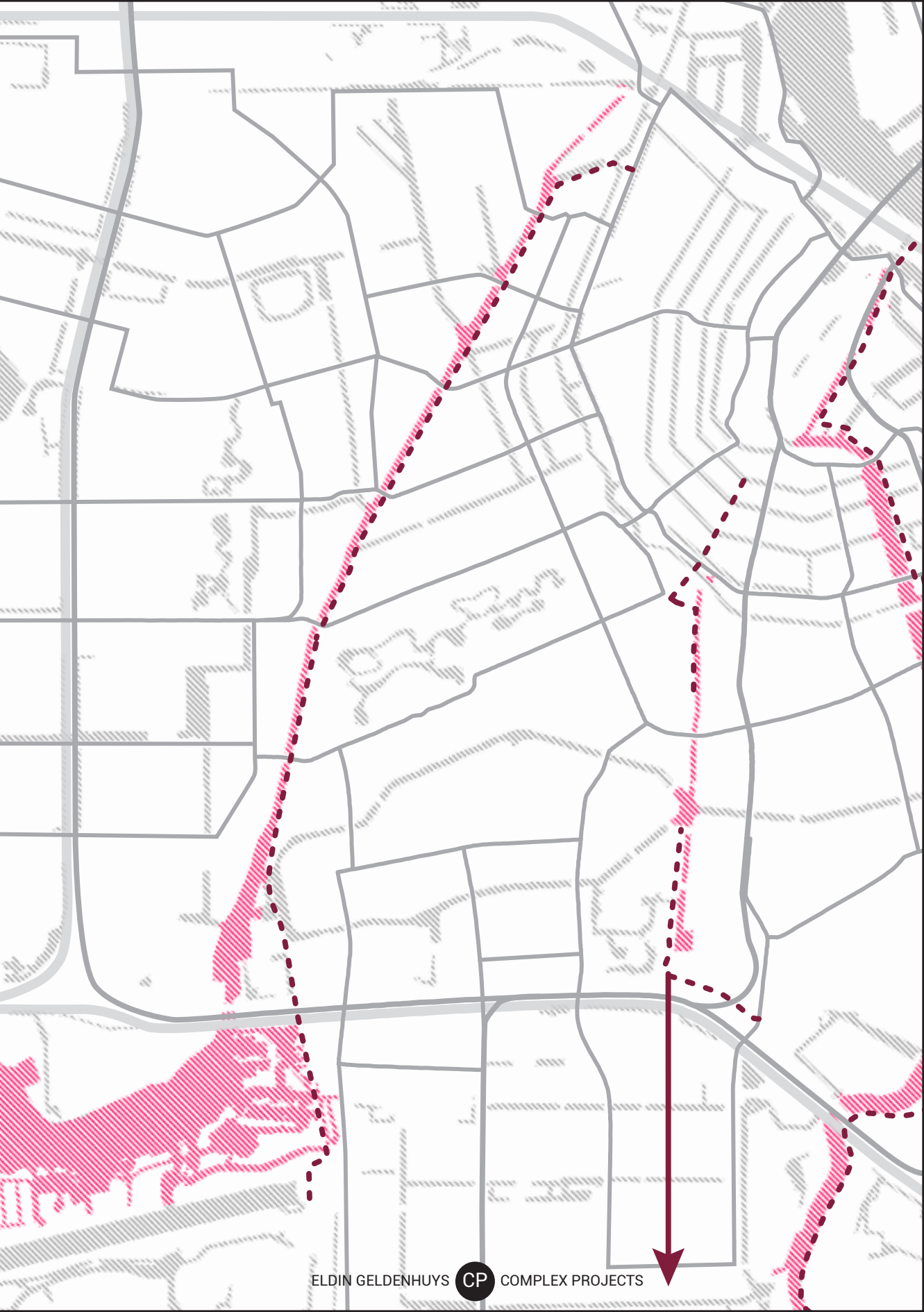
5
10
15
20
5

SUPER-BLOCK MODEL

firstly The cycling network should become more densely meshed. The current mesh size is (much) larger than the recommended 300 meters (with the A10 being the important bottleneck). Secondly The bicycle routes must be direct, safe, fast and comfortable. Thirdly distinguish untangled routes (i.e. those with no or little car traffic and a minimum of barriers) from routes along major roads with destinations.

WATER CANALS

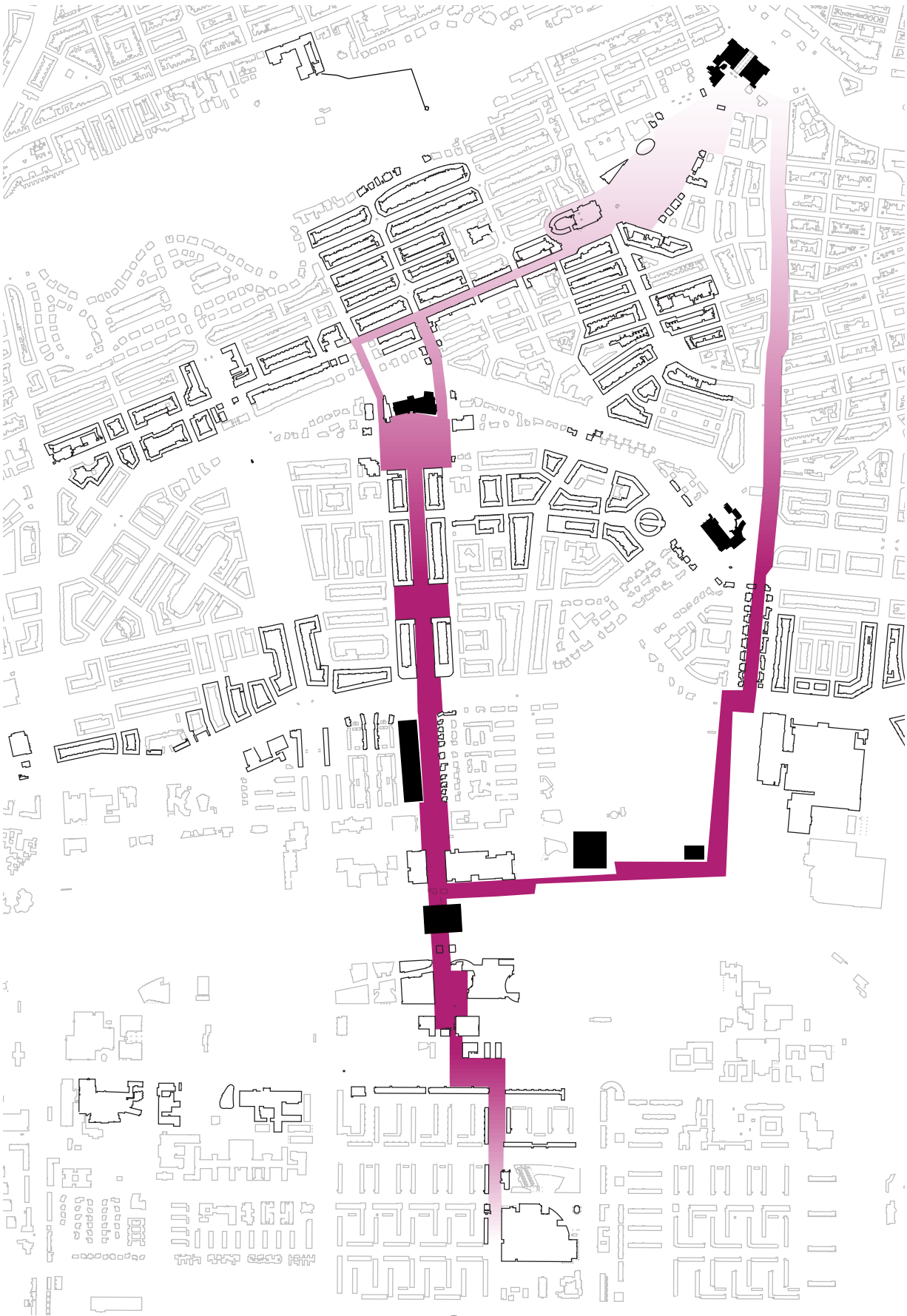
While analyzing Oud Zuid one realises that the walking and cycling distance from example central Zuidas to Museumplein is not quite far. It seems there is a strong psychological barrier when it comes walkability between Zuidas and the inner city of Amsterdam. By improving the connection and expereince between Zuidas and central Amsterdam people would walk or take the bike much more frequently.

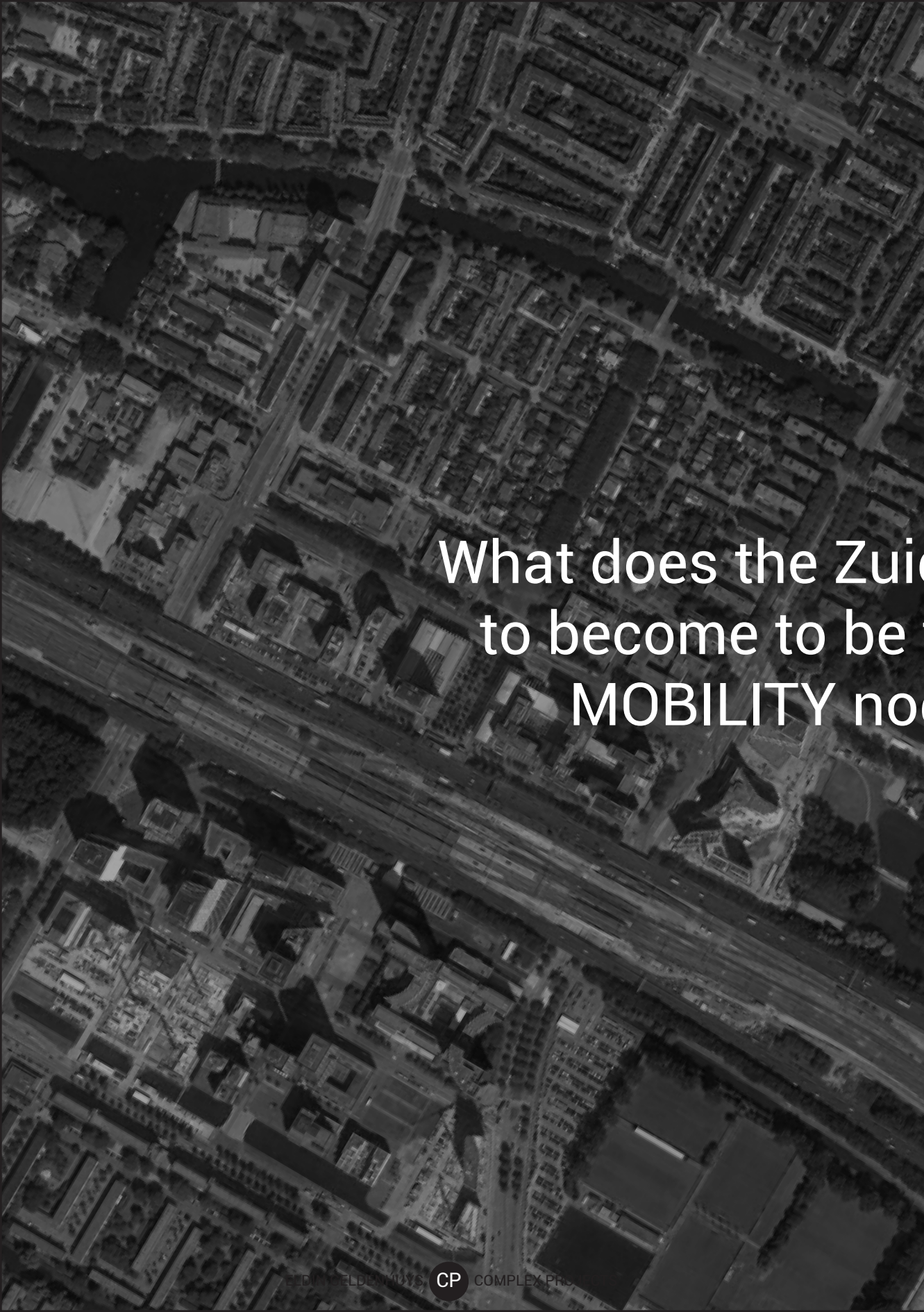

ELDIN GELDENHUYS
CP
COMPLEX PROJECTS

IMPROVEMENT OF AXIS

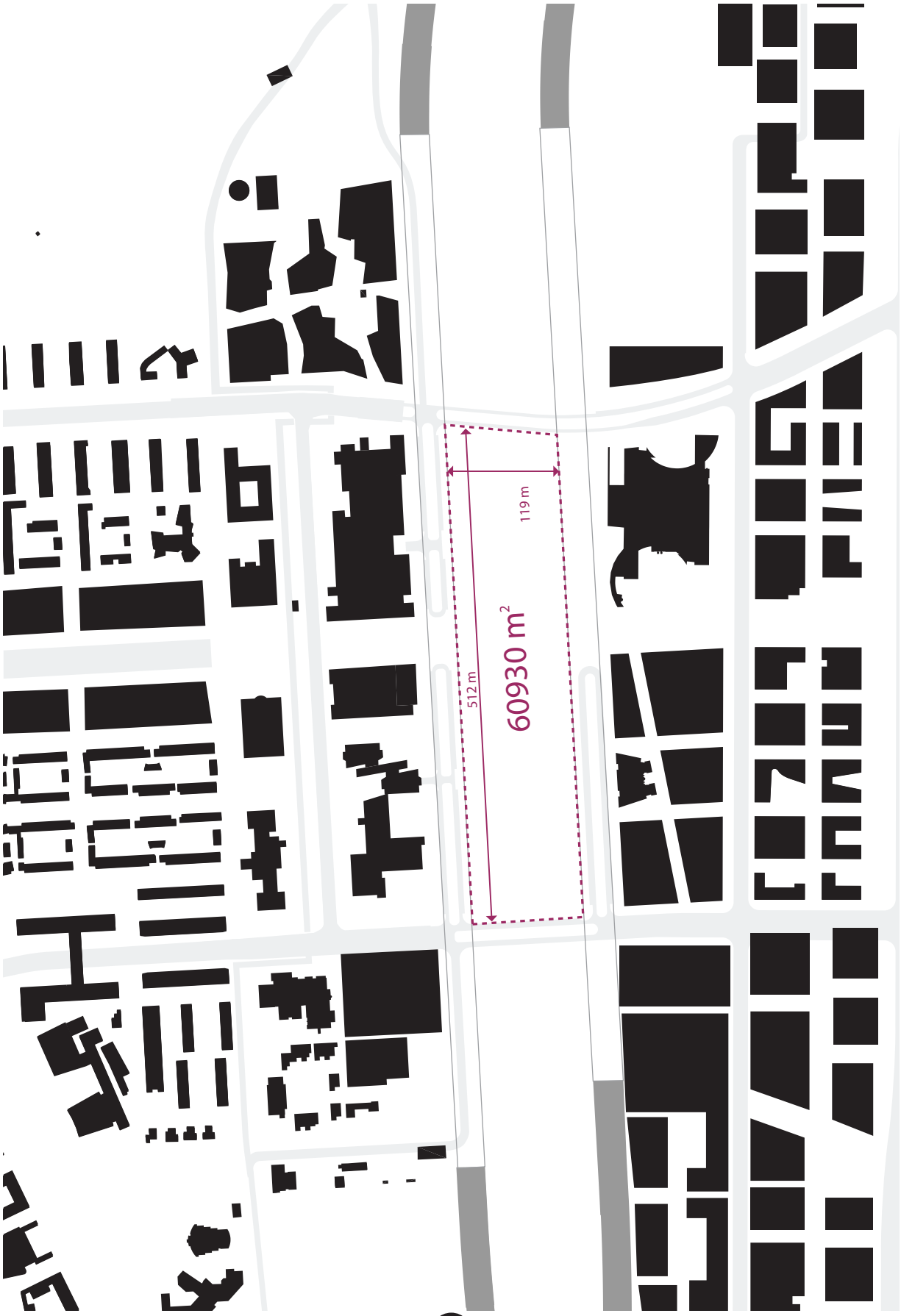
Our main stragety to improve Oud-Zuid and it's connection with central Amsterdam is to improve and adjust Plan Zuid axis located at the Minervalaan. To blow life into this axis by locating a few of our group projects here we can reactivate this axis which has not been realised correctly (mostly due to division of the plan Zuid and villa's). Additionally we as a group want to create a new axis longside the water canals which directly leads towards the heart of the inner city. These two axis would be empowered by a boulevard located at the Zuidas.

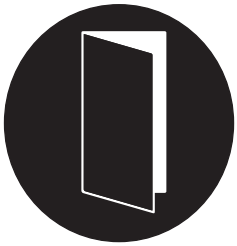
To establish connection between thecity parts - that currently seems to be disconnecting more and more , we must add reference points also known as landmarks. This goes hand-in-hand with Slow Motion, i.e. walking and cycling.




What does the Zuid
to become to be
MOBILITY no

das STATION need
the next GLOBAL
de of Europe?


119 m
512 m
60930 m²



FRONTDOOR TO
AMSTERMDAM

TRANSPORT &
TRANSITION POINT

(INTER)NATIONAL
COMMUNITY

TYPOLOGY &
REFERENCE STUDIES

CP

WELCOMING LANDMARKS

As Zuidas becomes an integral segment of the European financial and services hub network, with the potential to grow towards the most influential and largest hub/ node, the Zuidas must acquire a landmark that could welcome its loyal citizens, mobile businessmen and eager to explore tourists. Landmarks worldwide expose similar, noticeable trademarks:

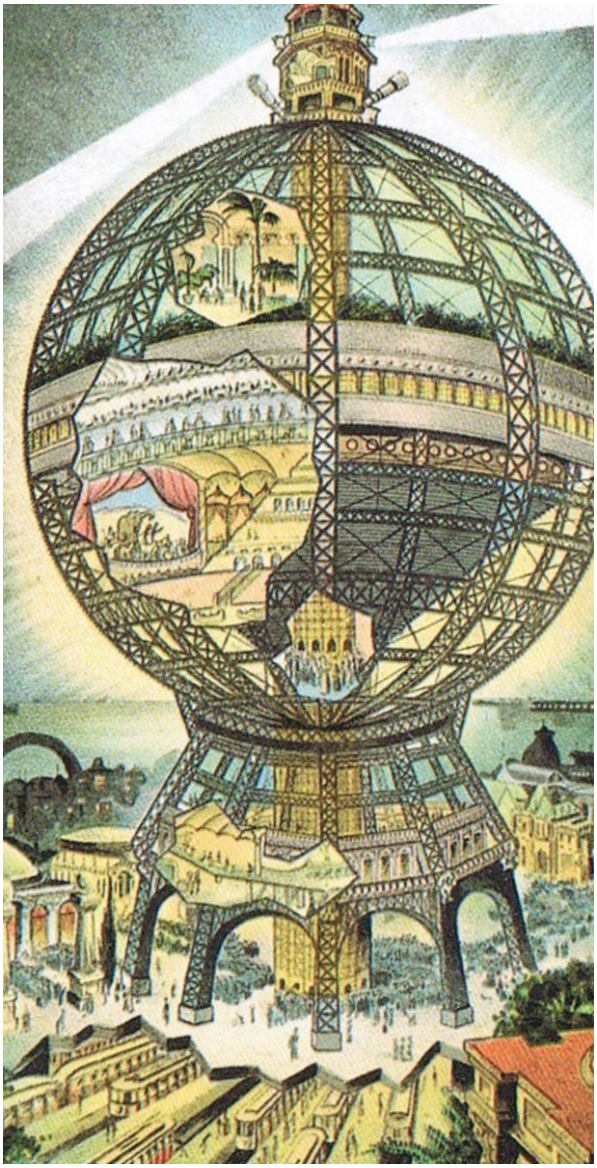
The statue of Liberty became an icon of freedom and of the United States of America, and was a welcoming sight to immigrants arriving from abroad. The statue would be the first thing the foreigners would see when entering New York City by boat during the 19th & 20th century.

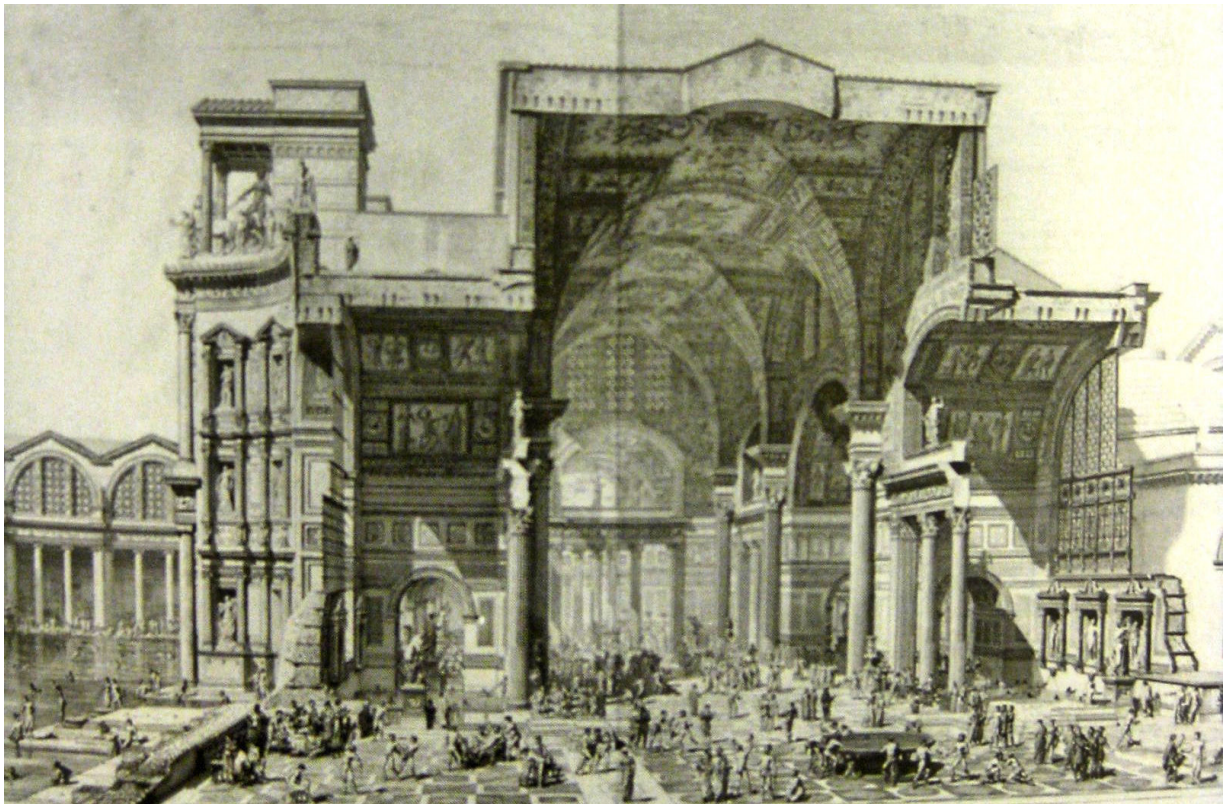
The Arc de Triomphe has been the welcoming sight to French soldiers returning to Paris from battles in foreign countries. Famous victory marches circling the Arc have included the French in 1919, the Germans in 1940, and the French and Allies in 1944 and 1945.

One of the most iconic and recognizable sign's in America and probably around the world, the ever flashing Las Vegas sign greets millions of visitors each year. The sign has become part of the Las Vegas culture and goes hand-in-hand with its famous slogan: “What happens in Vegas, stays in Vegas."

CONEY ISLAND GLOBE TOWER

In 1906 a competition on Coney Island was made and the design was the COney Globe Tower Design. Though it was never realised the core idea was that a Building could host multiple functions among them a station, skyscrpaer packed full of various functions. Probably one of the earliest designs where infrastructure is part of the build enviroment.





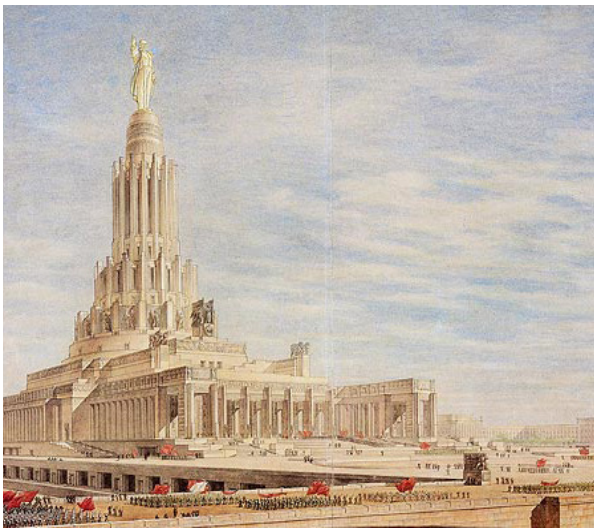
BATH OF DIOCLETIAN

It is interesting to note that these baths were built by the Roman emperor Diocletian (as the name of the bath suggests), who built this grand building after dividing the Roman empire. Therefore, the purpose of the building was to compensate for the losses or turn a blind eye to the failures and try to appeal to the public eye by building an impressive public structure.

The baths in ancient Rome, I think, could be equivalent to today's malls. Romans went to the baths everyday in the afternoon to meet friends, socialize, unwind and enjoy their free time. During the time of Hadrian baths were not mixed, the baths either had separate timing for women or had separate baths for women.

COLOSSUS OF RHODES

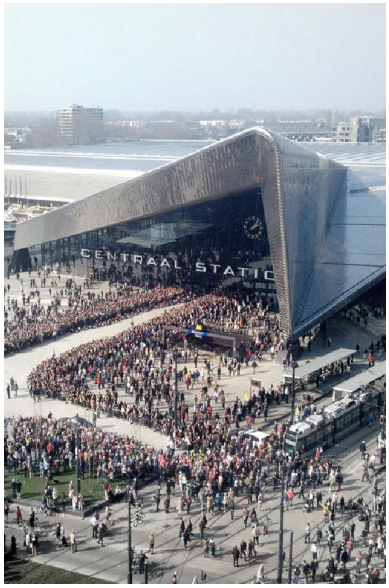
One of the most famous ancient wonders of the world was the Colossus of Rhodes. If this monument actually existed how tall is was is still debated today. What is known is that this magnificent wonder was awe inspiring for sure. The tales of the monument would greet sailors return back home after spending much time on the water and in foreign lands. The welcoming sight of the sculpture was much appreciated by sailors and ship captains alike.

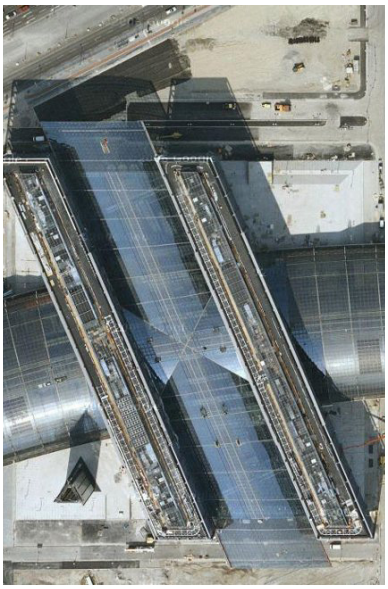


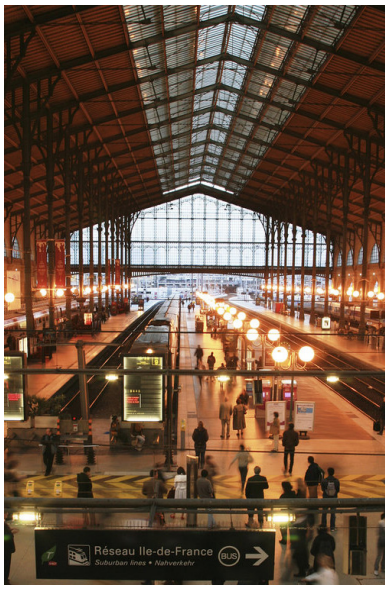
PALACE OF THE SOVIETS

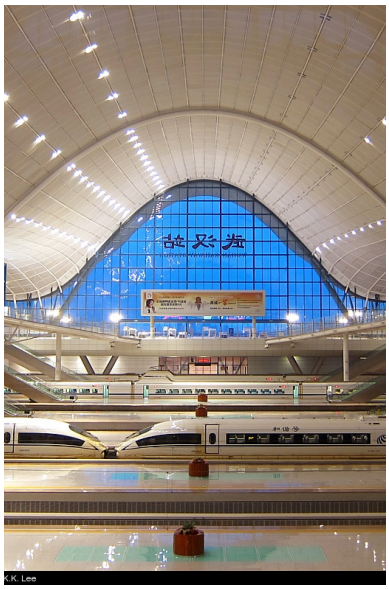
In 1906 a competition on Coney Island was made and the design was the COney Globe Tower Design. Though it was never realised the core idea was that a Building could host multiple functions among them a station, skyscrpaer packed full of various functions. Probably one of the earliest designs where infrastructure is part of the build enviroment.

Leiden Centraal


CENTRAAL STATIO

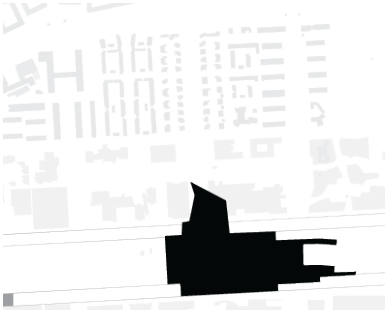



Réseau Ile-de-France
Suburban lines • Nahverkehr
BUS

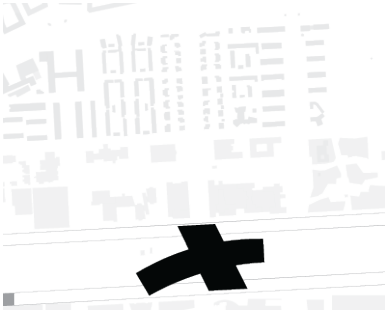

K.K. Lee

AMSTERDAM CENTRAL STATION

LEIDEN CENTRAL STATION



ROTTERDAM CENTRAL STATION



BERLIN HAUPTBAHNHOF

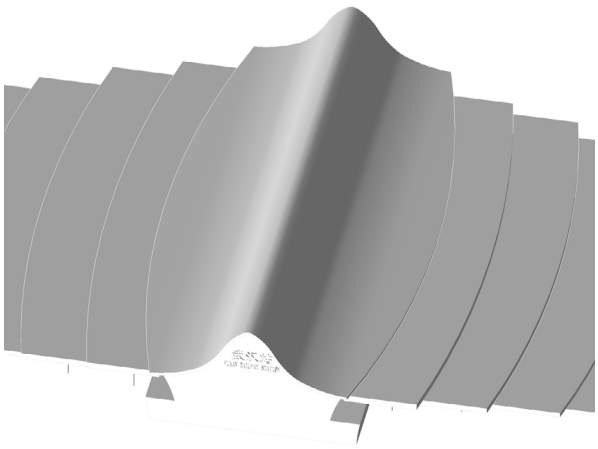
GARE DU NORD

WUHAN STATION

NEW YORK PENN STATION

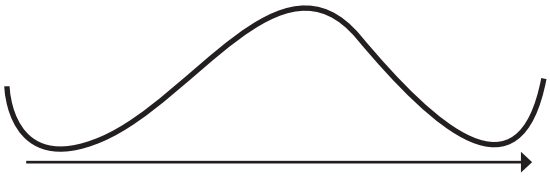
TORONTO UNION STATION

GRAND CENTRAL TERMINAL



TRAIN PLATROMS

TRAIN TRACKS



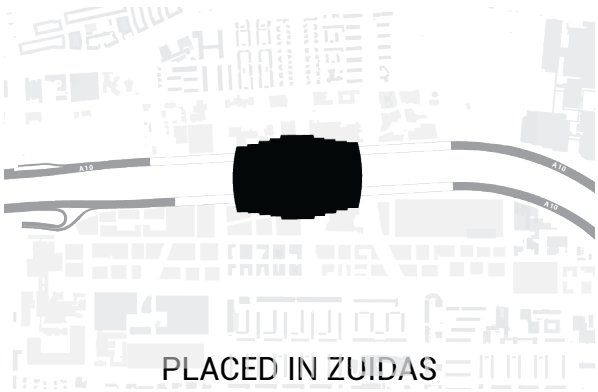
TRANSITION/ WAITING AREA

OFFICE

COMMERICAL

LOGISTICS

LOBBY



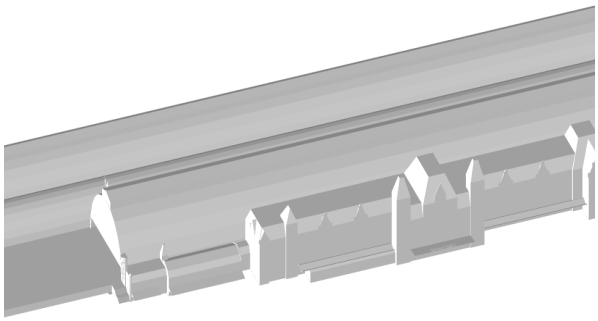
STATION SQUARE

PARKING

TAXI PARKING

PLACED IN ZUIDAS

9



TRAIN PLATROMS

TRANSITION/ WAITING AREA

TRAIN TRACKS

LOGISTICS

COMMERICAL

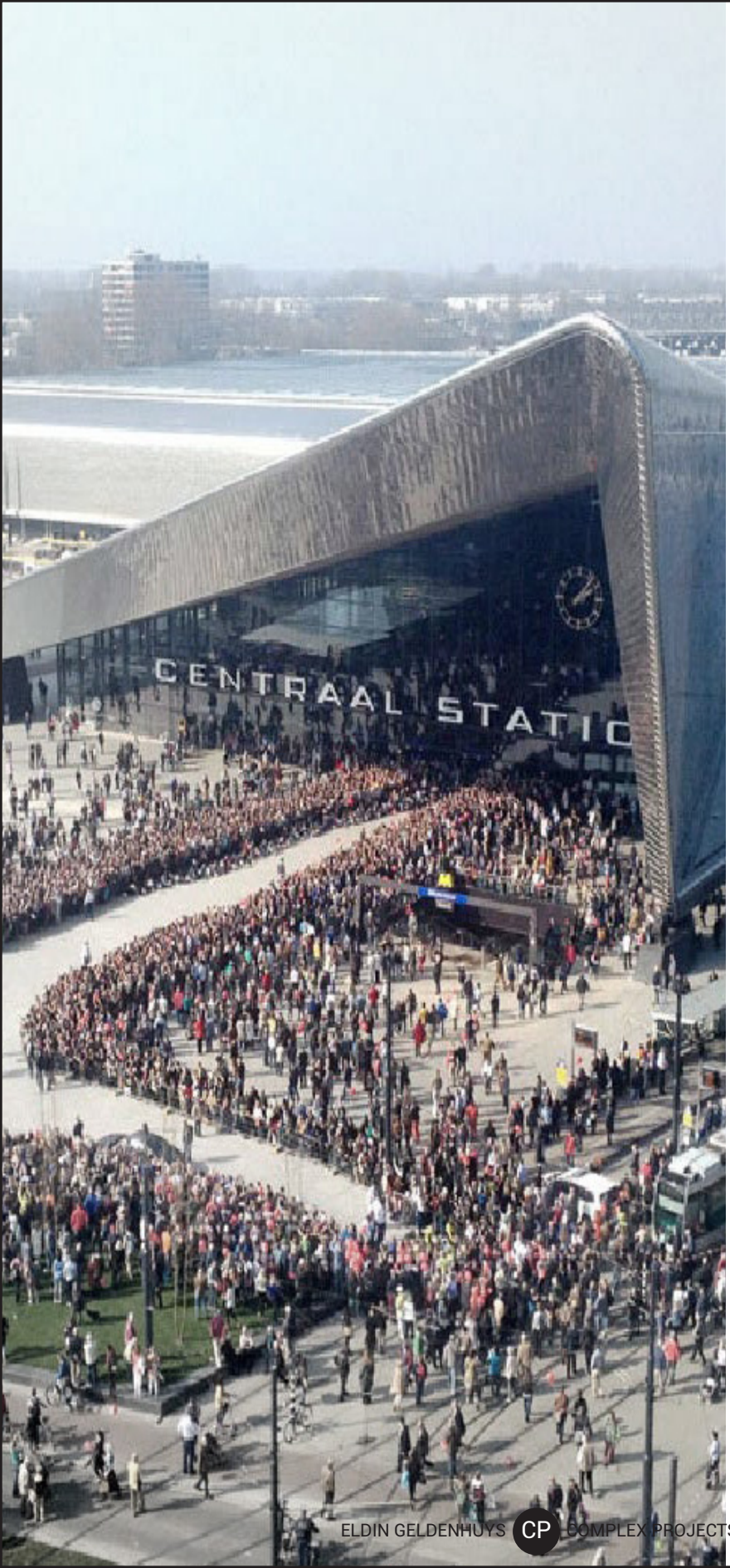
STATION SQUARE

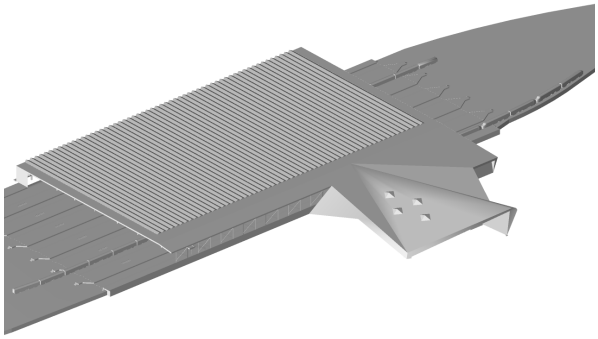
BIKE STORAGE

LOBBY

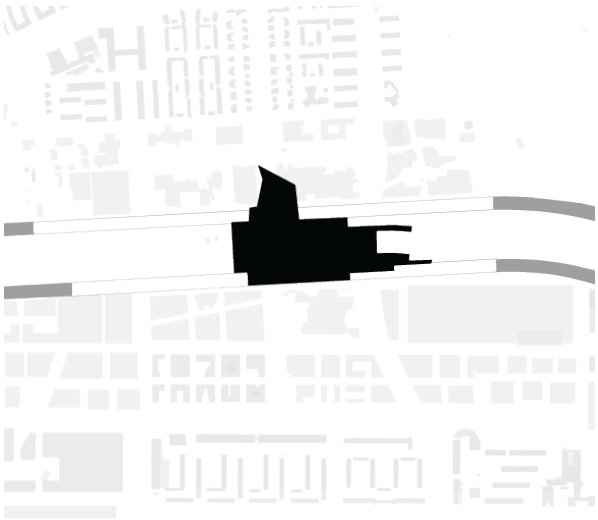
TRAM PLATFORMS
BUS PLATFORMS

PLACED IN ZUIDAS


CENTRAAL STATIO



CORE CONCEPT: FRONTDOOR



TRAIN TRACKS

TRAIN PLATFORMS

TRAM PLATFORMS
BUS TERMINAL

OFFICE

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LOGISTICS

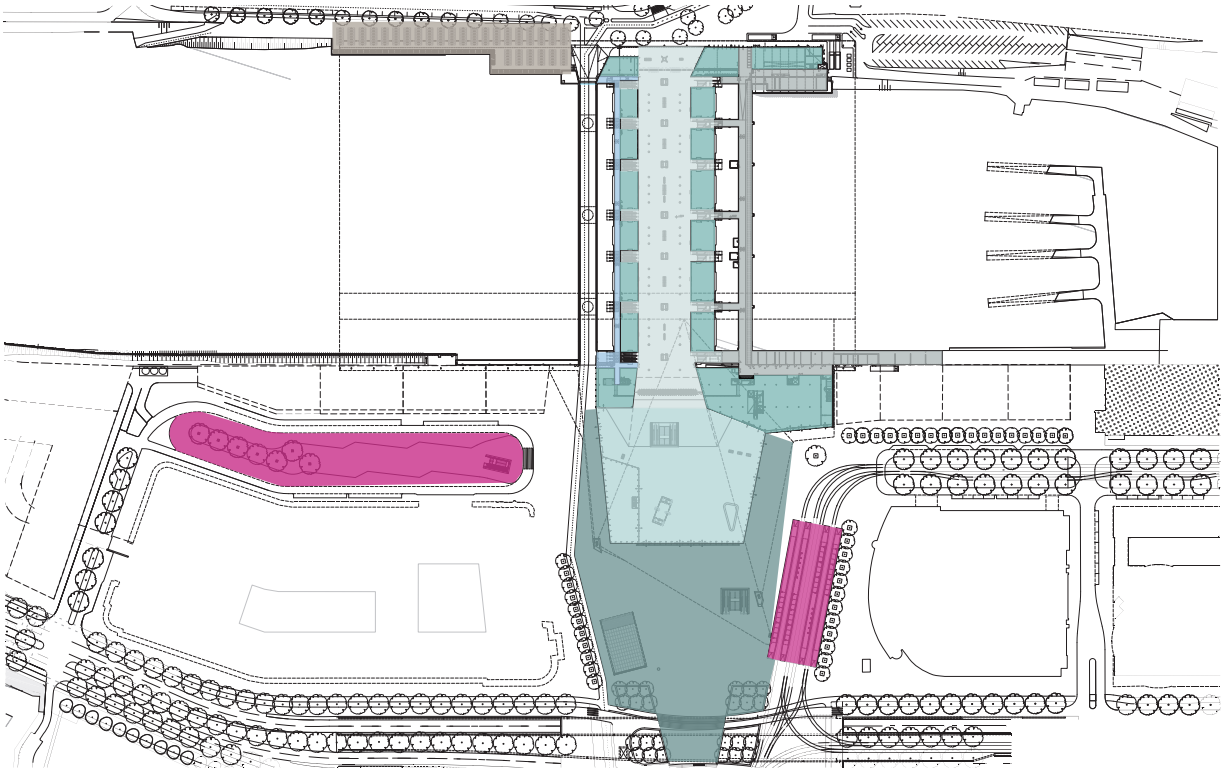
COMMERICAL

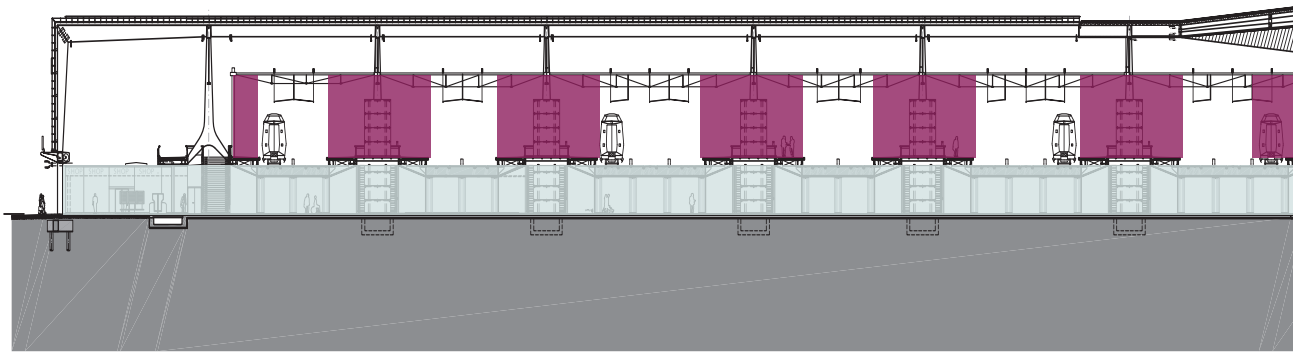
LOBBY

STATION SQUARE

BIKE STORAGE

CAR PARKING





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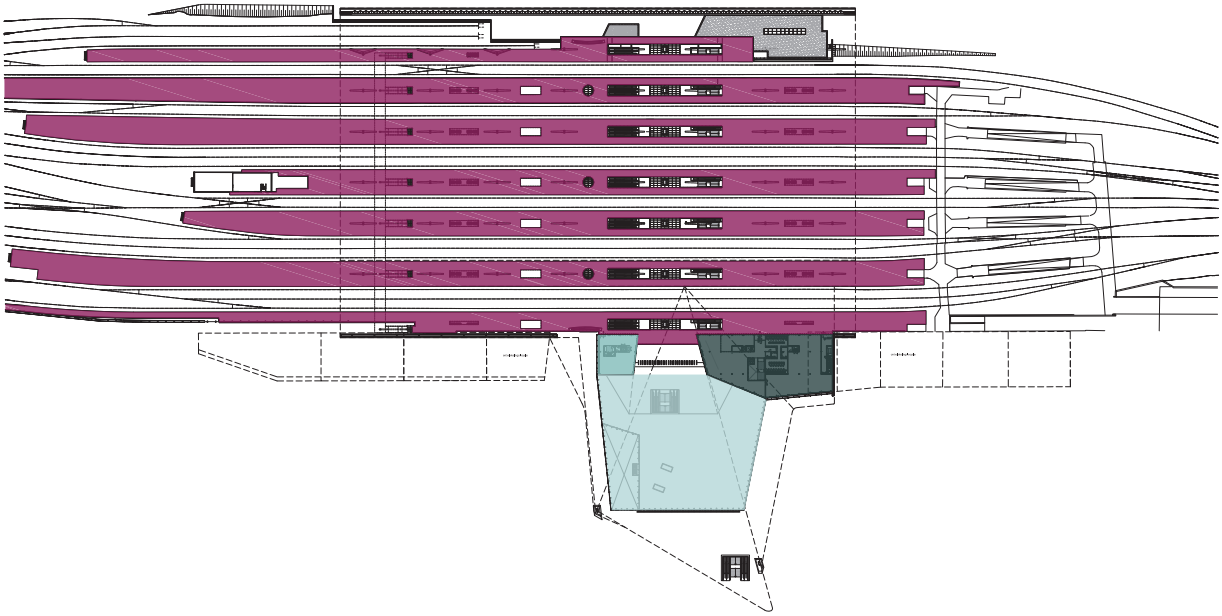
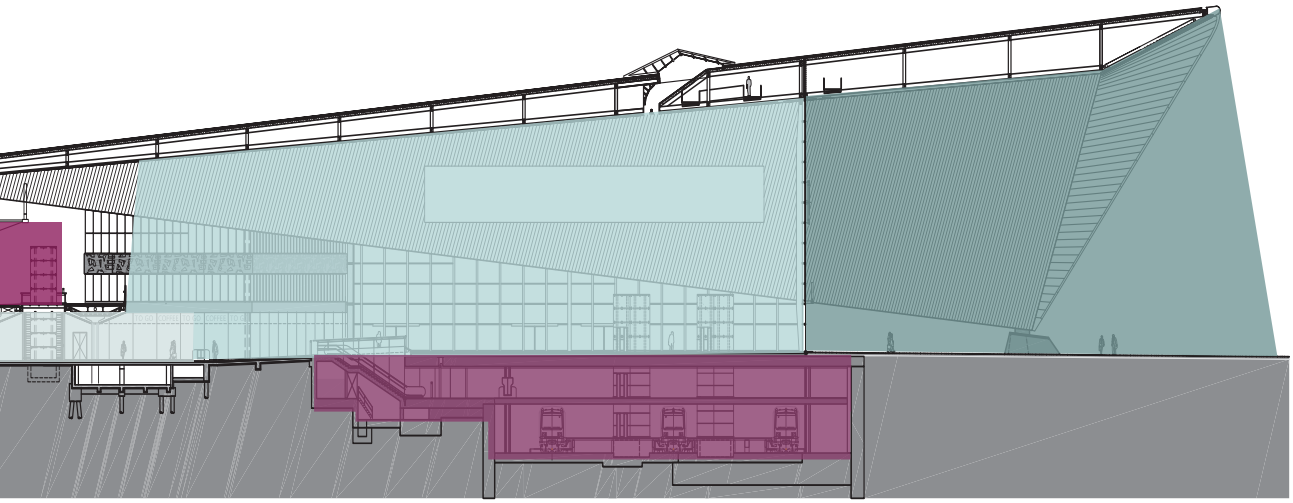


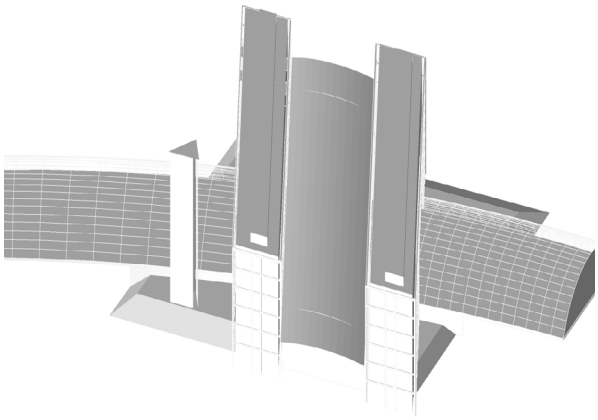


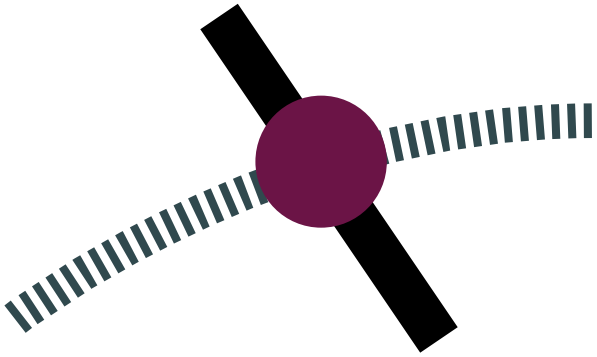
uitgang

Location: Berlin
Year: 2006

Passengers per day: 300,000

Architect: Meinhard von Gerkan





CORE CONCEPT: CONNECTION

PLACED IN ZUIDAS

TRAIN PLATROMS

TRAIN TRACKS

TRANSITION/ WAITING AREA

COMMERICAL

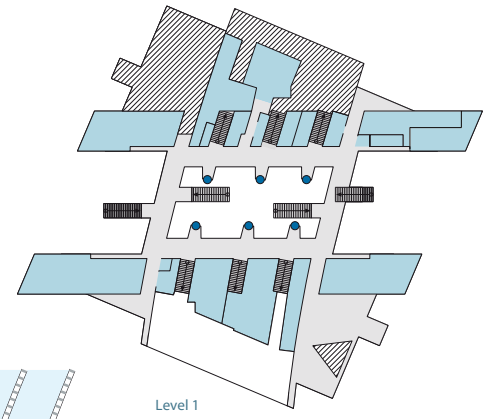
STATION SQUARE

LOBBY

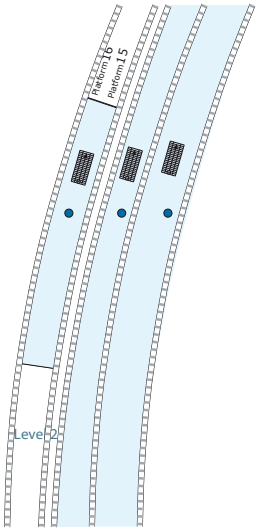
BUS TERMINAL

BIKE STORAGE

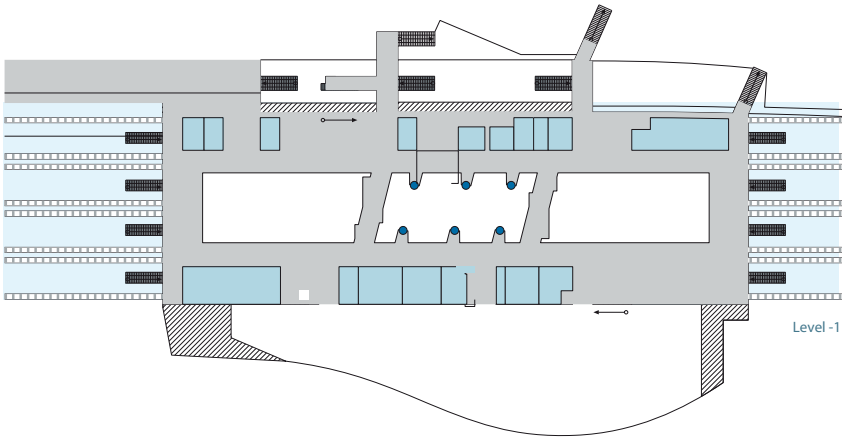
Level 0



Level 1

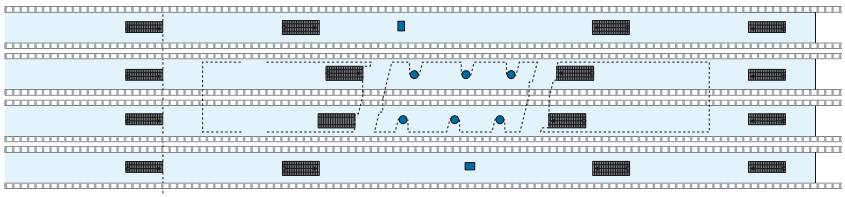


Level -2



Level -1

Level -2



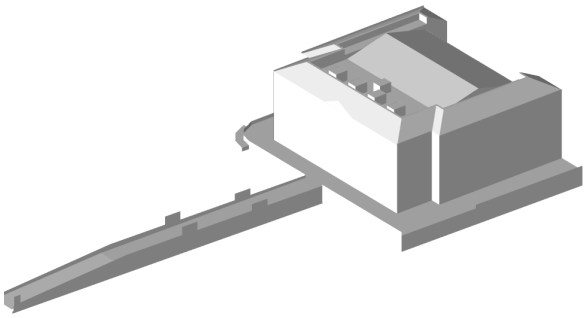
DB
Berlin Hauptbahnhof
ZOBLIN
ZOBLIN

VATTENFALL

Location: New York City
Year: 1931

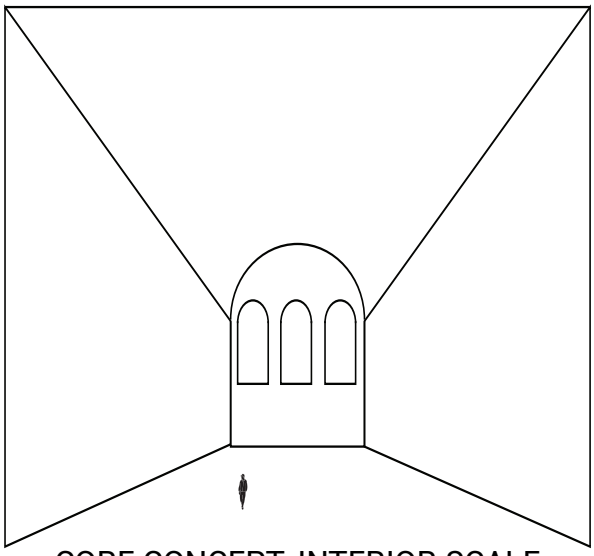
Passengers per day: 750,000

Architect: Warren and Wetmore



TRAIN TRACKS

TRAIN PLATROMS



TRANSITION/ WAITING AREA

OFFICE

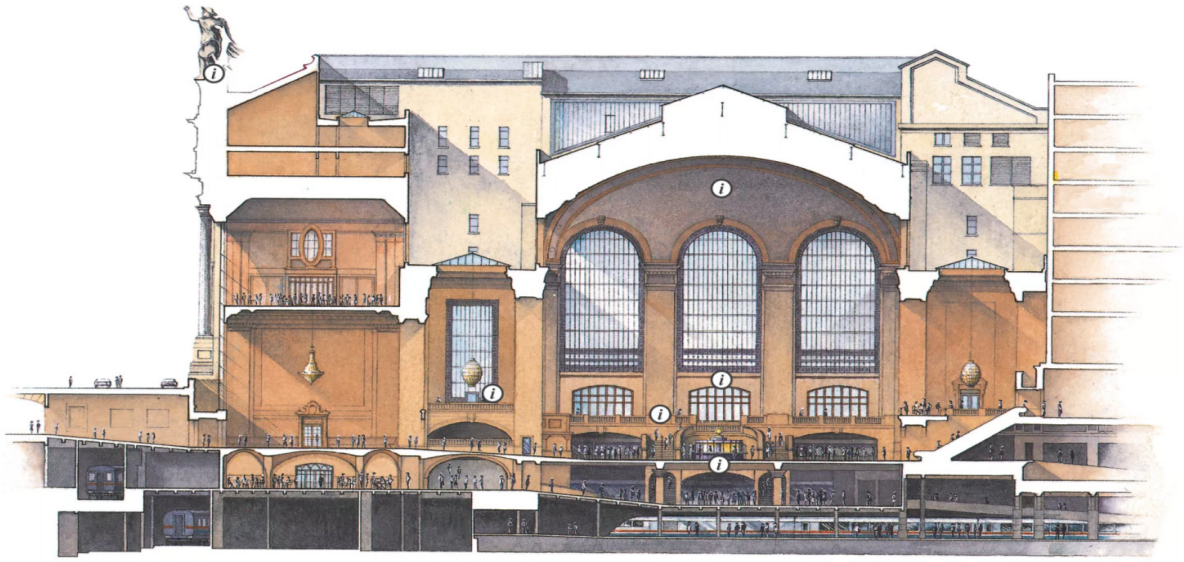
LOGISTICS

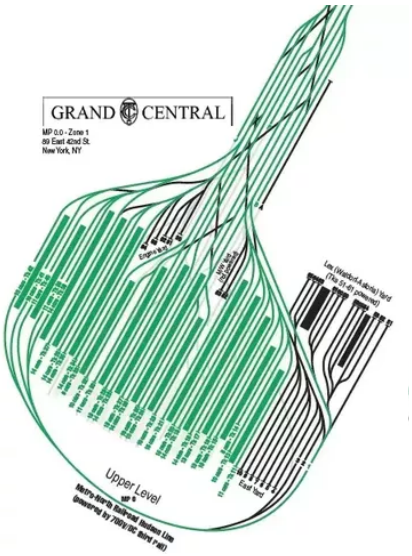
CORE CONCEPT: INTERIOR SCALE

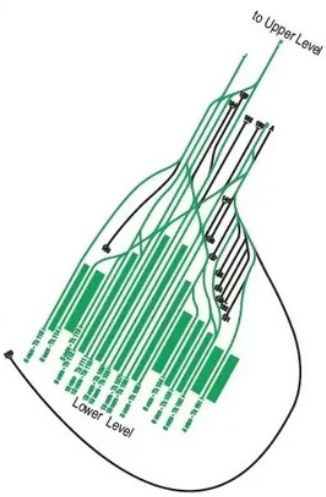
COMMERICAL

LOBBY

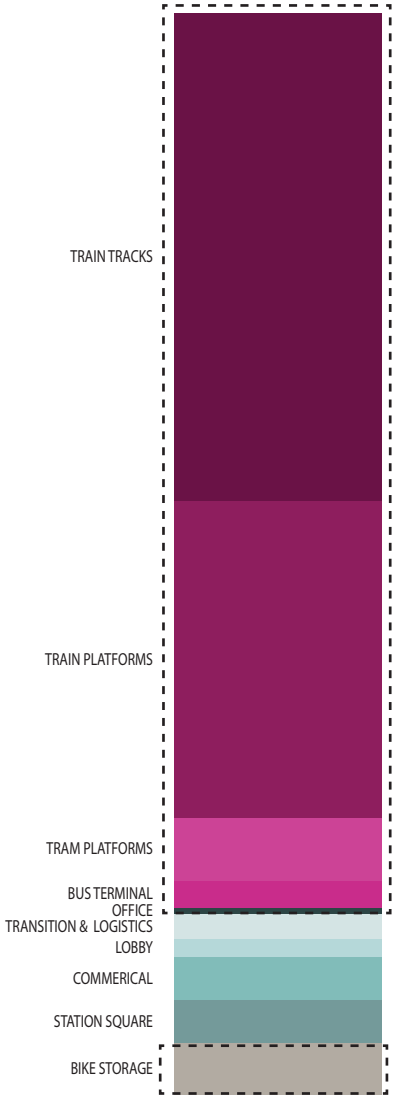
PLACED IN ZUIDAS



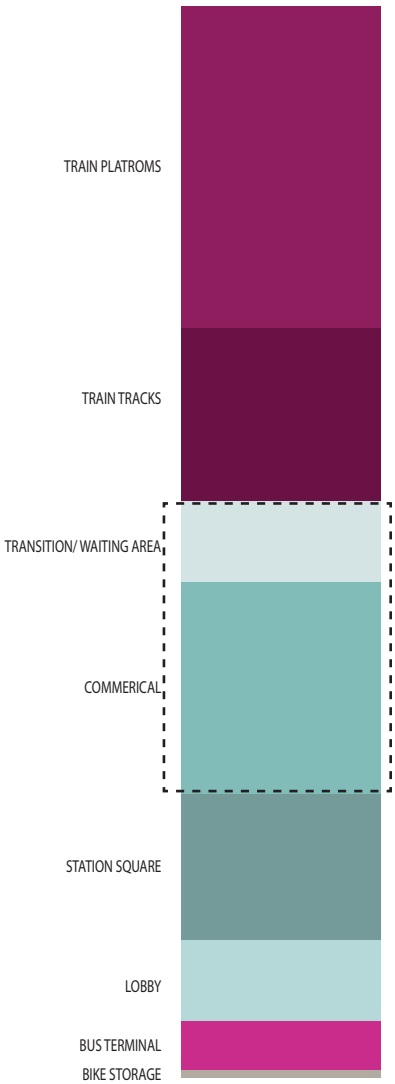

GRAND CENTRAL
MP 0.0 - Zone 1
89 East 42nd St.
New York, NY
Upper Level


to Upper Level
Lower Level

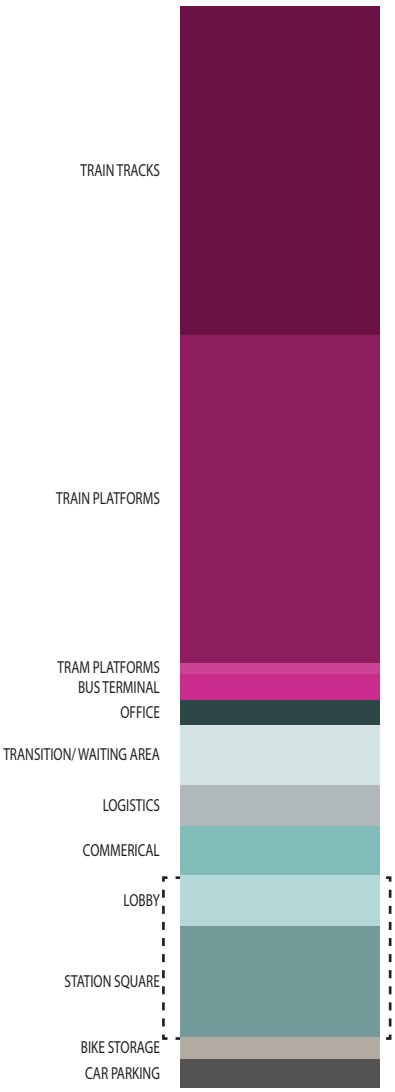
PROGRAM CREATION



ZUIDAS STATION
SITE RELATED



BERLIN HAUPTBAHNHOF
CONNECTIVITY

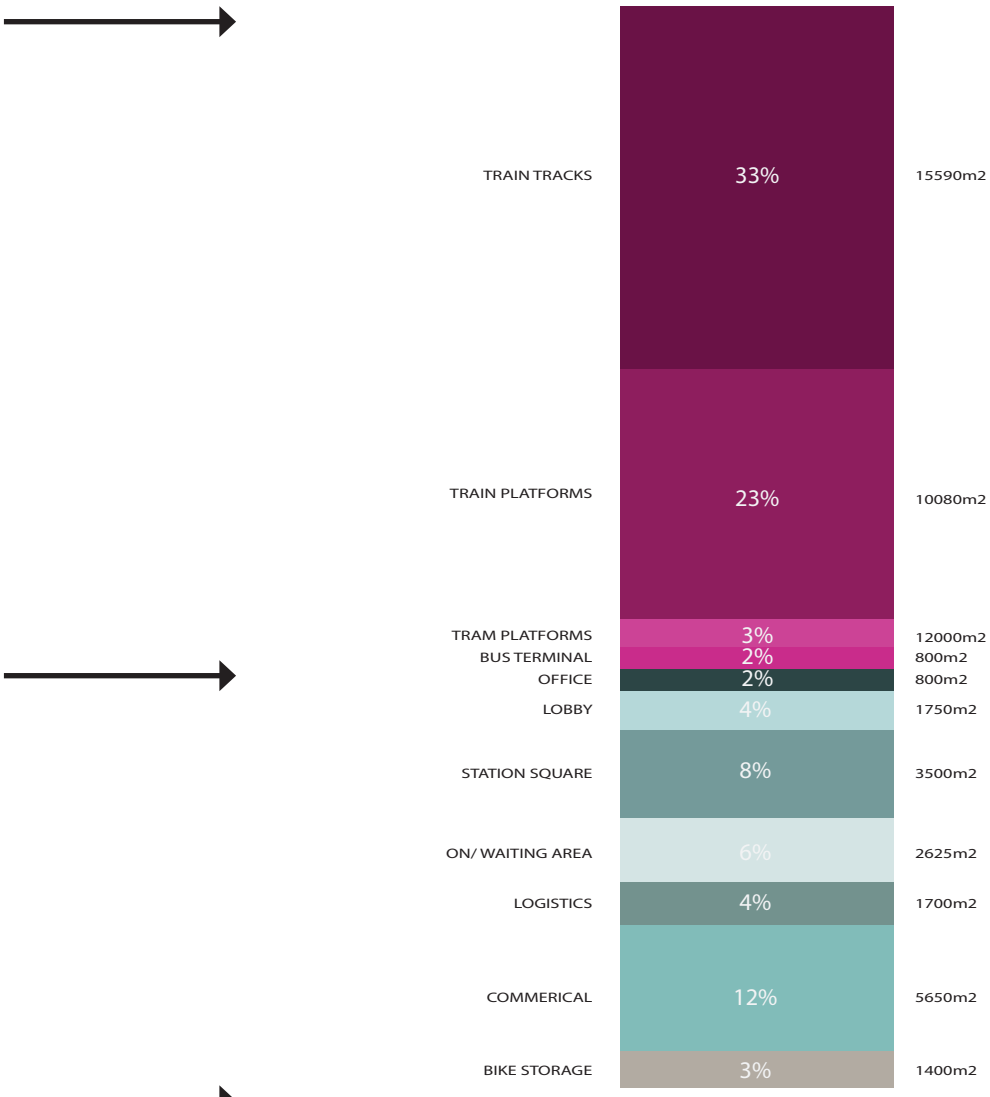


ROTTERDAM CENTRAL
PUBLIC EXPERIENCE

TOPOLOGY STUDIES

Each program was specifically chosen due to a certain apsect or concpet that inspired me while doing president studies. Secondly it was important to find varous types of train stations. Each train station has different users and program designs. Some station are more transition hubs where others focus more on architectural public space.

To produce the right program for the site one must first start with the correct program size for the infrastructure. To determine the infrastructure I used the future Zuidas station m2 to understand what program as reference. With this program I know what is m2 is need for train, buses, metro and tram. In scale to these I use the program of Rotterdam Station for public paces such as transition , public and



COMBINATION OF PROGRAM

lobby space. For connectivity and logistics I use the program percentage of Berlin Central station. For these three major transportation hubs I could realize my square meters of program for my transition terminal.

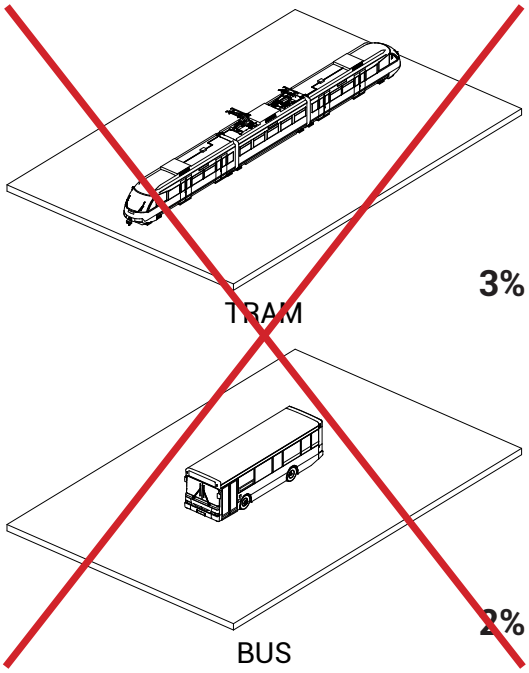
ADDITIONAL PROGRAM: (FLEX) OFFICES

During the past few years Zuidas has seen little office vacancy. Amsterdam has some of the lowest office vacancy in the Netherlands with 17% and the Zuidas itself at less than 5%. The growing demand keeps increasing and the supply of the office spaces can not keep up. With the past Brexit movement , the demand has sky -rocketed even higher. Many multinational companies are moving their headquarters from London to Amsterdam Zuidas due to its close prximity to schiphol. Thus it seems a good investment to add office spaces to the Transition trade terminal.These office spaces would consist out of flex office spaces, individual workspaces, meeting rooms and open workspaces. Not only does this financial seem a good investment , these open workspaces can bring the international and local community much closer. The spaces could be used for visitors, tourist, traveling business people and locals.

35%
30%
25%
20%
15%
10%
5%
0%
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016
vacancy rate Zuidas district
vacancy rate Amsterdam
Vacancy rate Zuidas vs Amsterdam (2005-2016)
800
700
600
500
400
300
200
100
0
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016
Stock development Zuidas (in thousands sq m)
Our LOVE is
here to stay
Not for a YEAR
But ever
and a day

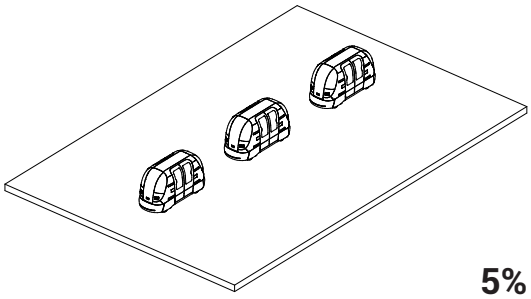
IMPLIMENTING PODS

Mobility and transport systems are constantly undergoing changes to improve them. We are trying to made molity more faster, saver and easier to use. One aspect one can conclude is that a (partially) driverless systems are starting to become a reality. One such a example of driverless transportational system is the ultra pod vehicles used at Hearthrow Airport. Though these pods are still being used on a quite small scale, I forsee these pods to be able to serve a district such as the Zuidas. Therefore I have implimented them im my program bar



TRAM 3%

BUS 2%



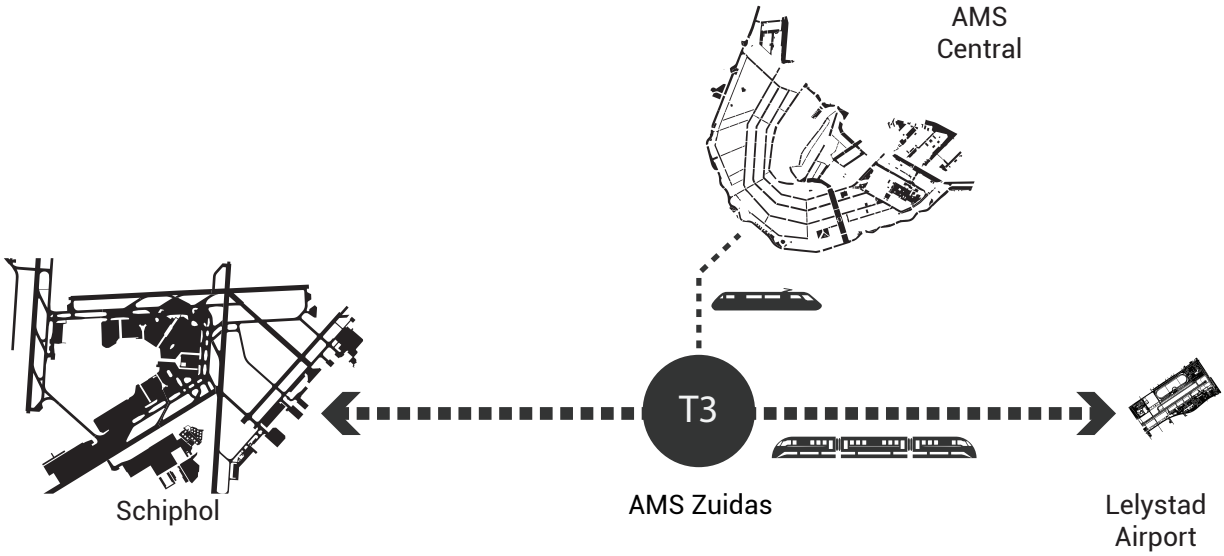
PUBLIC ON-DEMAND SERVICE 5%

BUS & TRAM VERSUS PUBLIC ON-DEMAND SERVICES

- Fixed bus stop locations and bus times
- Less Sustainable and economical
- Driven by driver
- Not opitmized passenger density
- Large size roads
- Transport system can not run decrease drag and increase speed
- Needs distance between vehicles and is part of traffic jams
- Infrastructure needed (especially tram system)

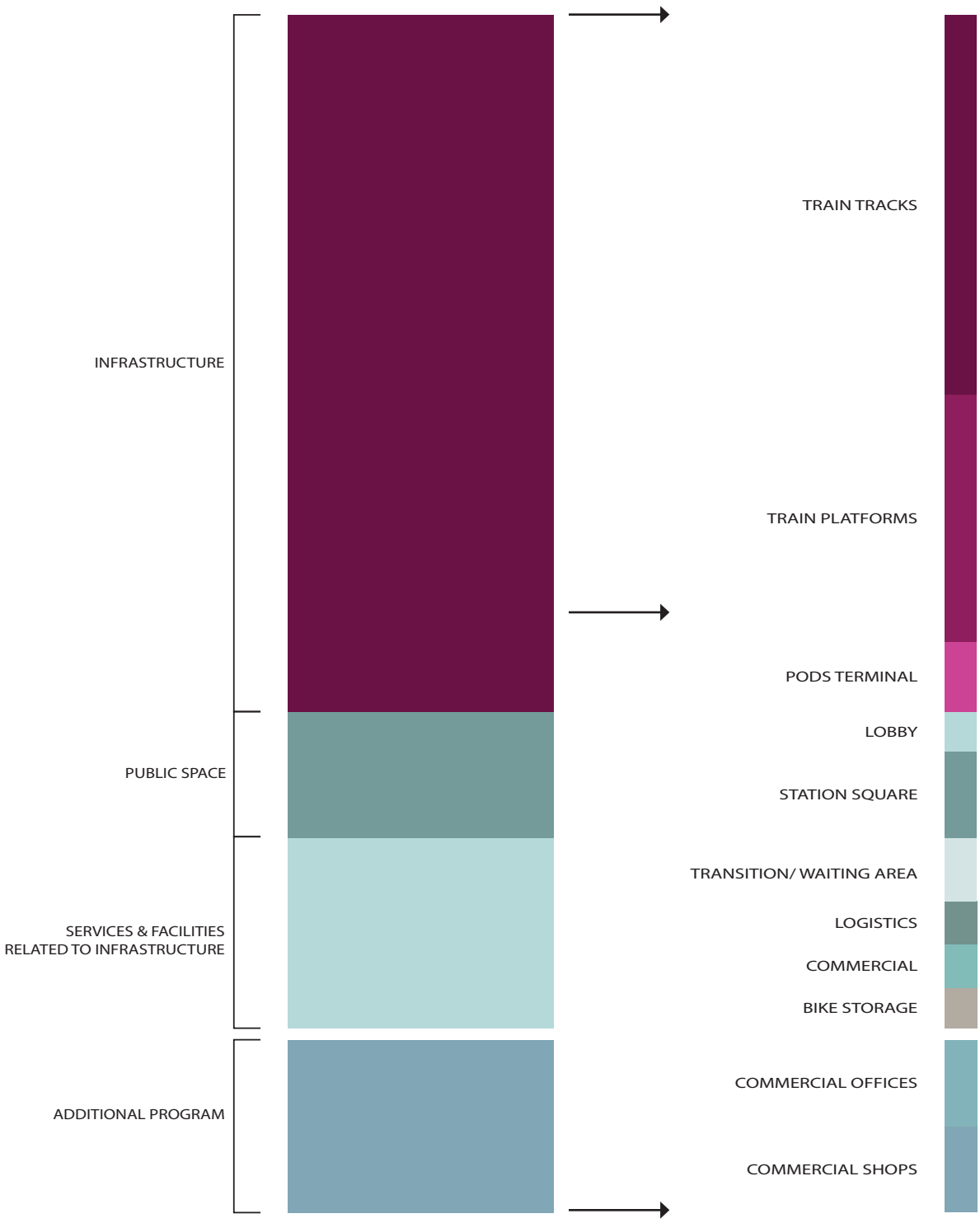
ADDITION OF AIRPORT EXPRESS

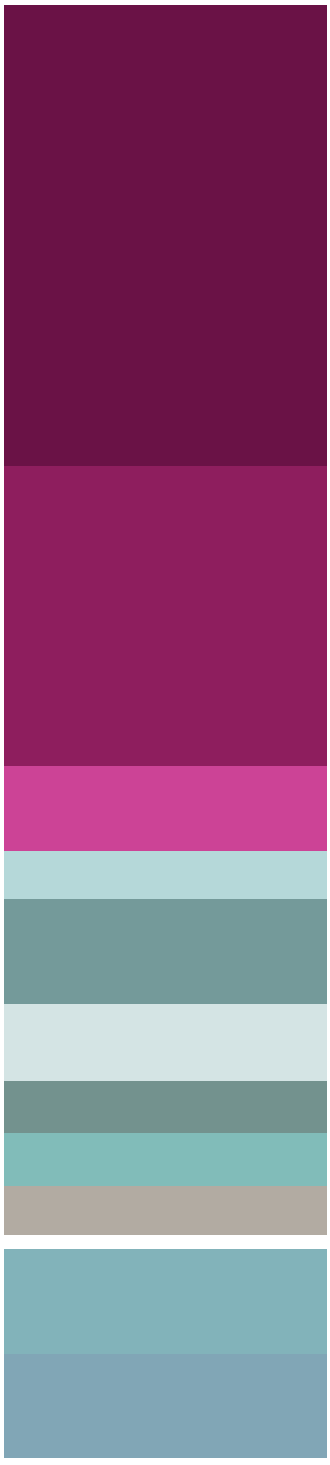
As previously mention Schiphol airport and Lelystad airport are planning on sharing air traffic. More flights will be planned to departure from Lelystad airport. This partnership will increase the amount of tourist and business people coming towards Amsterdam from to different directions. For this reason I will add an express line running between Schiphol Airport and Lelystad Airport and Amsterdam South. This Express will cater and serve the large amount of international visitors of the city Amsterdam.



ELDIN GELDENHUYS CP

IN-DEPTH PROGRAM BARS





Train platforms
Metro platforms
Stairs/ elevators/ escalators

15590m2

Train tracks
Metro tracks

10080m2

PODS lanes
PODS platforms
Semi waiting area
Stairs/elevator/escalator
Information/service point
Passengers sidewalk
PODS delivery zone

3400m2

Information point
Stairs/elevator/escalator
Meeting point

1750m2

Entrance space
Vegetation

3800m2

Waiting areas
Space to trasition

2800m2

Storage spaces
Service spaces
Sanitary facilities
Cleaning facilities

1800m2

Grab & go's
Virtual shopping stalls
Mobility related commercial spaces

1800m2

Bike path
Bike storage

1400m2

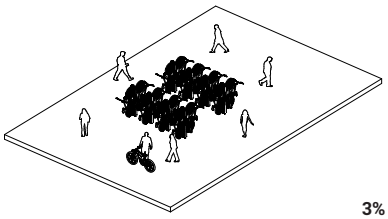
Individual workspaces
Flex spaces
Group workspaces
Meeting rooms
Sanitary facilities

3800m2

Luxury commercial stores
Luxury restuarants
Cafe's
Sanitary facilities

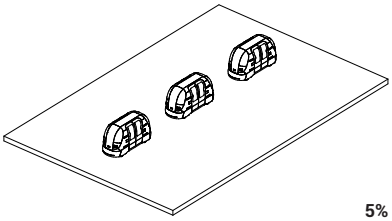
3800m2

IN-DEPTH PROGRAM BARS



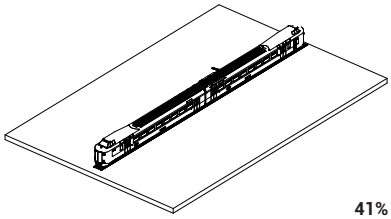
3%

E-BIKE STORAGE



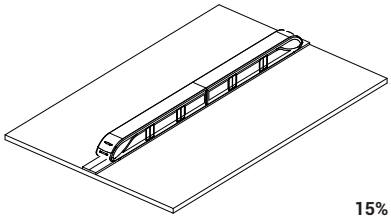
5%

PUBLIC ON-DEMAND SERVICE



41%

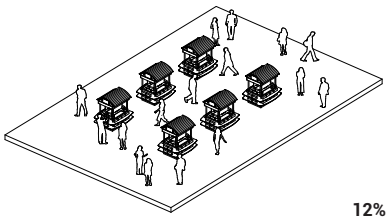
HIGHSPEED TRAIN



15%

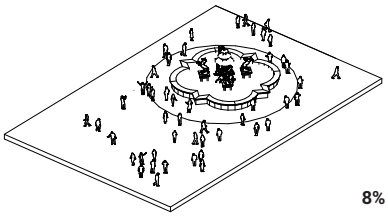
METRO

INFRASTRUCTURAL PROGRAM



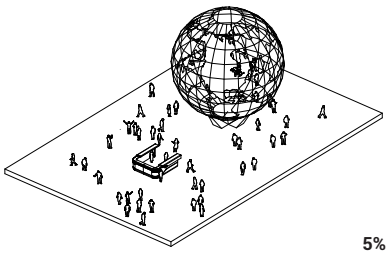
12%

COMMERICAL



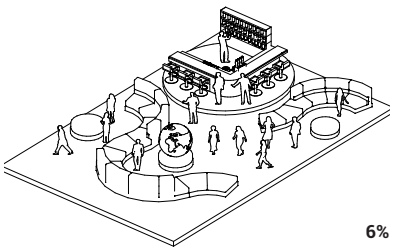
8%

STATION SQUARE



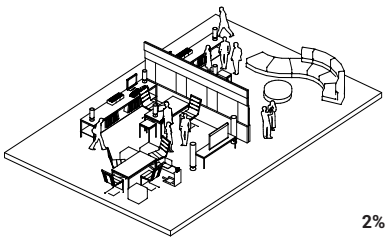
5%

LOBBY



6%

WAITING AREA

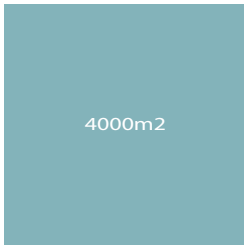


2%

COMMERCIAL OFFICES

SERVICES PROGRAM

BIKE STORAGE



COMMERCIAL OFFICES

LOCAL &
INTERNATIONAL
COMMERCIAL

TRANSITION/
WAITING AREA

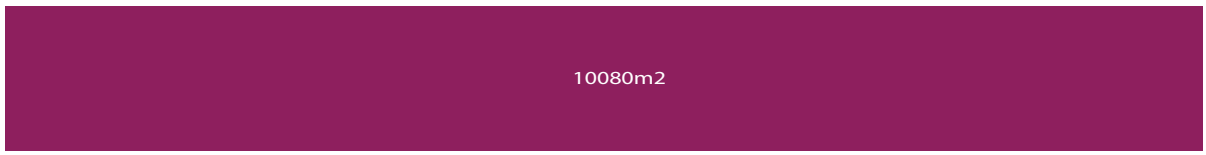
LOGISTICS

COMMERCIAL SHOPS

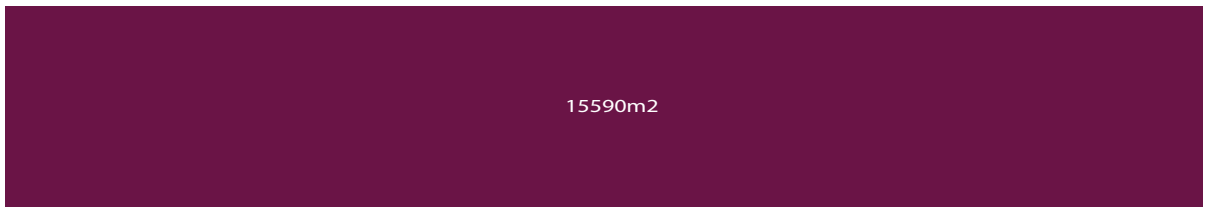
LOBBY

STATION SQUARE

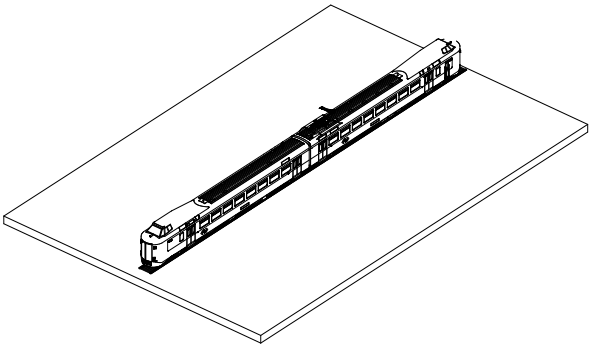
PODS TERMINAL

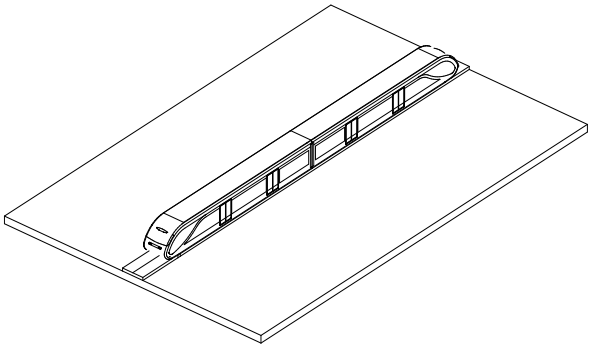


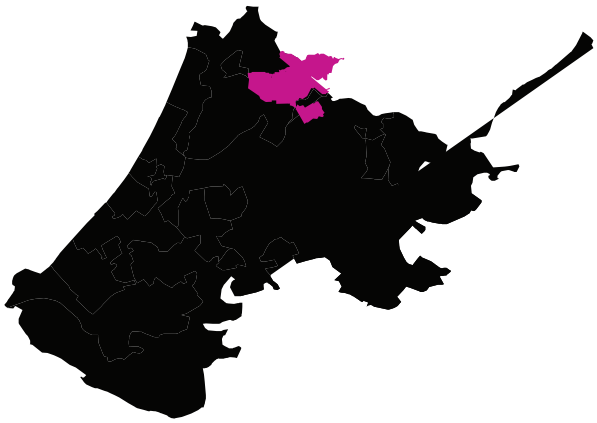
TRAIN PLATFORMS



TRAIN TRACKS

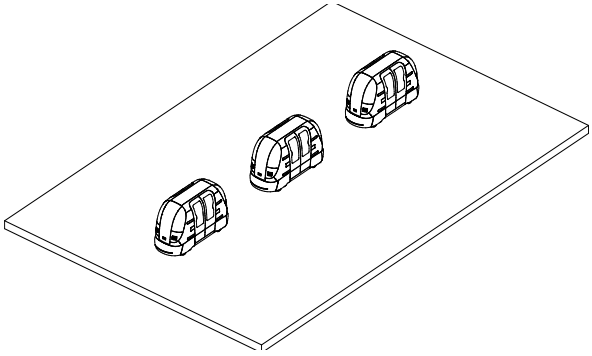


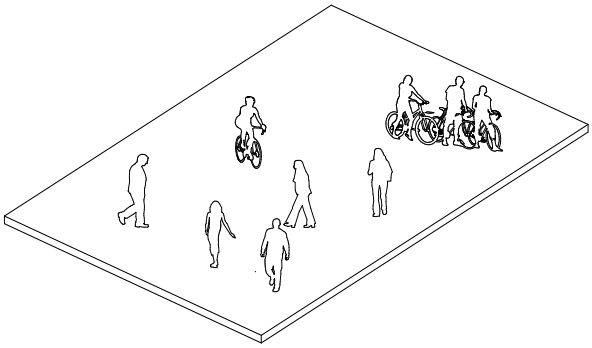


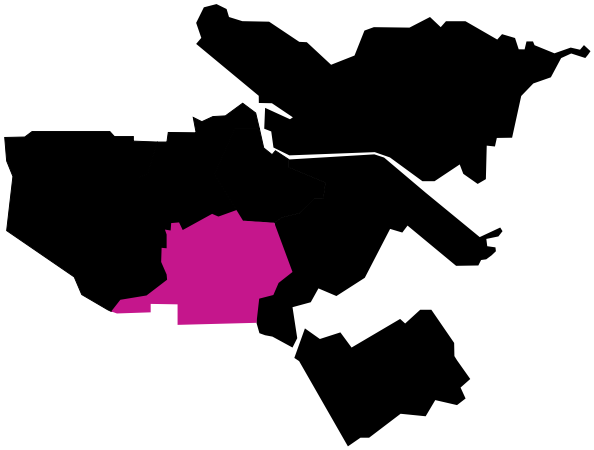


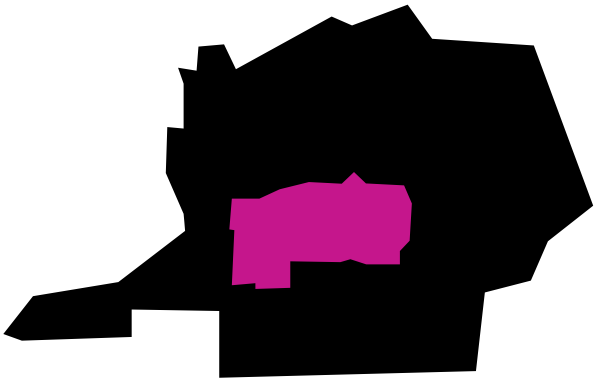
THE NETHERLANDS & RANDSTAD
COUNTRY & MEGALOPOLIS

AMSTERDAM
REGION



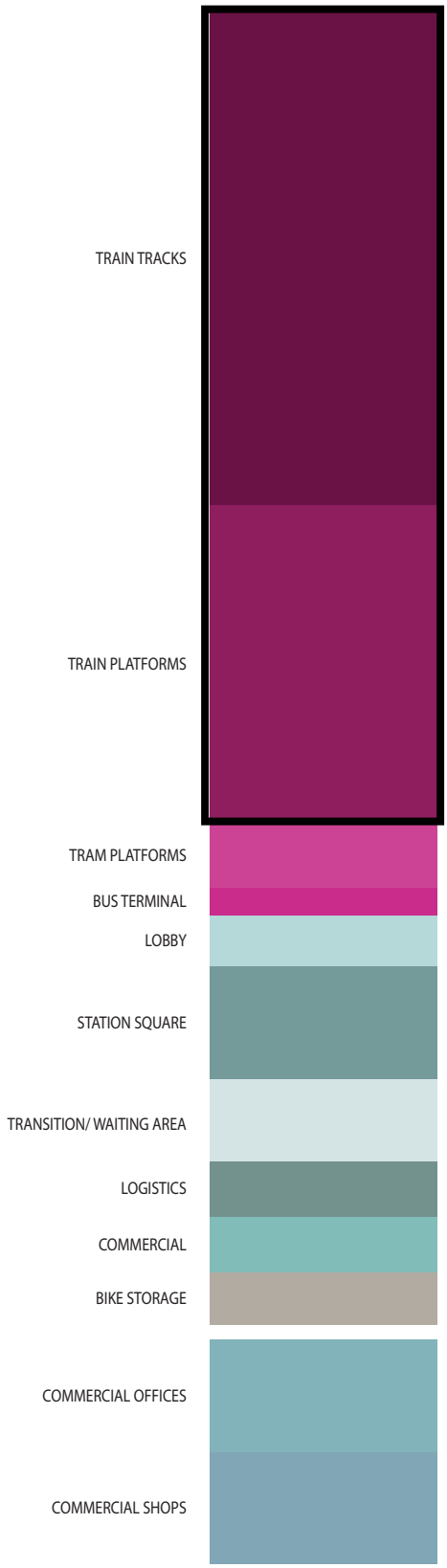




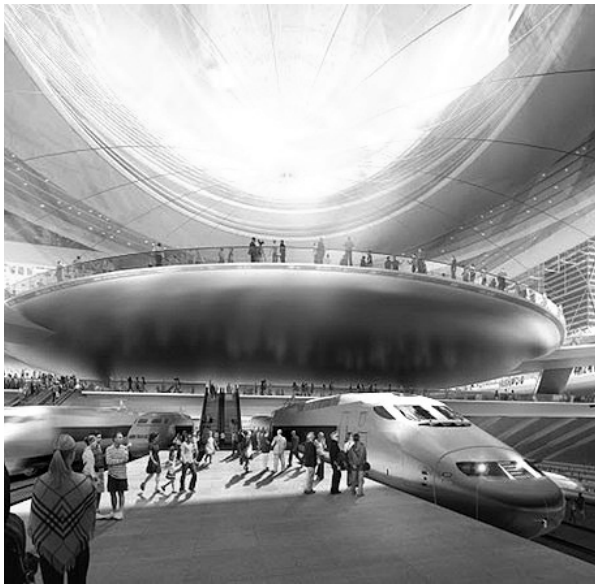


AMSTERDAM ZUID
DISTRICTS

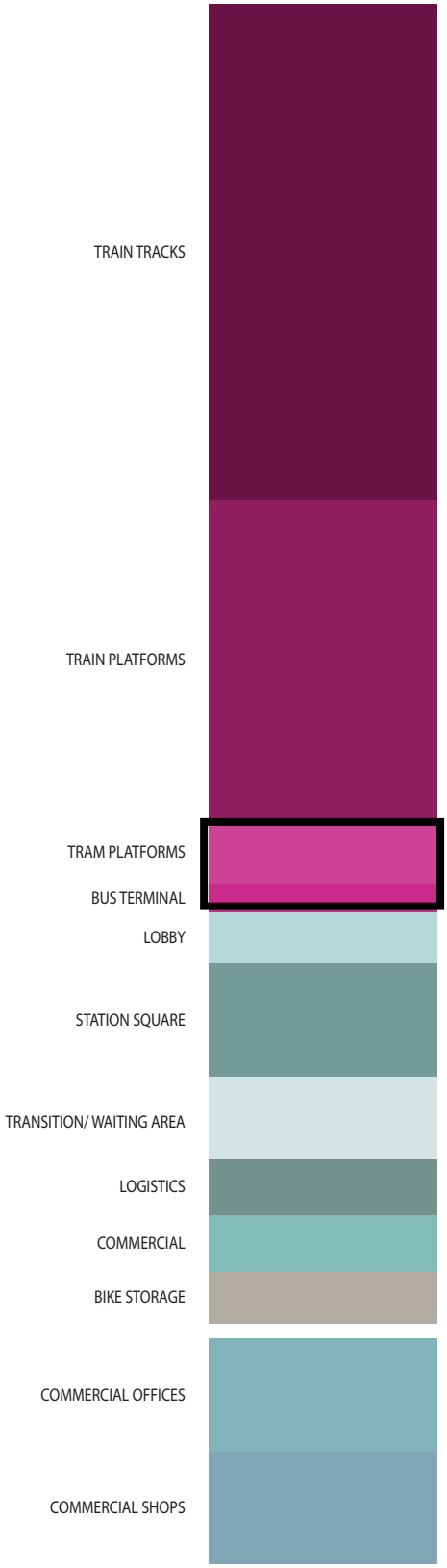
ZUIDAS
SITE & SURROUNDINGS


TRAIN TRACKS
TRAIN PLATFORMS
TRAM PLATFORMS
BUS TERMINAL
LOBBY
STATION SQUARE
TRANSITION/ WAITING AREA
LOGISTICS
COMMERCIAL
BIKE STORAGE
COMMERCIAL OFFICES
COMMERCIAL SHOPS

DEPARTURES



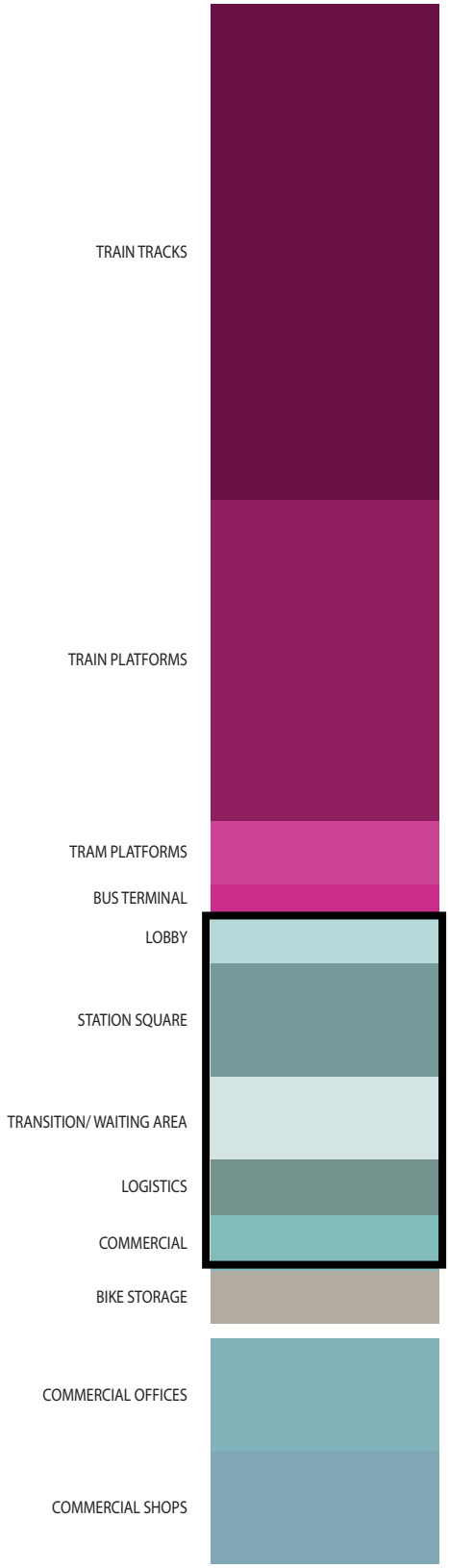
MELB
FLINDER


TRAIN TRACKS
TRAIN PLATFORMS
TRAM PLATFORMS
BUS TERMINAL
LOBBY
STATION SQUARE
TRANSITION/ WAITING AREA
LOGISTICS
COMMERCIAL
BIKE STORAGE
COMMERCIAL OFFICES
COMMERCIAL SHOPS

37
4
12

Hi I'm olli
olli

THE DUOMO


TRAIN TRACKS
TRAIN PLATFORMS
TRAM PLATFORMS
BUS TERMINAL
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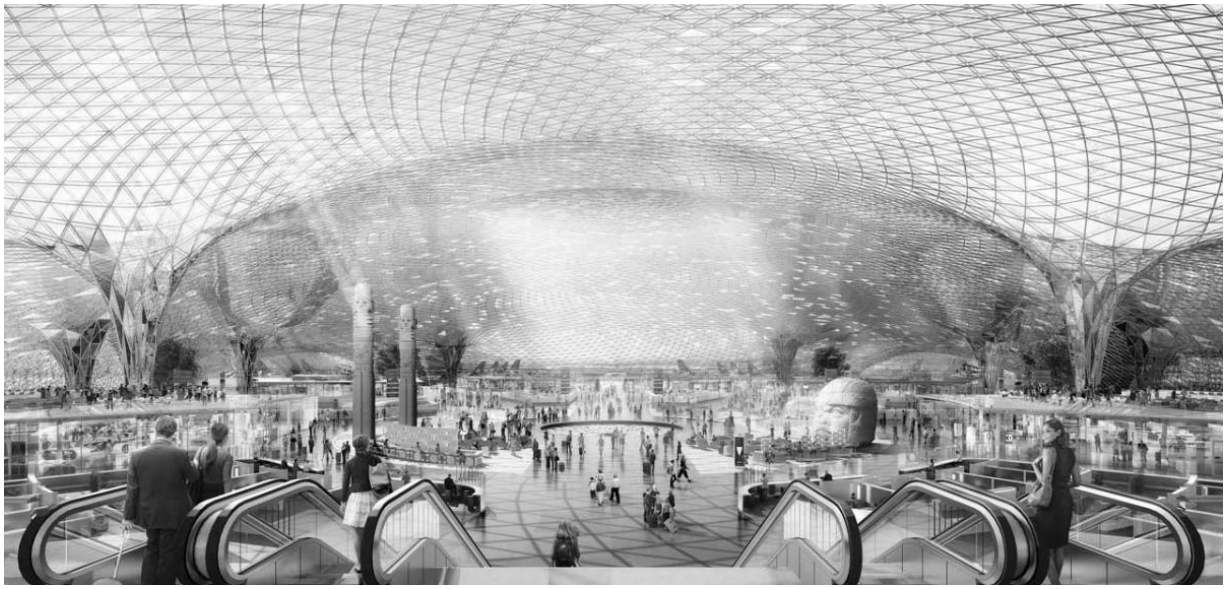
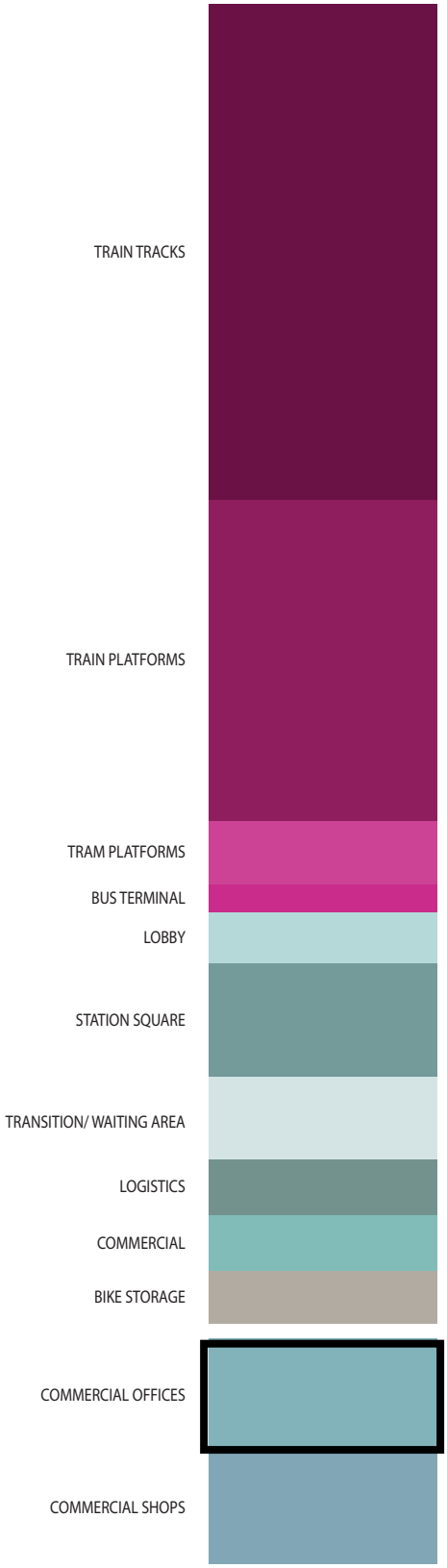
COMMERCIAL
BIKE STORAGE
COMMERCIAL OFFICES
COMMERCIAL SHOPS

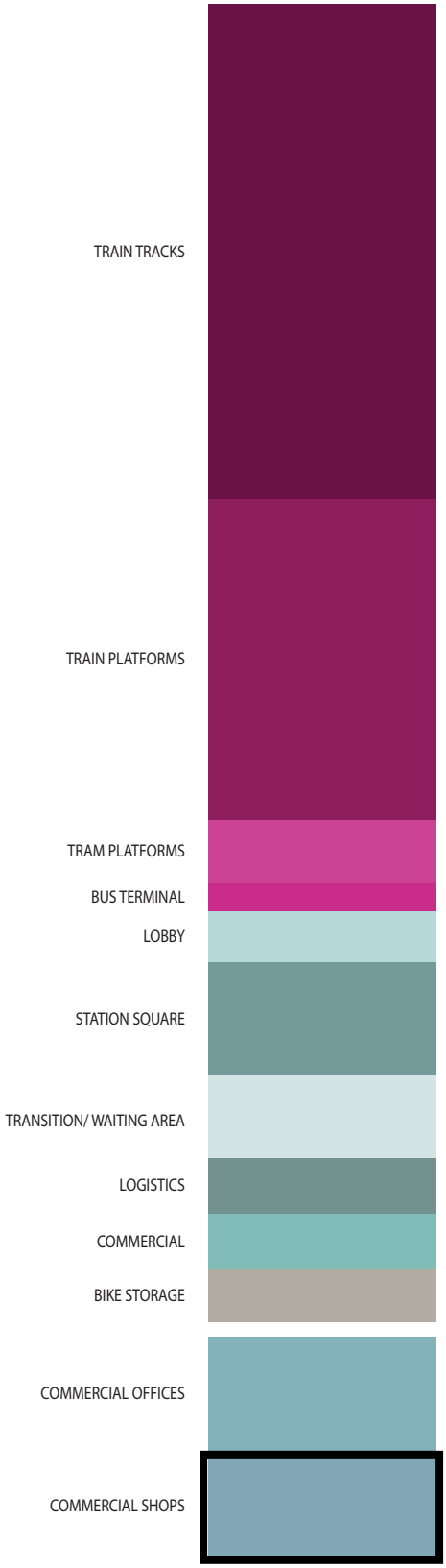


AMTRAK
LIRR
TICKETING
LIRR TICKETING


TRAIN TRACKS
TRAIN PLATFORMS
TRAM PLATFORMS
BUS TERMINAL
LOBBY
STATION SQUARE
TRANSITION/ WAITING AREA
LOGISTICS
COMMERCIAL
BIKE STORAGE
COMMERCIAL OFFICES
COMMERCIAL SHOPS

Orange
Labs

HR


TRAIN TRACKS
TRAIN PLATFORMS
TRAM PLATFORMS
BUS TERMINAL
LOBBY
STATION SQUARE
TRANSITION/ WAITING AREA
LOGISTICS
COMMERCIAL
BIKE STORAGE
COMMERCIAL OFFICES
COMMERCIAL SHOPS

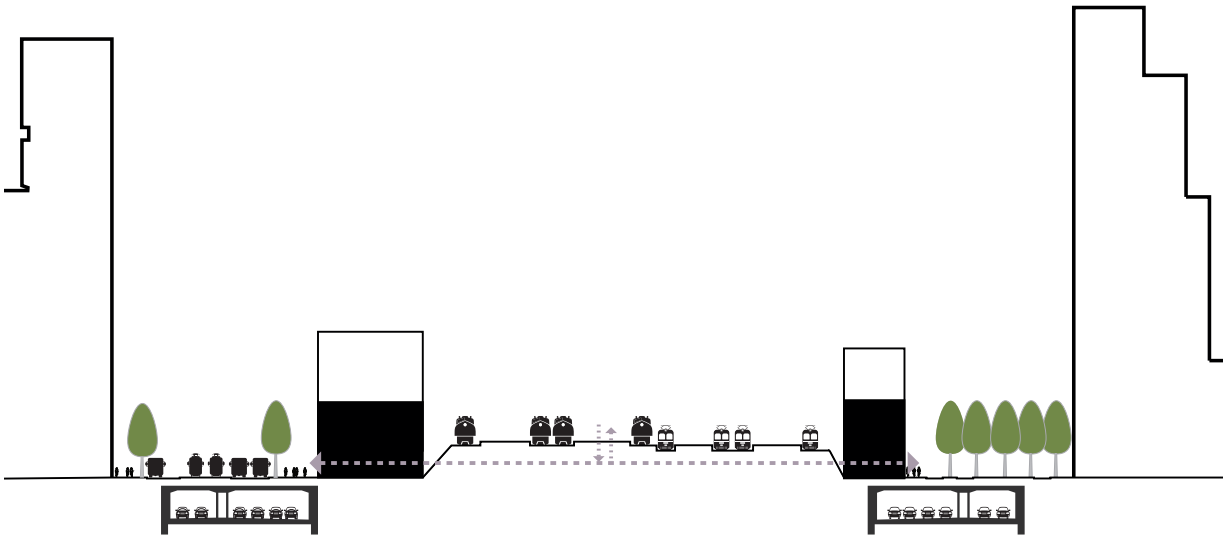
BAR

Amsterdam Zuid M

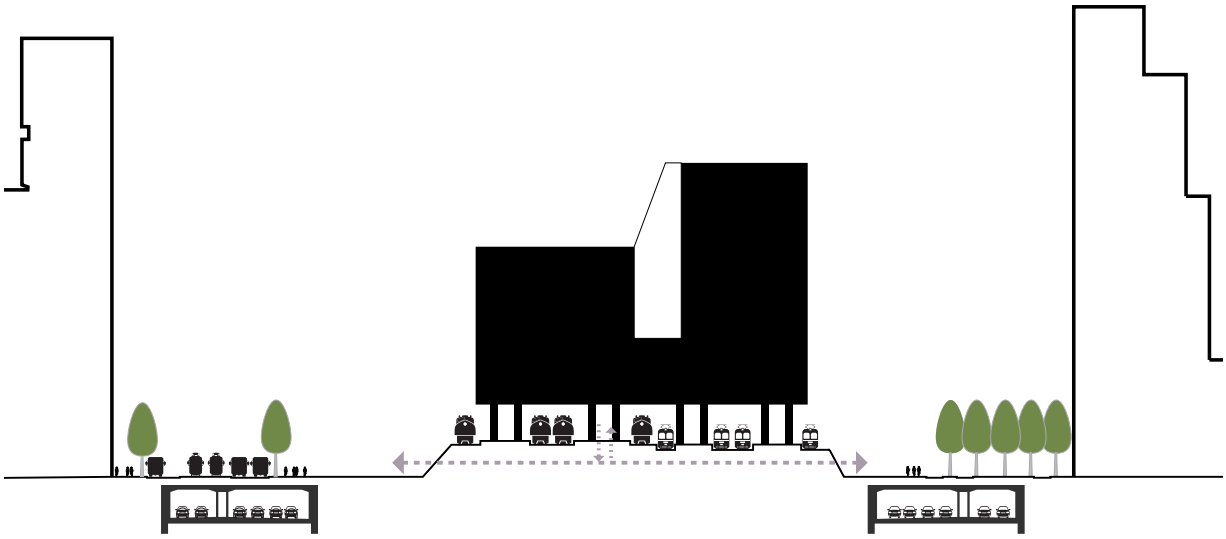
ZUIDAS SITE RESEARCH

PLACEMENT STATION & FUNCTIONS

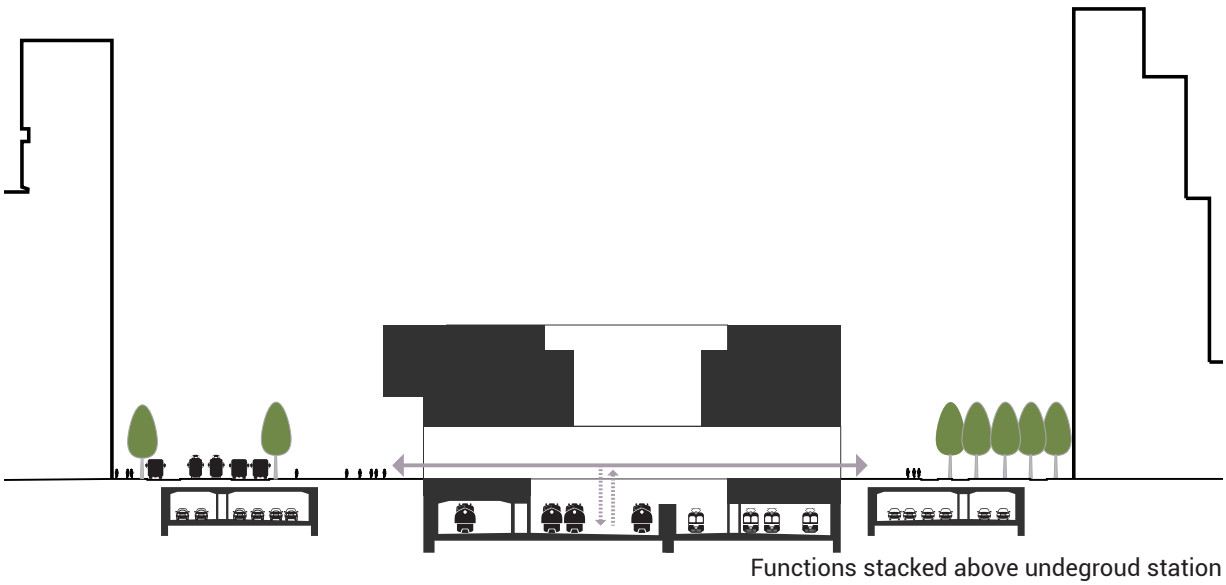
There seems to be three options when placing the station and its additional/supporting program functions. One can either keep the station above ground as it is currently or it can be situated under ground level. Secondly the supporting functions of the station can either be place underneath, above or in close proximity surrounding the station. In all plans I have chosen to not connect the Zuidas station to the highway which is situated underground.



Limited functions underneath station



Functions stacked above station

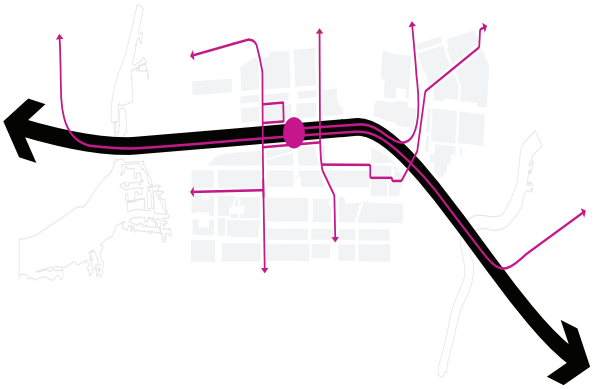


Functions stacked above undegroud station

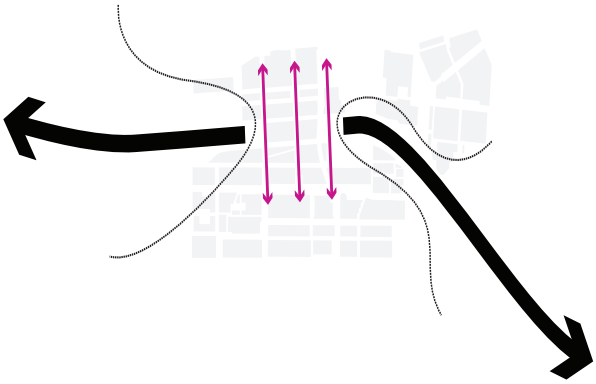
MUNICIPALITY FOCUS POINTS

During the creation of the ZuidasDok the municipality has appointed three major design objectives that would be used primary when designing the Zuidas Station. These three starting points are making the Zuidas station a transition point for public transport, improving the barrier created by the infrastructure of the railway and A10 highway, and lastly designing a public space for the workers, citizens and tourist of the Zuidas district.

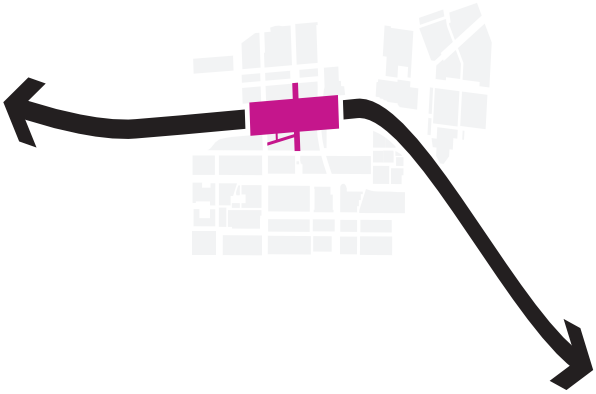
Zuidas as transition terminal



Zuidas as barrier breaker

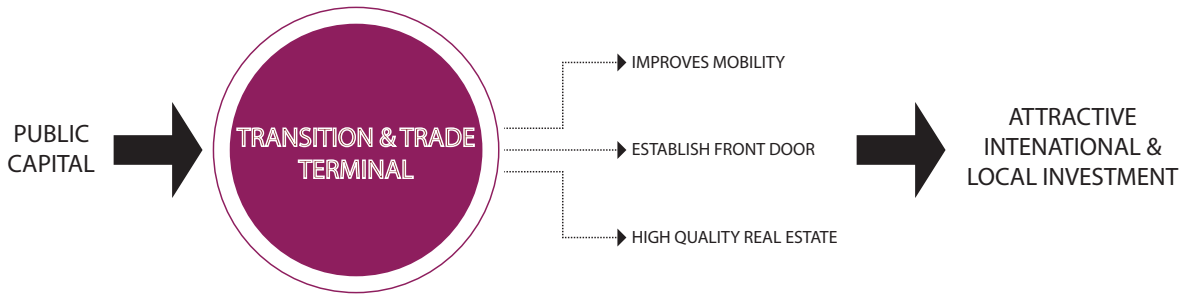


Zuidas as public space

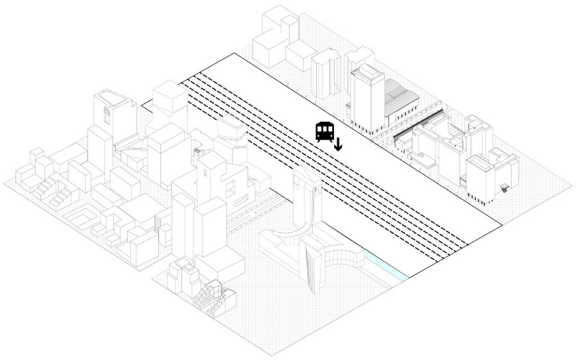


MASTERPLAN

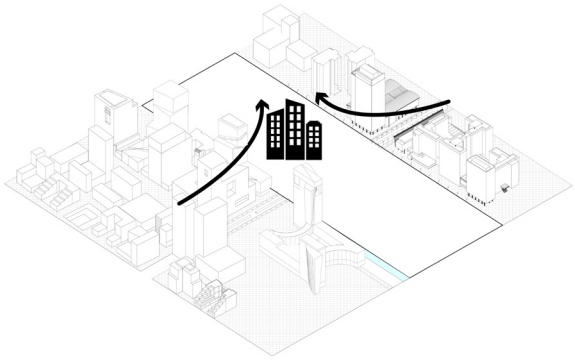
Because the Zuidas Station will become the new front door to Amsterdam, One must experience the station on a different way than just a normal transportation station. The materials and structure must capture the essence of the might and good fortune of the Zuidas but also give a welcoming expierence to visitors and commutors. A balance of global power and expression of local culture must be display within the building. Futhermore it is of importants to maximize daylight within the building.



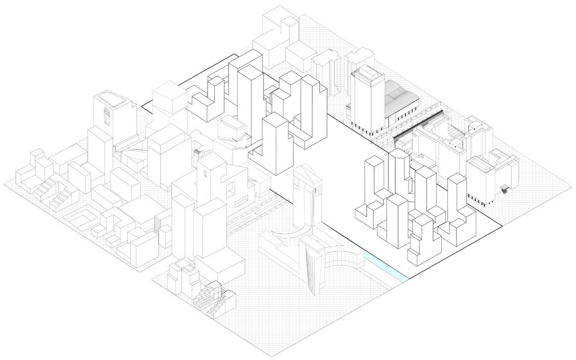
2. Divide between statio



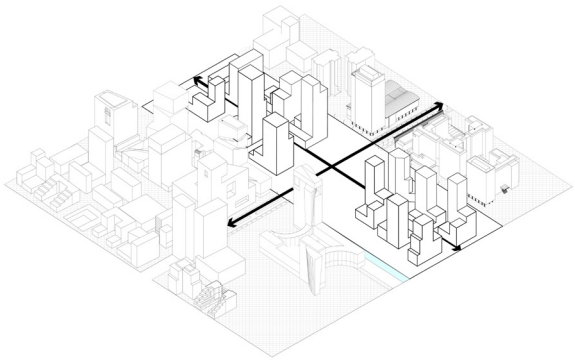
1. Place train rail underground



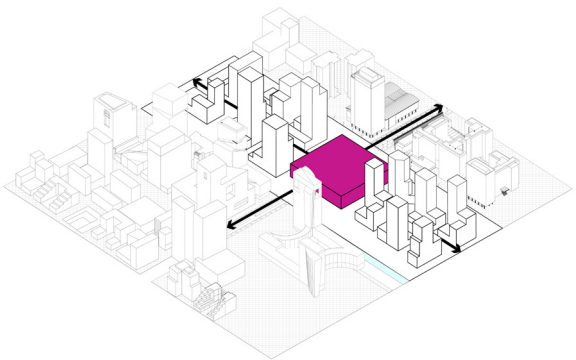
2. Connecting the north adn south of Zuidas



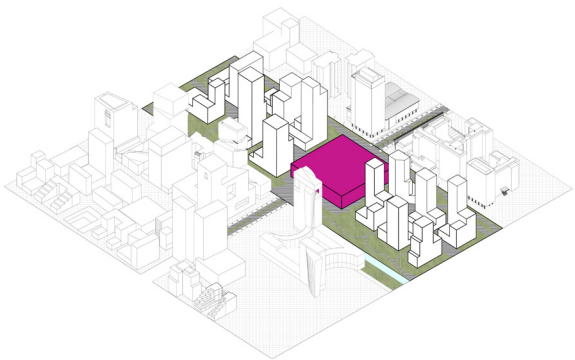
3. Place supporting functions



4. Directions to terminal



5. Movement between functions



6. Place public spaces

n & additional functions

SITE ANALYSIS

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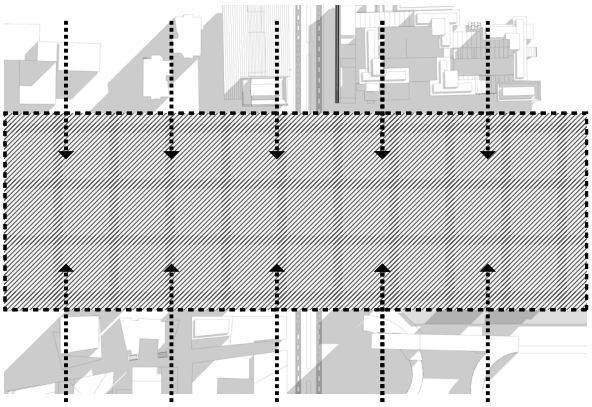
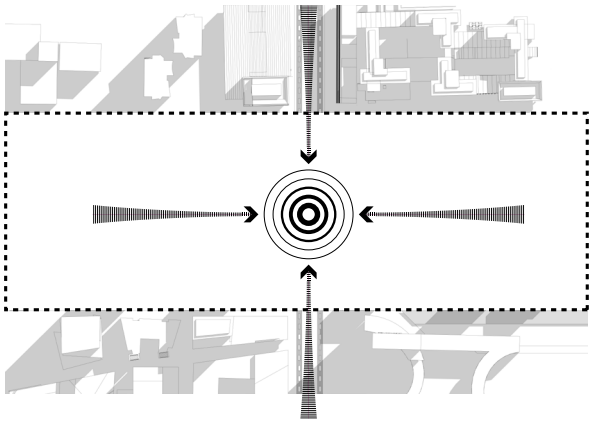
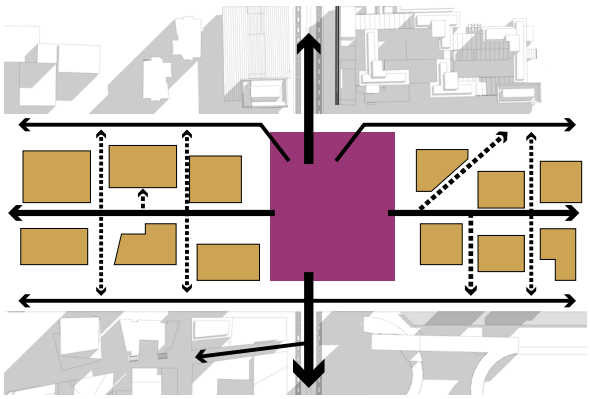


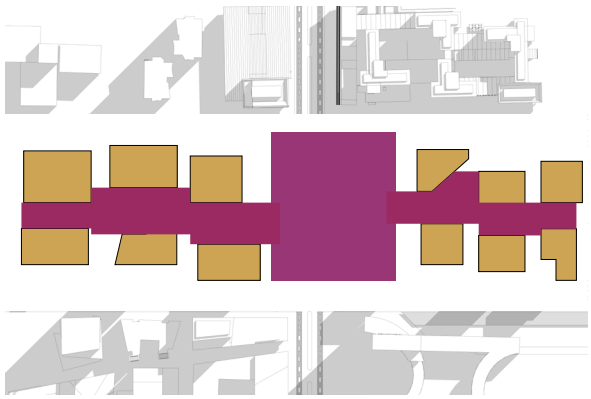
1. Connect the city



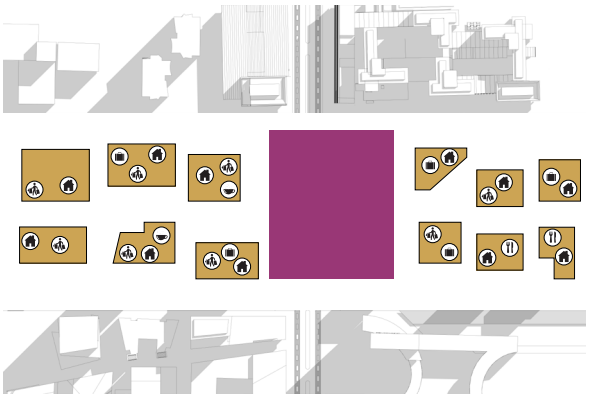
2. Place station centered within masterplan



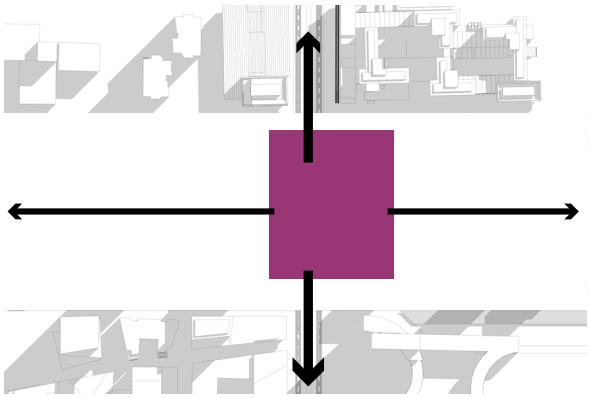
5. Movement between functions



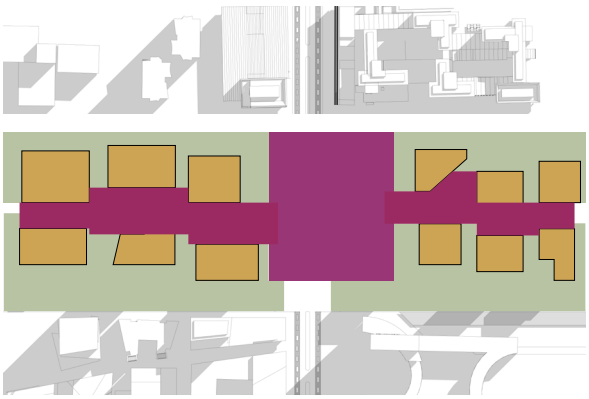
6. Place public spaces



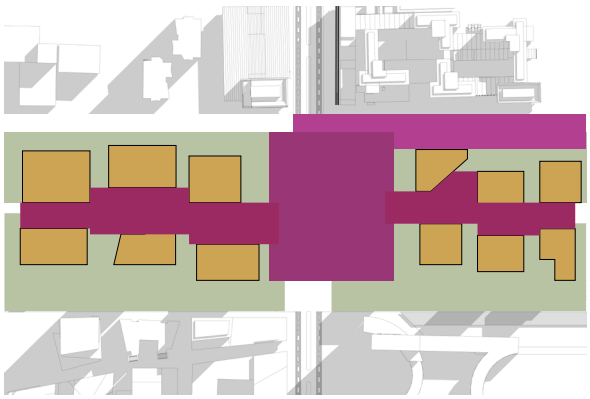
3. Place supporting functions



4. Directions to terminal



7. Add green zones

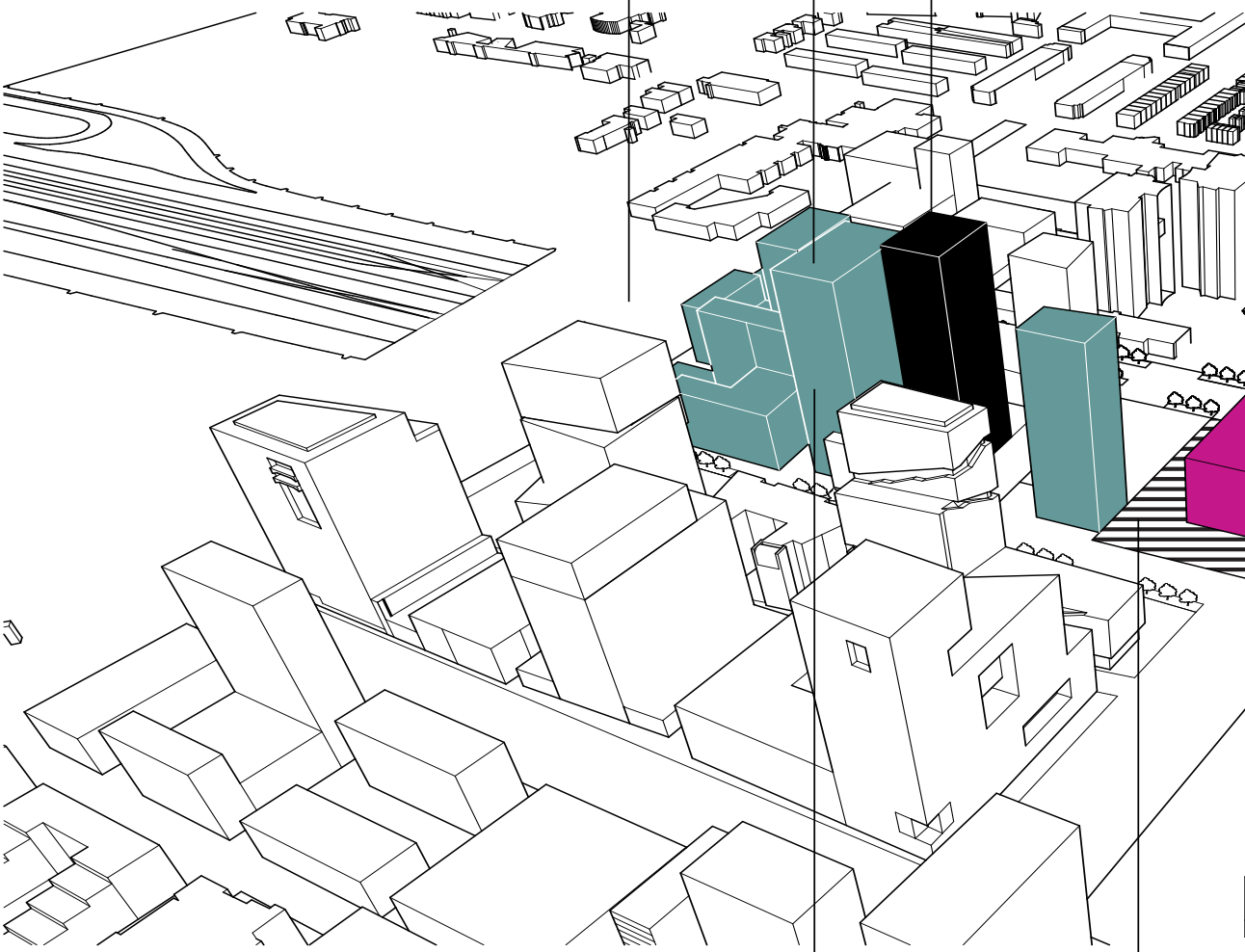


7. Intigrate groups vision boulevard

Adds more mix function to over populated offices buildings

Tourist attractions econmical playgro with addition of ta building in Amster

Enviromentally much more appealling for the citizens of Zuidas. Less noise, toxic waste and distribence of highway and trains.



Adds prime location real Estate to Zuidas for local and international investors which could never be there with rail way

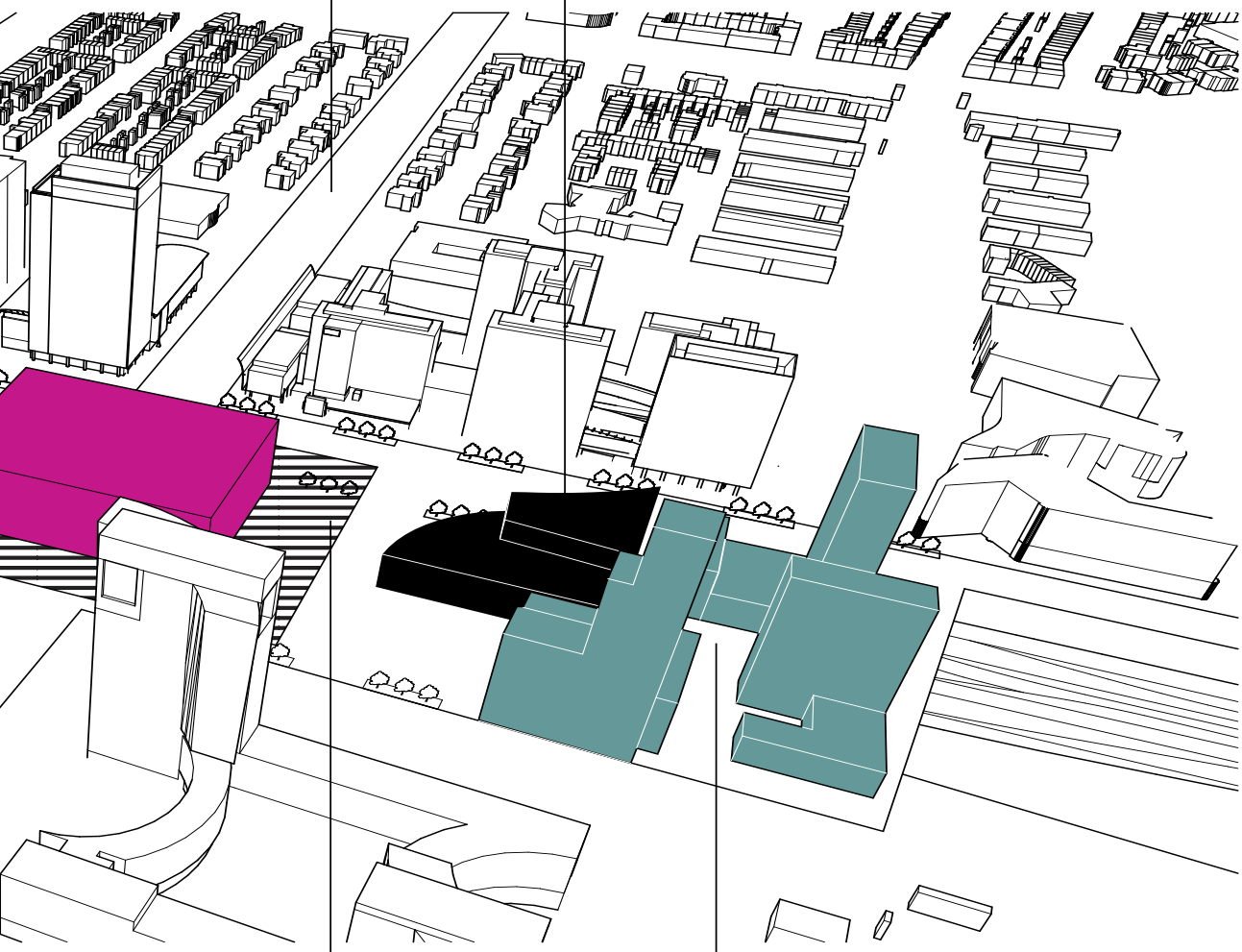
infra opti out

MASTERPLAN DESIGN SKETS
conculsion of masterplan

catalyst for Zuidas
and Oud Zuid.
Exspecially the Plan
Zuid axis.

s for
ound
llest
rdam

Livens up the “strict”
and office related
enivroment with shops
and culture amenities.



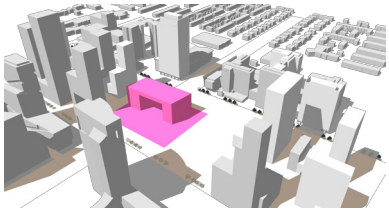
astructure is
mized and
of sight

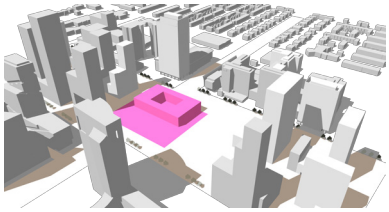
Displays a global city
and front door. An
investment for atleast
the coming 100 years.

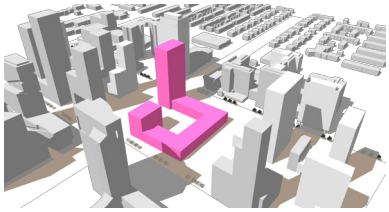
Removes barrier
which crippled
Amsterdam and
Zuidas for decades.

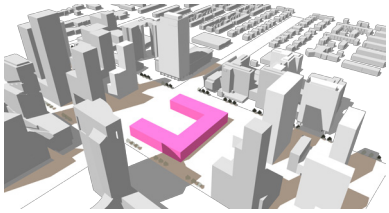
FORM STUDY

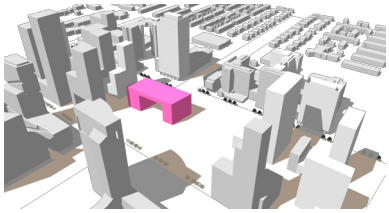
Because the Zuidas Station will become the new front door to Amsterdam, One must experience the station on a different way than just a normal transportation station. The materials and structure must capture the essence of the might and good fortune of the Zuidas but also give a welcoming expierence to visitors and commutors. A balance of global power and expression of local culture must be display within the building. Futhermore it is of importants to maximize daylight within the building.

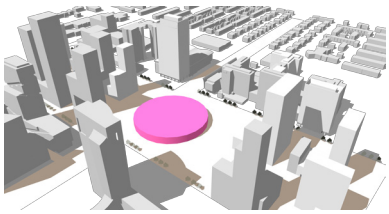
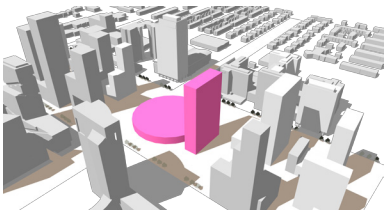
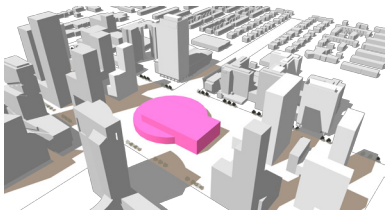
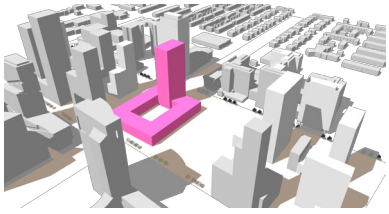
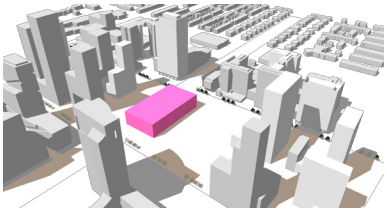
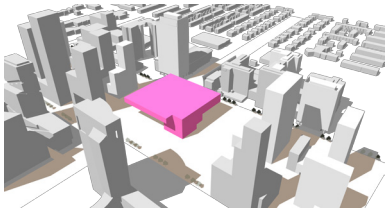
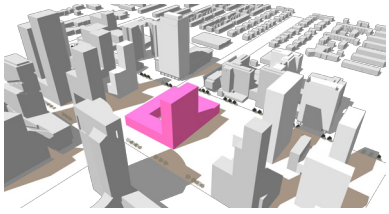
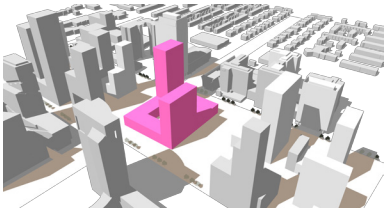
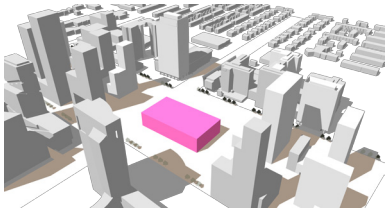
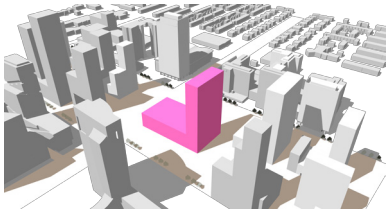
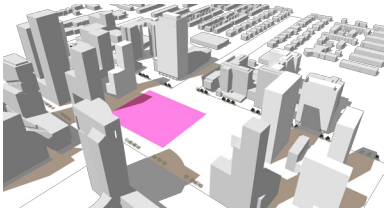
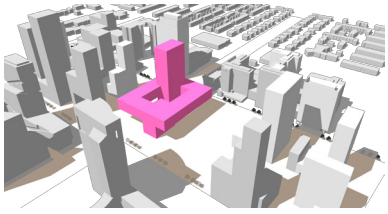


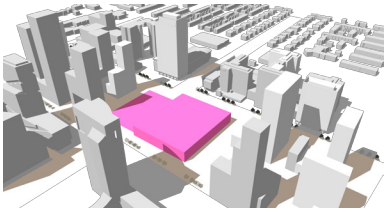
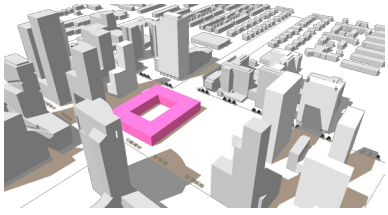








SITE APPROACH

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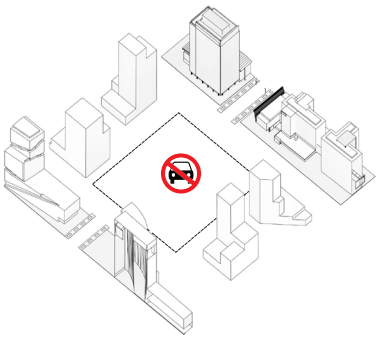
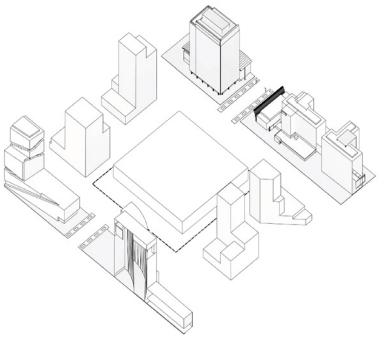
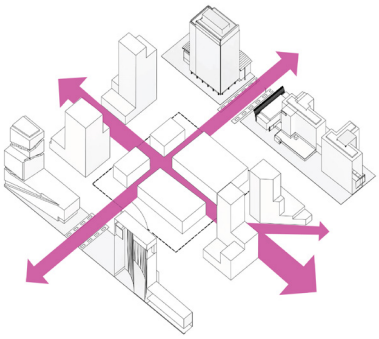


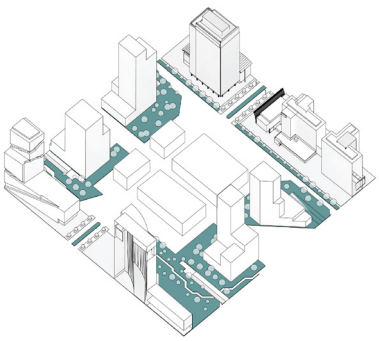
1. No vehicles within plot



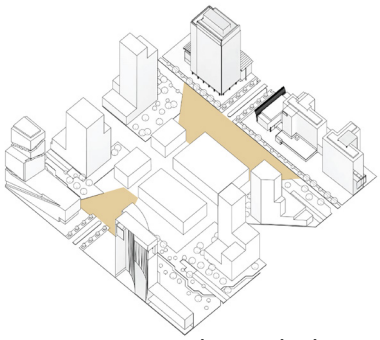
2. Placement of program



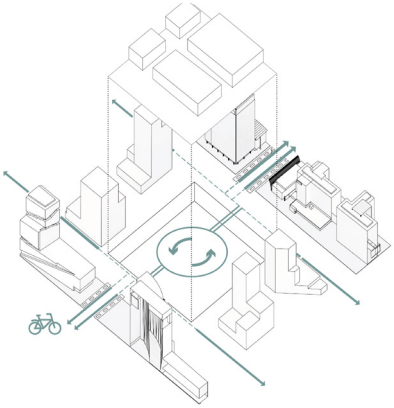
3. Penetration of axis



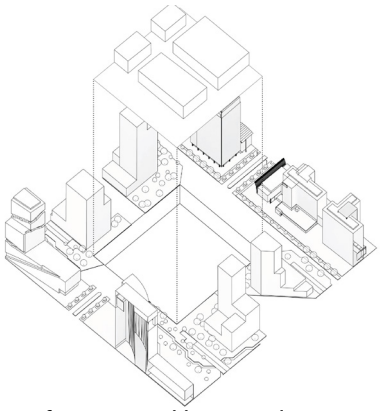
4. Placement green zones



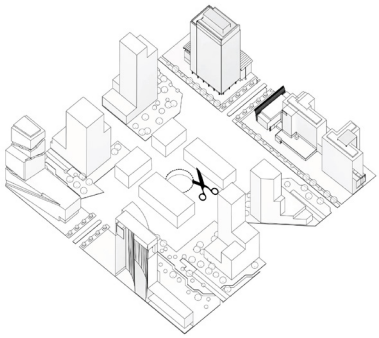
5. Entrances towards Terminal



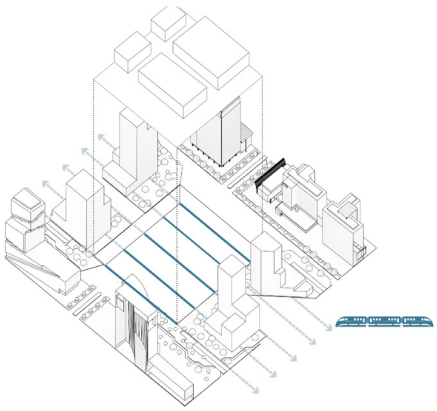
6.3 Bike paths



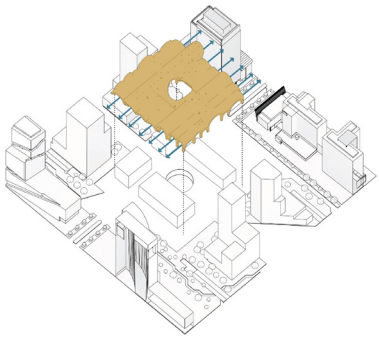
6. Infrastructural intervention



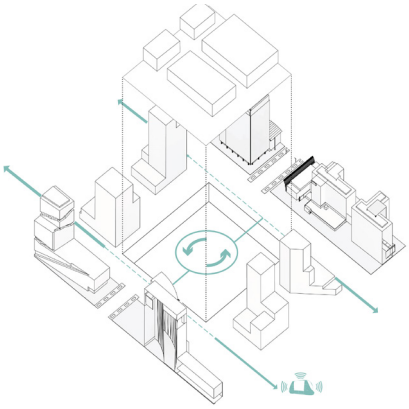
7. Creating visual connection



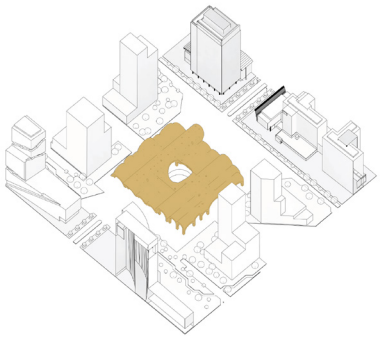
6.1 Train platforms



8. Element that displays axis direction

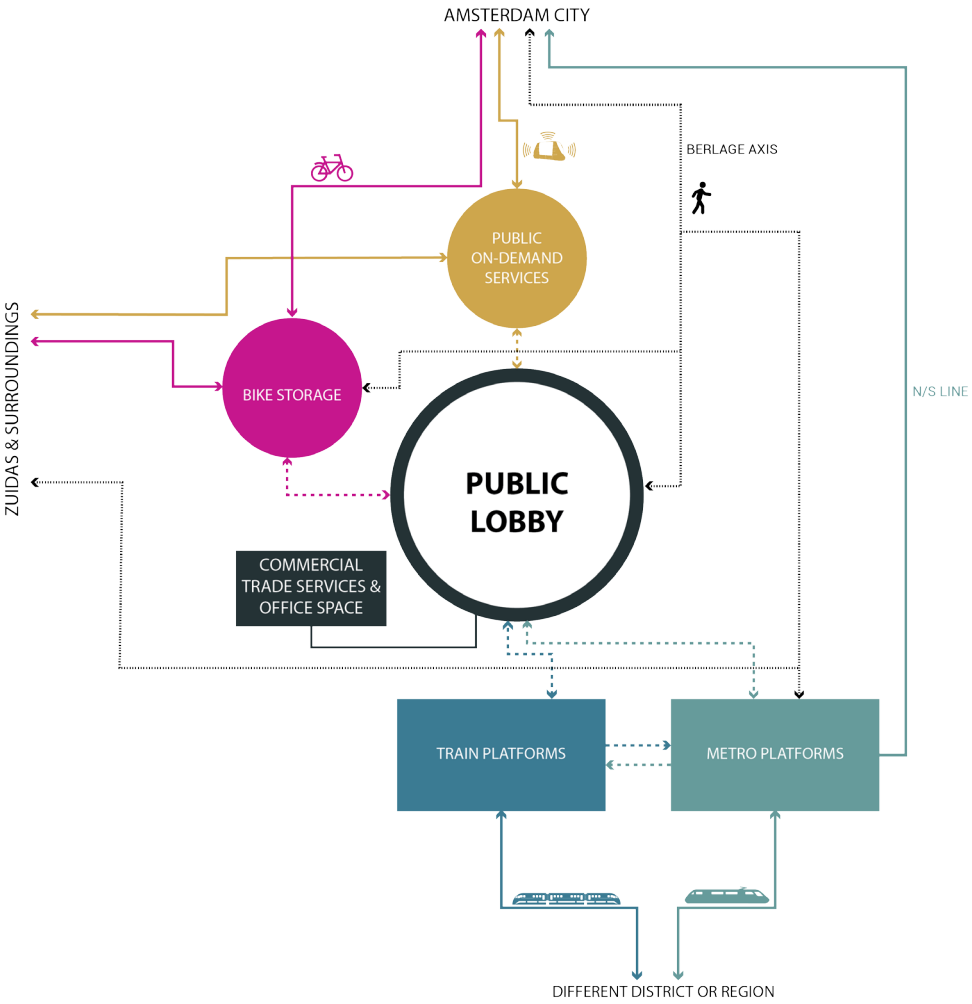


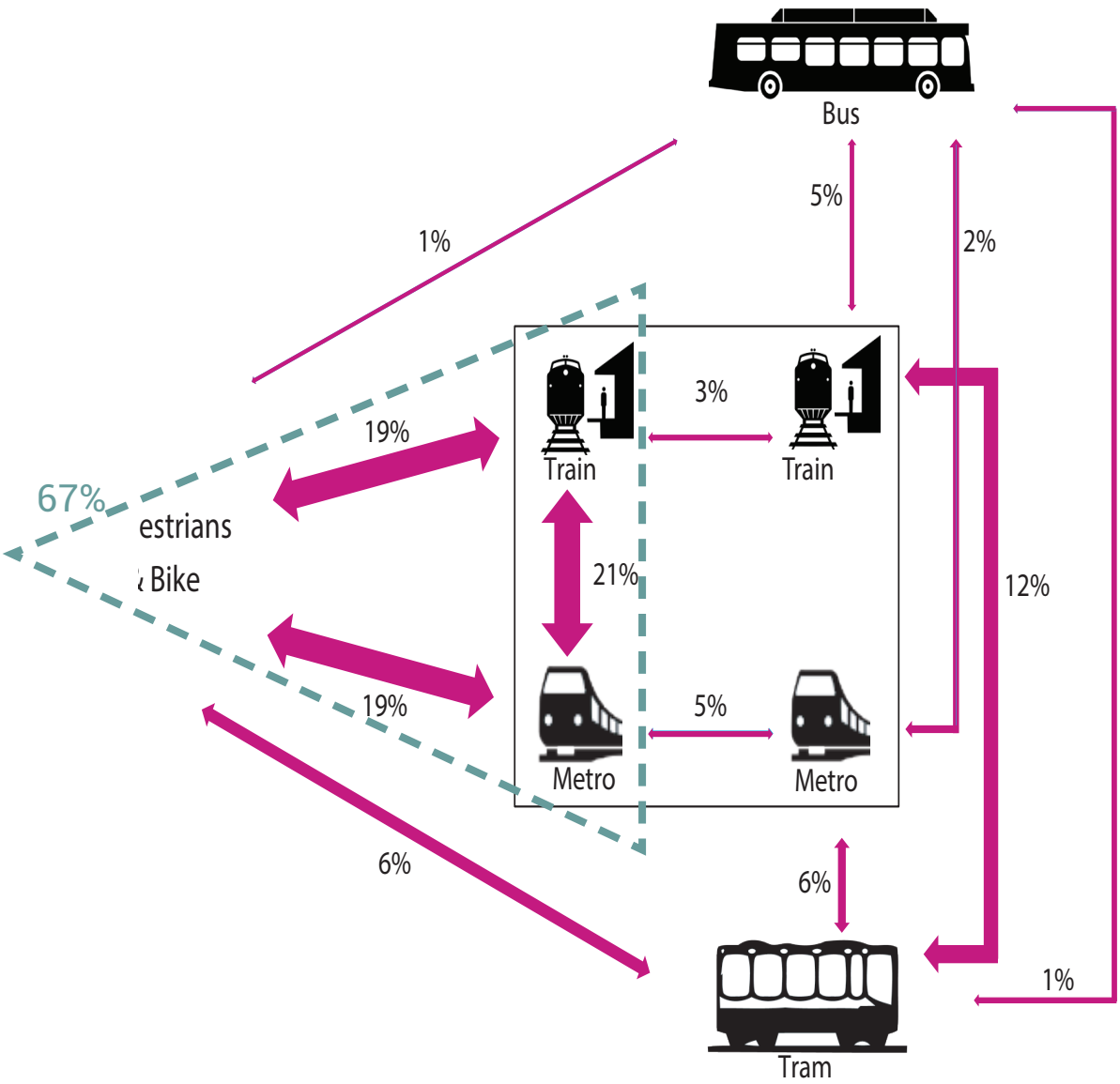
6.2 Public on-demand services



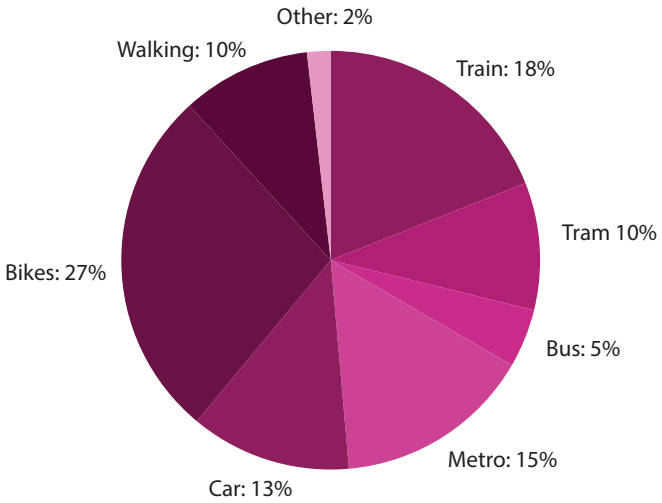
9. Place one element that combines all functions

LOGISTICS TOWARDS TERMINAL





Transition between various public transport systems (2030)

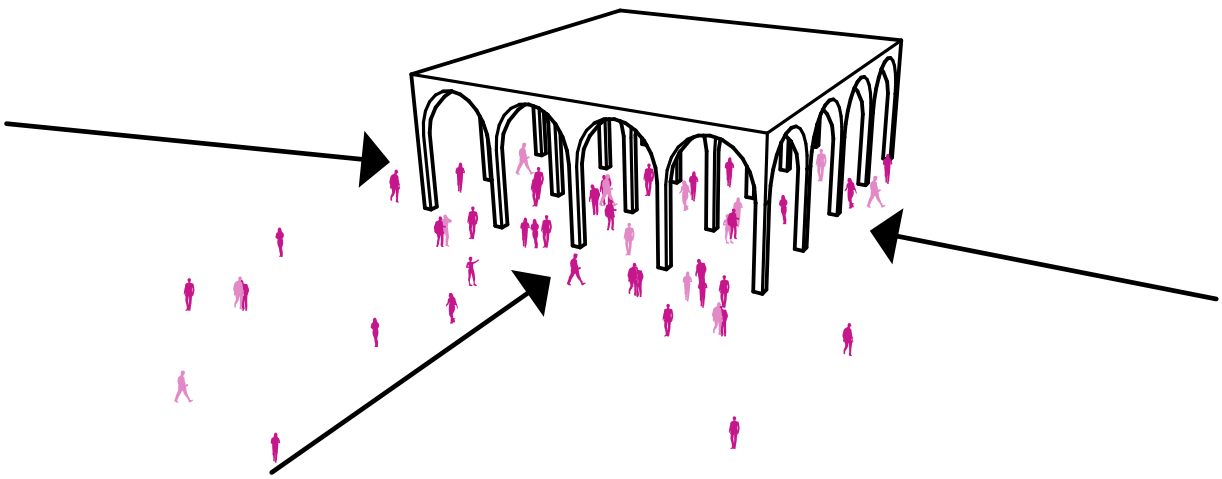


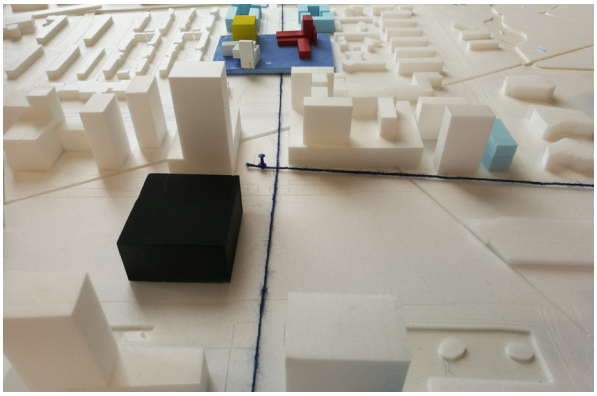
Transportation service usage(2030)

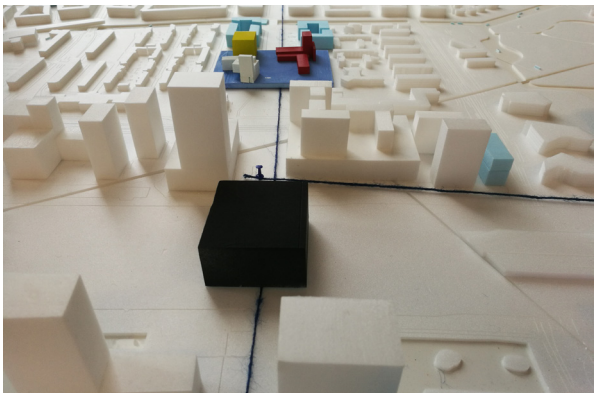
The terminal is a
distination...

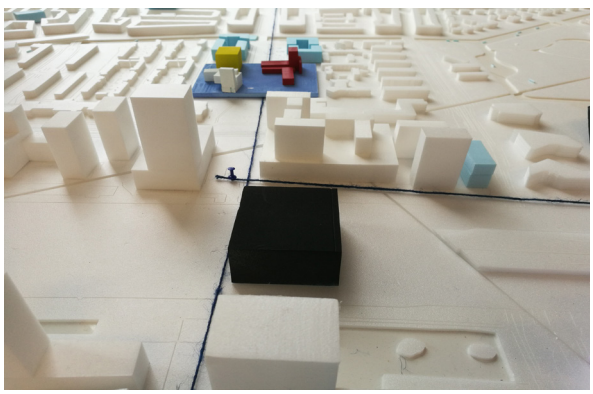
where people gather and drawn to rather than a station which they rush through...

The architecture of this space must REPRESENT the culture of the global and local community of its surroundings.

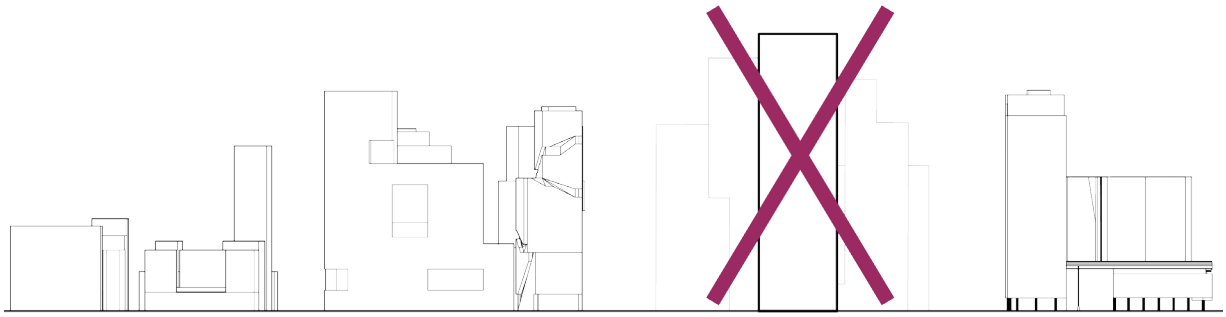




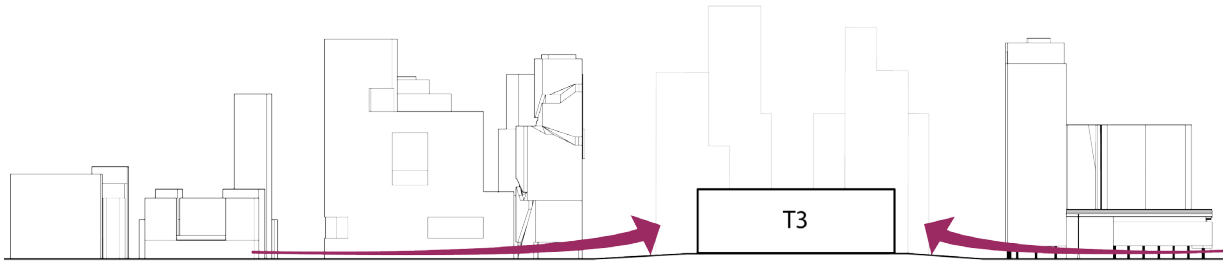




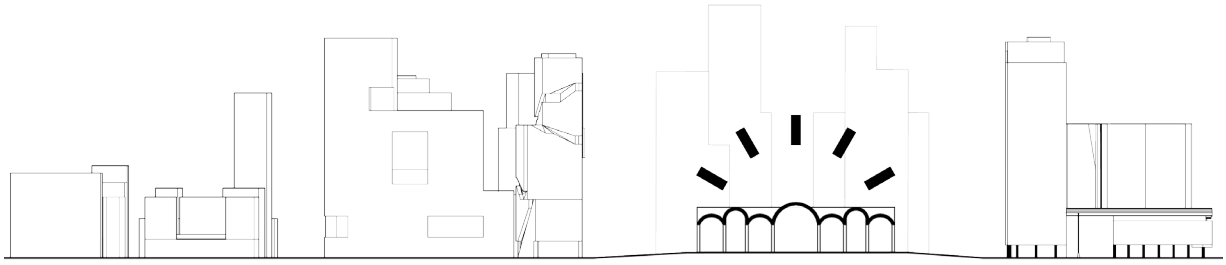
Various placements of building



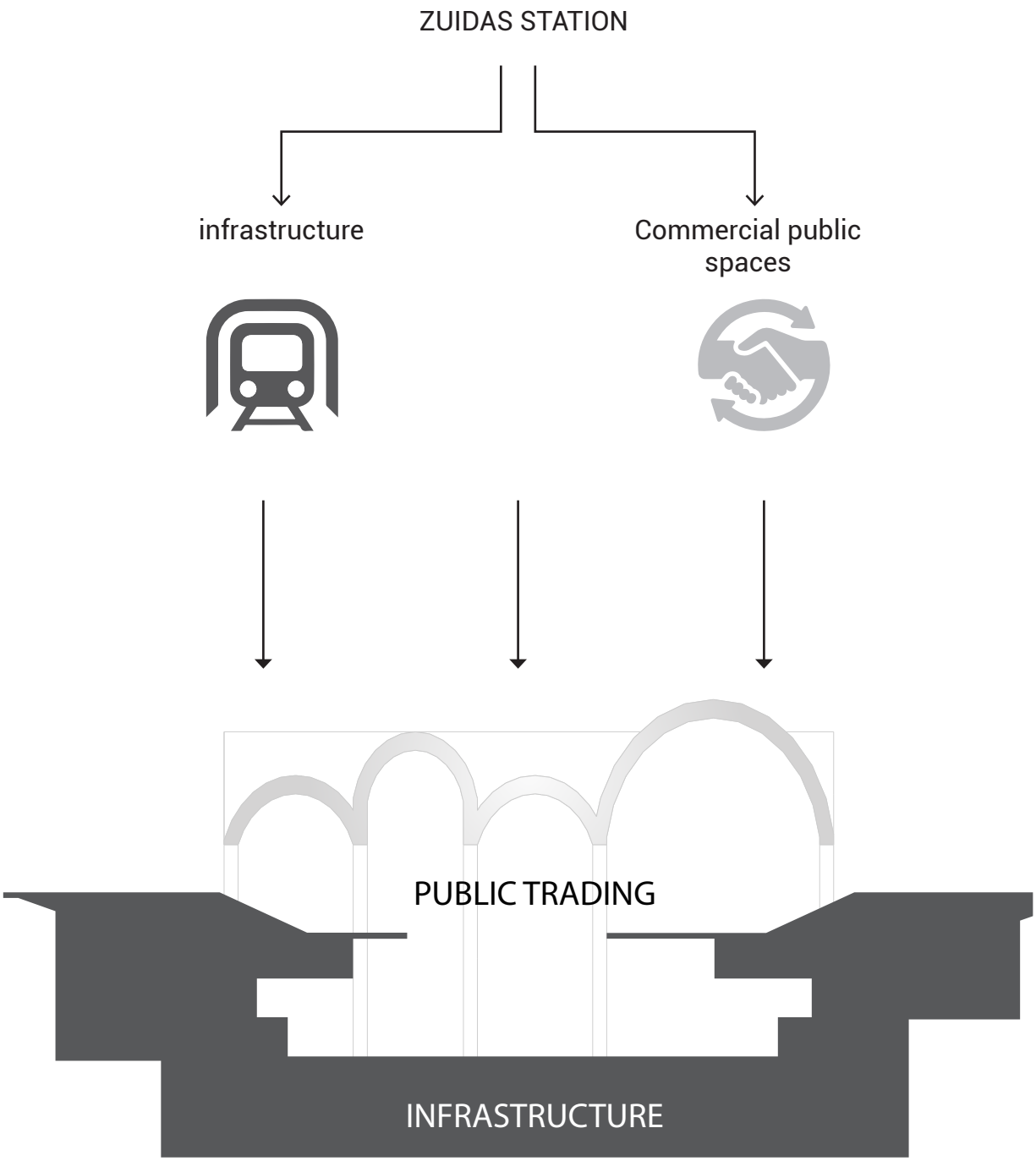
Building doesn't have to stick out



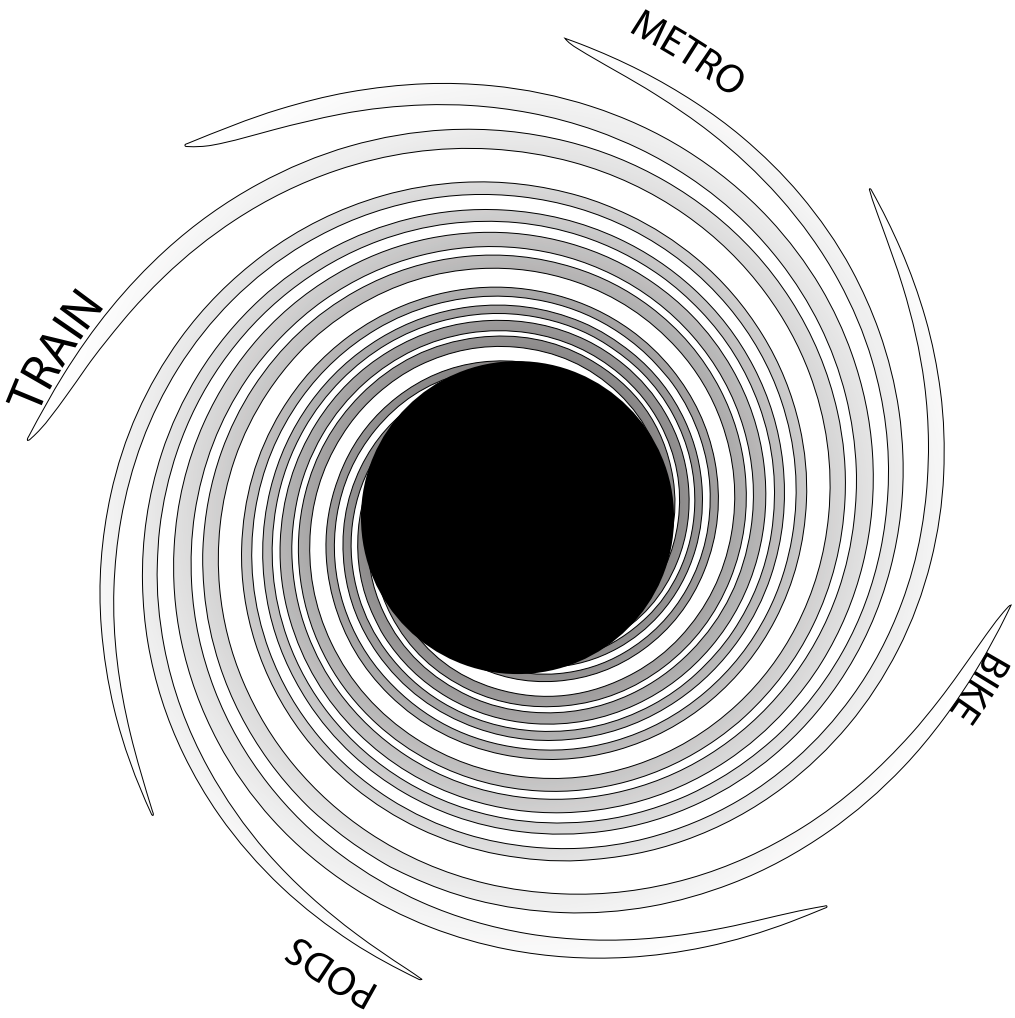
One must be guided towards station

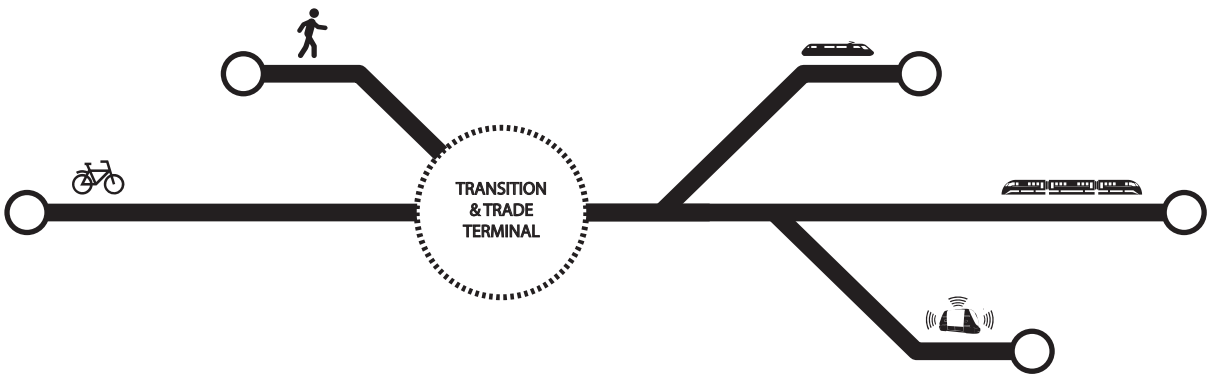


Building must contrast its surroundings



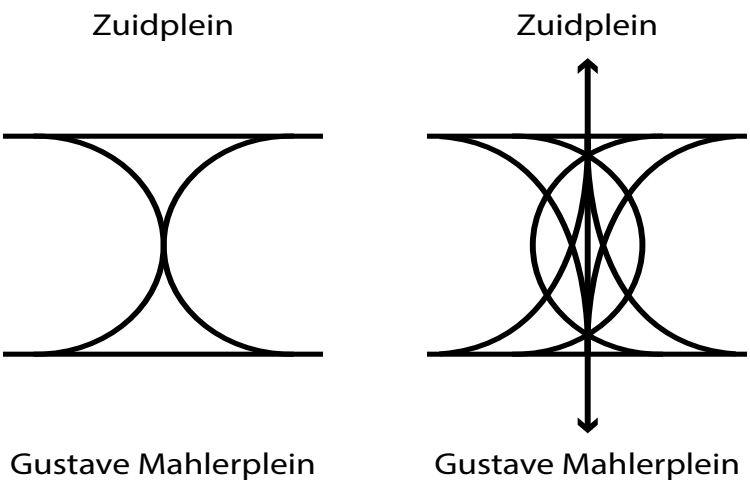
Transition Trade Terminal


METRO
TRAIN
BIKE
PODS

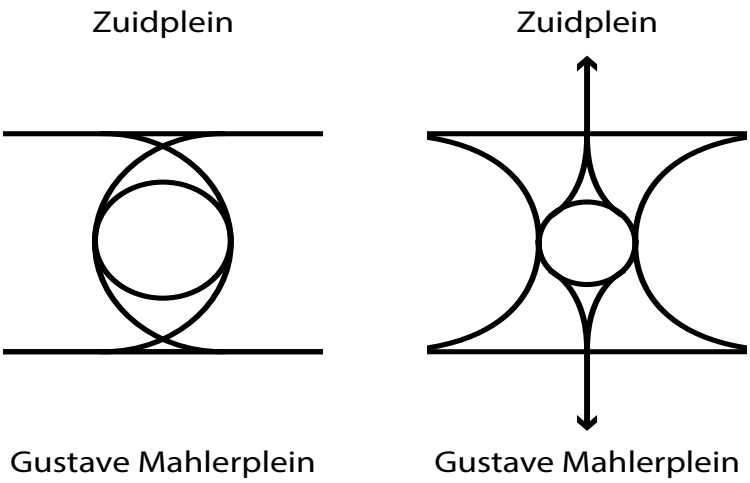

TRANSITION
& TRADE
TERMINAL

PODS ROUTES

CYCLIST ROUTES

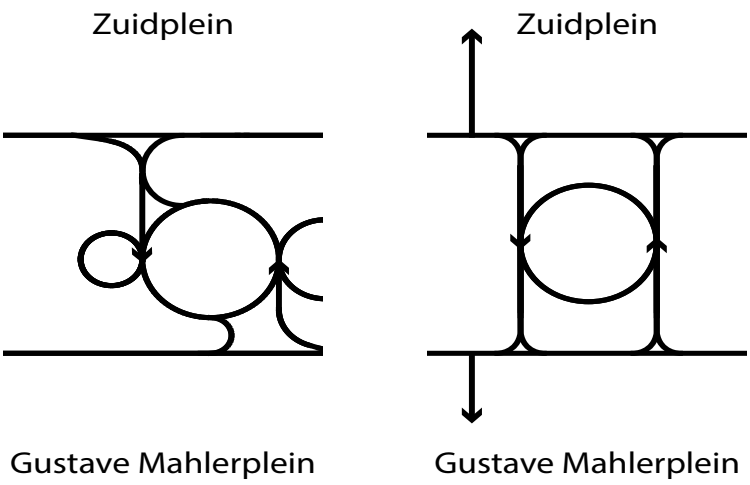


Goal:
• Determine directions of PODS



Goal:
• Optimize system
• Less linear system

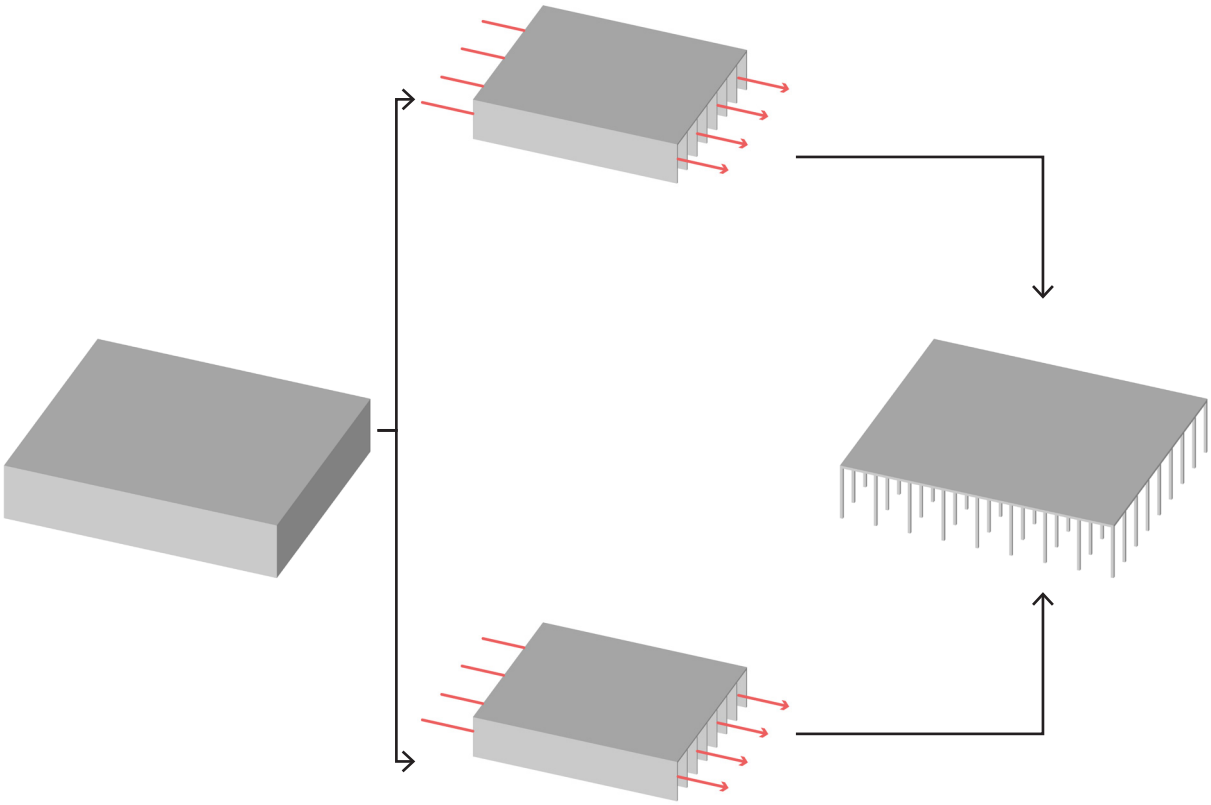
Issues:
• Strict linear system
• Jammable system
• Too many cross points



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

FORM DESIGN

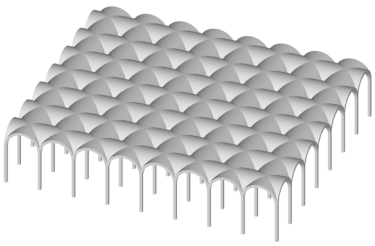
The form strudy of the building started by determining what size the building would beand further utilize its design by its eccential needs. With the starting form of 100x100m the building was adapted to have to movement from to different directions. With the combination of these two directions to building opens up to create a vast open space with a canopy like structure. This open structure should express the openness of the public building and will invite visitors, residents and tourists. To emphasize this public function the building received a specific arch architecture , which also contrasts the sorrouding building's architecture which is much more orthogonal. Step 5 foucses on adding hierachy in the facade showing visitor and users of the building where the functions and main paths are located within the building. Finally the building is altered to add sunlight and solar shading.



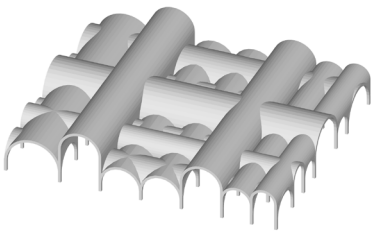
1. Basic program

2. Avows two directions

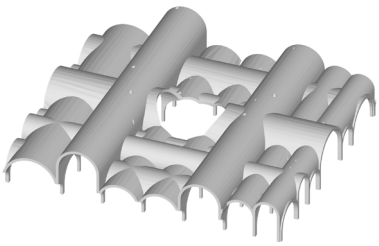
3. Combination of forms



4. Contrasting Arch form detachs from surroudings

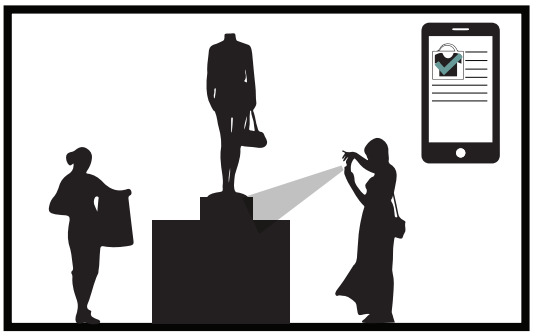


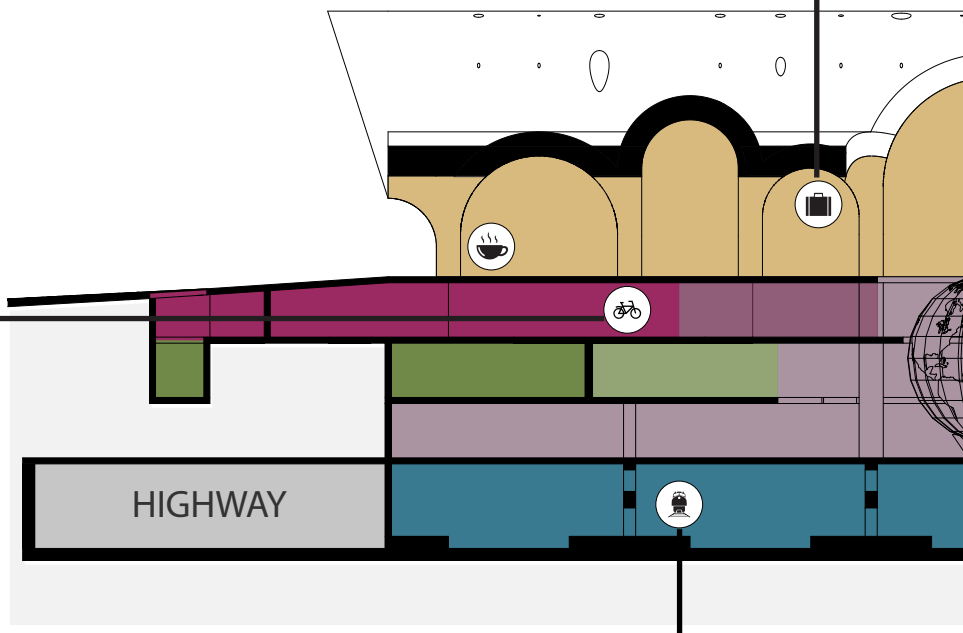
5. Impliment hierarchy within form

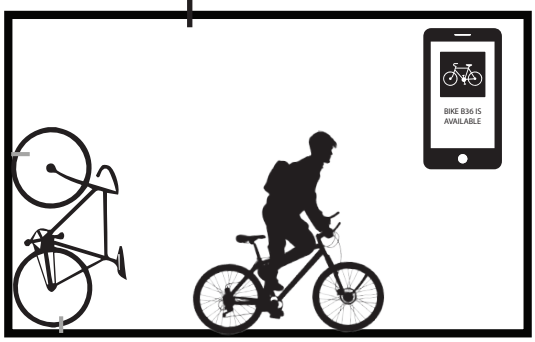


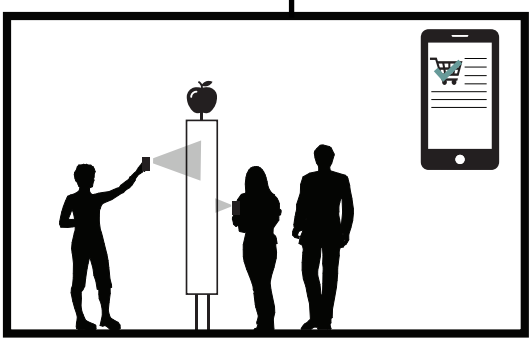
6. Optimize daylight and sun shading

COMMERCIA

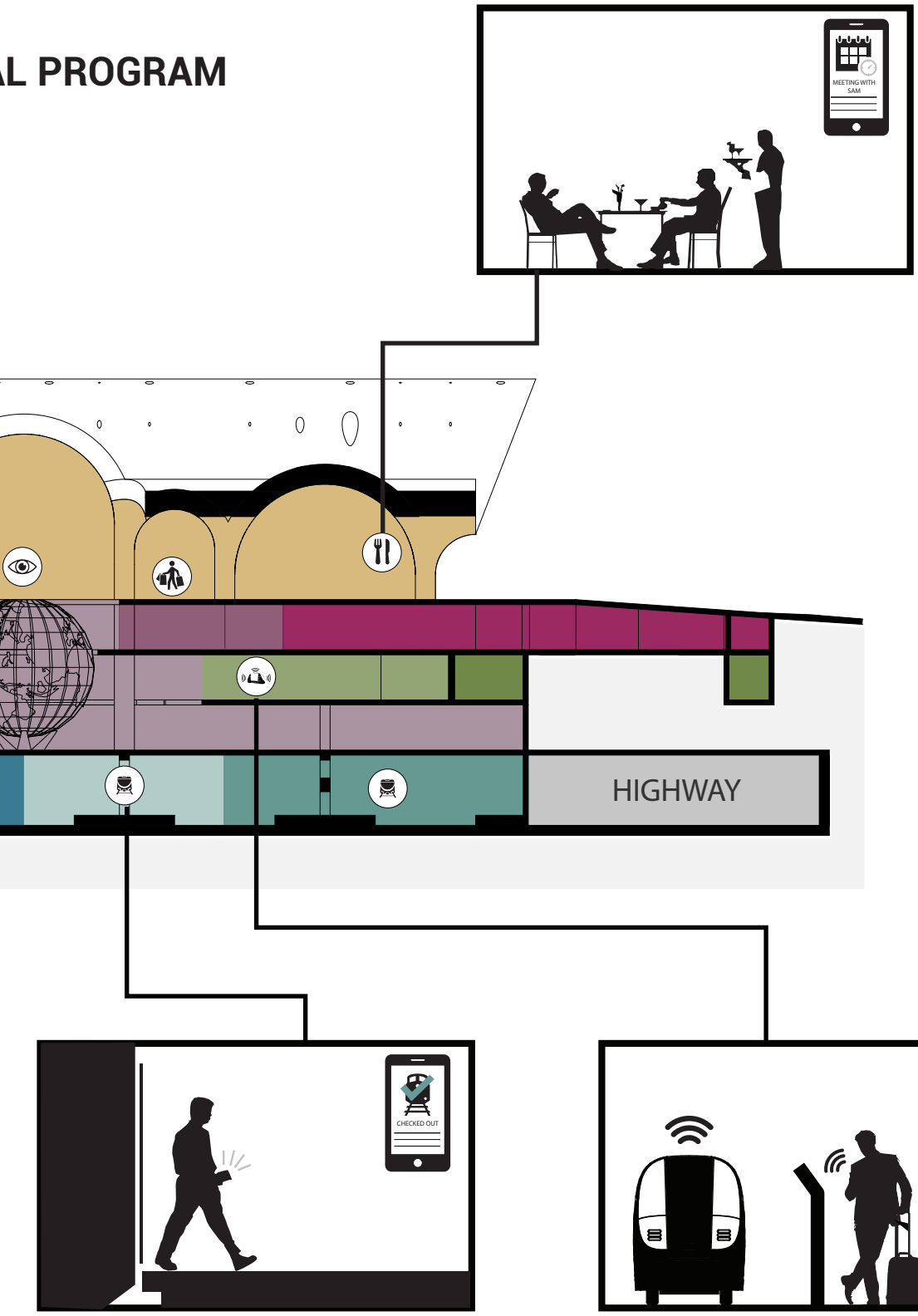




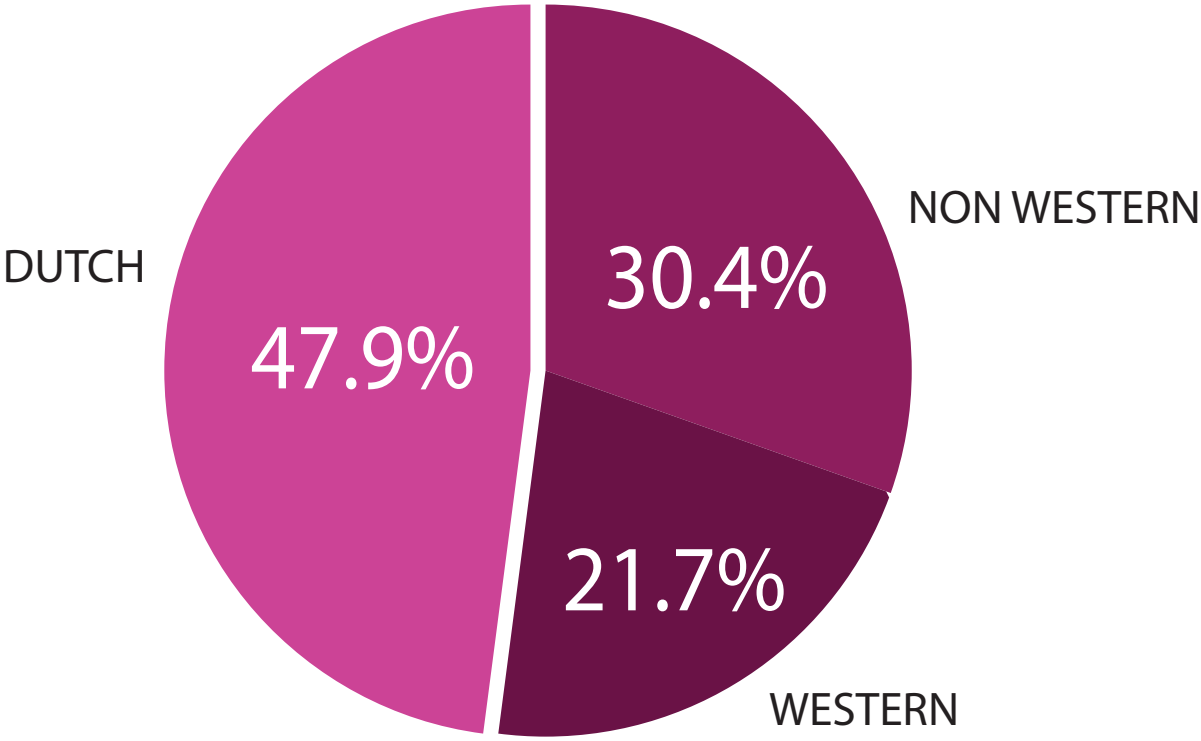


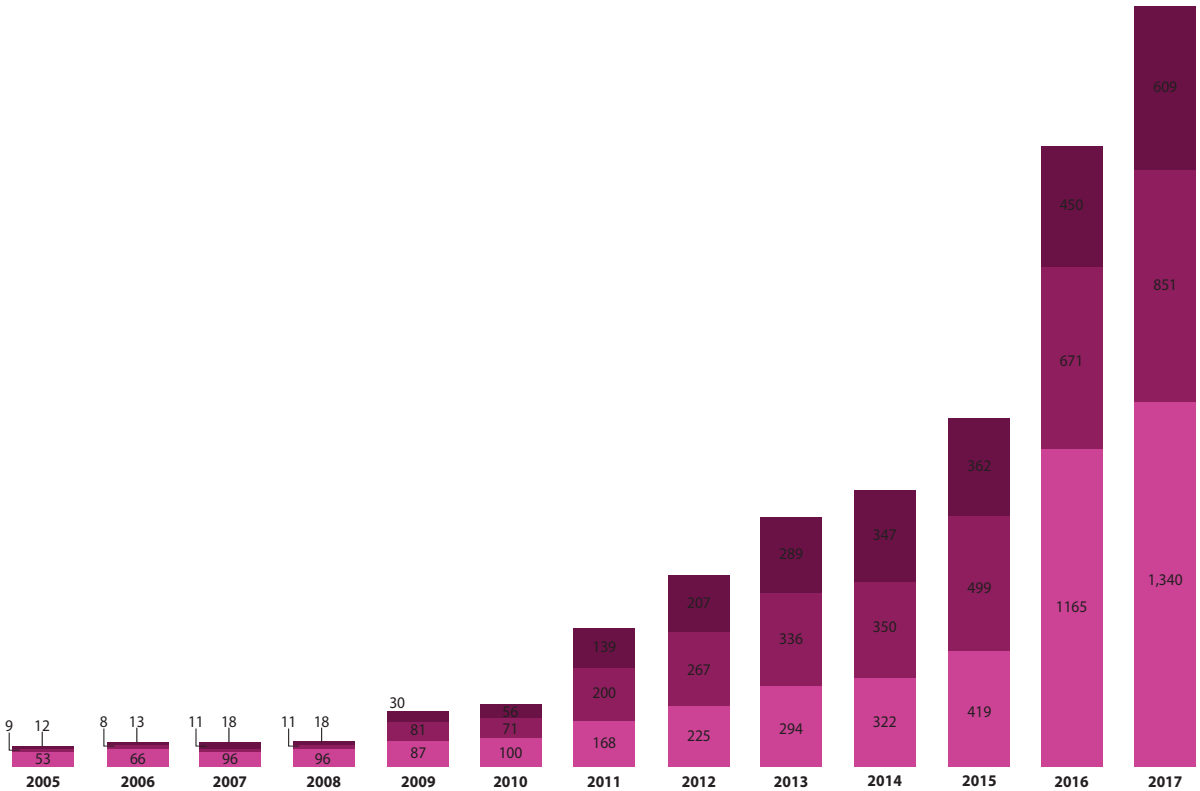


AL PROGRAM



Pieter Bruegel, The Tower of Babel (1563)


DUTCH
47.9%
30.4%
NON WESTERN
21.7%
WESTERN

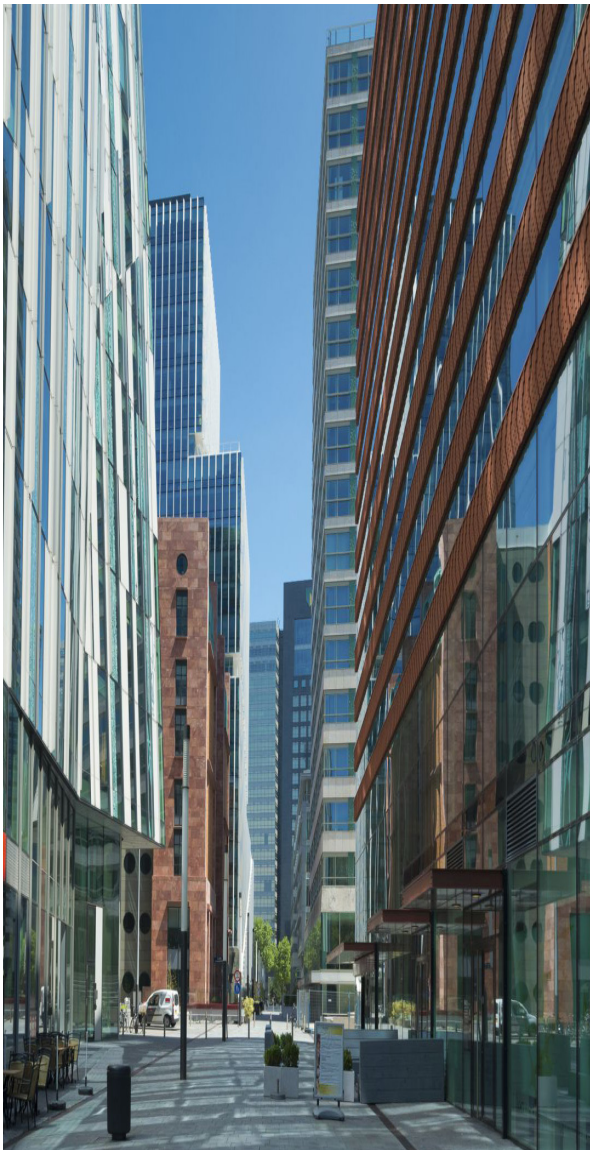

9
12
53
2005
8
13
66
2006
11
18
96
2007
11
18
96
2008
30
81
87
2009
56
71
100
2010
139
200
168
2011
207
267
225
2012
289
336
294
2013
347
350
322
2014
362
499
419
2015
450
671
1165
2016
609
851
1,340
2017

MATERIALIZATION

The high rise building share an ambience of architectural competitiveness which seems quite encourage by one another. Each time a new building is built in the Zuidas it seems to be either taller, more decorative or even both. What is so captivating is that through the architecture one can see, touch and experience the core characteristic of the businesses and people that work and together daily in the Zuidas.

Capitalism is strongly displayed here. Through structure and material choices one can experience these aspects of capitalism: Bigger and stronger structures representing an individual going further in his profession than the average Joe, decorative and elegant facades mirroring someone aspiring to close a deal or beat the competition.

Skyline Zuidas



Claude Debussylaan

"The Rock"

Johannes Verhulststraat

Recently built Risdential buildings

Standard Oud-Zuid facade

Symphony Towers

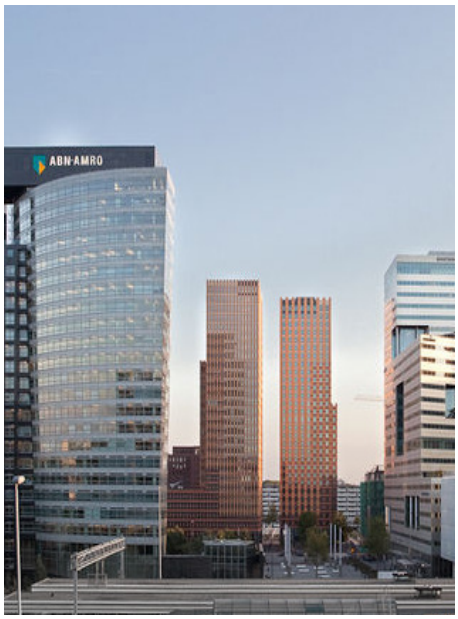
Typical Plan van Zuid facade

Mahler 900

CONTRASTING ARCHITECTURE

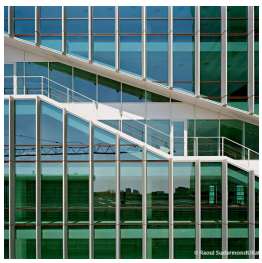
When comparing the facades of Zuidas with Oud-Zuid (especially Plan van Zuid), one clearly notices the difference between global and local, modern and traditional, high and low rise, white collar vs blue-collar workers. Buildings in Zuidas are much more transparent, cold and blue-green while Oud-Zuid seems closed-off, warm and red-orange.

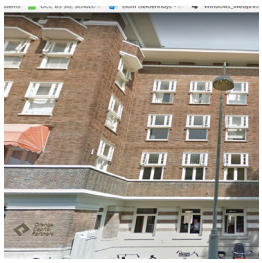
Yet it this visual expression of global competitiveness of the Zuidas is changing as the municiaplity's future development plans are to increase housing and amenities. Creating a balance between offices and other functions within the Zuidas district. When visiting the Zuidas one is starting to experience is in the Architecture as well. Though the buildings are still high rise they are welcoming more warmer and traditional materials and colors seen in the rest of Amsterdam and Oud-Zuid.



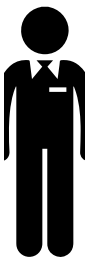
Zuidas (Future)

Plan van Zuid (Past)

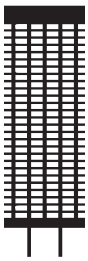




Modern vs traditional



White vs blue-collar workers



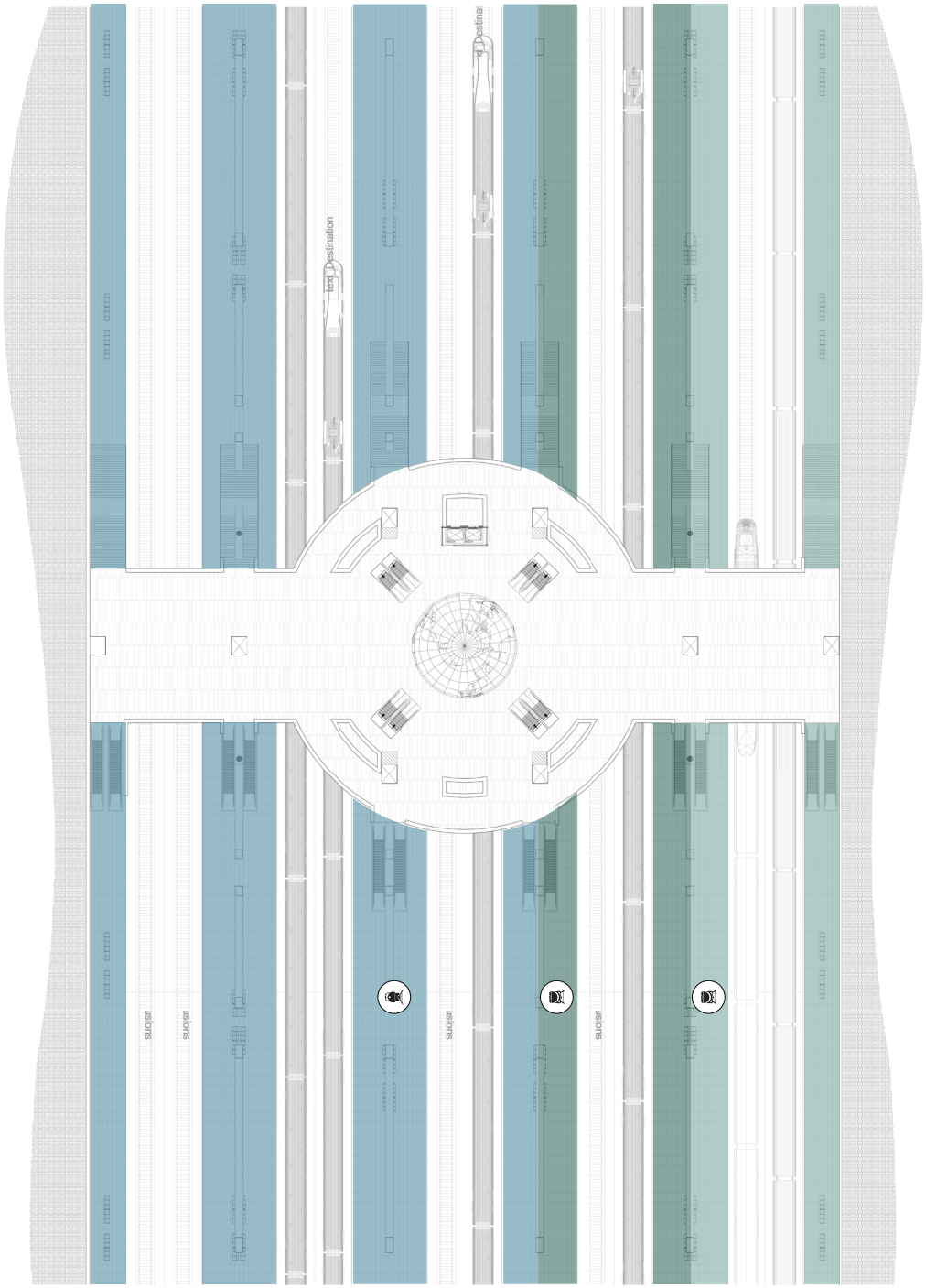
High rise vs low rise

Cold vs warm colours

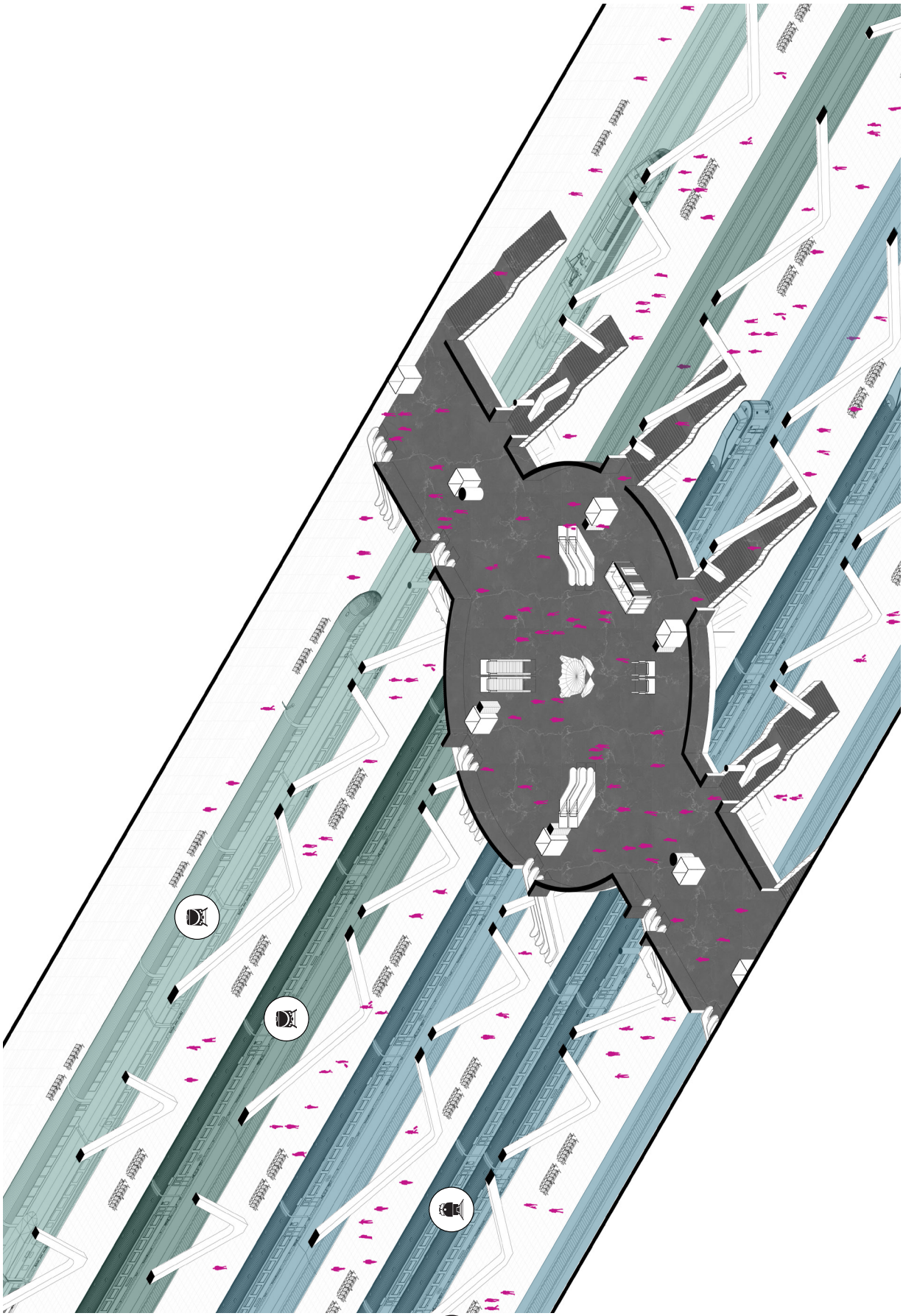
Zuidas in comparison to Oud-Zuid

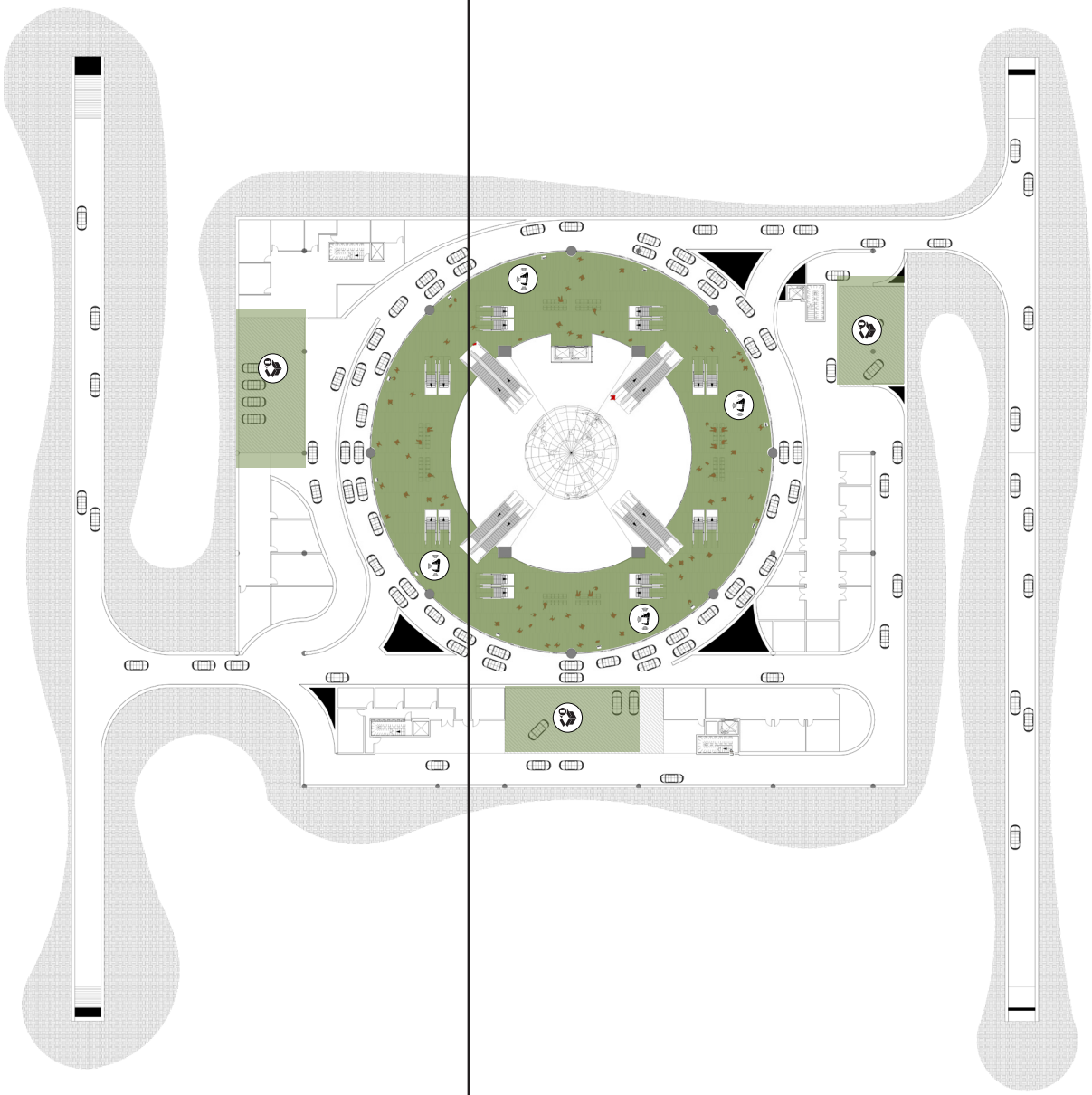
DRAWINGS

Site plan

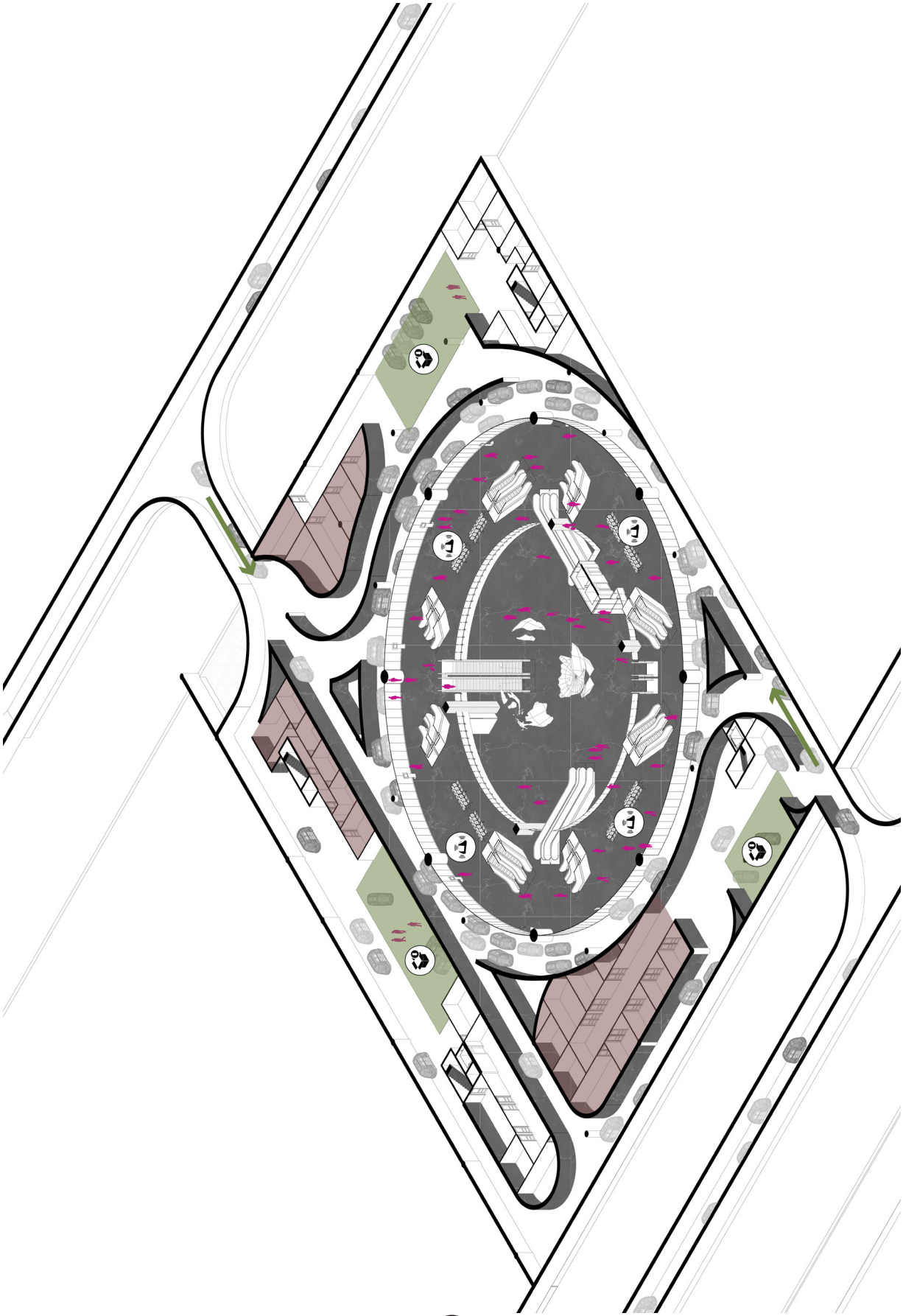


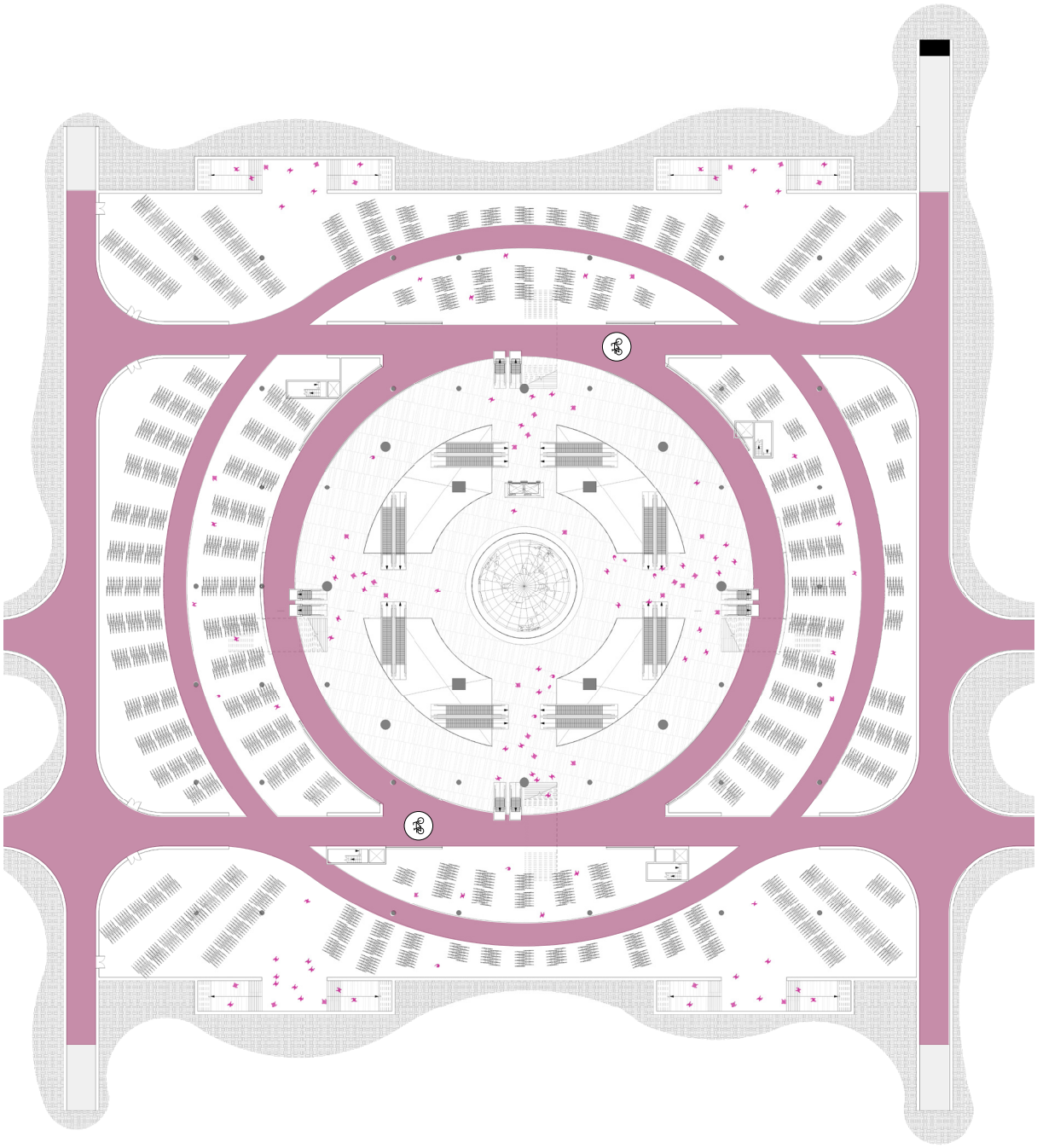
basement 3&4: -12.5m



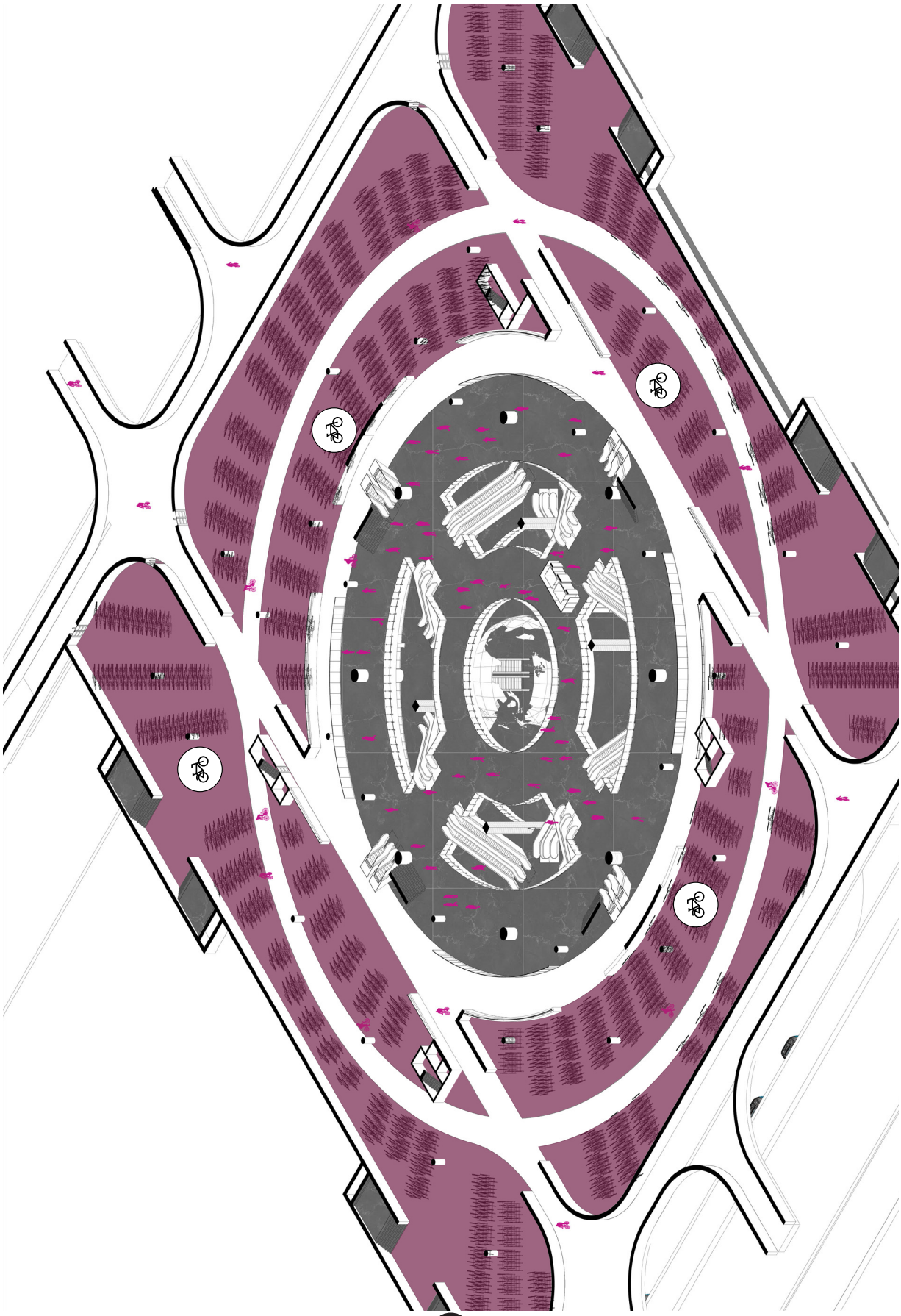


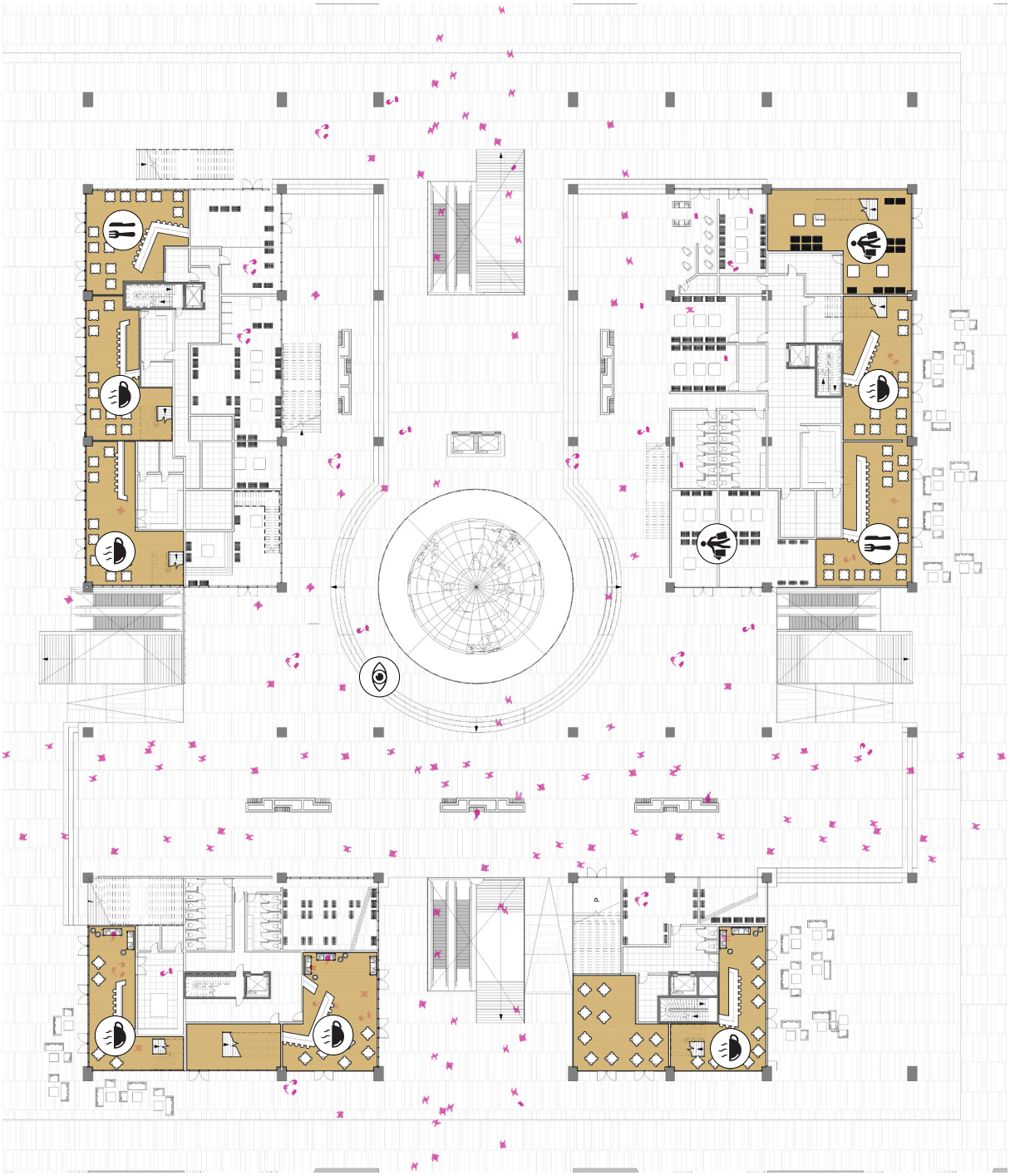
basement 2: -7.5m



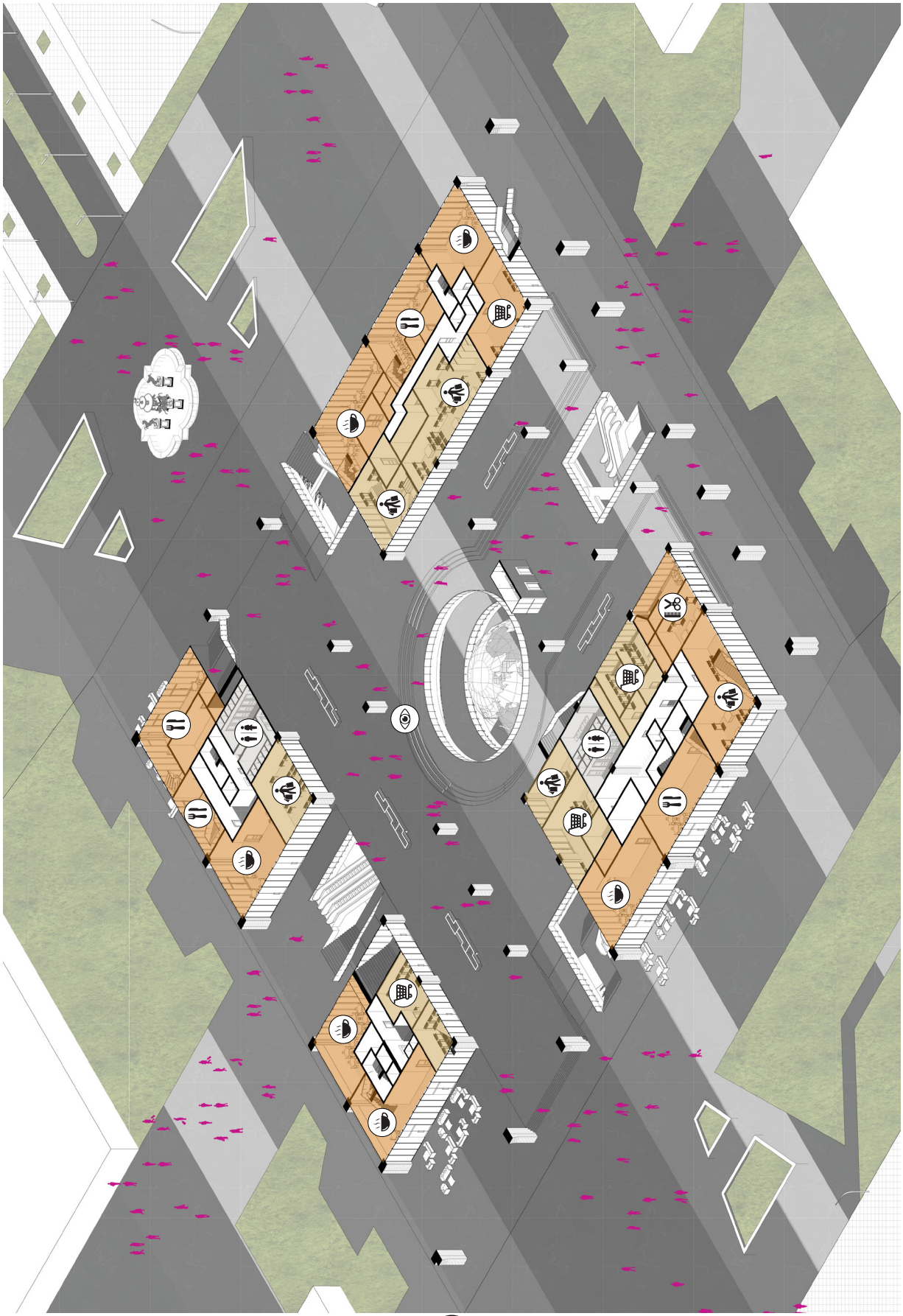


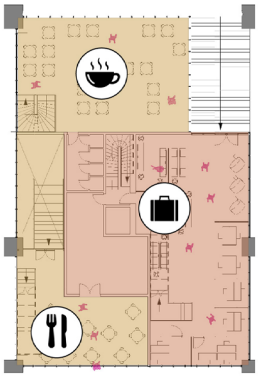
basement 1: -2.5m

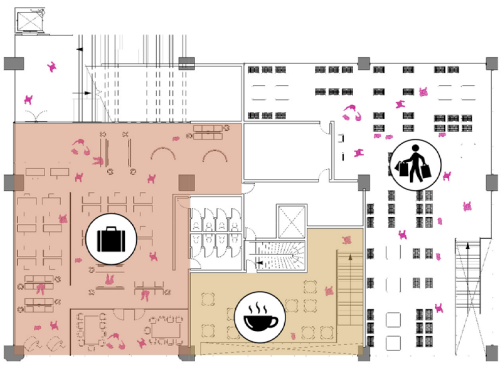




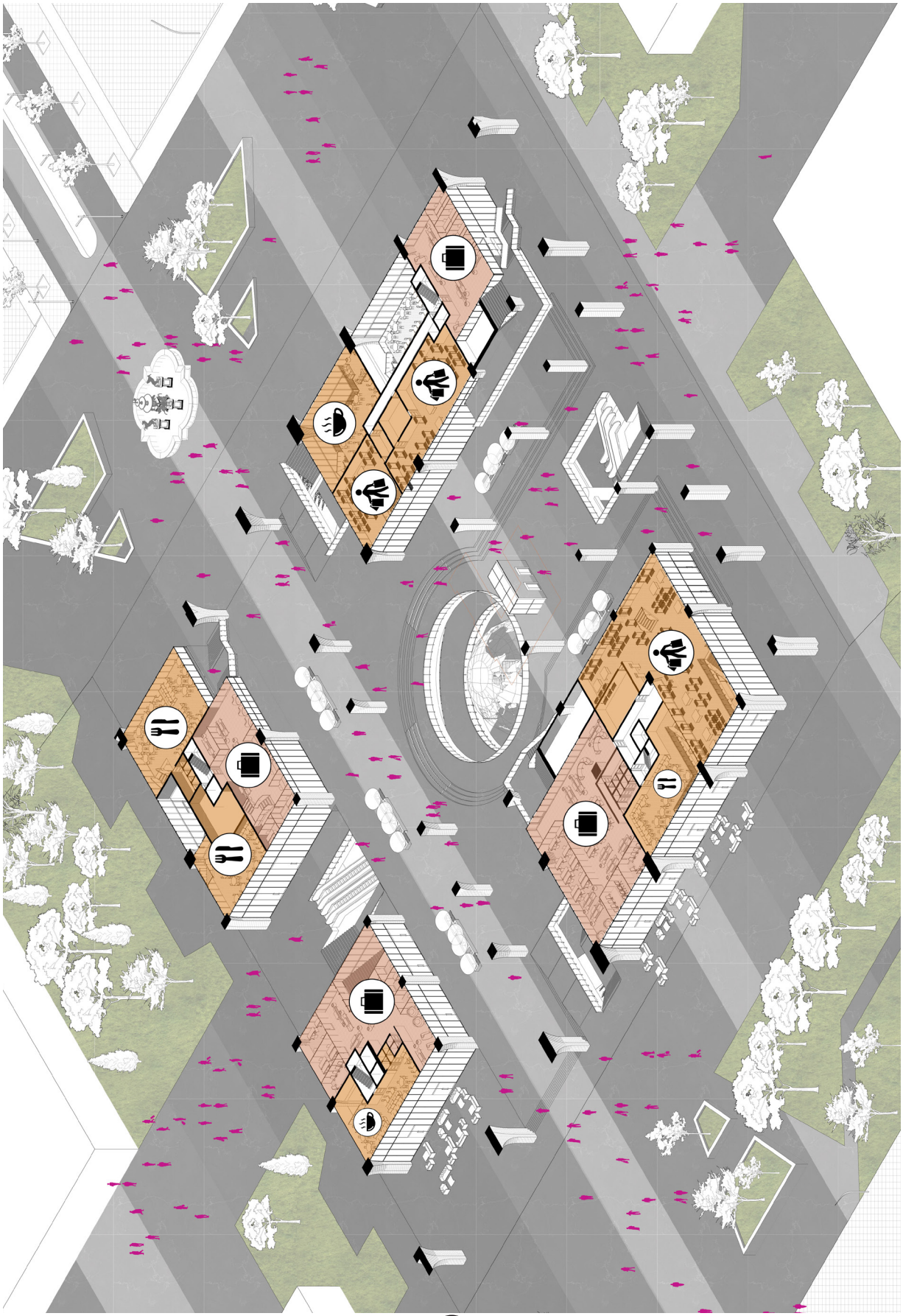
Ground floor: +2.5m

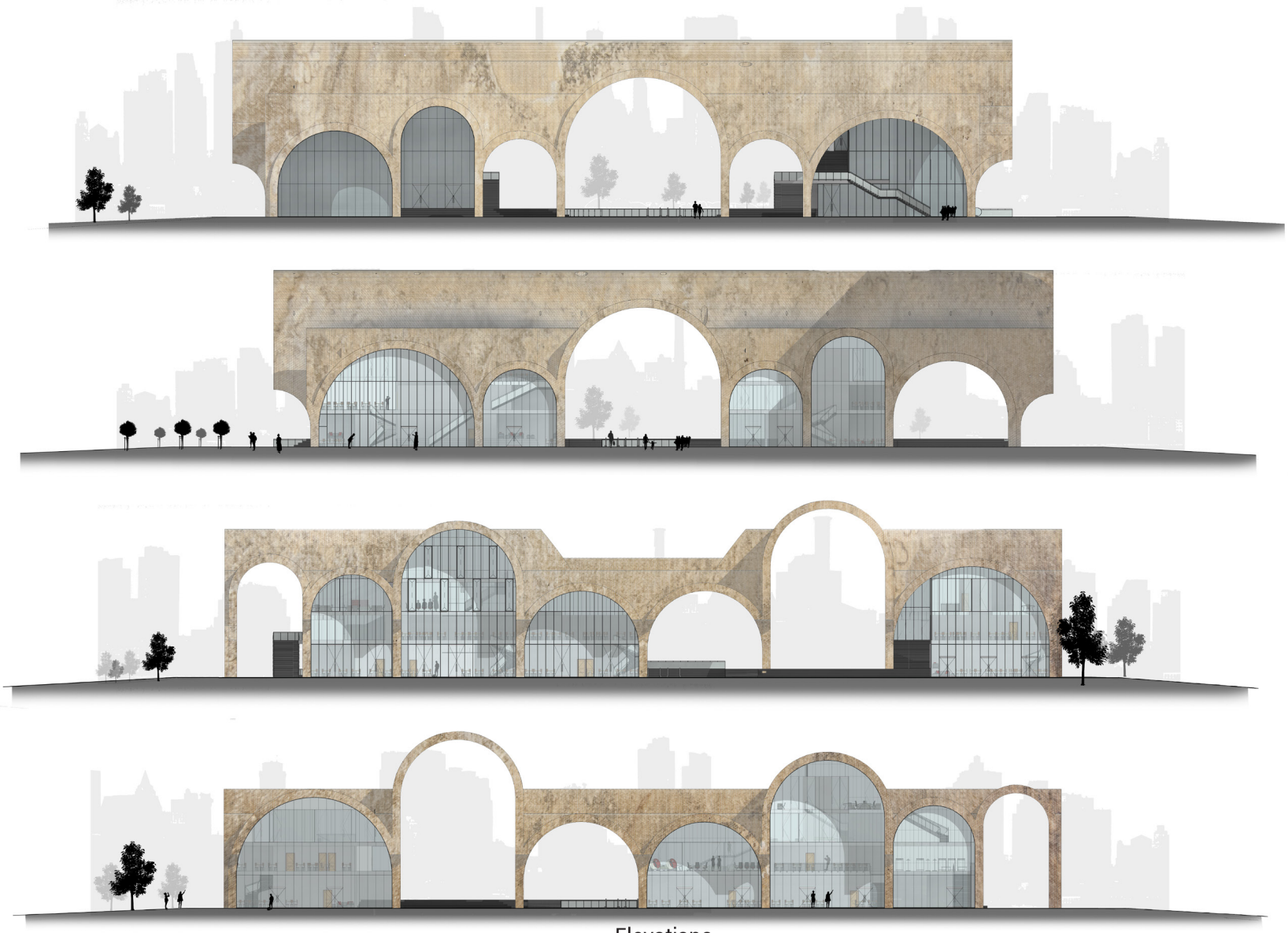






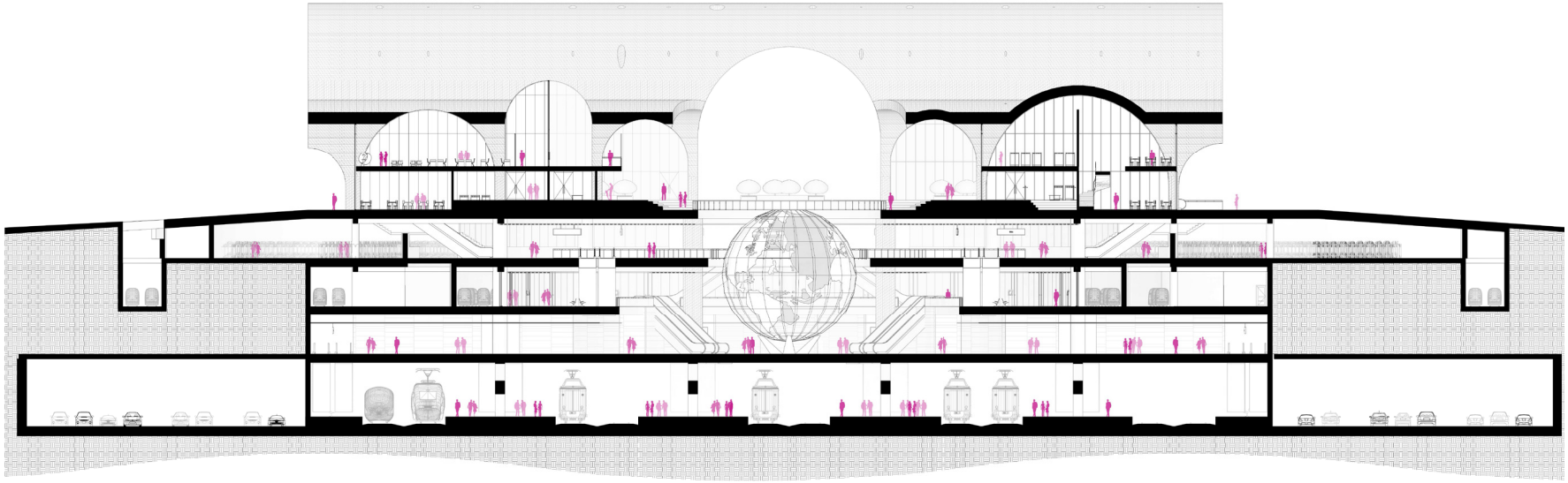
First floor: +6m



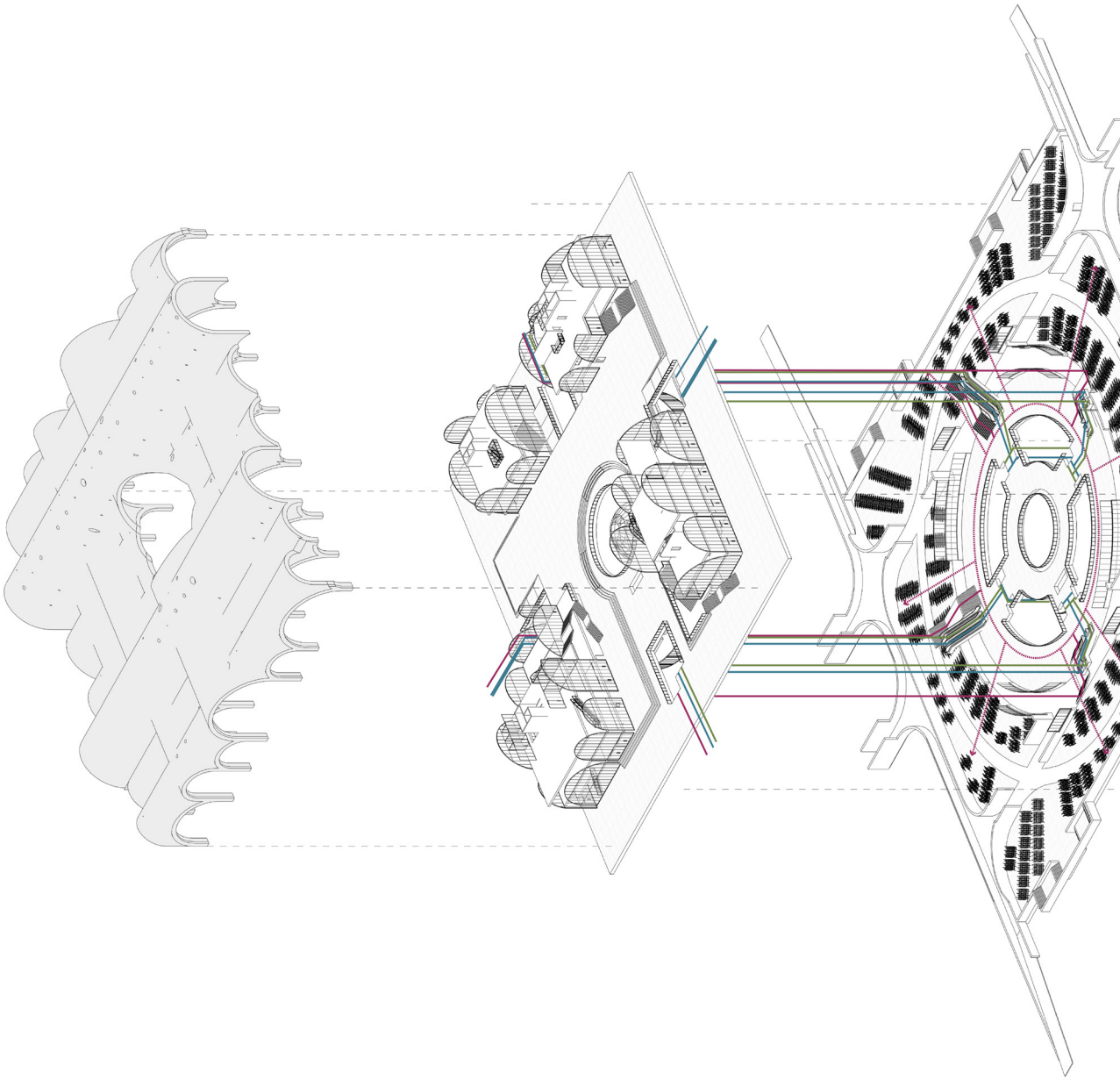


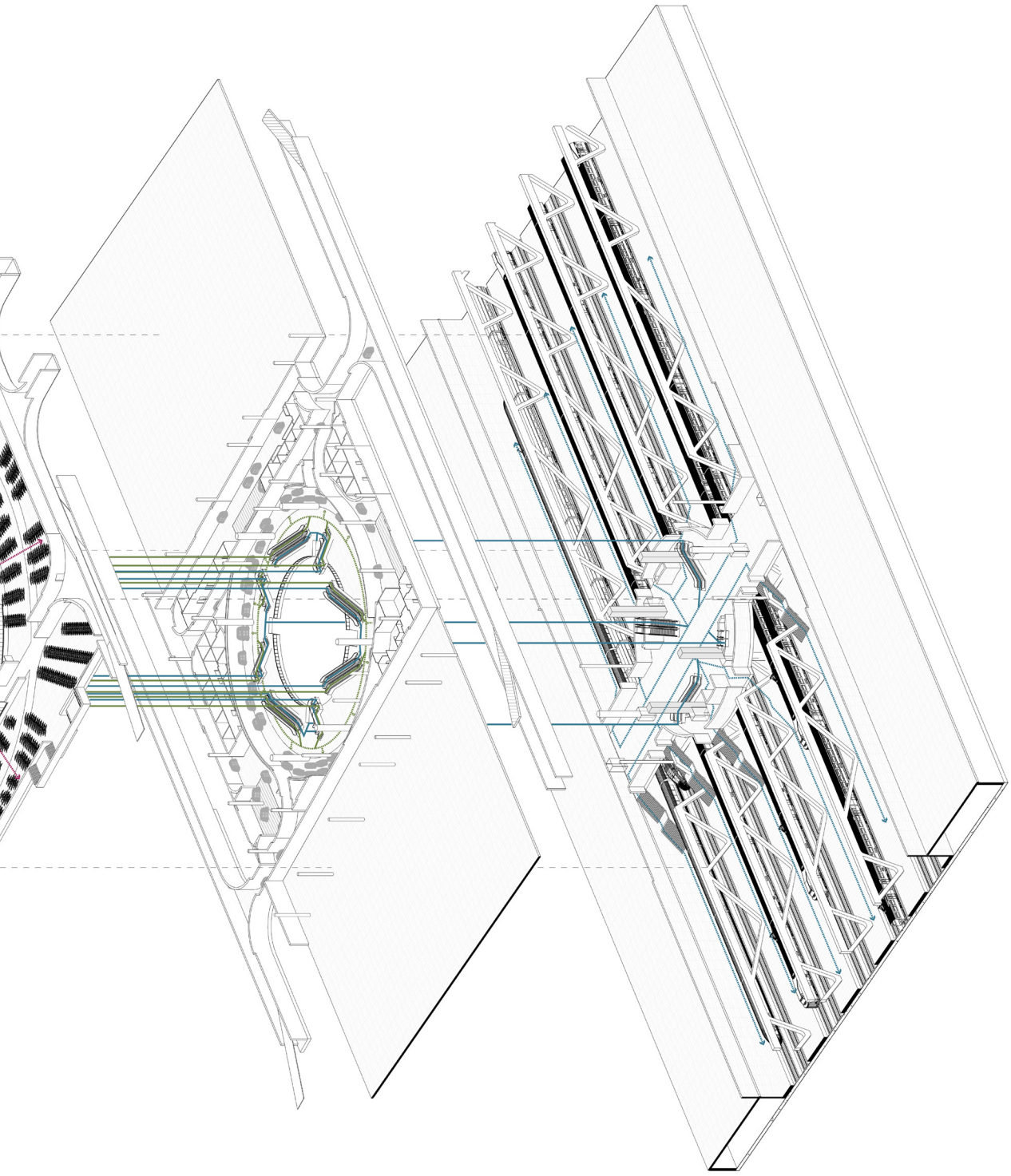
Elevations

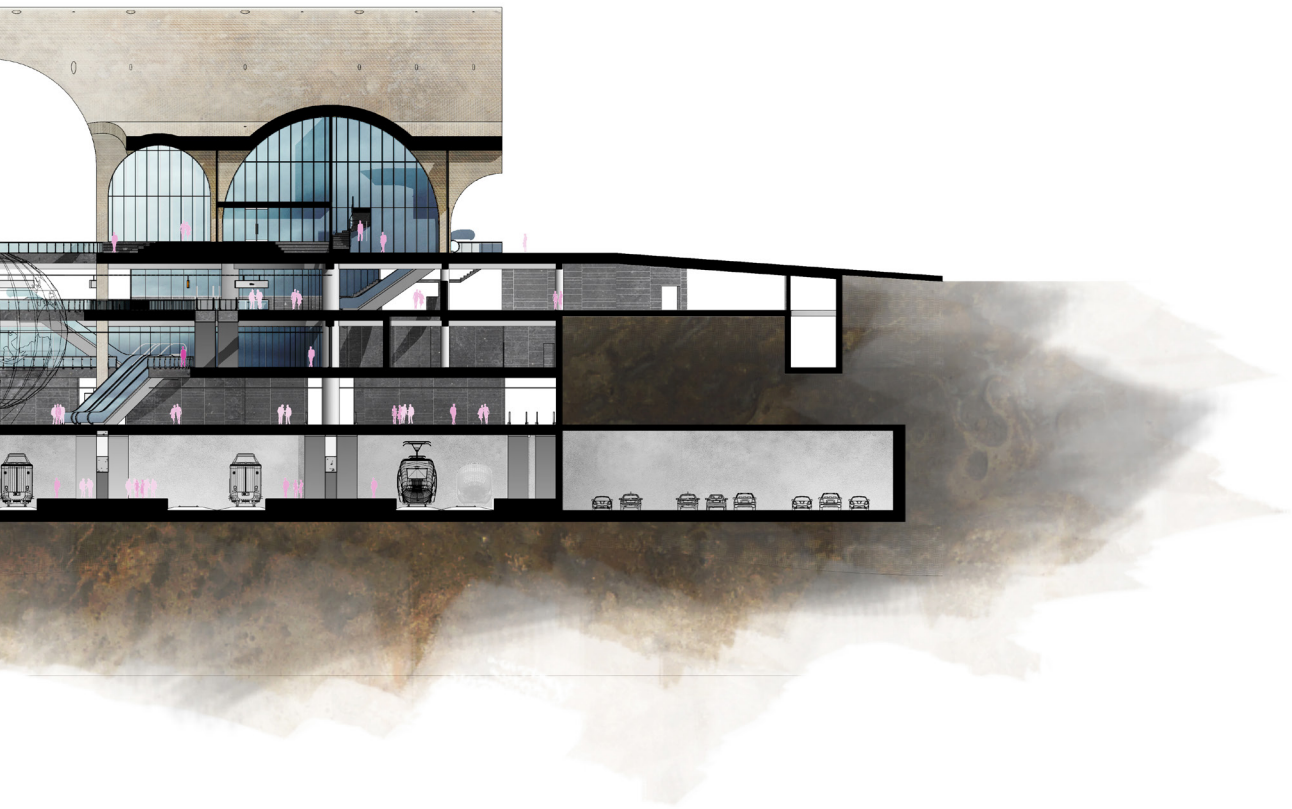
ELDIN GELDENHUYS CP COMPLEX PROJECTS



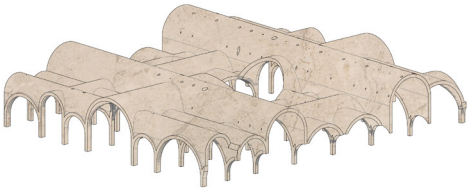
Sections



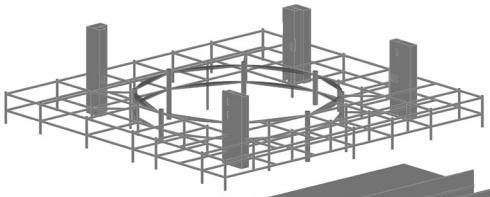




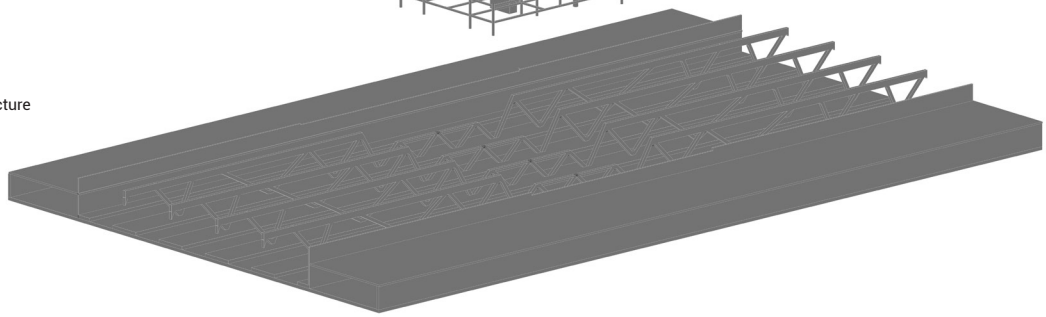
Brick & casted concrete stucture

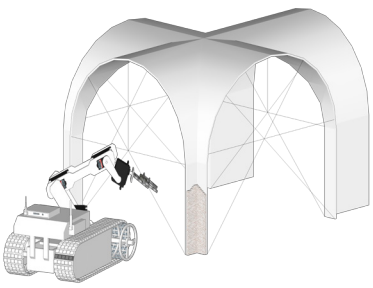


TT floor slabs, concrete coloumn & beam structure

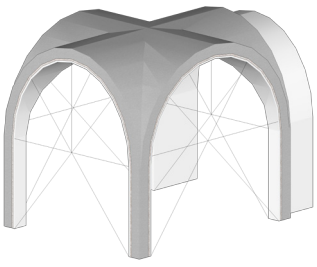


Concrete frame structure

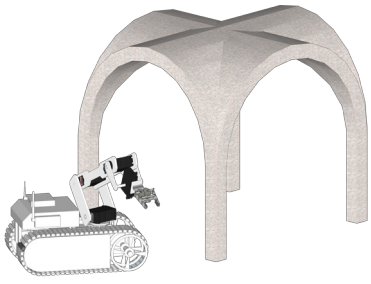




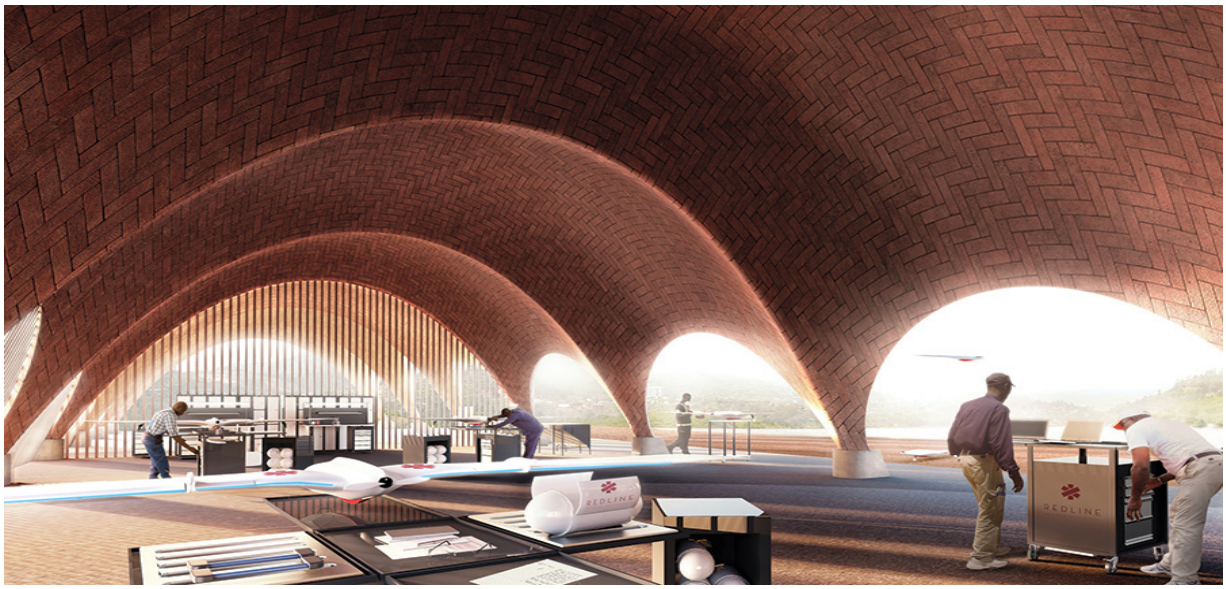
Phase 1

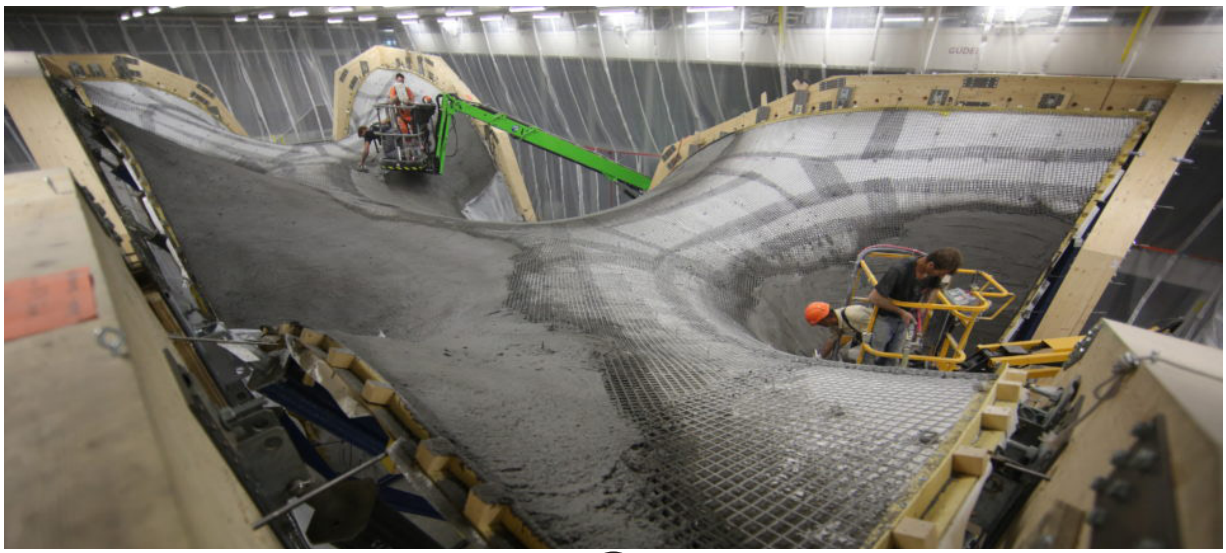


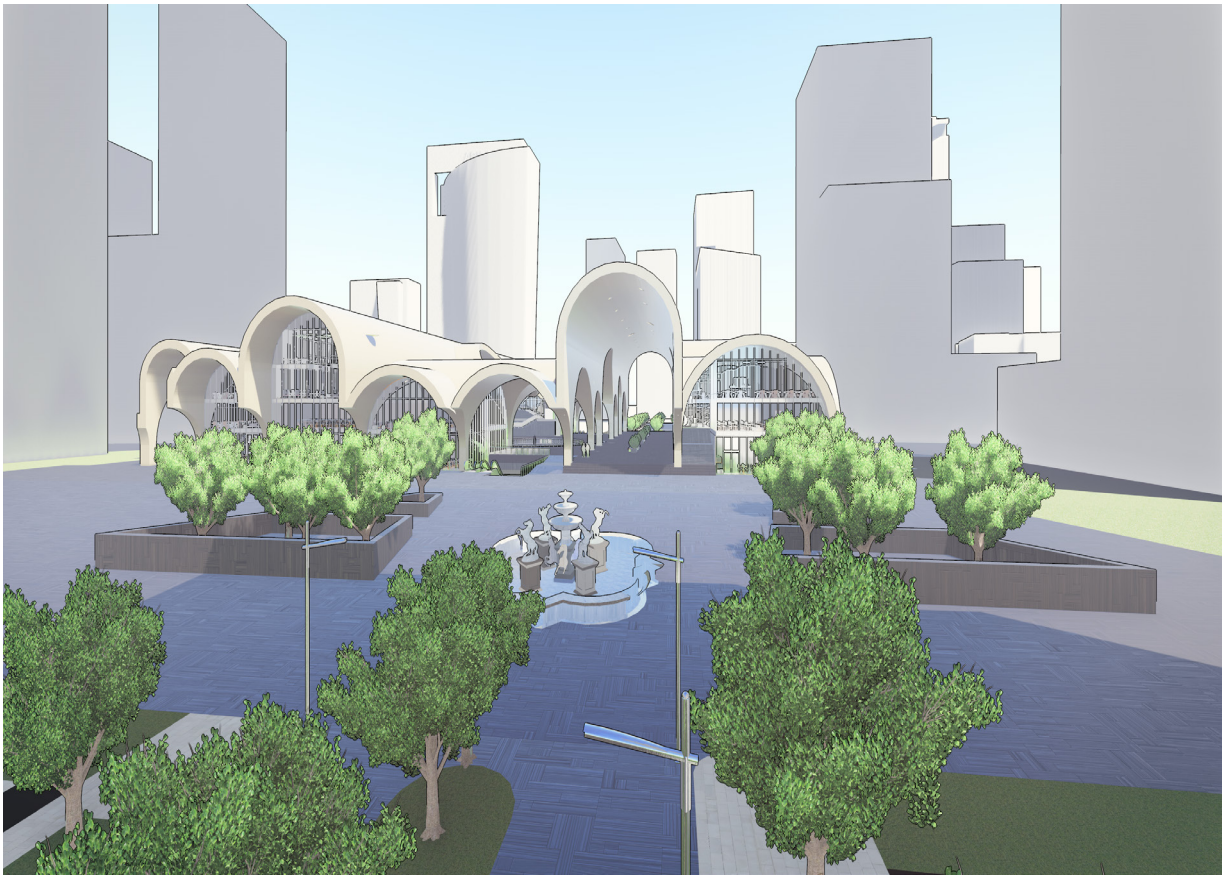
Phase 2

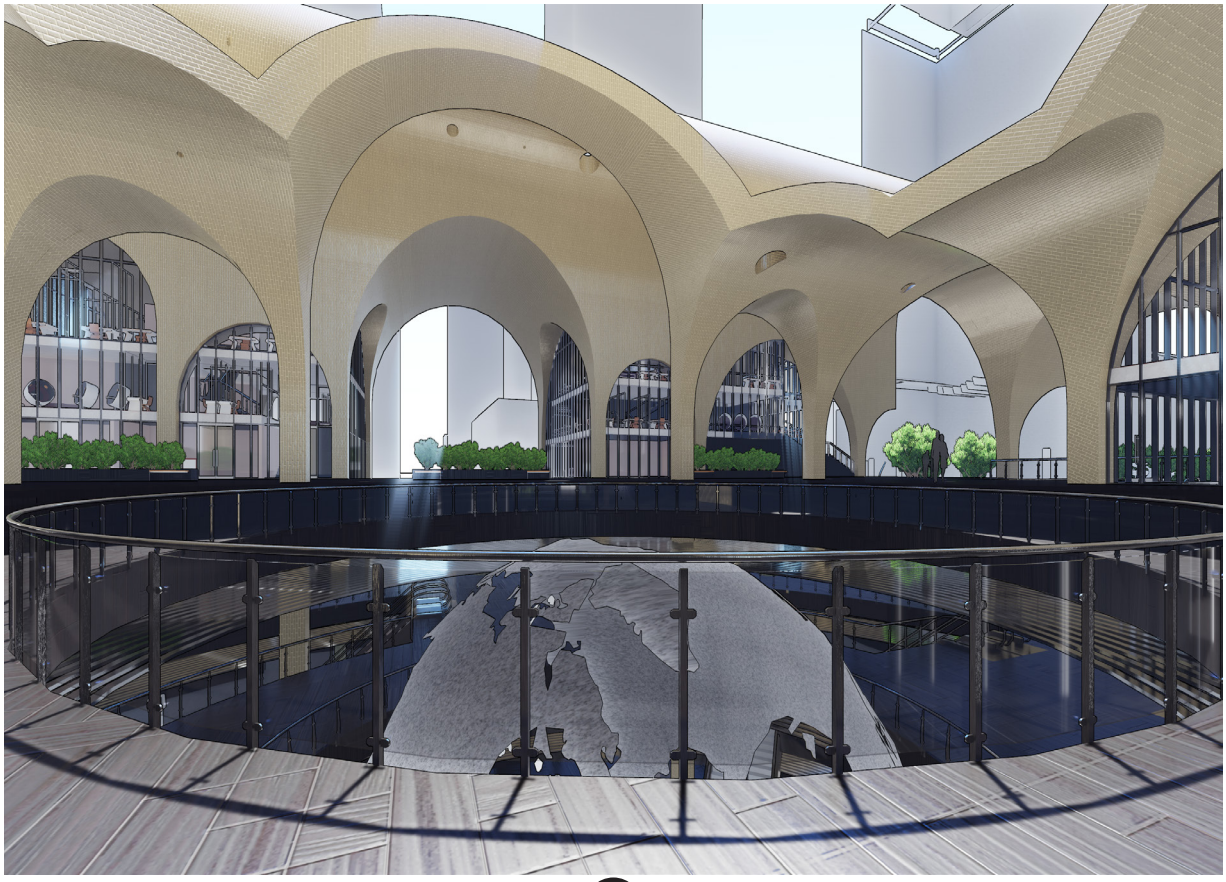


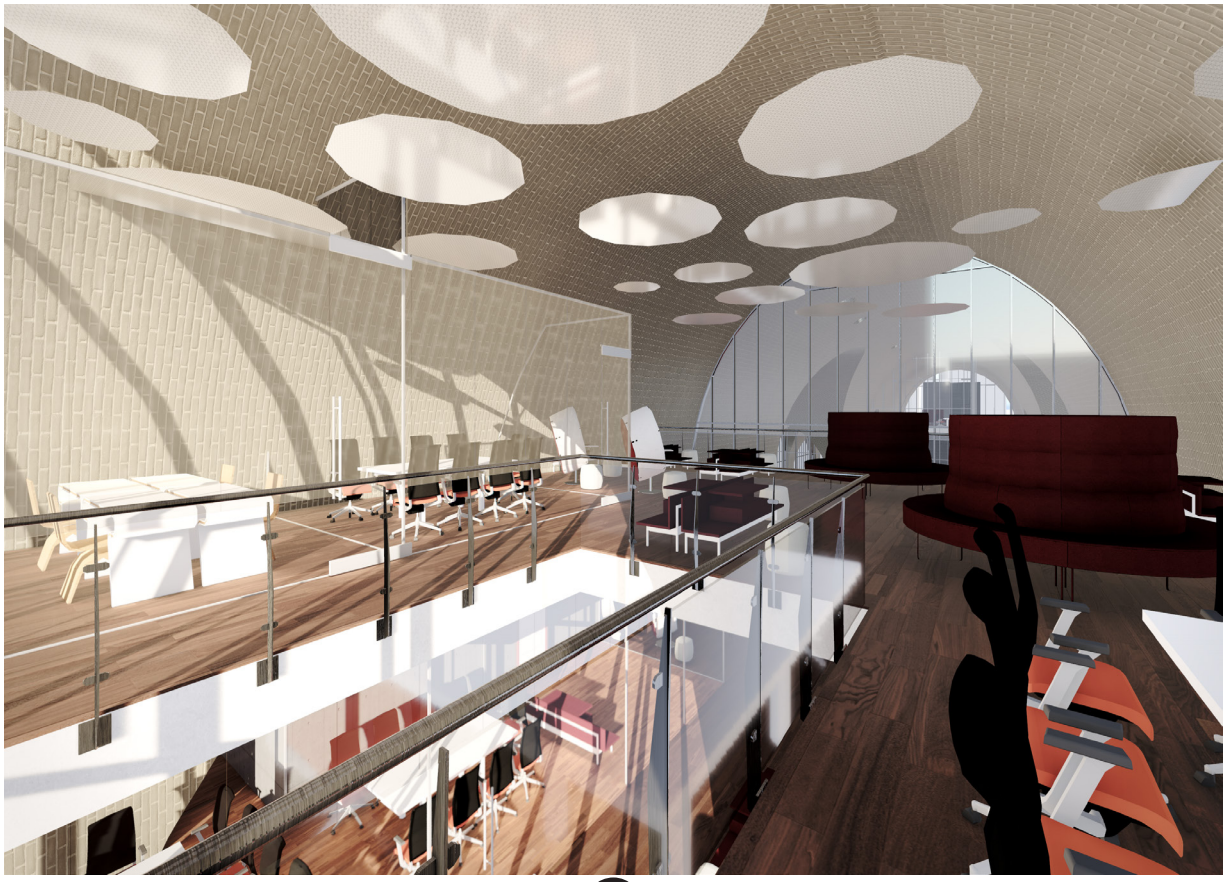
Phase 3

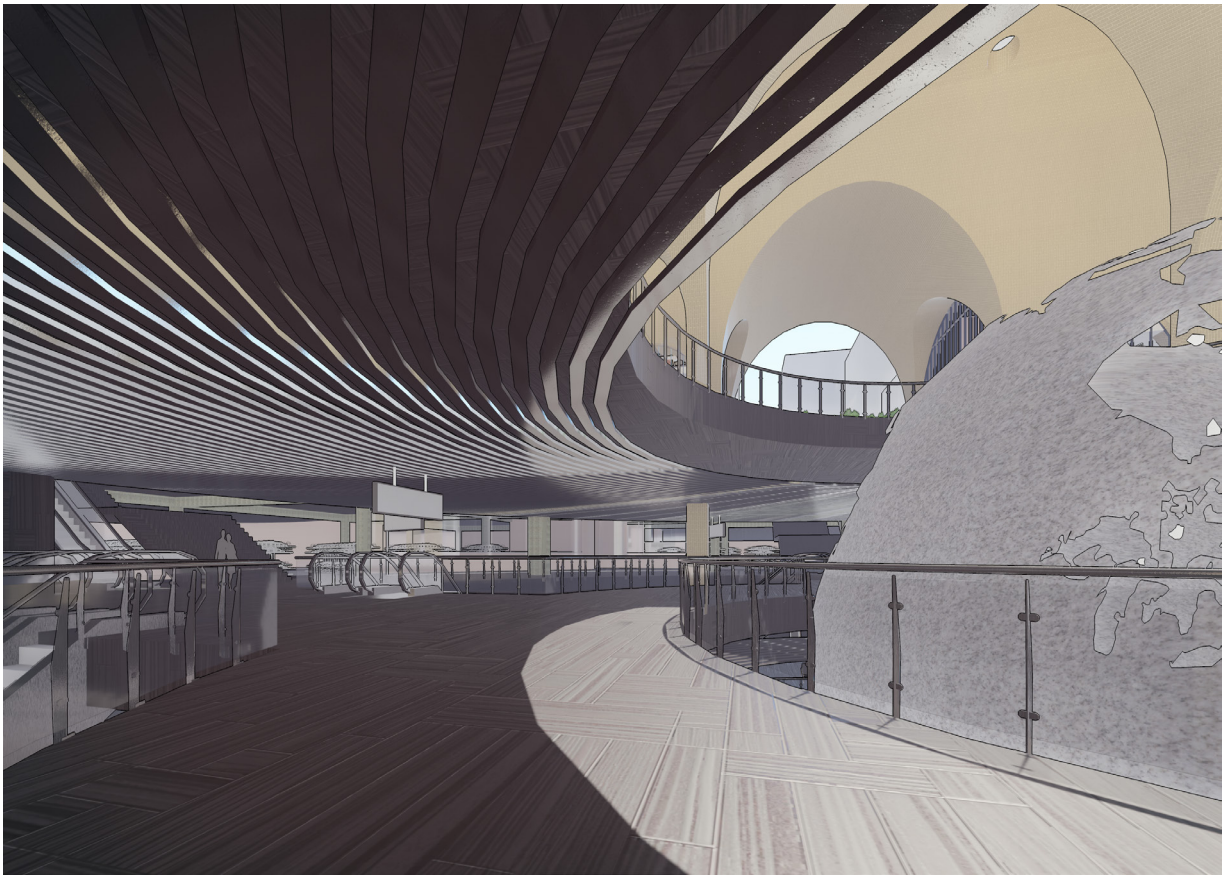

REDLINE
REDLINE

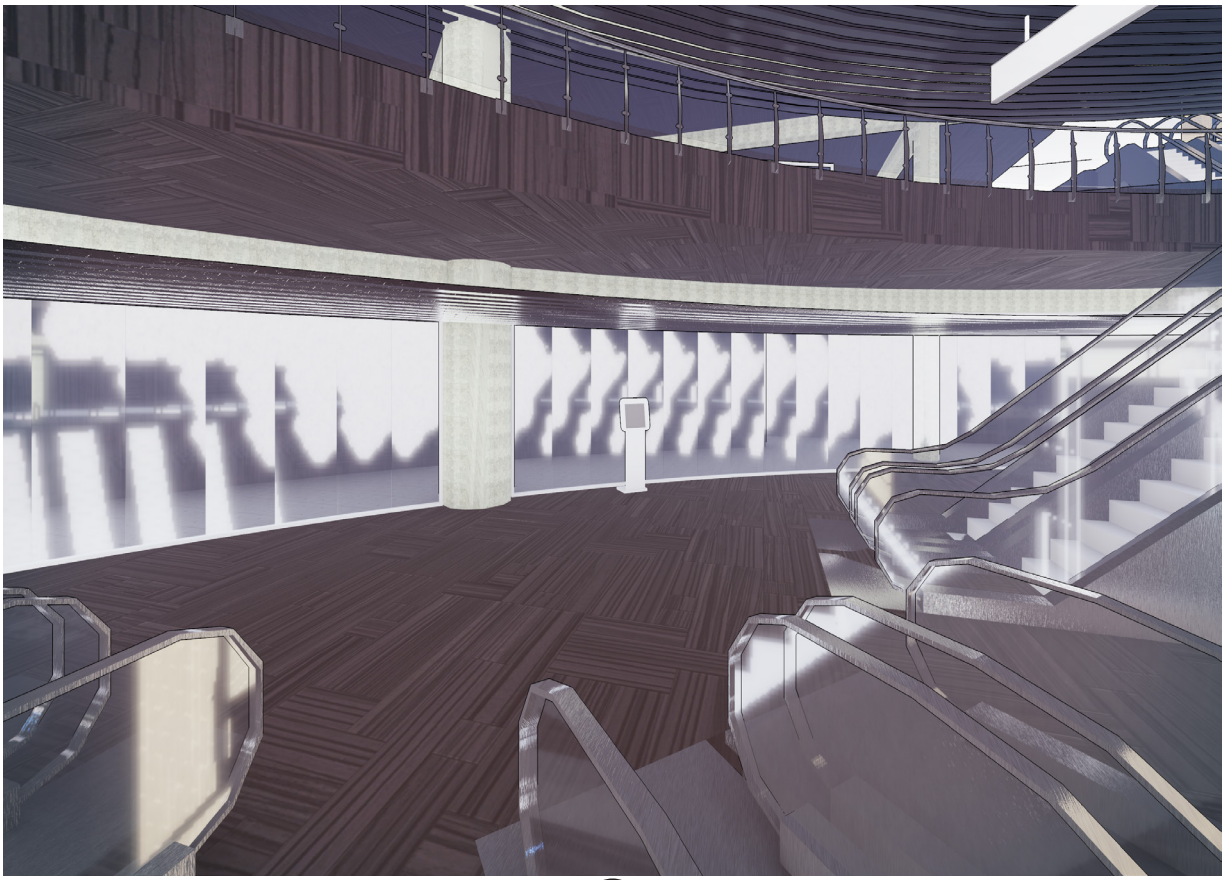


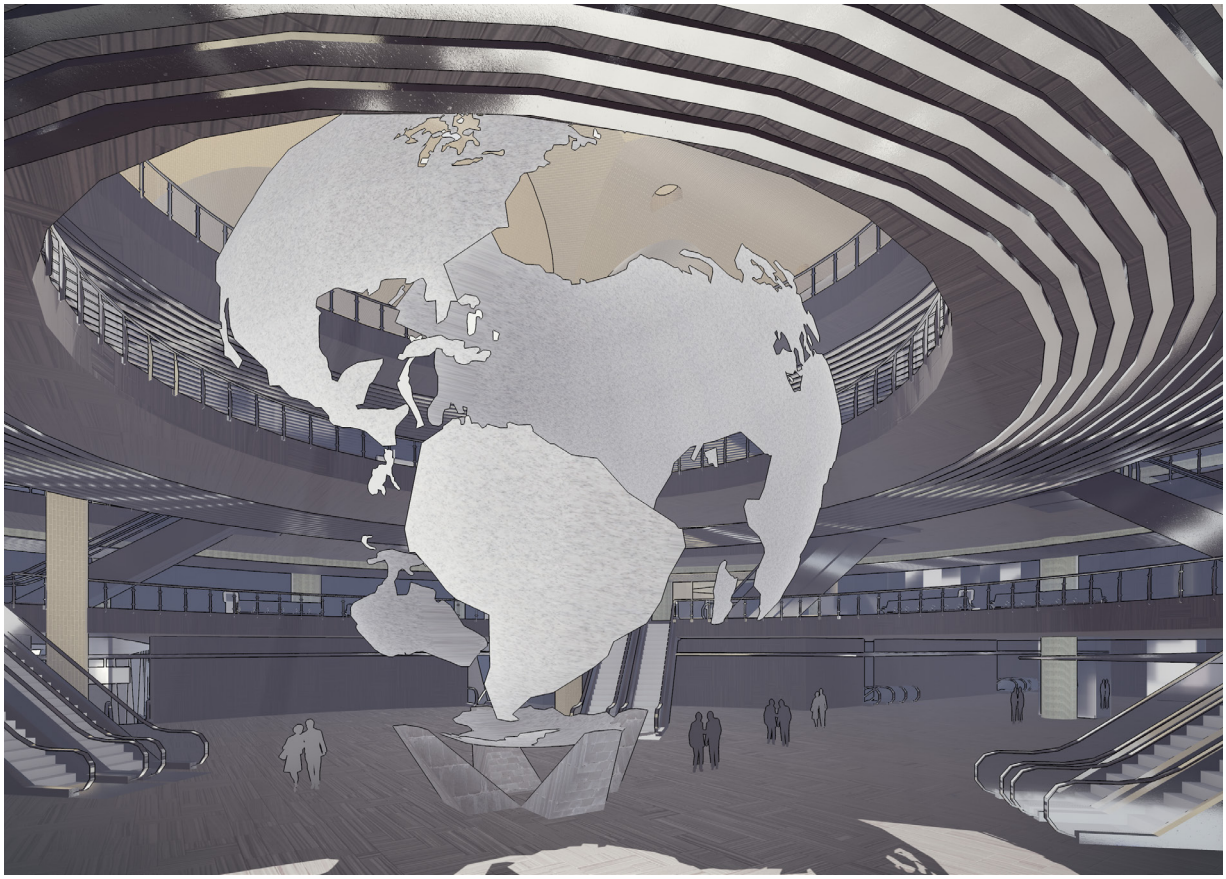


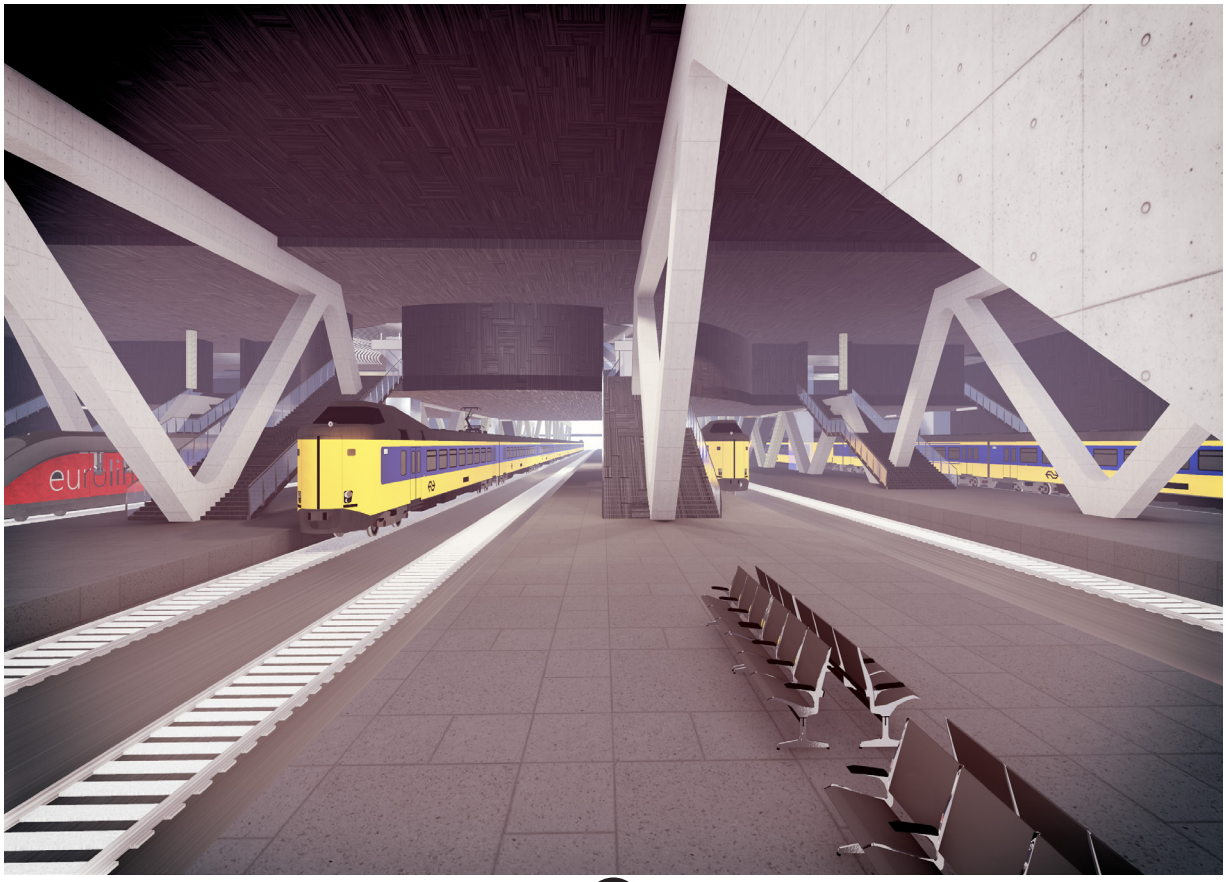


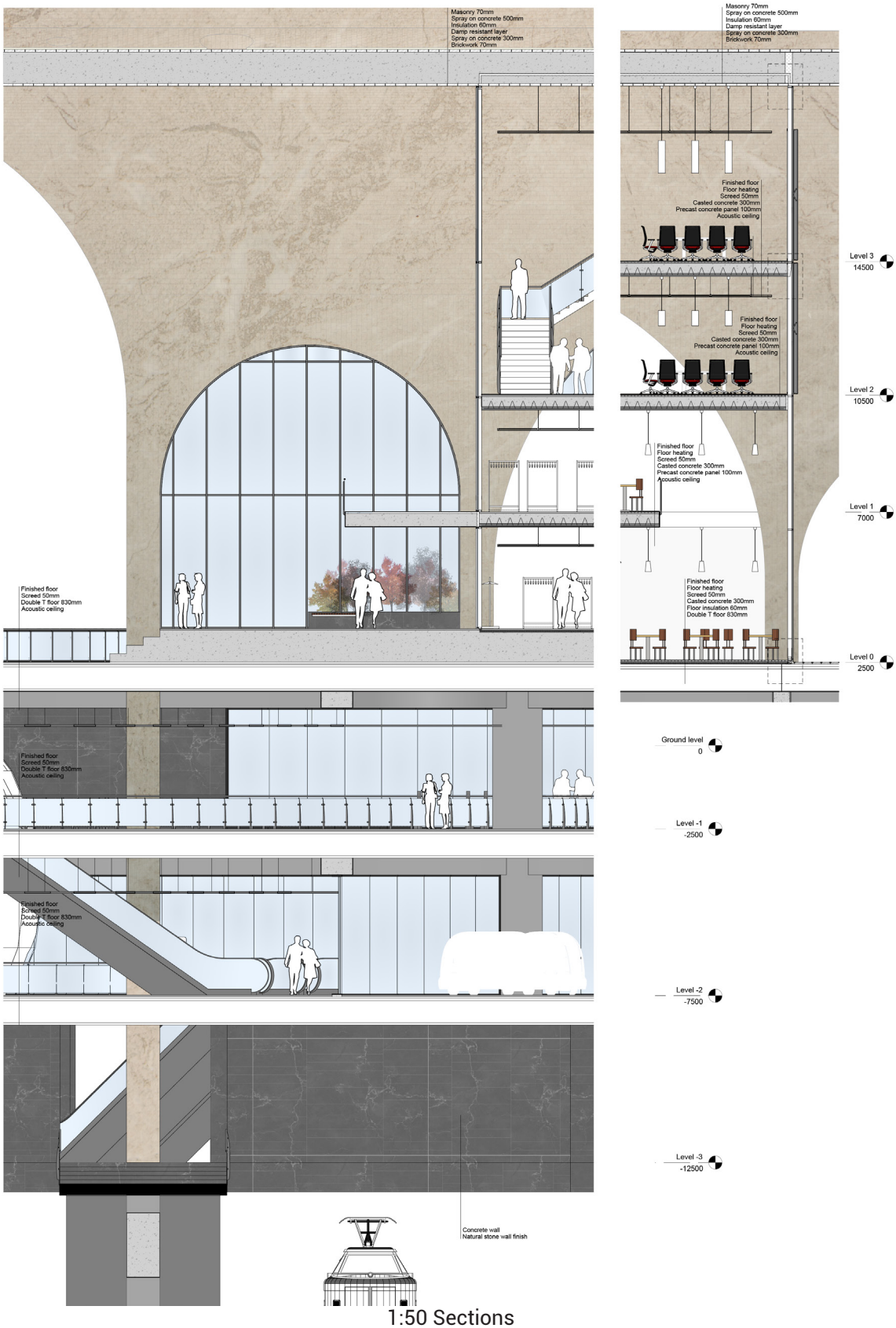




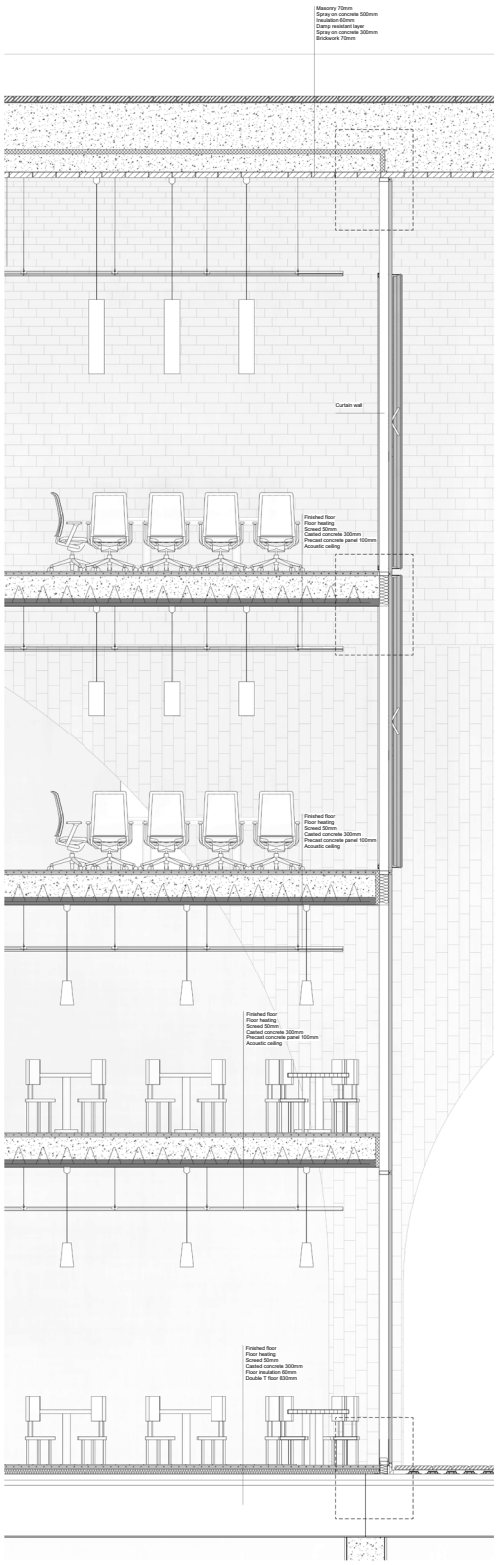


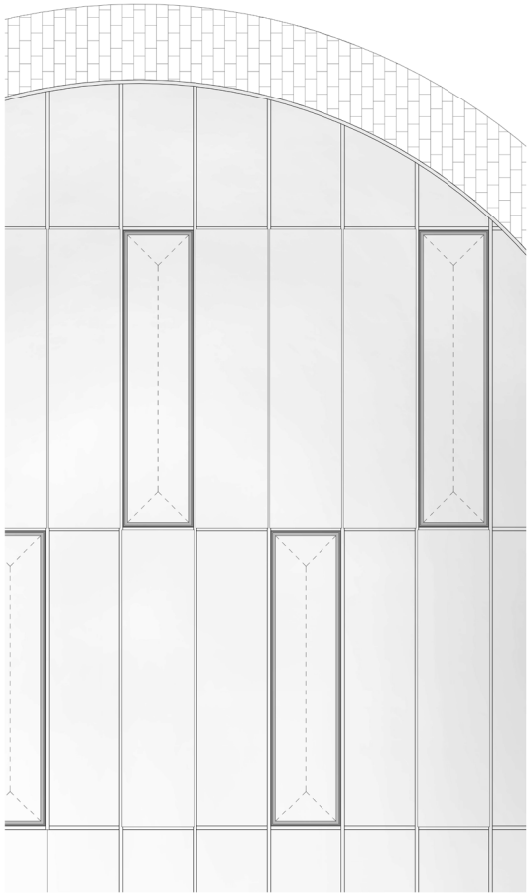


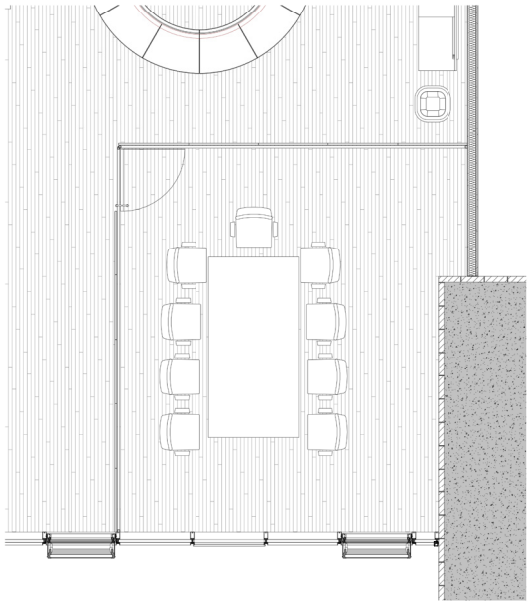




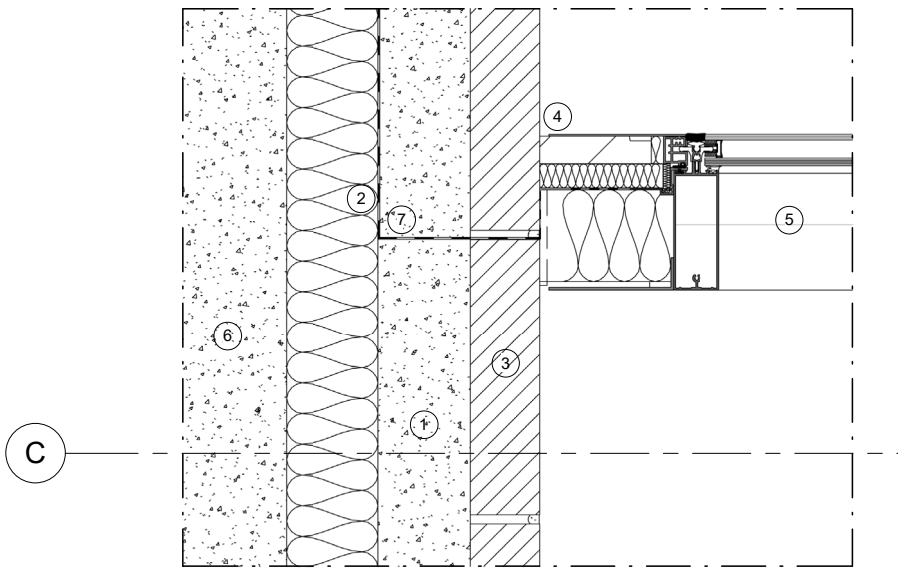
1:50 Sections







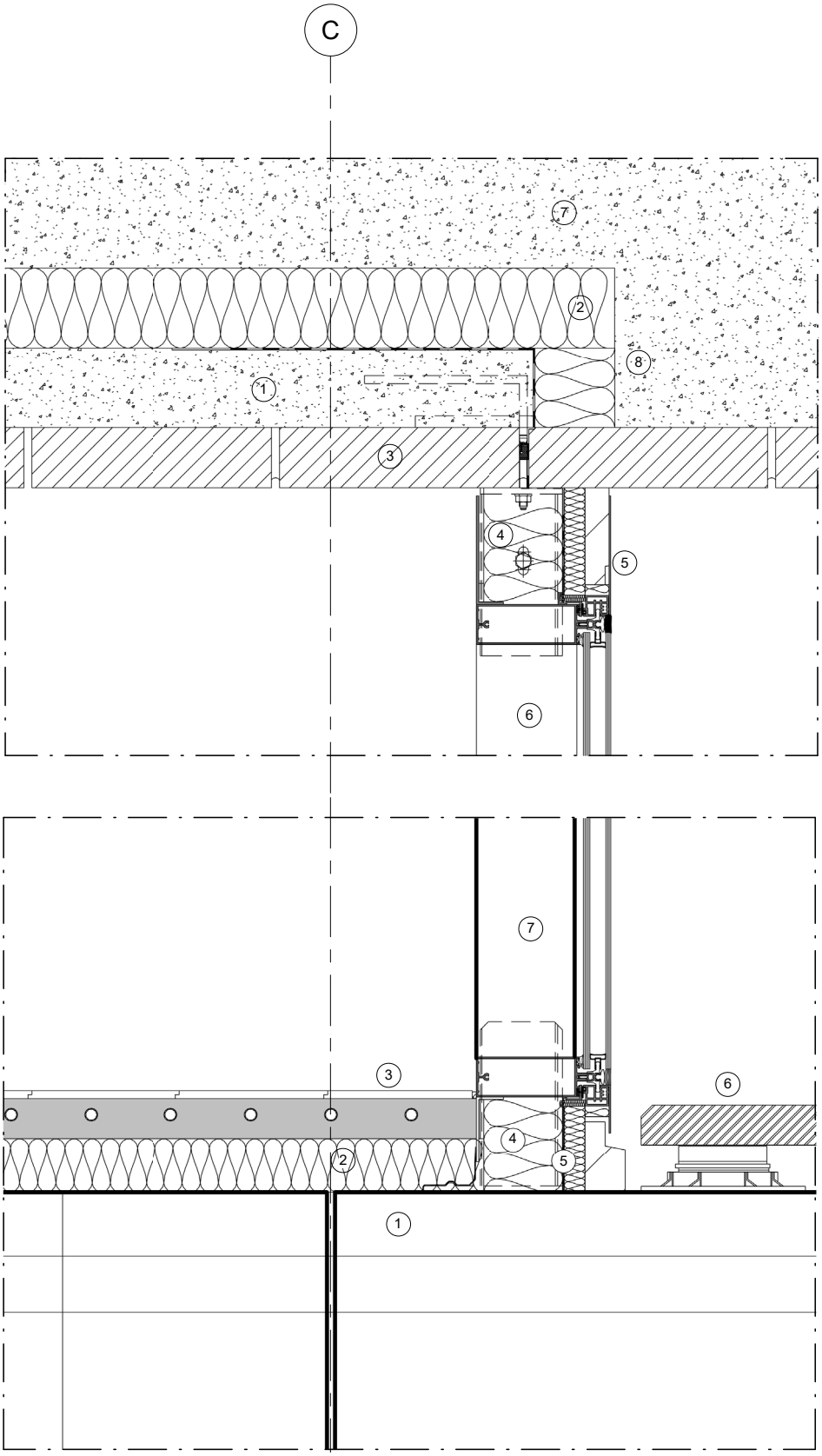
1:20 Section, facade & floorplan



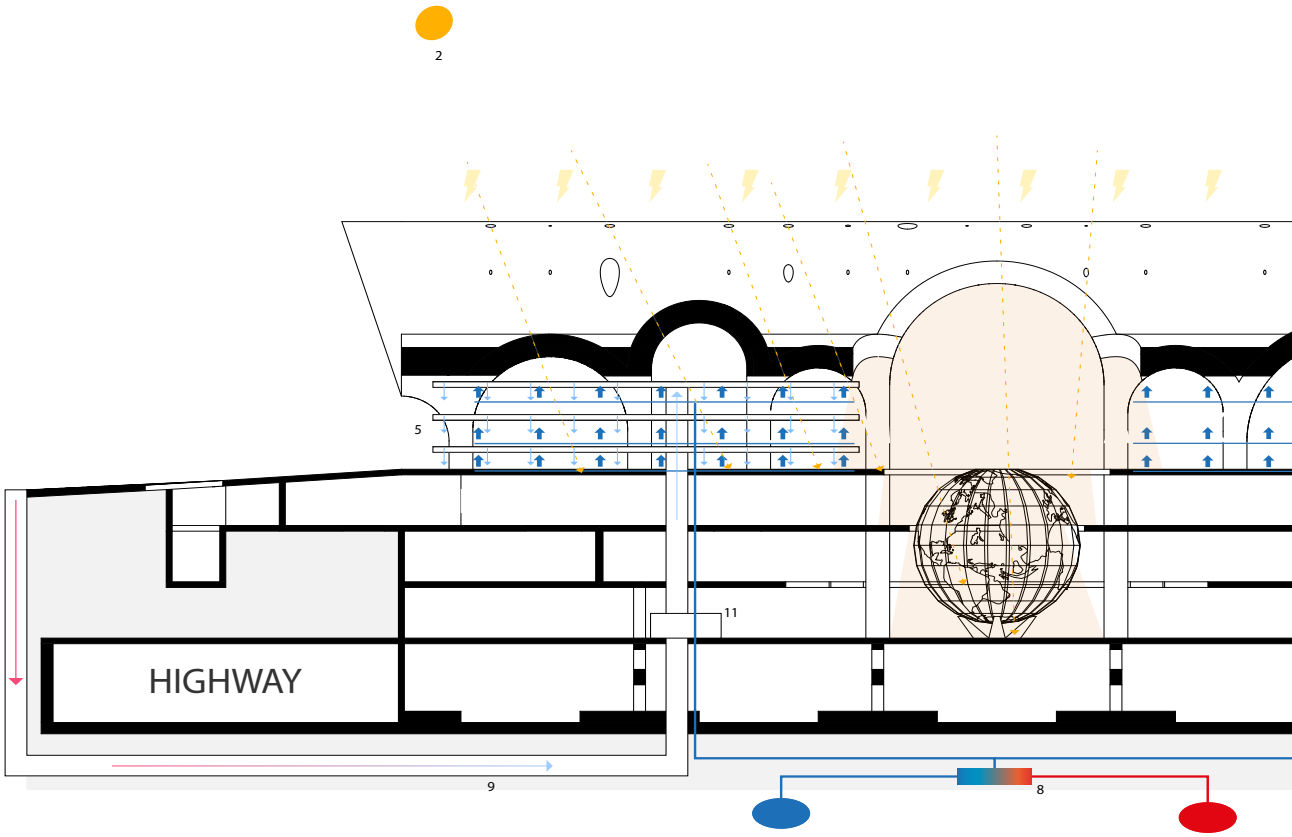
1. Spray on Casted Concrete 300mm
2. Spraying insulation 100
3. Masonry structure (interior finish)
4. Three-way adjustable curtain wall anchor
5. Curtain wall finish 100mm
6. Curtain wall System
7. Final Spray on casted concrete layer 500
8. Damp resistant layer

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

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



1:5 Details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5
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HIGHWAY
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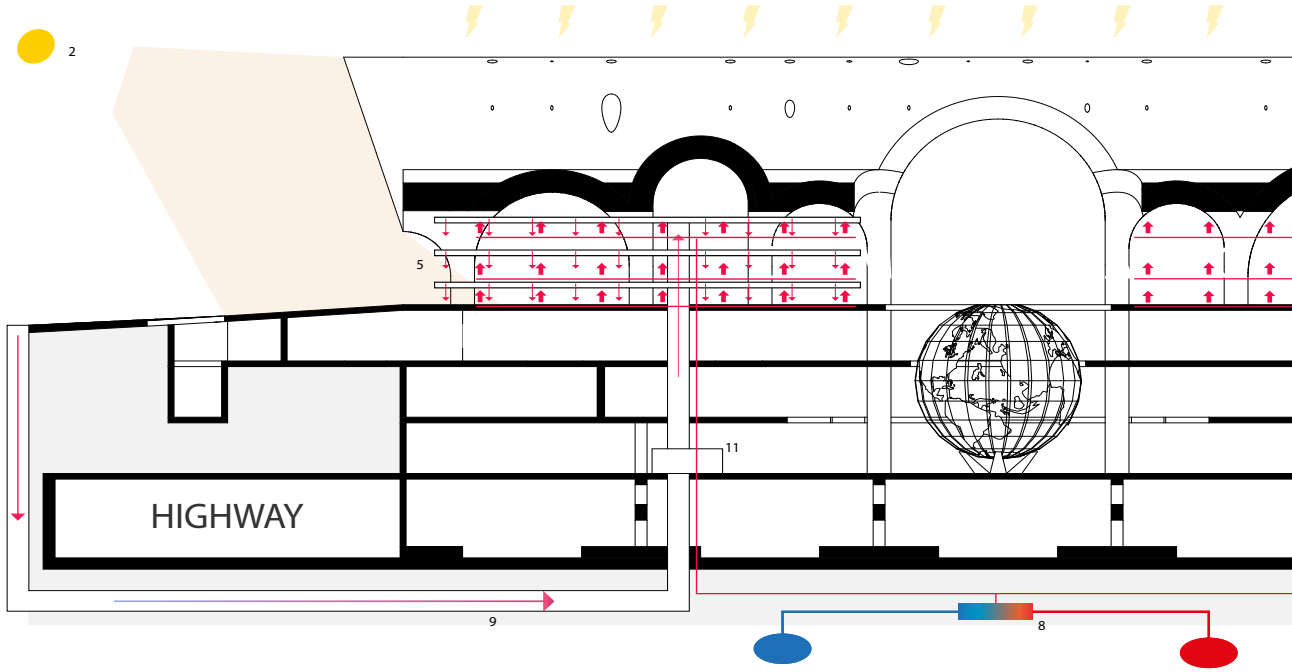
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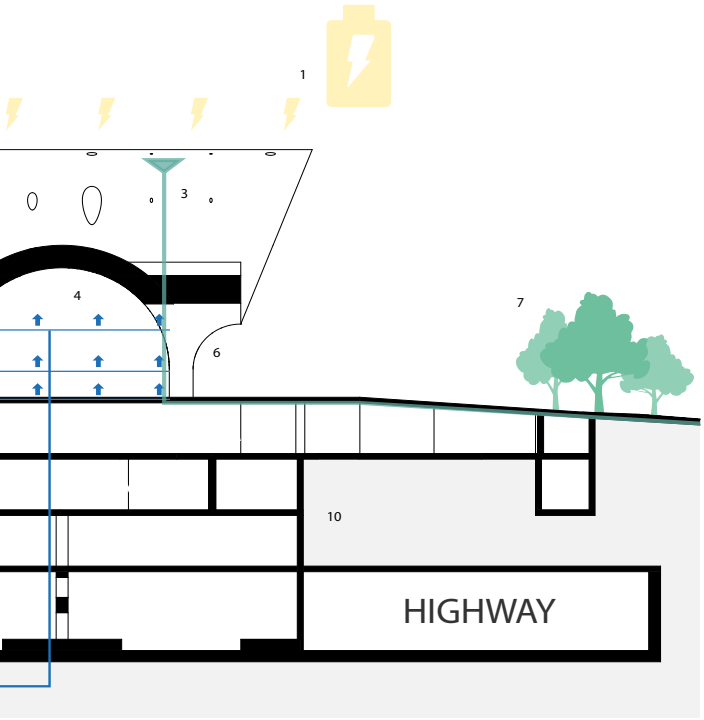
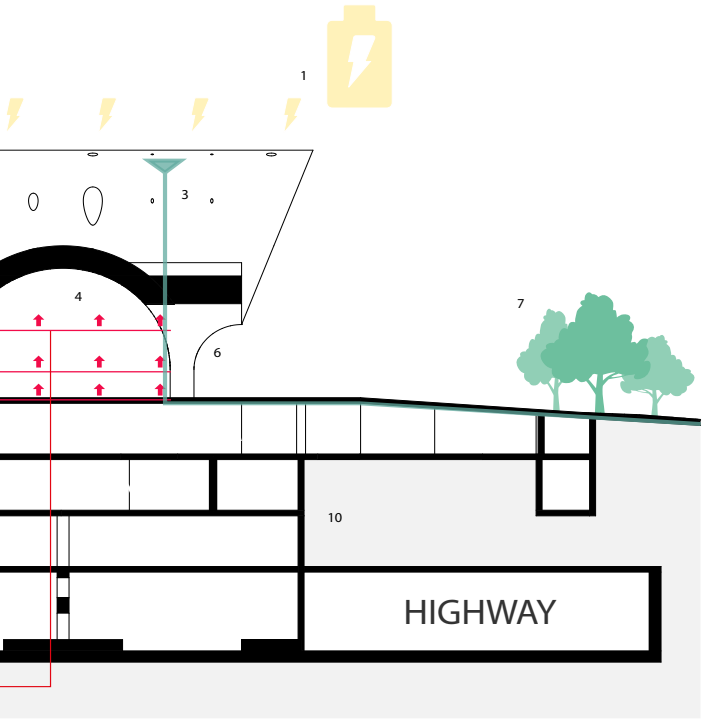


1 Solar panels bricks
2 Winter sun
3 Rain water harvesting roof
4 Under floor heating
5 Mechanically ventilation
6 HR +++ Glass
7 Water harvesting output in surrounding green zones
8 Thermal storage
9 Fresh air pre-cooled ground temperature
10 Geothermal heating
11 Heat exchanger

Climate scheme: Winter



1 Solar panels bricks
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3 Rain water harvesting roof
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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

Climate scheme: Summer

PRESENTATION POSTERS

EL DIN GELDENHUYS
CP

The city of Amsterdam has for many decades been known worldwide for its traditional row houses and water canals. It is a must-see tourist attraction when visiting the Netherlands. The unique urban configuration and image of the city has made itself easy to identify in any book or on any postcard.

This signature identity of Amsterdam is admired by the citizens, tourist, and municipality of Amsterdam.

Amsterdam is growing and also noticing changes in the not to distant future. A large amount of households are moving out of the inner city to live in the nearby regions of Amsterdam due to affortability and comfort. The city is having a natural population growth (more births than deaths per year).In addition the city is seeing an increasing amount of immigrants coming to live and work in Amsterdam, in 2014 the net amount of people coming to Amsterdam was 4,200 and 8,300 in 2015. The net amount is based on people leaving and entering the city. Statistics show that the population of Amsterdam will be 906.000 inhabitants in 2025 and 925.000 in 2040. The municipality is striving to house for 925.000 inhabitants for 2025 and 1 million in 2040.

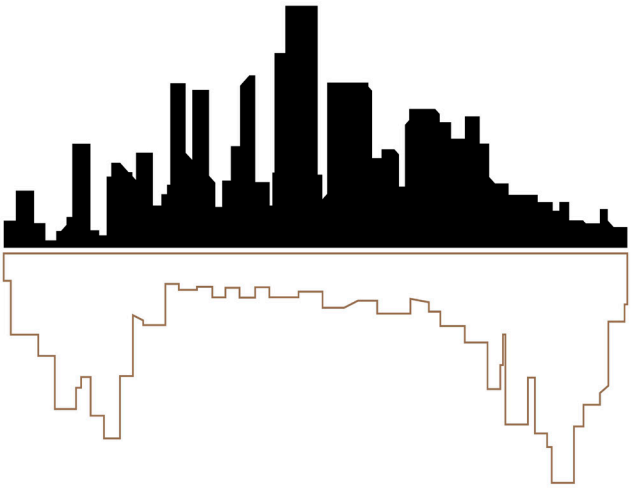
To accommodate housing for this increase of population the municipality wants to build 50.000 houses until 2025 within city limits.

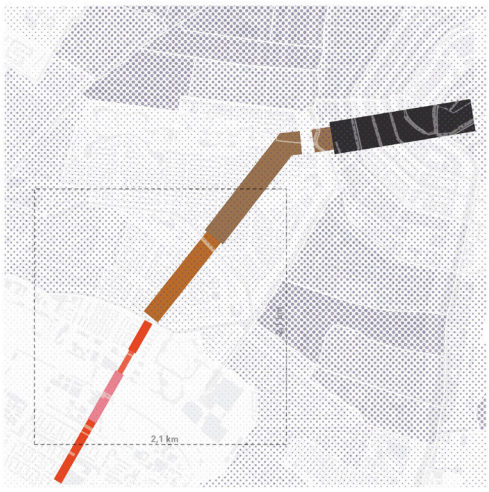
With this growth in city and the mass production of housing, more and more solutions are given by large scale and high-rise buildings. The addition of new dwellings for the city of Amsterdam will go hand in hand with new developments for work and recreation such as offices, cafes, sport fields, restaurants and other leisure. Ideas for new buildings and urban delopments are suggested by architects and urbanist to attract national and foreign investors.

These large scale architectural intervention will have a major impact on the visual aspect of Amsterdam and how it is portrayed worldwide. Some are enthusiastic and committed to enhance the city of Amsterdam. Where others are less enthusiastic..saying that high-rise for example does not have a place in Amsterdam and it should be kept as it is...

IMAGE ISSUE

Eldin Geldenhuys

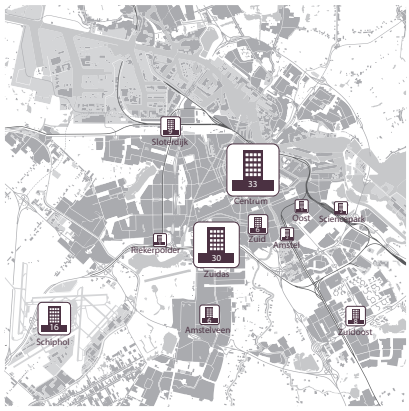


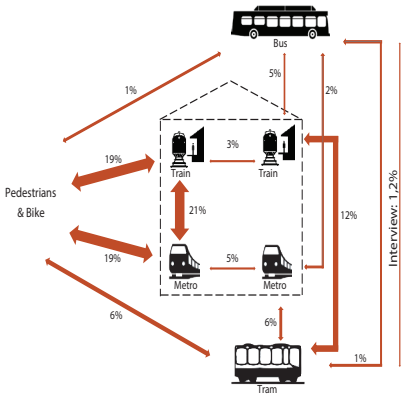


The Zuidas property node is growing at a exponential rate. A driving force being huge year-on-year increase of employees and inhabitants. The Zuidas station is the fastest growing railway station in the Netherlands with the long awaited arrival of the North-South Rail Line due in 2018. Sustaining growth in train traffic on the Schiphol-Amsterdam-Almere route is experienced while more than 250,000 passengers are expected to make a daily return trip. Parallel to the growth in railroad traffic a huge increment in tram, bus and vehicle traffic is expected to integrate within the Zuidas infrastructural node design - developing the Zuidas (station) towards a modern mobility hub with huge future potential. However the posing question: " What will this future strive to be?"

With the Zuidas property zone distinguishing itself as the major financial hub of Amsterdam, and for that matter the Netherlands associated with a strategically sound and well coordinated infrastructure, together with a futuristic mobility network such as the high speed over land travel, the Zuidas are to be integrated within the European travel network. Thus a high speed link between major European financial and services hubs located in Brussels, Frankfurt, Paris, Berlin and Zurich. Inventions related to super fast travel such as the Hyperloop which envisages traveling at up to 700mph will alter daily live patterns of employees residing all over western Europe – being employed at a location within the Zuidas development while residing in Zurich. Great Britian's Brexit movement instigates more independence from Europe which could more than likely result in several multinational organizations, companies and entities, to relocate to Europe, accumulating a seamless trading network. Social borders may essentially disappear with the realization of a so called 'new European community'. Zuidas thrives within an atmosphere of mobility and vibrancy. In essence a culture of movement. Business being conducted is on a global scale with a large array of local and international residents all with different preferences towards lifestyles. A direct consequence the development of clusters of luxury homes for long, medium and short term accommodation providing state of the art technology combined with ultimate comfort targeting the international residential market.

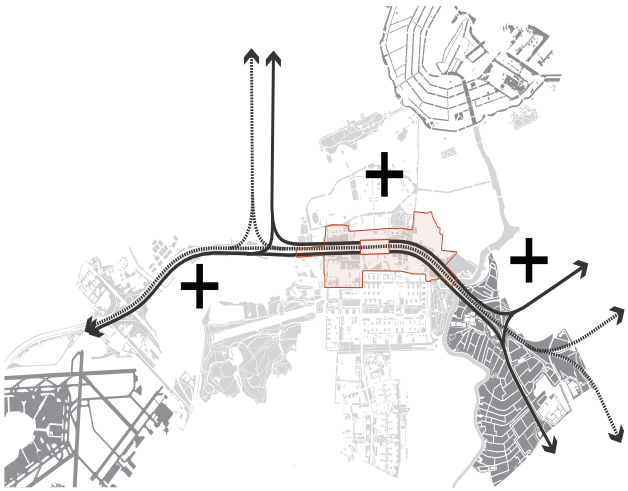
In conclusion I believe that we are currently only acknowledging the establishment of the Zuidas as a multi-disciplinary hub. The Zuidas however has the potential to become an internationally acclaimed integrated and mobile network amid other major European city hubs. Multicultural boutiques and entertainments surrounding office space of globally renowned organizations and companies. Various well-connected infrastructural options are available to the inhabitant and visitors of the Zuidas. With this in mind a building complex flowing from a masterminded architectural design will visually display the mobility of the global district known as the AZD (Amsterdam Zuidas District), but also illuminate the economical strength and global culture of the hub.

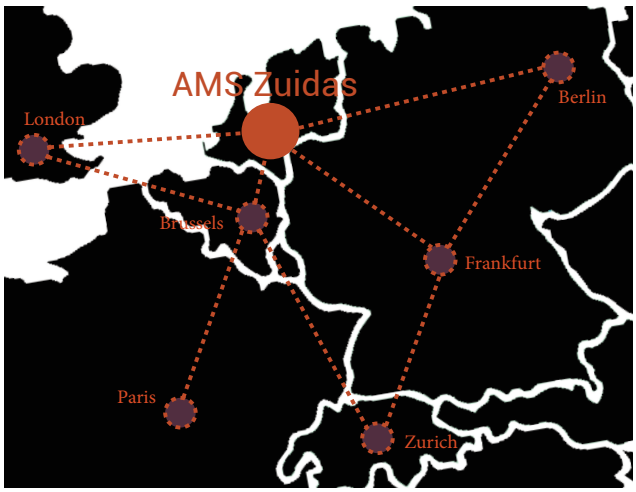


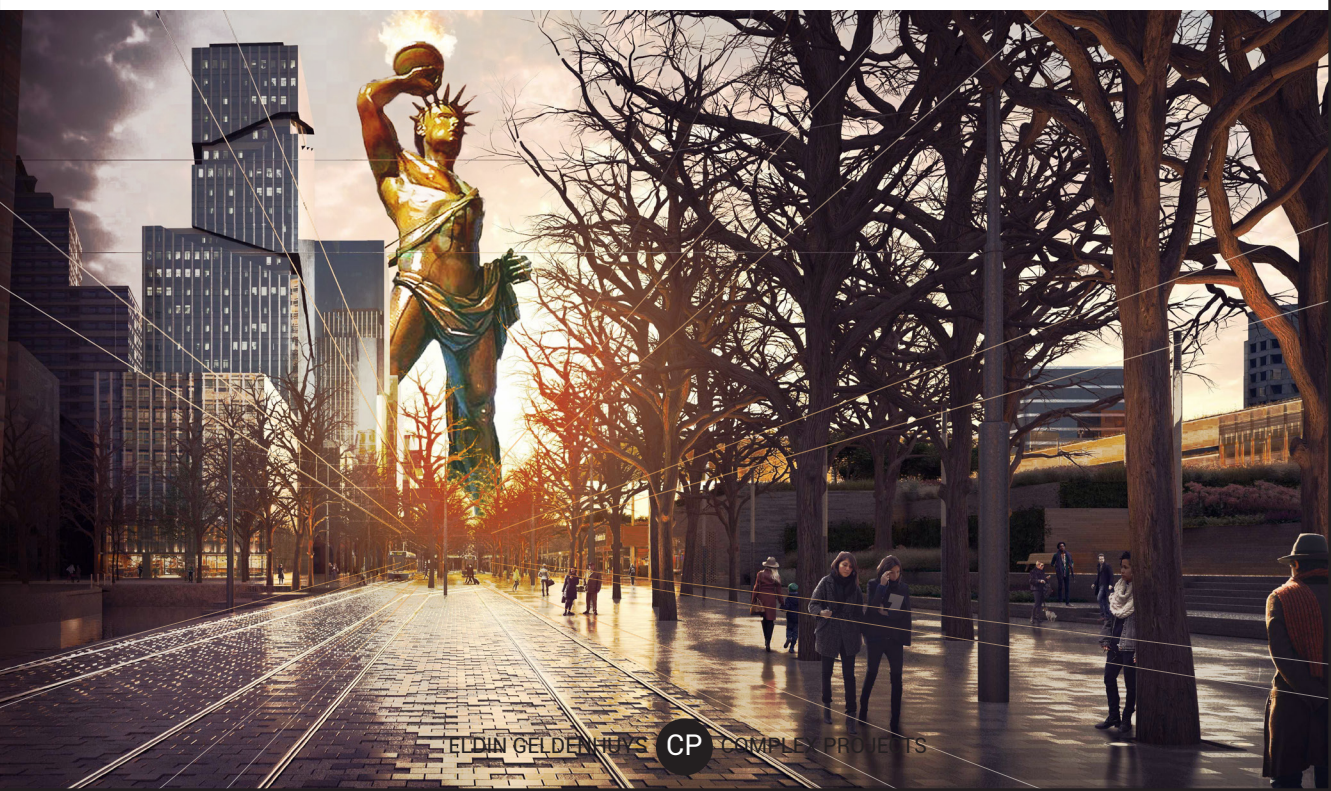


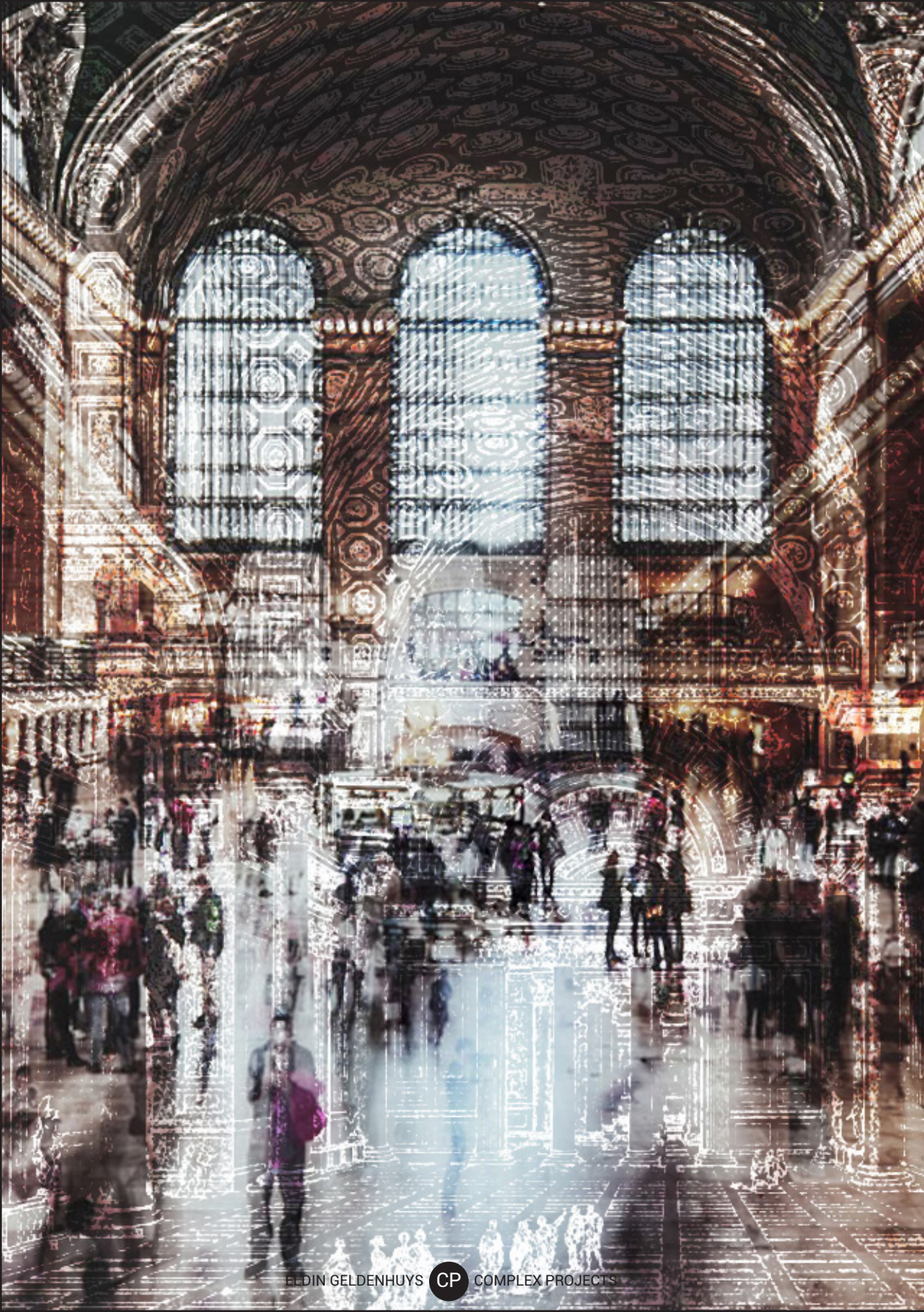
GLOBAL DISTRICT ZUIDAS

Eldin Geldenhuys









ELDIN GELDENHUYS CP COMPLEX PROJECTS

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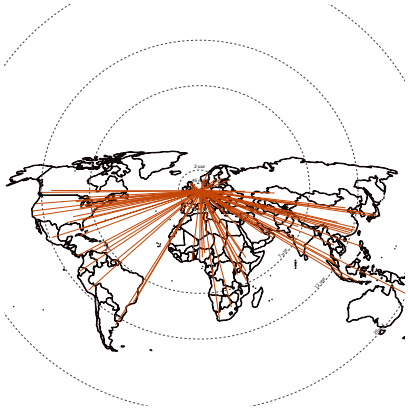
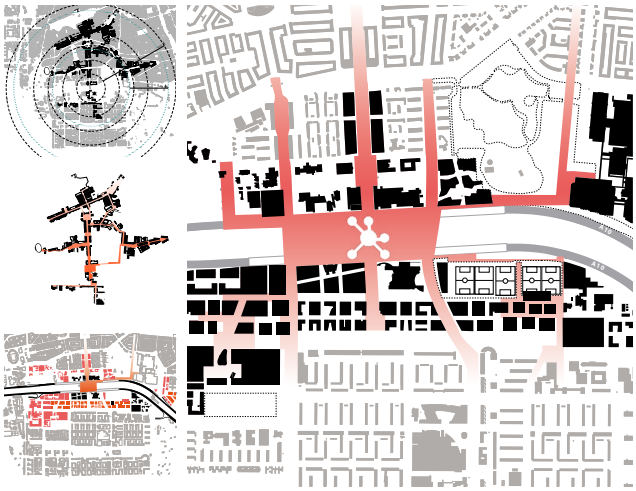
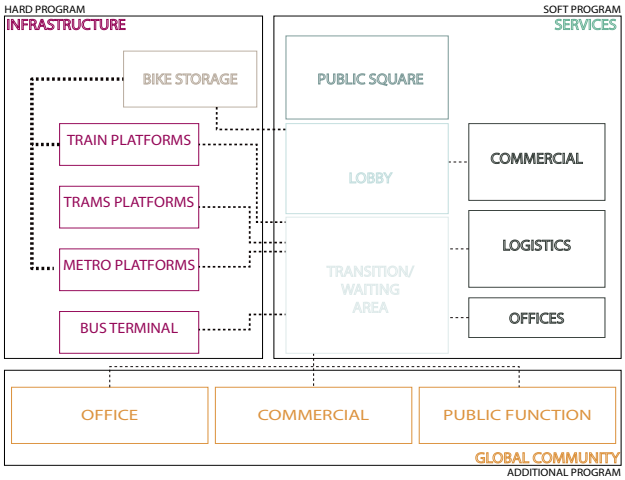
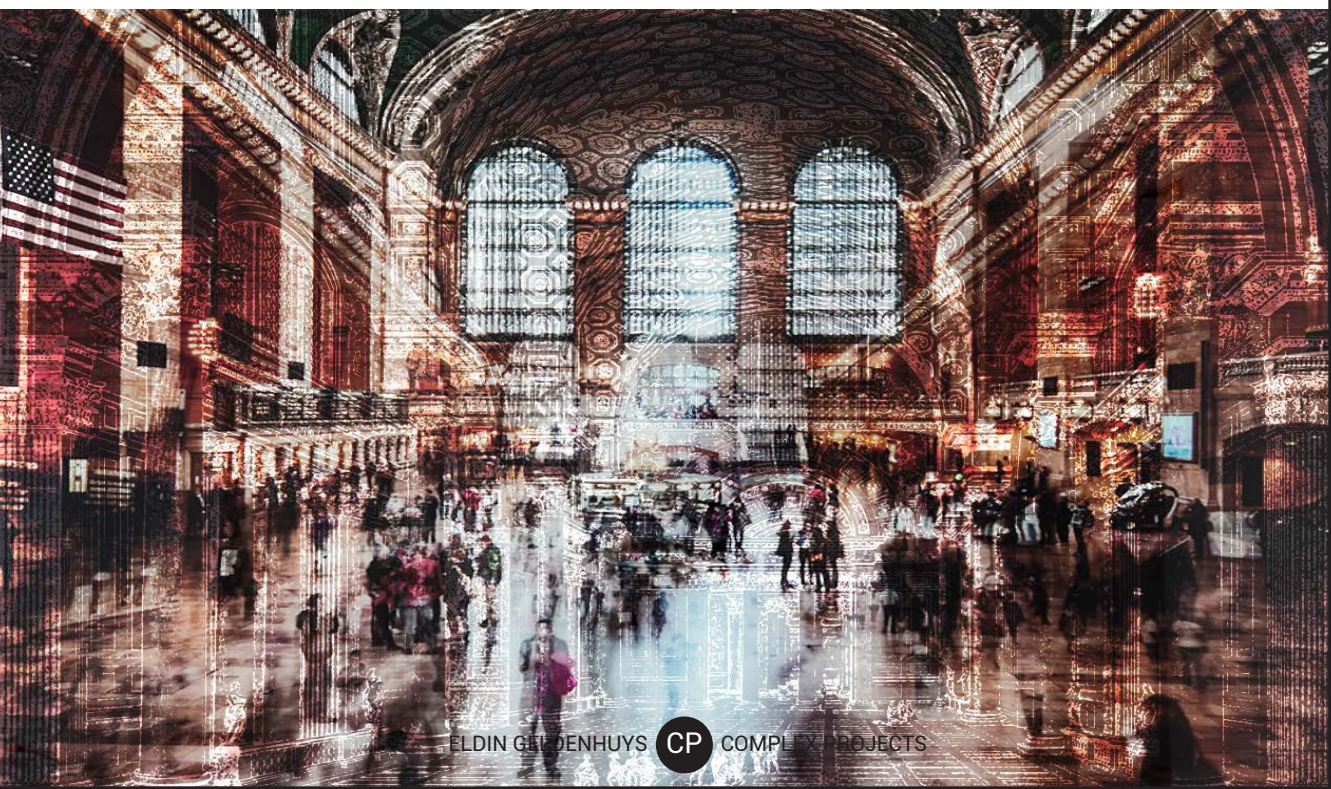


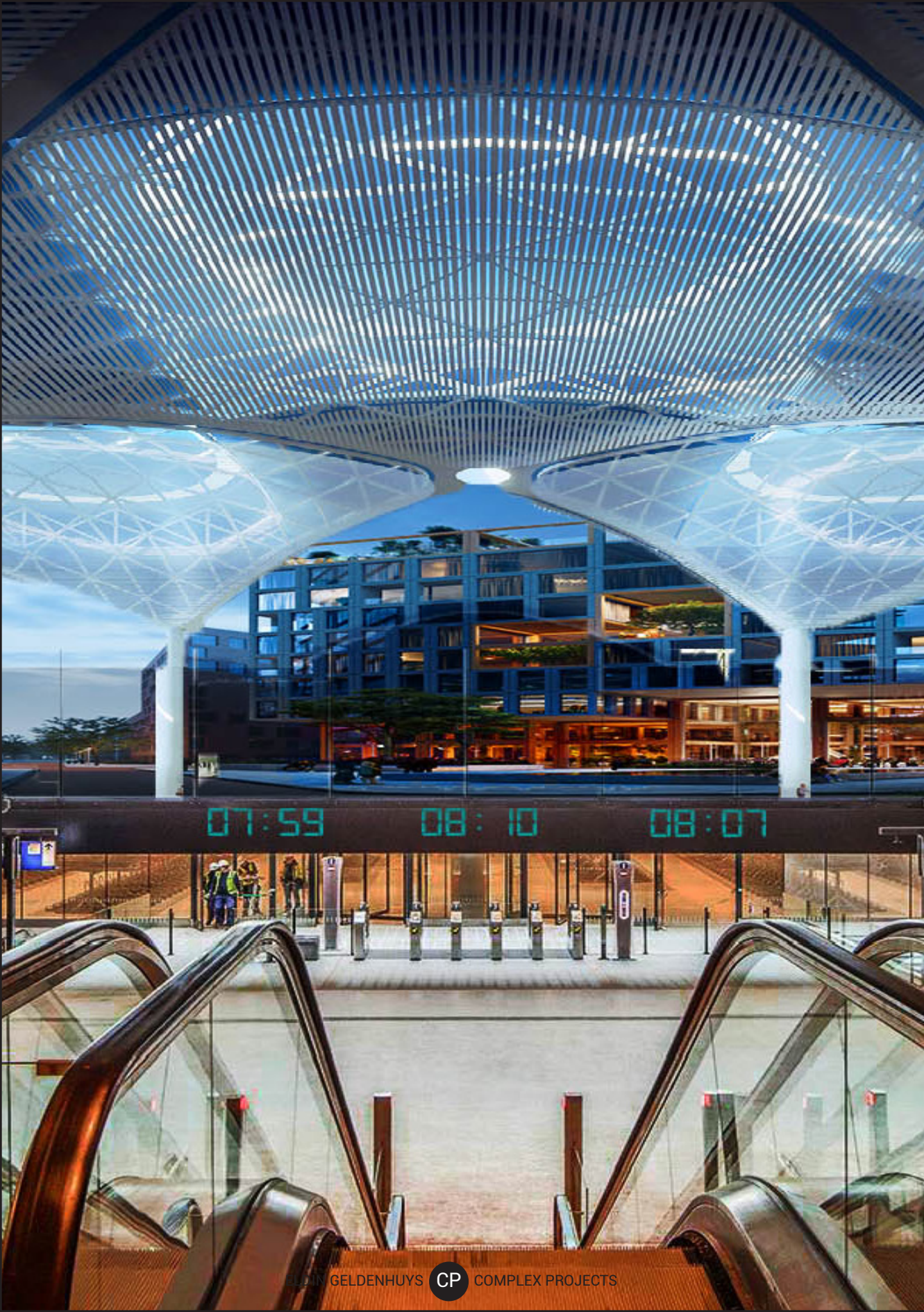
GLOBAL STATION ZUIDAS

Eldin Geldenhuys





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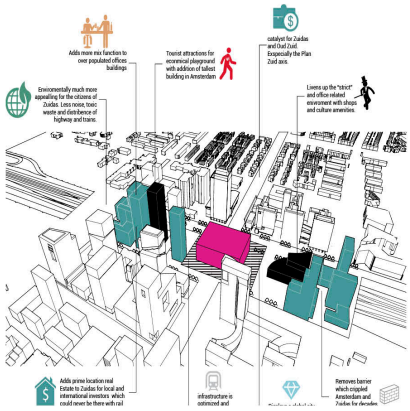
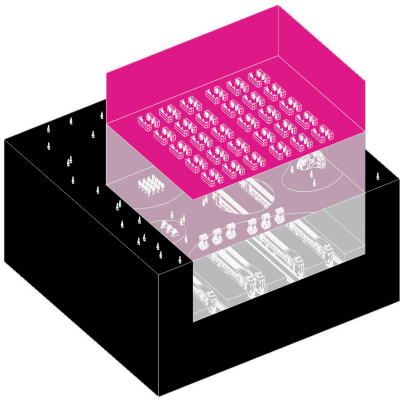
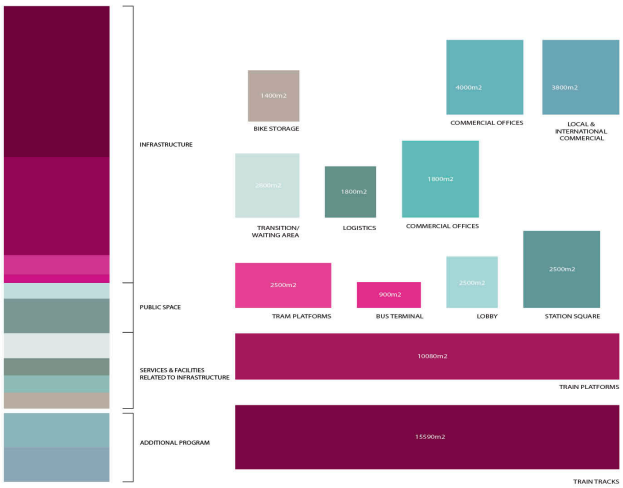
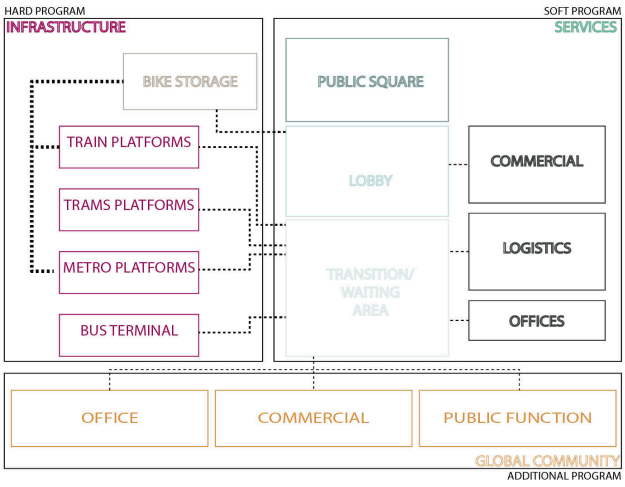


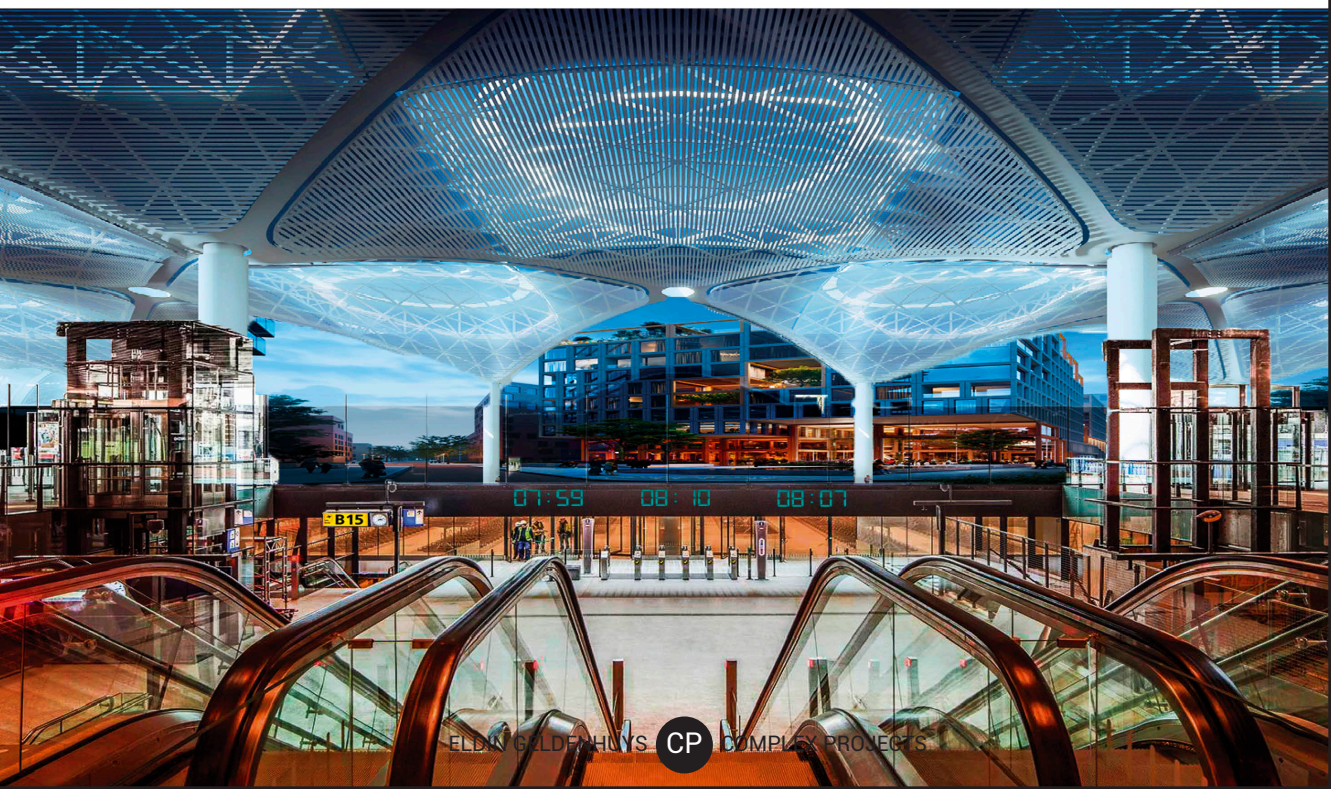


GLOBAL TRADE & TRANSITION TERMINAL

Eldin Geldenhuys







ELDIN GELDENHUYS
CP
COMPLEX PROJECTS

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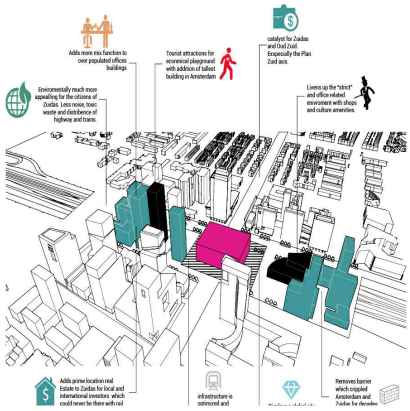
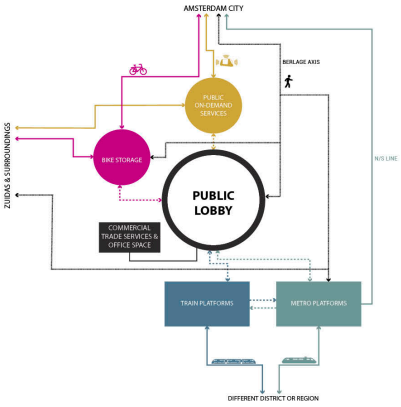
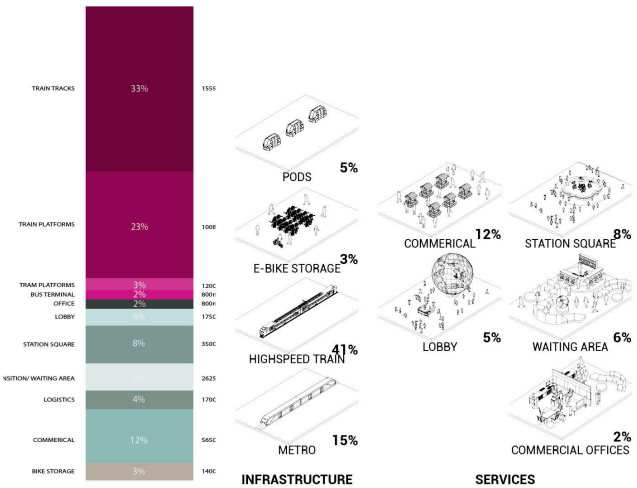
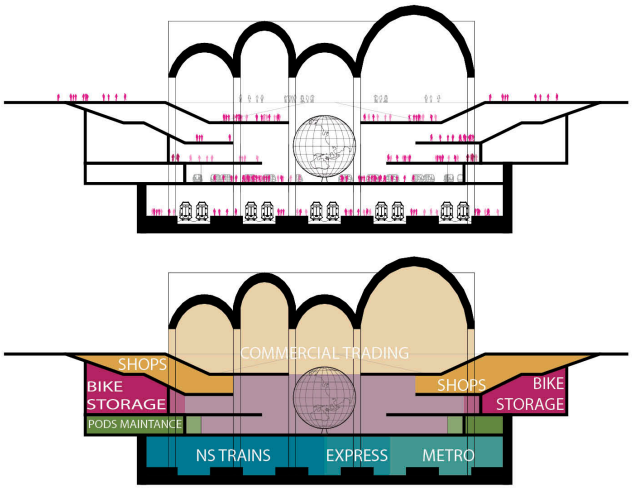




TRADE & TRANSITION TERMINAL

Eldin Geldenhuys





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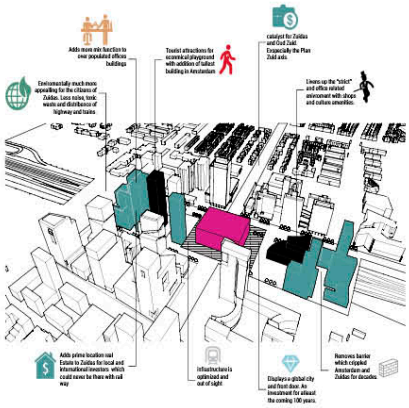

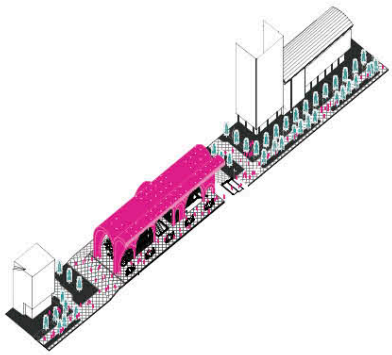

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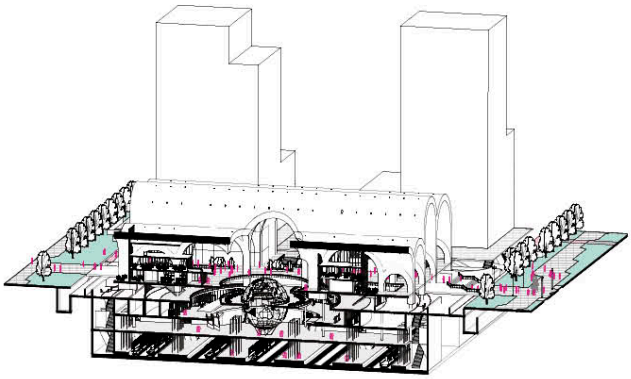

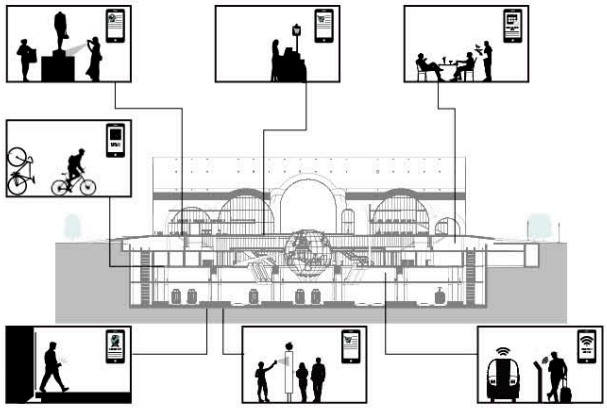

Master of Science Architecture, Urbanism & Building Sciences

Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Eldin Geldenhuys
Student number	4152492
Telephone number	062 672 3315
Private e-mail address	eldingeldenhuys@gmail.com

Studio	
Name / Theme	Complex Projects
Teachers / tutors	Steven Steenbruggen
Argumentation of choice of the studio	I was quite quickly drawn to the research and design methodologies of Complex projects when visiting fellow students in the MSc 1 & MSc 2 studios (Anatomy of Landmarks & Chicago). Unfortunately I never had the opportunity to do these studios due to a larger interest in other studio for MSc1 and Msc2. When I realized that the MSc 3 studio was located in Amsterdam I could not resist to enroll for it. I enjoy, understand and feel comfortable to academically address the problems of the case with the research and evidence-based methods of Complex.

Graduation project	
Title of the graduation project	Transition and Trade Terminal Amsterdam Zuid
Goal	
Location:	Amsterdam, The Netherlands
The posed problem,	Amsterdam is in a constant growth and expansion. The city is seeing a increase in immigration, tourism, international investments. The city of Amsterdam must adapt to these new needs where housing, mobility and social interaction on a national and global scale. One of the most influential districts of these changes is the Zuidas situated just South from central Amsterdam near the A10 highway. The Zuidas has been see for many years as the business district of Amsterdam but is going under a identity change to accommodate more housing and amenities to attract more than multinational companies. With so many different mobility types meeting

	in one such location (train, metro, buses and bikes), the city must accommodate the correct type of intervention. Additionally to this one must also find a solution how to integrate and combine the local culture of the Zuidas with the international mixture of cultures and needs.
research questions and	What does the Zuidas need to become to be the next GLOBAL node of Europe in 2050?
design assignment in which these result.	• Design a building that can act as the new front door to the city of Amsterdam. • Design a transition terminal which acts as a train, metro and bus station. • Integrate the international element of the Zuidas with the local culture of the Dutch citizens.

Process

Method description

During the research and design process I will base my design choices on research and evidence based narrative design. This is a term was constructed by myself during my research method paper, which I could describe as making design decision with statistics, information and data directed by a chosen narrative. With the instructions of the Complex project syllabus this shaped narrative will be illustrated within a collage every five week., giving a visual expression of the design process as well as the initial suspicions within the design. Related to this applicable literature and references will be considered to enhance knowledge over a certain subject.

Literature and general practical preference

- Ambitiedocument ZuidasDok, Richtinggevend masterplan voor planuitwerking en aanbesteding. ProjectBureau ZuidasDok, 2013.
- Visie Zuidas: stand van zaken 2004, Amsterdam: Gemeente Amsterdam. Dienst Ruimtelijke Ordening, 2004.
- Visie Zuidas - Zuidas - amsterdam.nl, Accessed November 5, 2017.
- Delirious New York. Macnair, Andrew, and Rem Koolhaas, 1979.
- ZuidasDok- Landschapsplan, Amsterdam: Gemeente Amsterdam. Dienst Ruimtelijke Ordening, 2015.
- The Modern Airport Terminal, Brian Edwards, 2005

Reflection

Relevance

The biggest contribution that this project and design studio will be that AMS (Advance Metropolitan Solutions) located in Amsterdam will have gained a large amount of research and designs done by students of the TU Delft. These design might help city planners to see research results within Amsterdam differently. Some solutions might actually be able to be implemented practically on small or large scales.

More importantly in contrast with the municipality of Amsterdam our group argues that the Oud-Zuid district located just north of the Zuidas is not complected and it should be adjusted to improve mobility and social interaction between international and local citizens.

Time planning

Week 01 - 05

General Research and Mapping XL Site tile. Literature Review and Hard data analysis. Building site model 1:1000. Mapping L block and Initial suspicions. P 0.5

Week 06 - 11

General Research Presentation. Research question and area of interest. Field trip Paris. Soft data analysis. Developing thesis topic and research question. Modeling future developments. P1

Week 12 - 15, 18-21

Group vision and Mapping M block, develop program, determine program, usage, purpose of the project. Program Functional aspects, spatial requirements, library of typologies and reference model in site 1:1000. Typology, Program and Site of project.Develop design brief. New urban questions paper. P1.5 & P2

Week 22 - 23

Msc3 reflection, discussing first ideas, investigation of concepts and other spatial ideas. Creation of concept design: Development of concept in relation to program and research. Development of concept in relation to massing and urban group strategy. P2.5

Begin Design 1:200

Finalize Research Paper.

Finalize Concept Design Journal, Design 1:200 & Begin Specific Part 1:50, Begin Detailing 1:10/1:5

Finalize Research Paper & Develop Specific Part & Detailing

Week 24 - 29

Developing program, circulation and functional aspects. Developing plans and sections. Creation of Preliminary design: Developing facade and material usage. Developing site and relation to other projects on site. P3

Final Research Paper

Present Developed Design 1:200, Specific part 1:50 & Detailing 1:10/1:5

Reevaluate Building design 1:200 & Specific part 1:50, detailing 1:10/1:5

Interior and Atmospheric studies. Specific part 1:50 & detailing 1:10/1:5

Material Studies and Construction

Visualizing and Refining the design

Week 30 - 35

Developing structural aspects of project. Development of materials and details. Development of design and drawings. Final Design Scheme. Plans, Section, Elevations, Detailing and Construction. Refining the final design scheme. Finalizing all design elements and models.

Week 36 - 40

Preparation for P5 and Final Presentation: making decision and strategy for making physical model. Developing model(s). Focusing on visualization and graphics. Focusing on presentations.