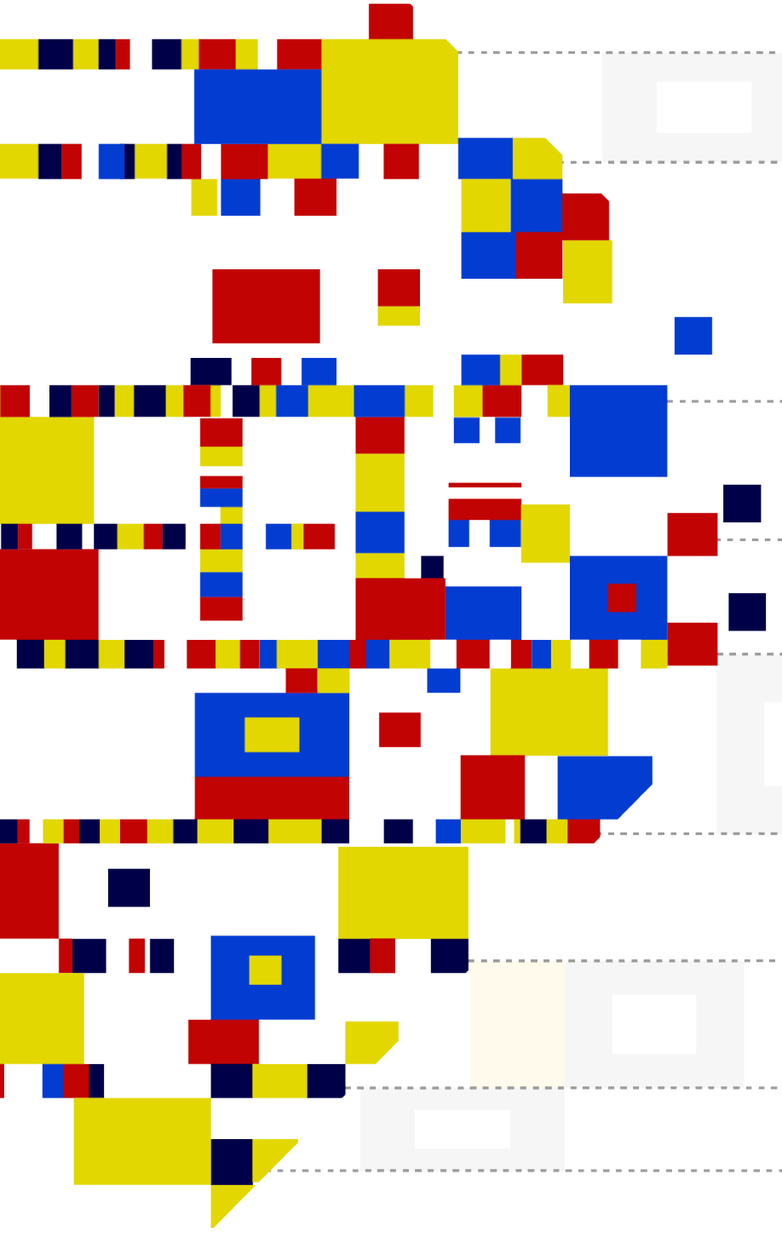
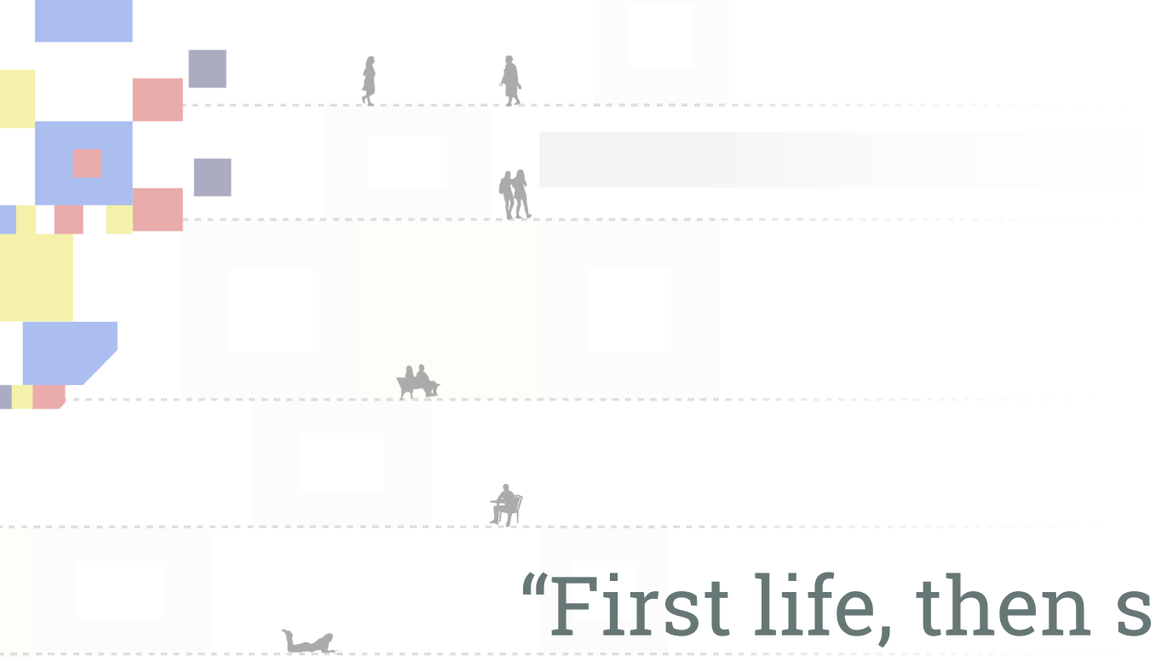


VICTORY COMPACT CITY

Fostering urban life in the compact city to optimize high density urban living

P5 PRESENTATION

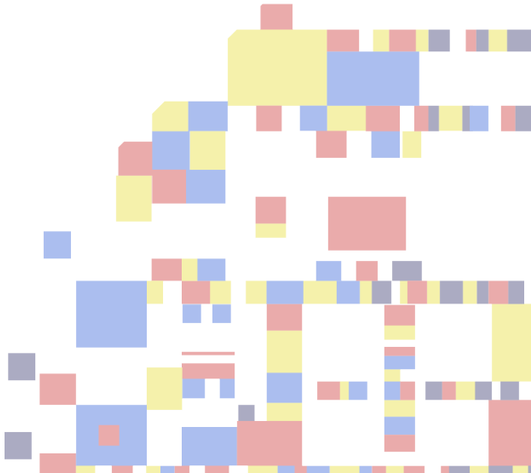
Sebastien Reinink
4351878



“First life, then spaces, then buildings – the other way around never works.”

Jan Gehl

urban life theorist and practitioner



‘The Netherlands is finished’

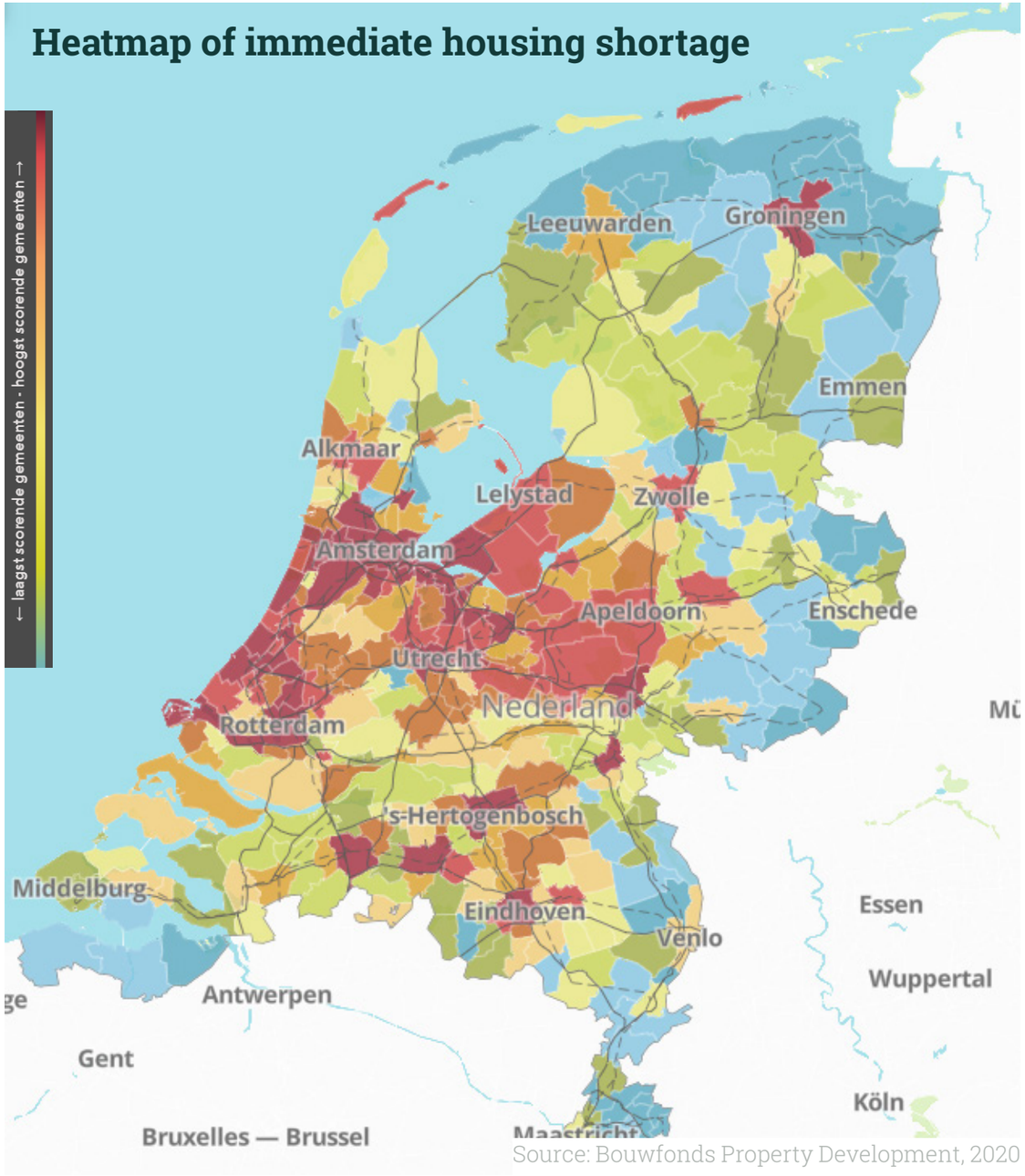
Sybilla Dekker - 2005

minister of Volkshuisvesting

‘There is no need to build new housing’

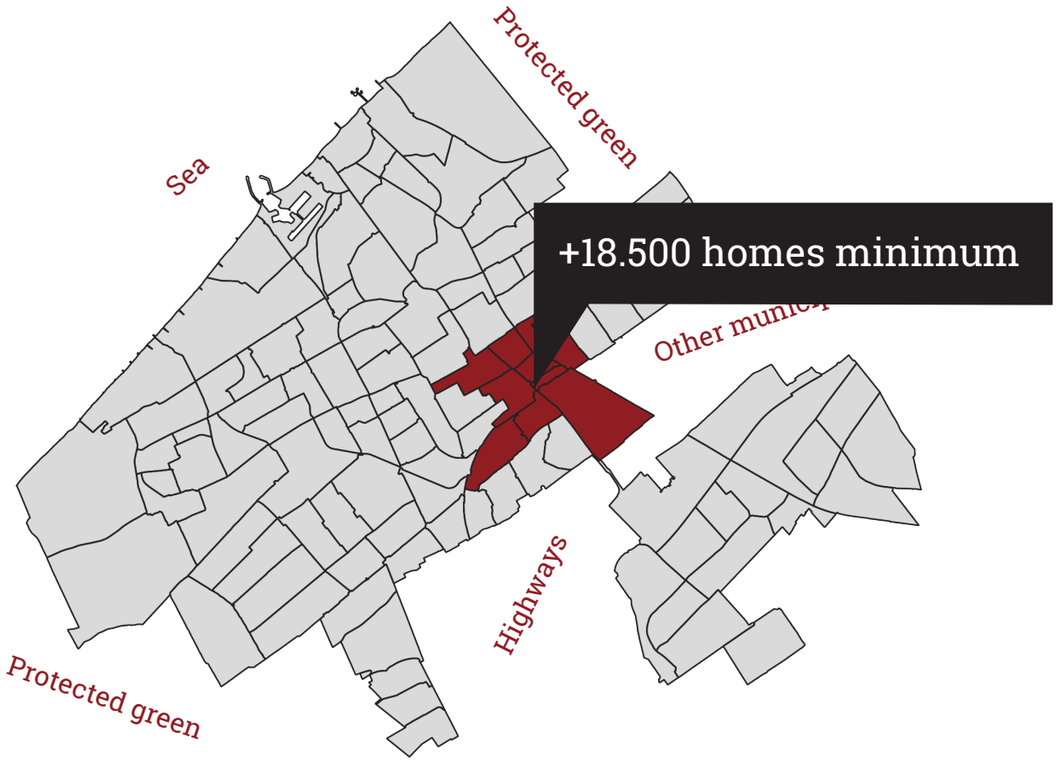
Frits van Dongen - 2013

Rijksbouwmeester

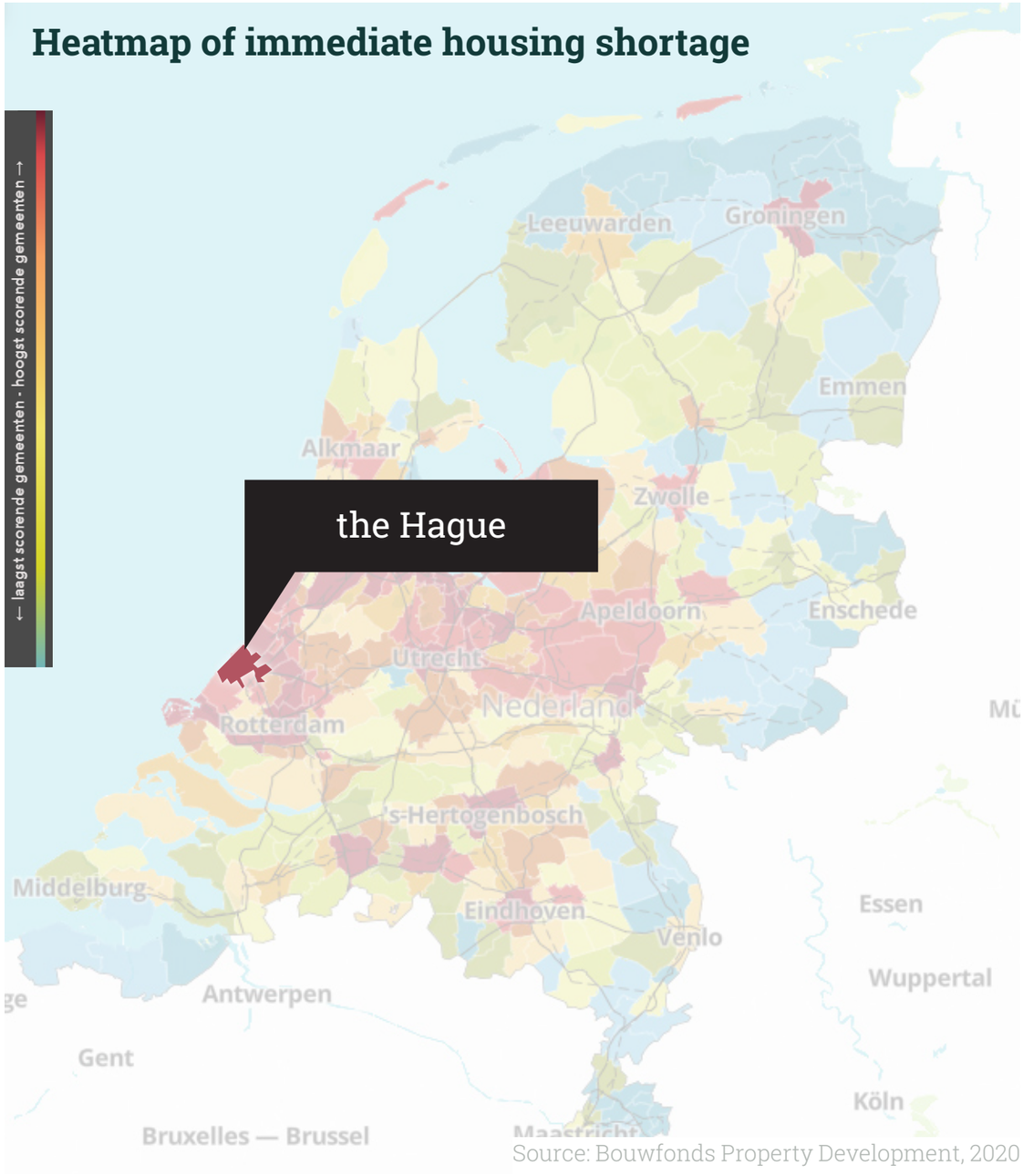


Source: Bouwfonds Property Development, 2020

THE HAGUE SITUATION

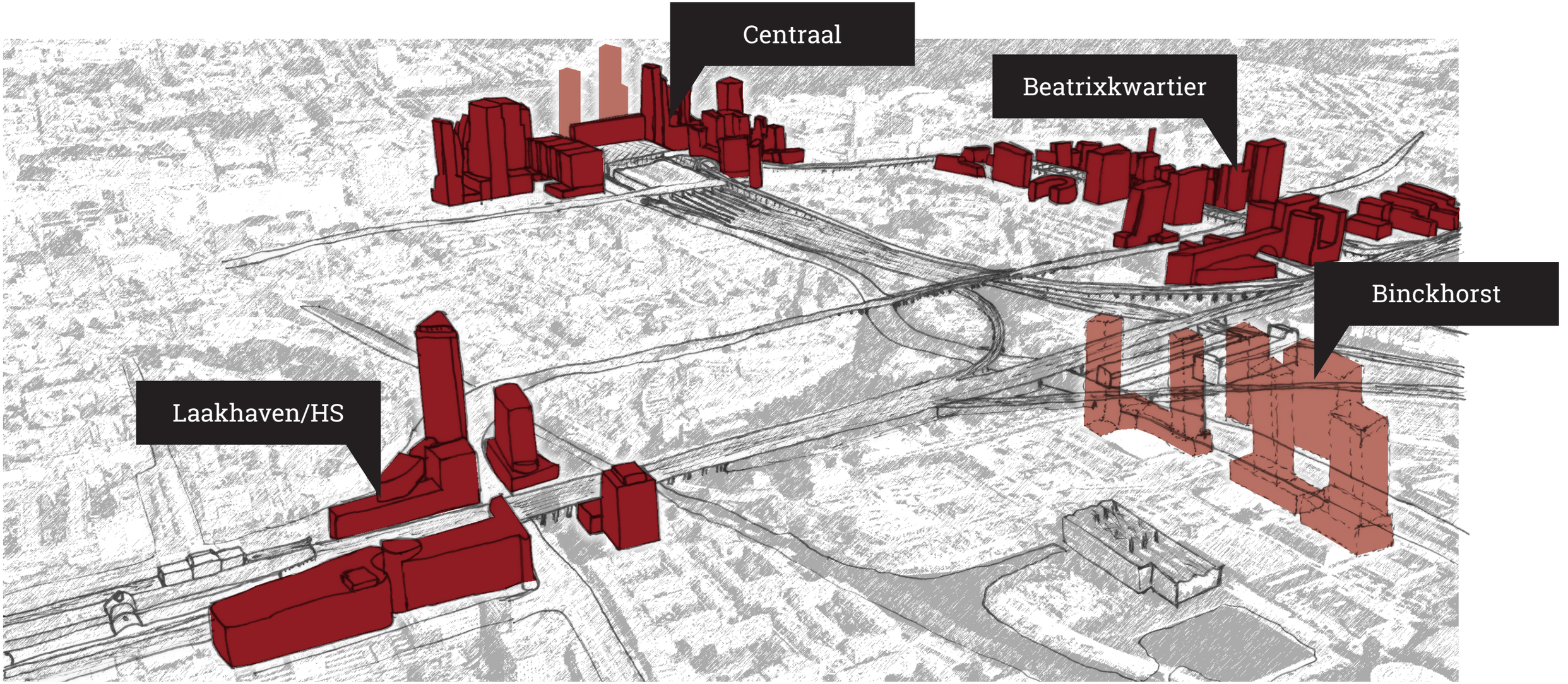


- In the next ten years the Hague will grow with 28.820 households (BPD, 2020)
- We plan to build all new dwellings within the existing city (Gemeente Den Haag, 2019b)



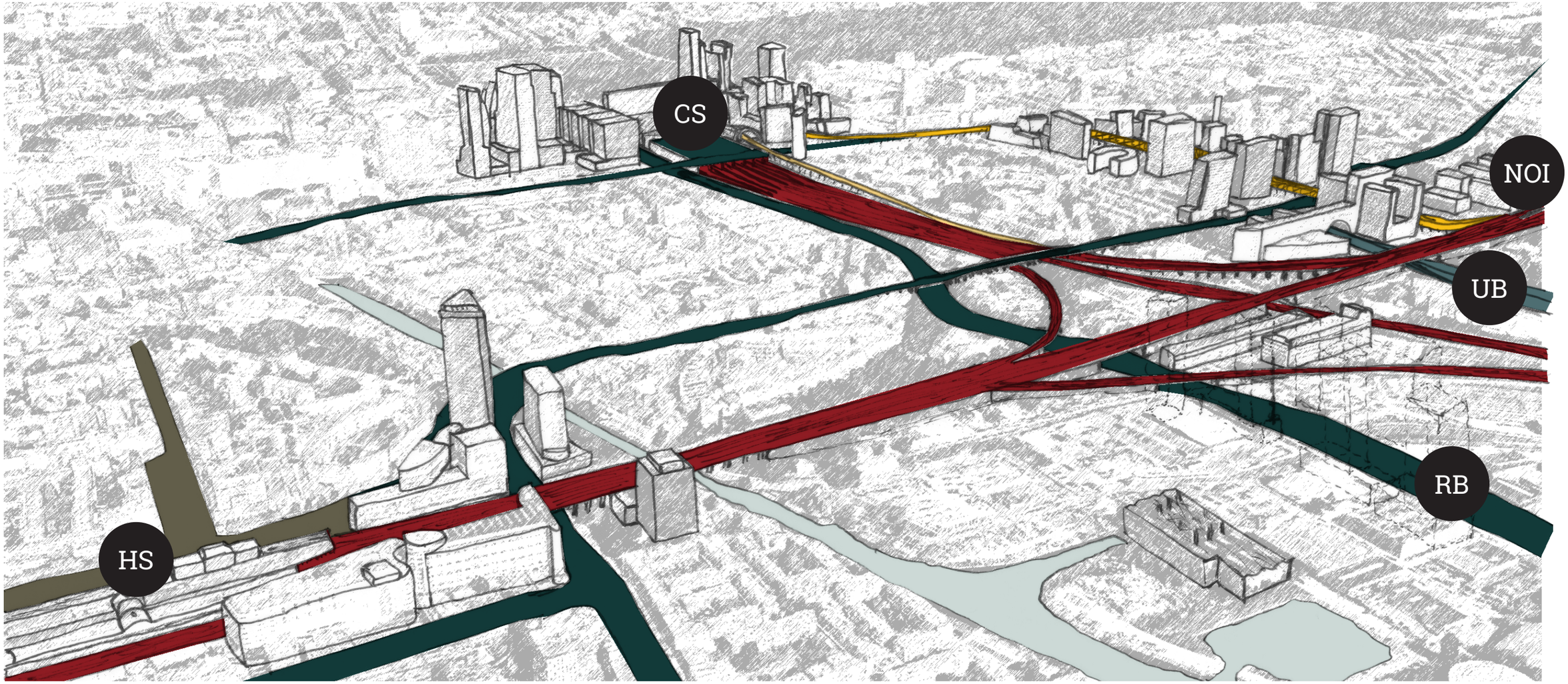
Source: Bouwfonds Property Development, 2020

THE CENTRAL INNOVATION DISTRICT (CID)



Source: Google maps

THE CENTRAL INNOVATION DISTRICT (CID)



Railways Pedestrian zone Light rail Roads

Source: Google maps

THE CENTRAL INNOVATION DISTRICT (CID)

Sattelite overview of CID area

Big infrastructure in CID area

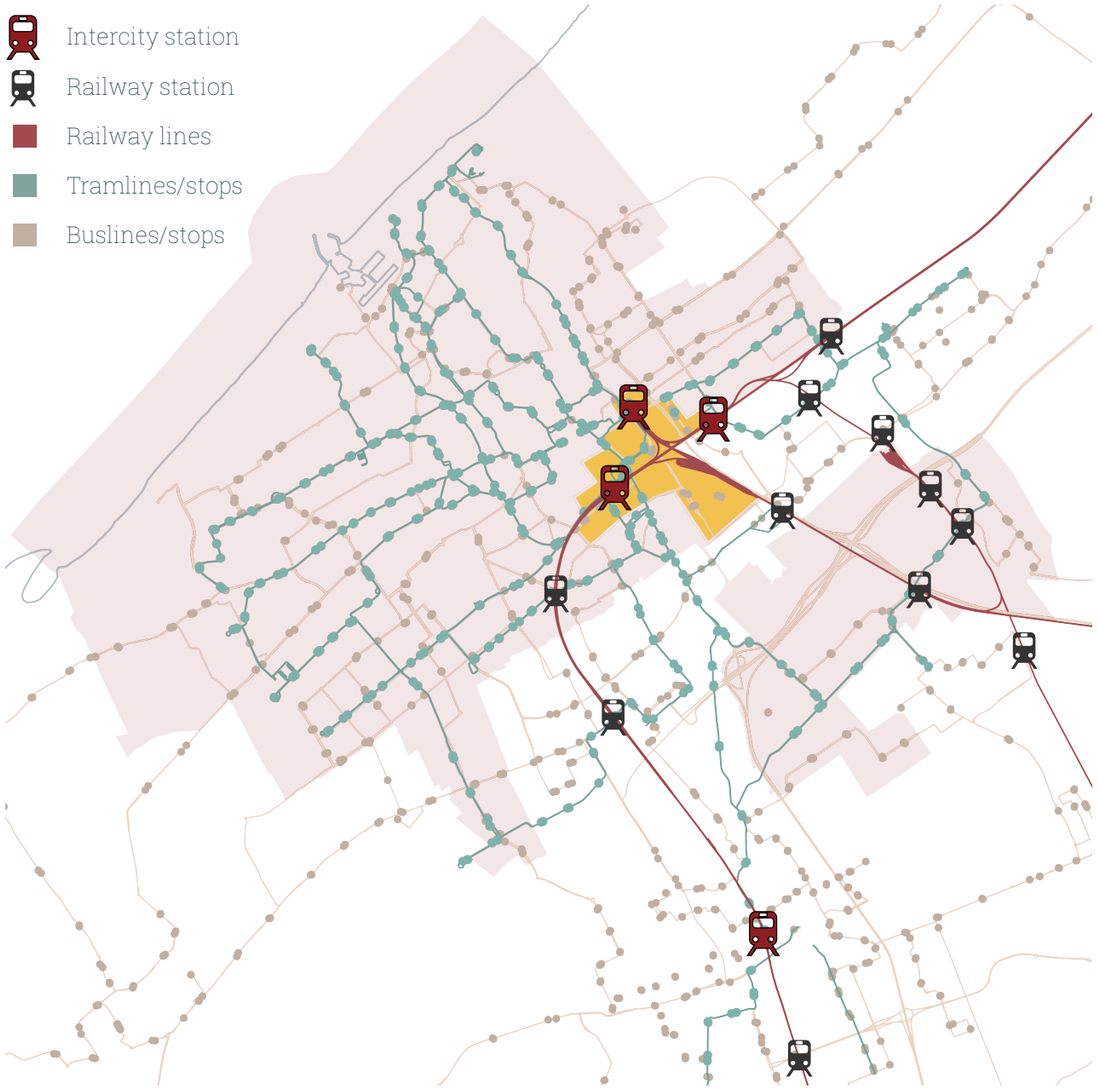
Road network

0 1 2 km

1:100000

Source: Open Street Map, BGT

Public Transport



0 1 2 km

1:100000

Source: Open Street Map, BGT

Regional ‘verstedelijkingsalliantie’ densification strategy

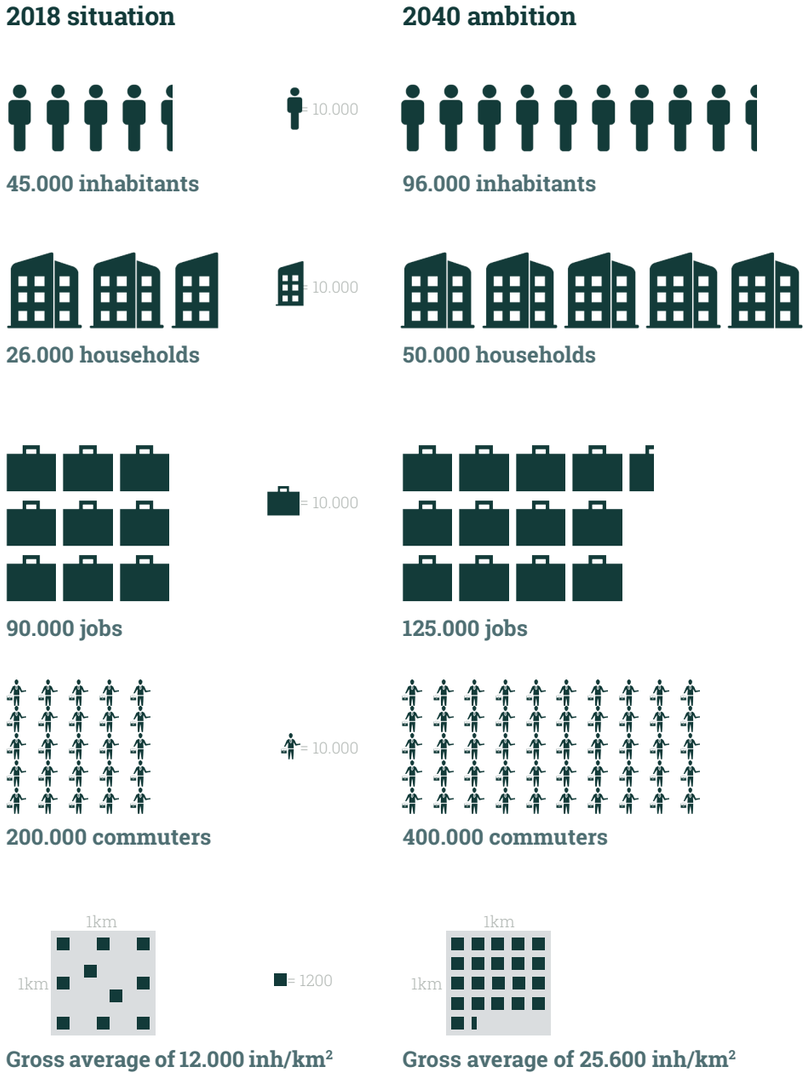
High-urban densification around HOV

Other priority densification sites

Raillines connecting main focus areas

Source: MRDH (2017), BBG2012

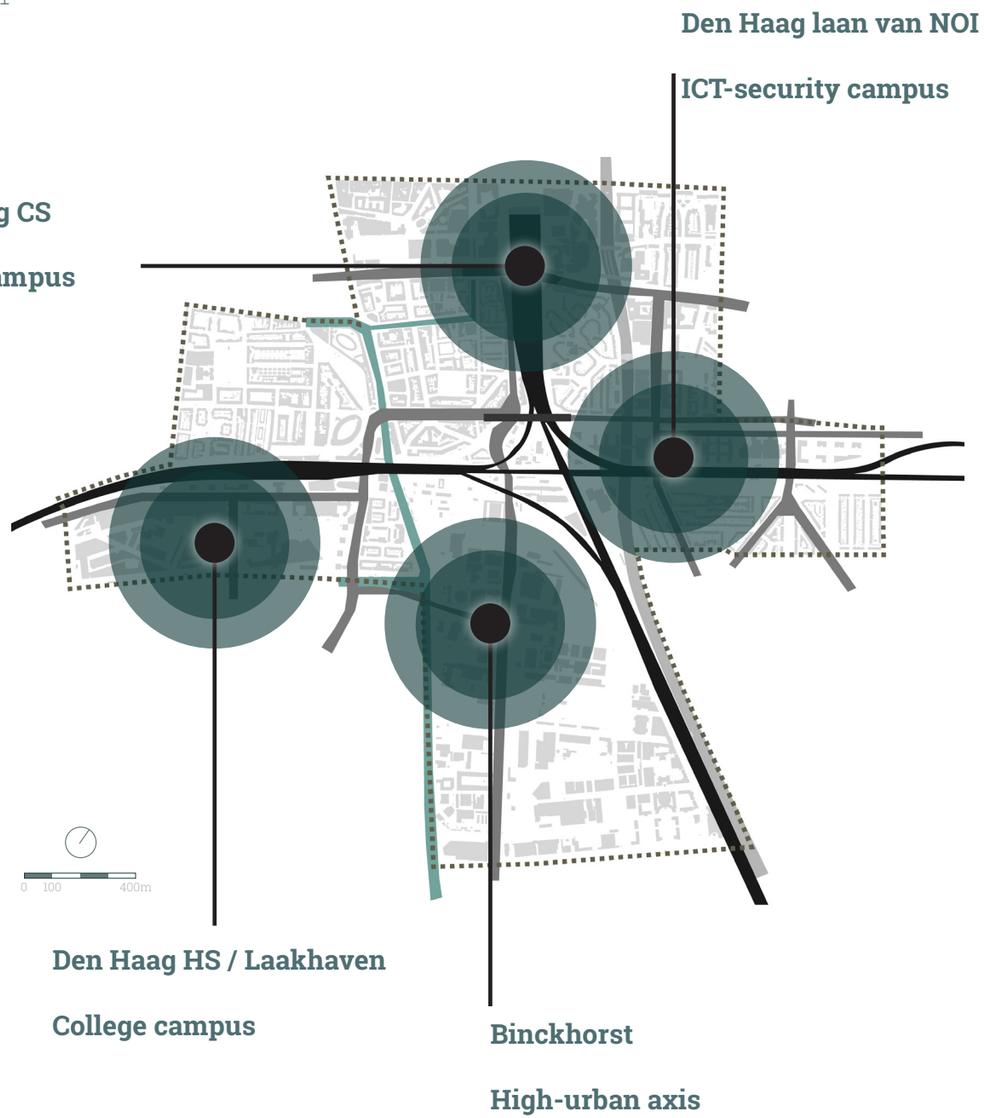
Ambitions for the CID site



Source: Gemeente Den Haag (2019a, 2019b)

How to densify in such an already intensively used area?

Municipal answer:
High residential towers around train stations



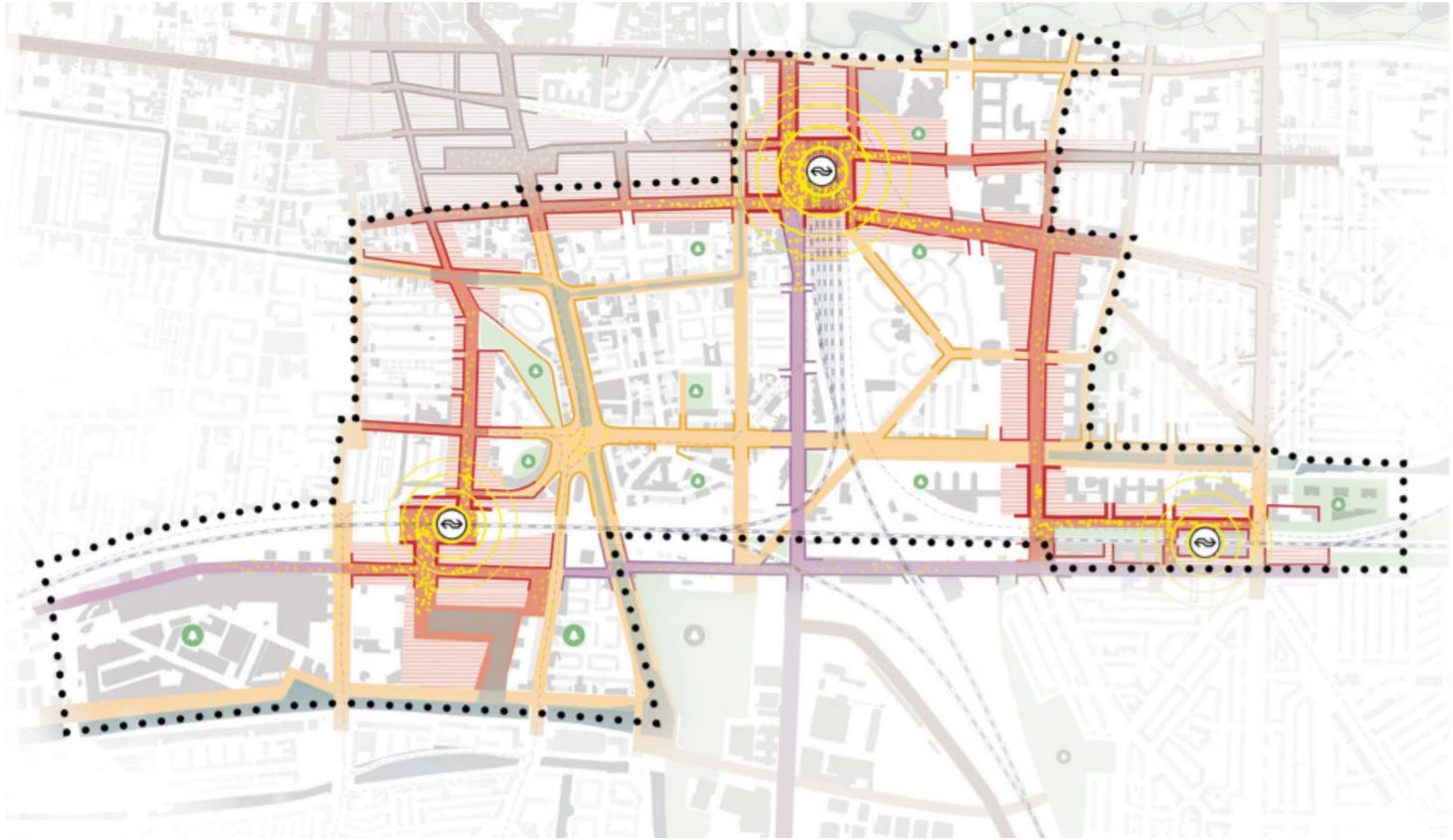
Source: BAG, BGT, Open street Map

Tabel 7.1 Indicatief programma structuurvisie CID, netto toevoeging

Deelgebieden	Woningen (aantal woningen)	Maatschappelijke voorzieningen (in m^2)	Commerciële voorzieningen (in m^2)	Kantoren (in m^2)
Omgeving Centraal Station, Beatrixkwartier en Bezuidenhout-West	5.500	27.700	82.000	400.000
Omgeving Den Haag Hollands Spoor / Laakhavens	9.000	45.300	33.200	140.000
Omgeving Den Haag Laan van NOI	3.000	17.100	32.000	100.000
Overig: Rivierenbuurt, Stationsbuurt	3.000	17.100		
Totaal	20.500	107.200	147.200	640.000

Source: Gemeente Den Haag (2020)

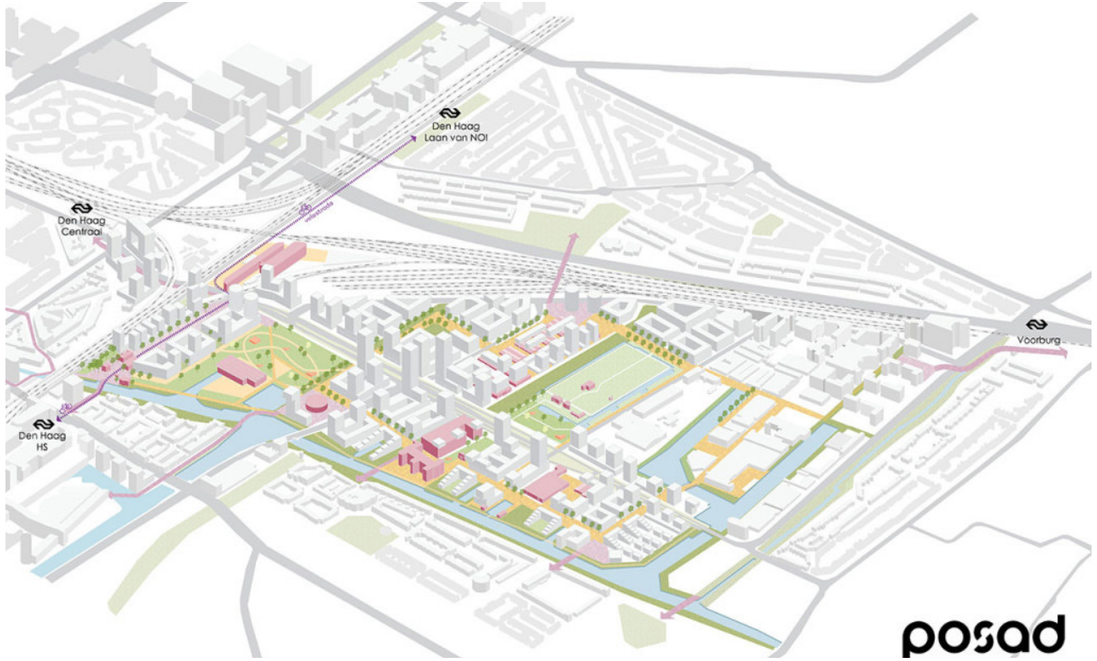
MUNICIPAL VISION



Hard to disagree with this vision. But what are its spatial implications?

Source: Gemeente Den Haag (2020)

MUNICIPAL VISION

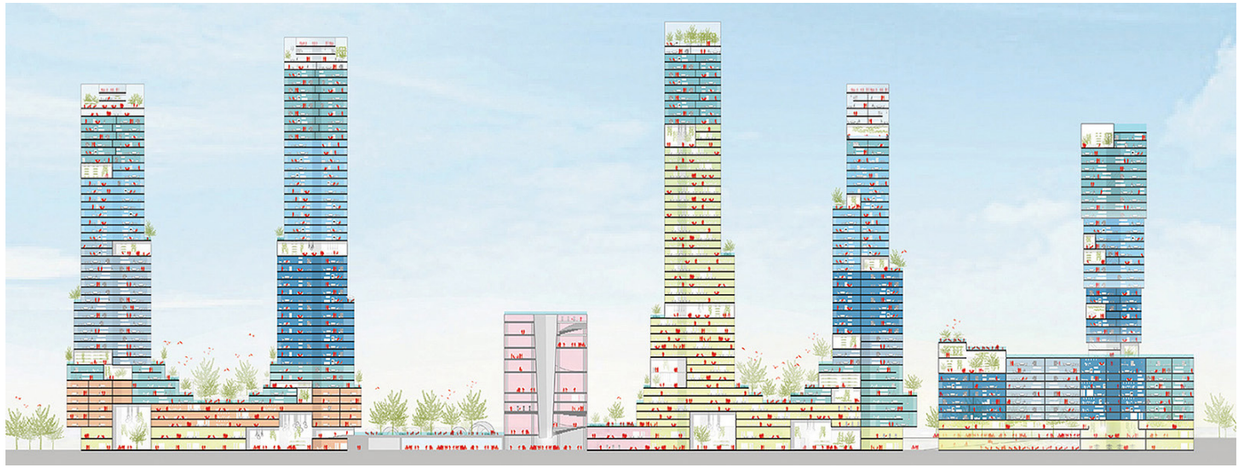


Development vision for Binckhorst

POSAD

Vision for station Laan van NOI

Rijnboutt



Vision for towercluster around Holland Spoor

KCAP

PROBLEM STATEMENT

The geographical centre of the Central Innovation District

Entering the Centraal cluster

Crossing 100 meters of train tracks by bike or on foot

Walking/biking from the Binckhorst cluster towards the Centraal cluster

Housing shortage

Neo-liberal planning

Municipal limitations

CID Development strategy

+18.500 dwellings
+50.000 inhabitants
+100.000 commuters

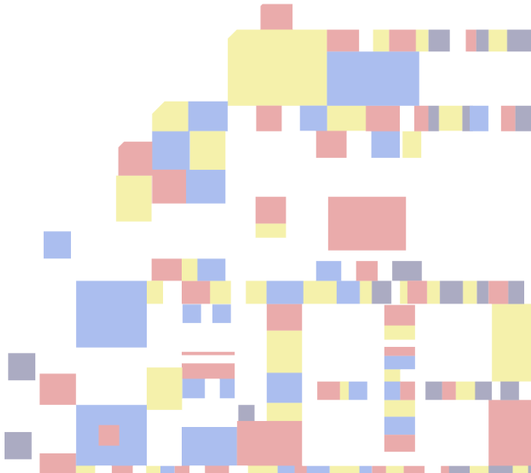
Existing conditions

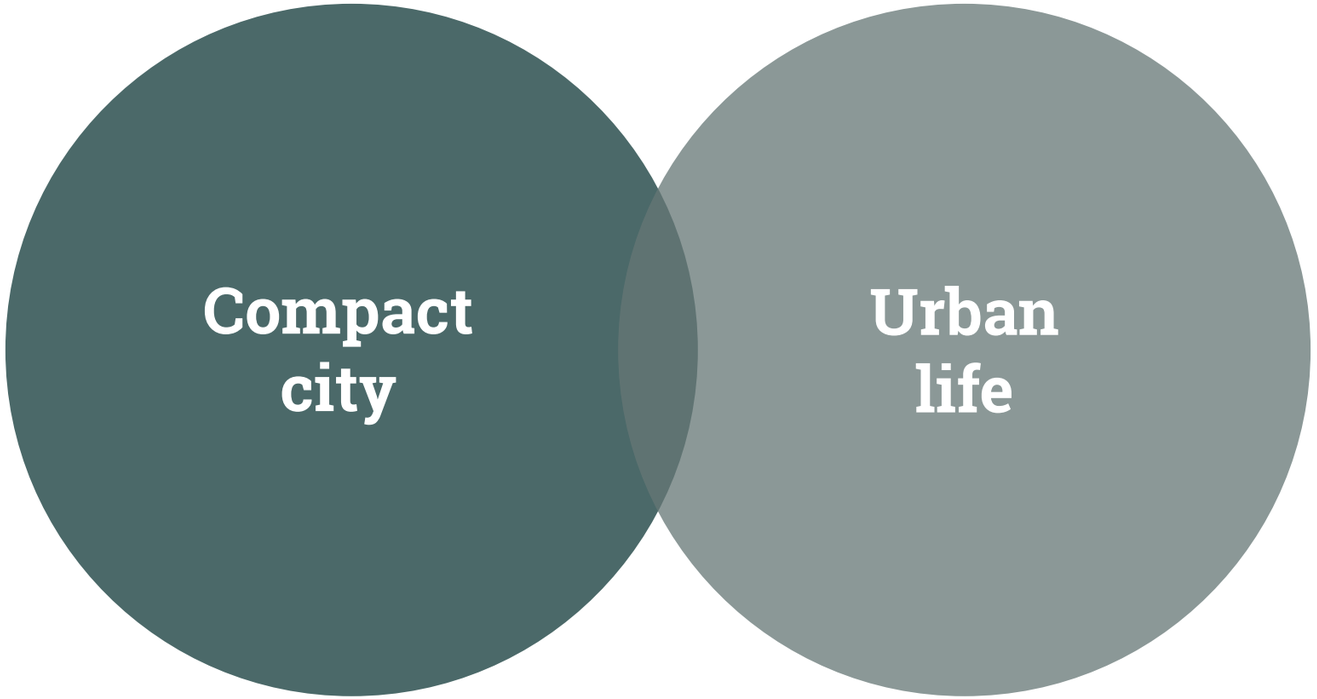
Railways
Big car-infrastructure
Bad walkability
Poor spatial conditions
Difficult terrain

Spatial implications	Threats
High densities	Mental stress
Infrastructure-heavy	Barriers/congestion
High usage	Overcrowding
Mixed uses	Conflicts between uses

Research aim:

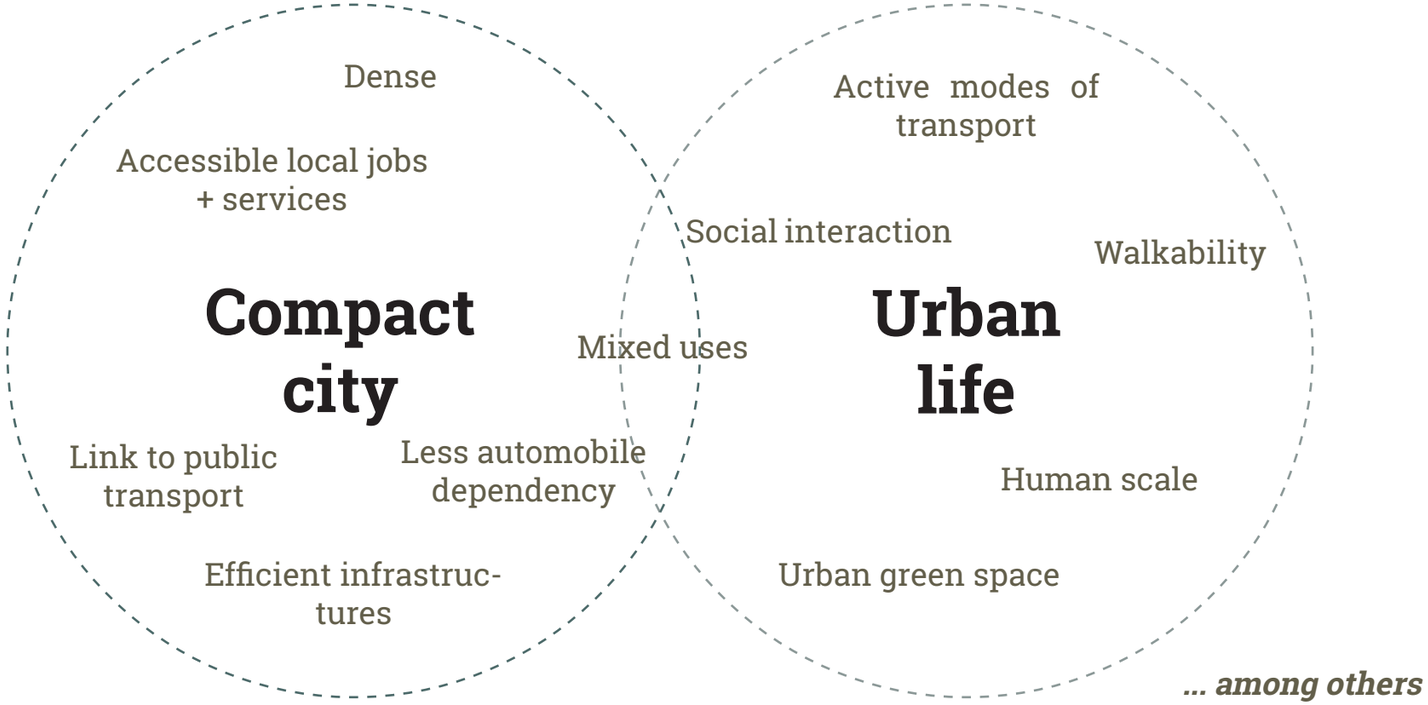
An alternative urban design for the CID to optimize the planned high densities for the human scale and mitigate negative effects of such compact cities





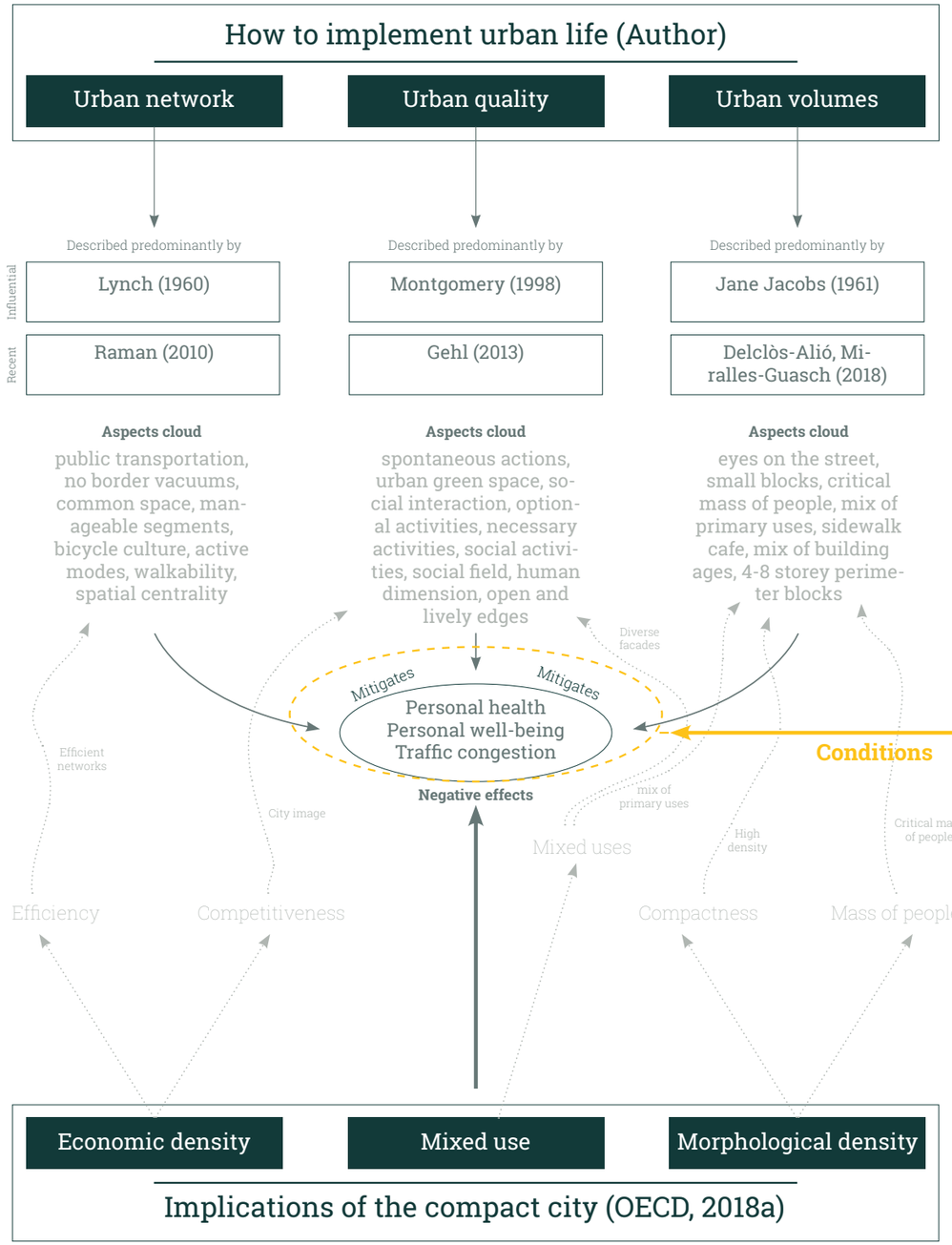
Crucial paradigms for densification, but how do they relate?

What do these paradigms do for sustainable cities?



Lessens impact on the environment

Lessens impact on the society



Conditions

Other currently implicit conditions

A well-elaborated (and measurable) goal for walkability

Forsyth, 2015

Strong governance instruments that empower urban life aspects in a difficult multi-stakeholder neo-liberal planning context

Sager, 2011

A place-specific optimal density that ensures the good effects of compactness

Lehmann, 2016

Conditions

THE FOUND RELATION IN THEORY

(Reinink, 2019)

Compact city

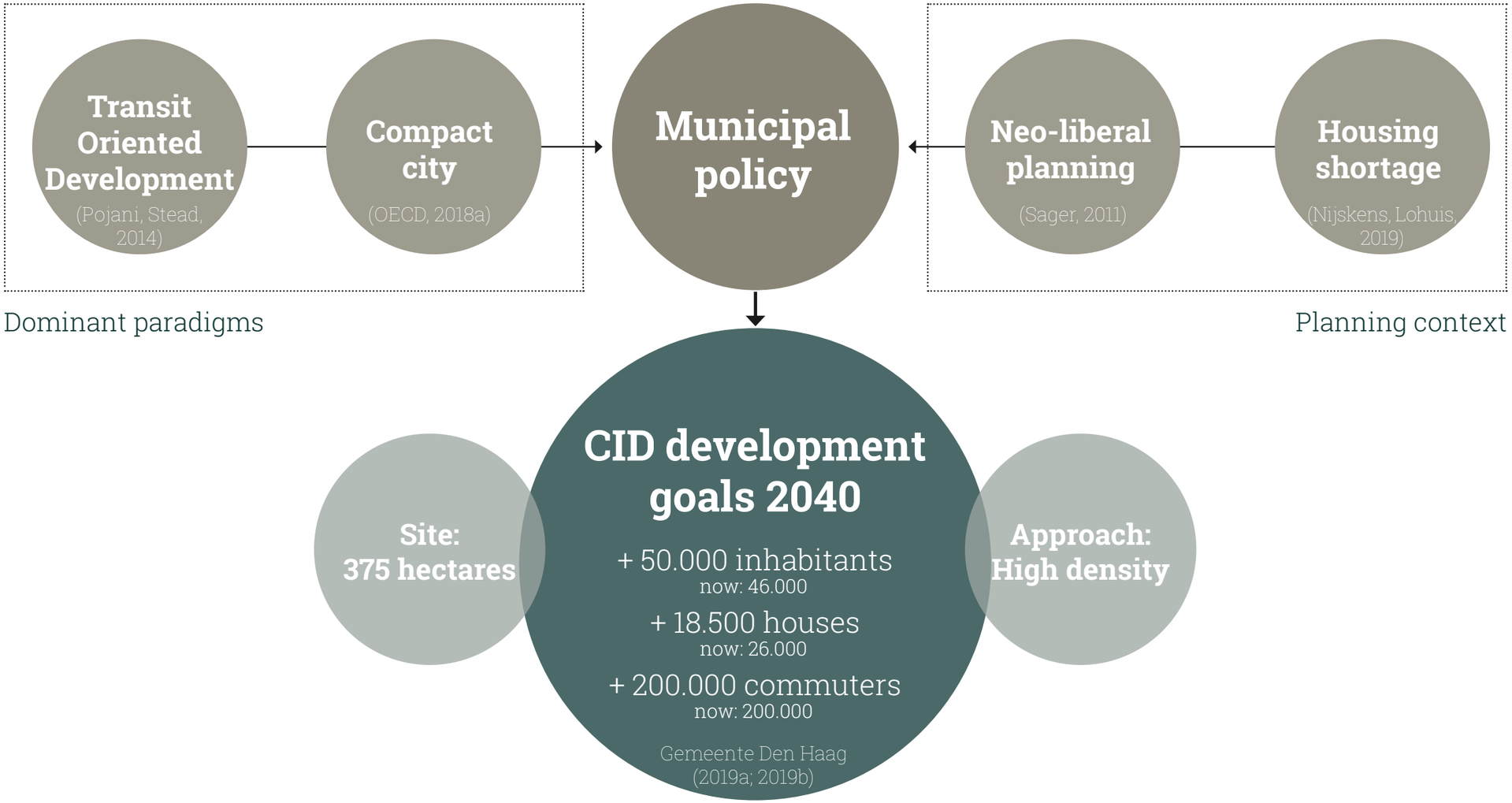
Urban life

While their relation is not well-researched in existing literature, findings suggest there is a significant overlap. How can they synergize?

Research plan:

How the research is structured and what methods are used

INFLUENCES ON THE CID STRATEGY



NEGATIVE EFFECTS OF THE PROPOSED STRATEGY

Site:
375 hectares

CID development goals 2040

+ 50.000 inhabitants
now: 46.000

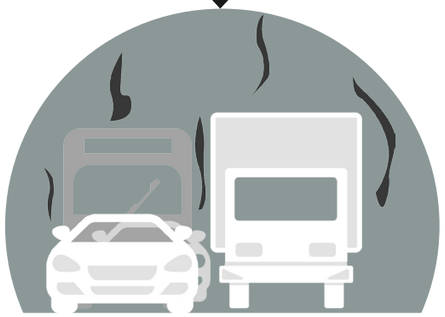
+ 18.500 houses
now: 26.000

+ 200.000 commuters
now: 200.000

Gemeente Den Haag (2019a; 2019b)

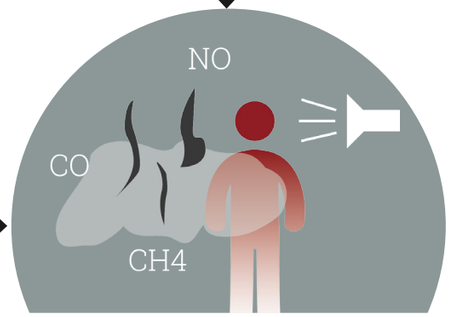
Approach:
High density

Negative effects (OECD, 2018a)

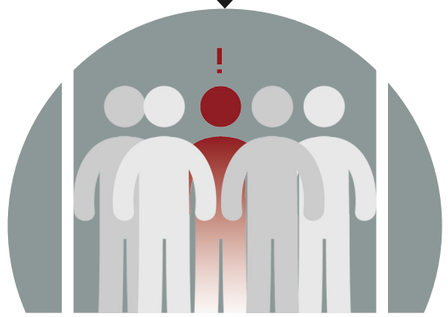


Traffic congestion

Influences (Burton, 2000: 1974)



Personal health

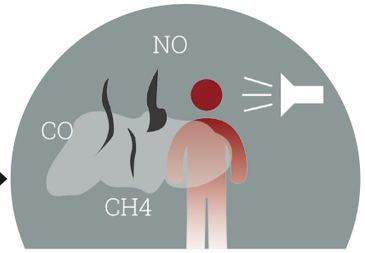


Subjective well-being

MITIGATION OF NEGATIVE EFFECTS

Traffic congestion

Influences
(Burton, 2000: 1974)



Personal health

Subjective well-being

Mitigates

Public transportation
No border vacuums
Common space
Manageable segments
Bicycle culture
Active modes
Spatial centrality
Walkability

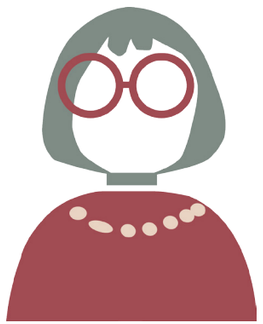
Spontaneous actions
Urban green space
Interaction
Optional activities
Human dimension
Social field/vision
Social activities
Open & lively edges

Eyes on the street
Small blocks
Critical mass of people
Mix of primary uses
Sidewalk cafe
Mix of building ages

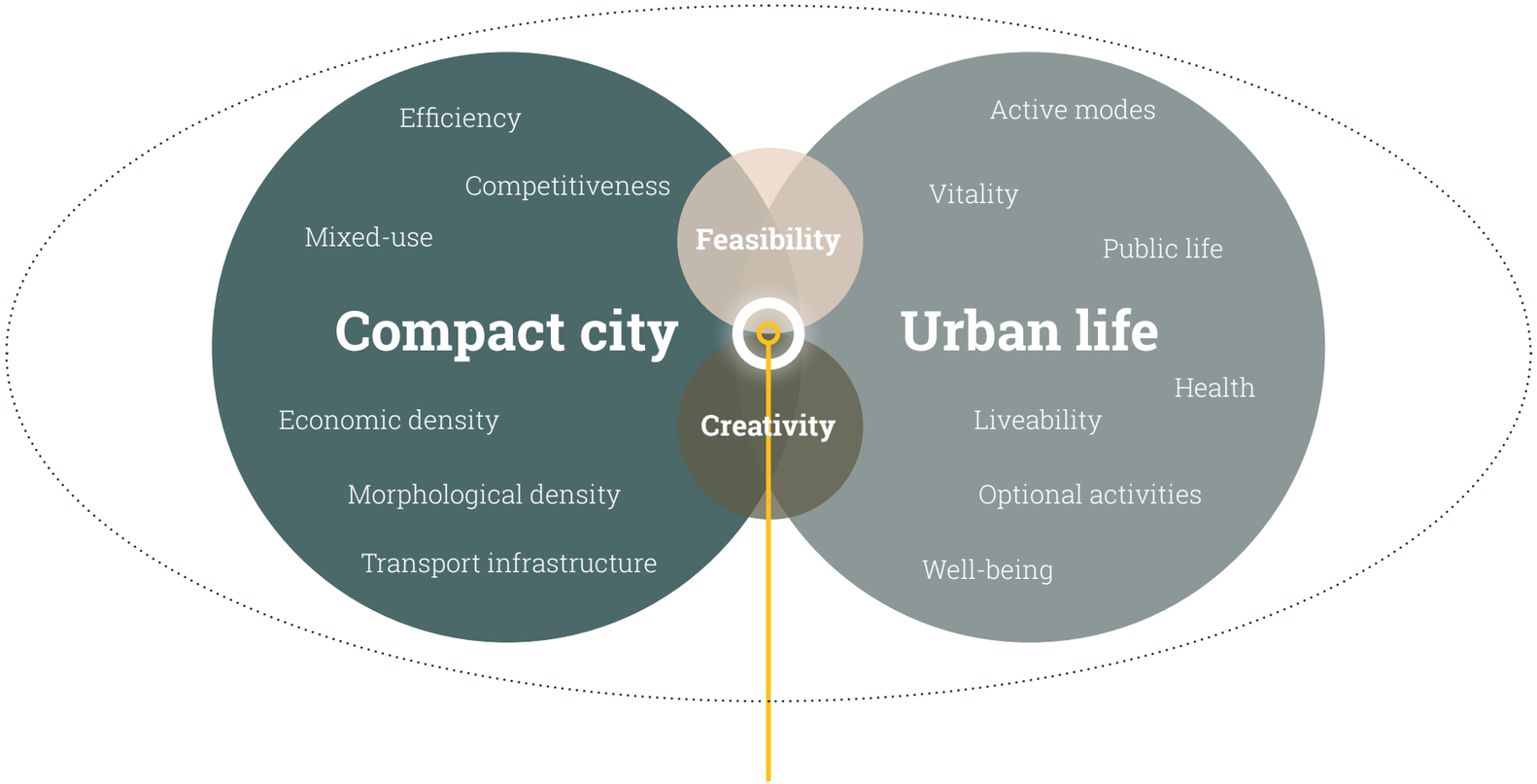
Urban network | **Urban quality** | **Urban volume**

Urban life

Sidewalk ballet (Jacobs, 1961)
Imageability (Lynch, 1984)
QoUL (Marans, Stimson, 2011)
Public life (Gehl, 2011, 2013)
Urbanity (Montgomery, 1998)

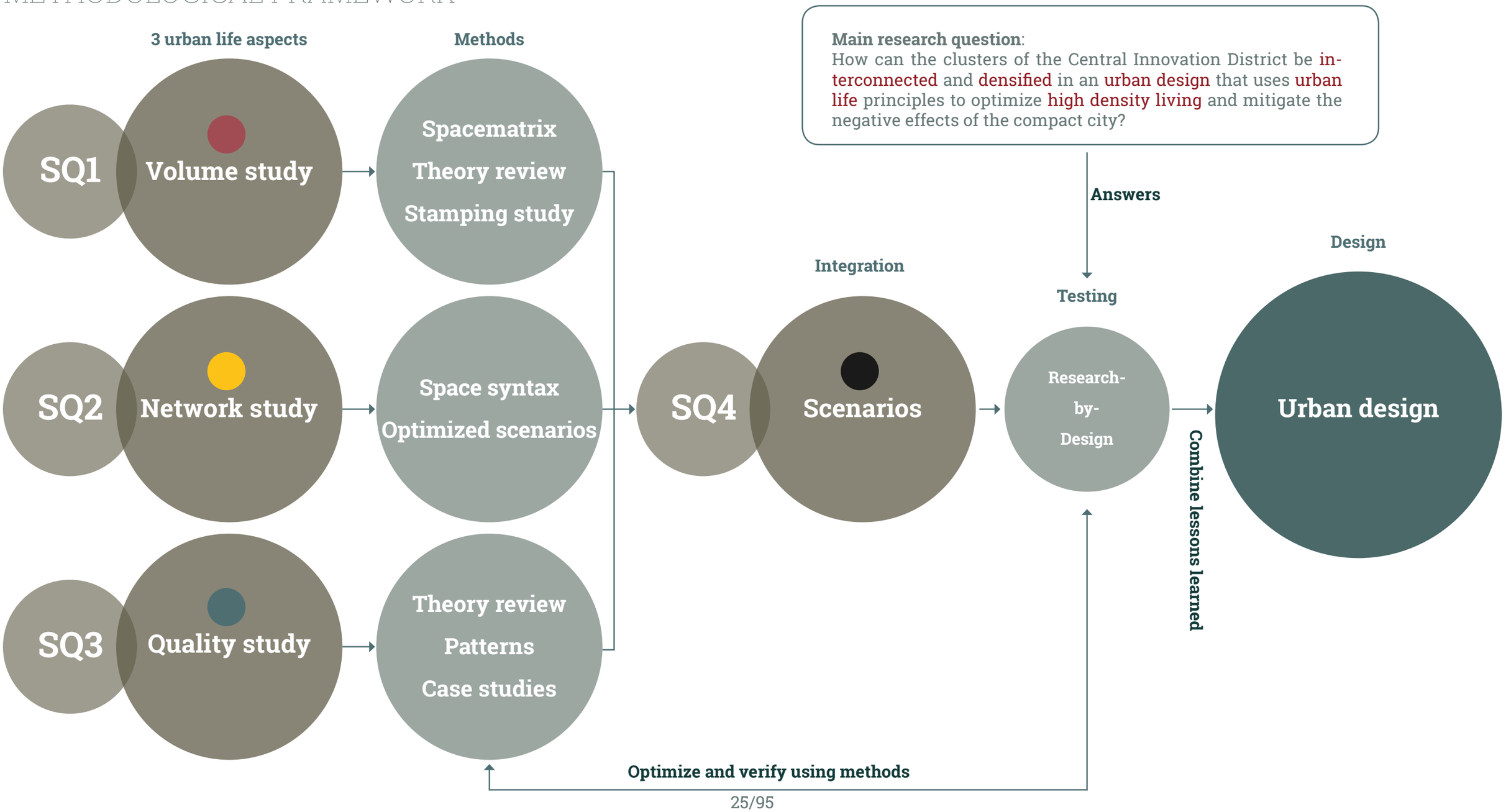


Dutch context



An urban design of the CID that mitigates the negative effects of the compact city and optimizes high density living, using urban life principles

METHODOLOGICAL FRAMEWORK



SQ1

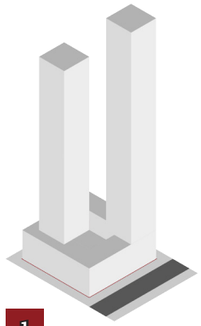
Volume study

SQ1: What could the proposed densification of 18.500 dwellings and 500.000 extra m² of office space look like in terms of urban typology, configuration and morphology?

What density does the Hague have now?

Method: Spacematrix (Pont, Haupt, 2010)

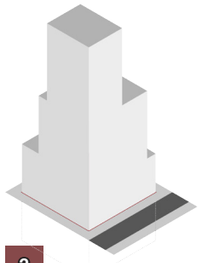
Type 1: compact urban highrises



Average FSI: 7,88
Average GSI: 0,88
Part of total: 4,9% (163)

1

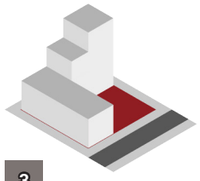
Type 2: ultra-compact volumes



Average FSI: 13,18
Average GSI: 1,00
Part of total: 0,2% (8)

2

Type 3: mid-rise compact blocks



Average FSI: 2,58
Average GSI: 0,59
Part of total: 21,1% (707)

3

Type 4: open spaces

Average FSI: 0,24
Average GSI: 0,05
Part of total: 9,3% (313)

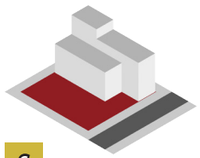
4

Type 5: mid-rise spacious strips

Average FSI: 1,12
Average GSI: 0,26
Part of total: 25,3% (847)

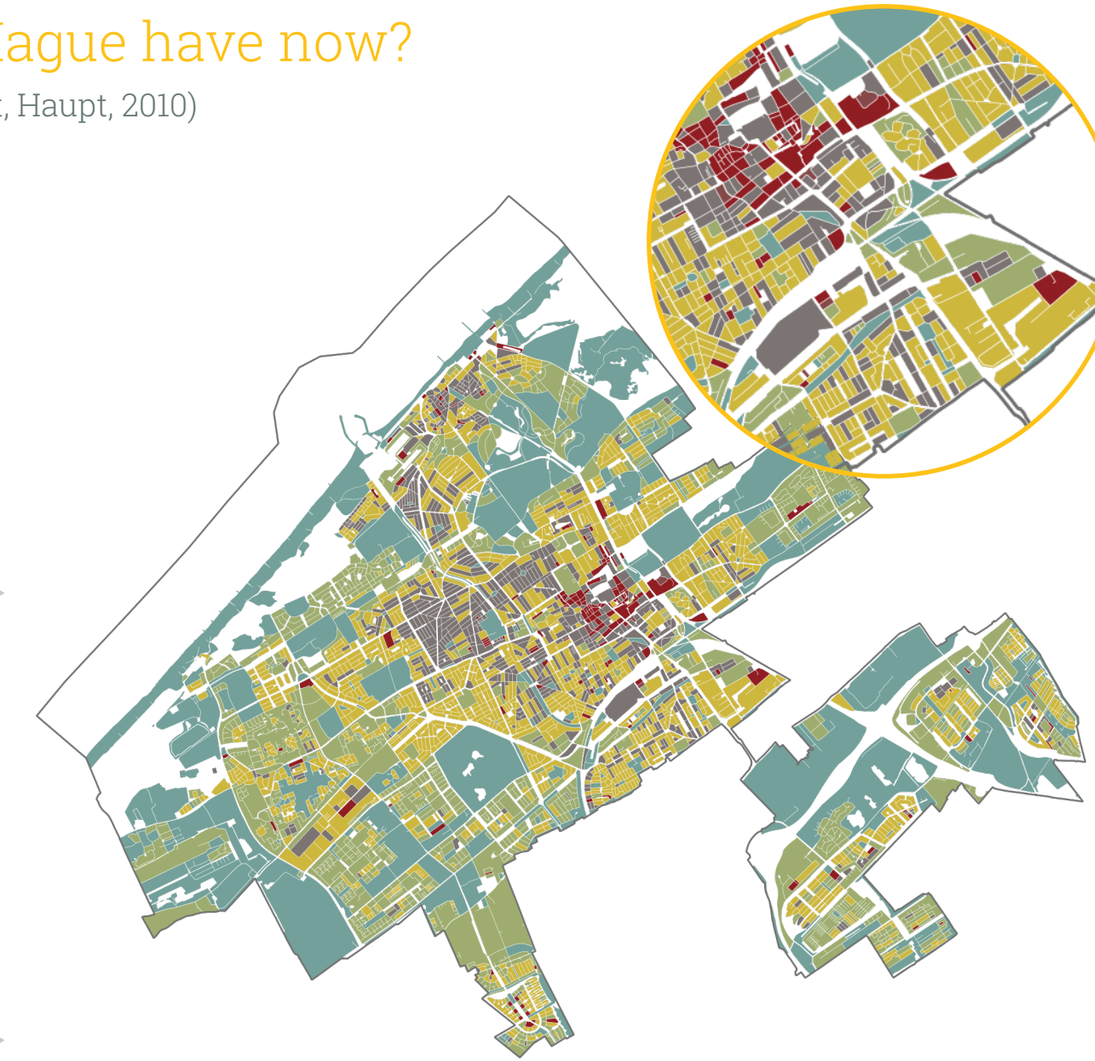
5

Type 6: Low-rise residential blocks



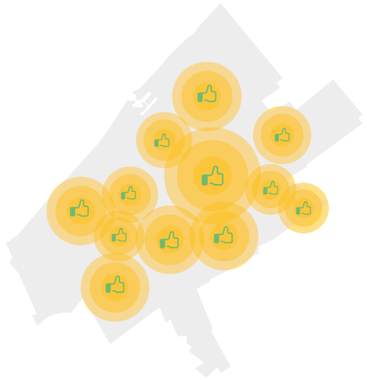
Average FSI: 1,65
Average GSI: 0,43
Part of total: 39,2% (1315)

6



What are urban life volumes?

Method: Theory review (Lehmann, 2016)



1. Specific context

2. Green city

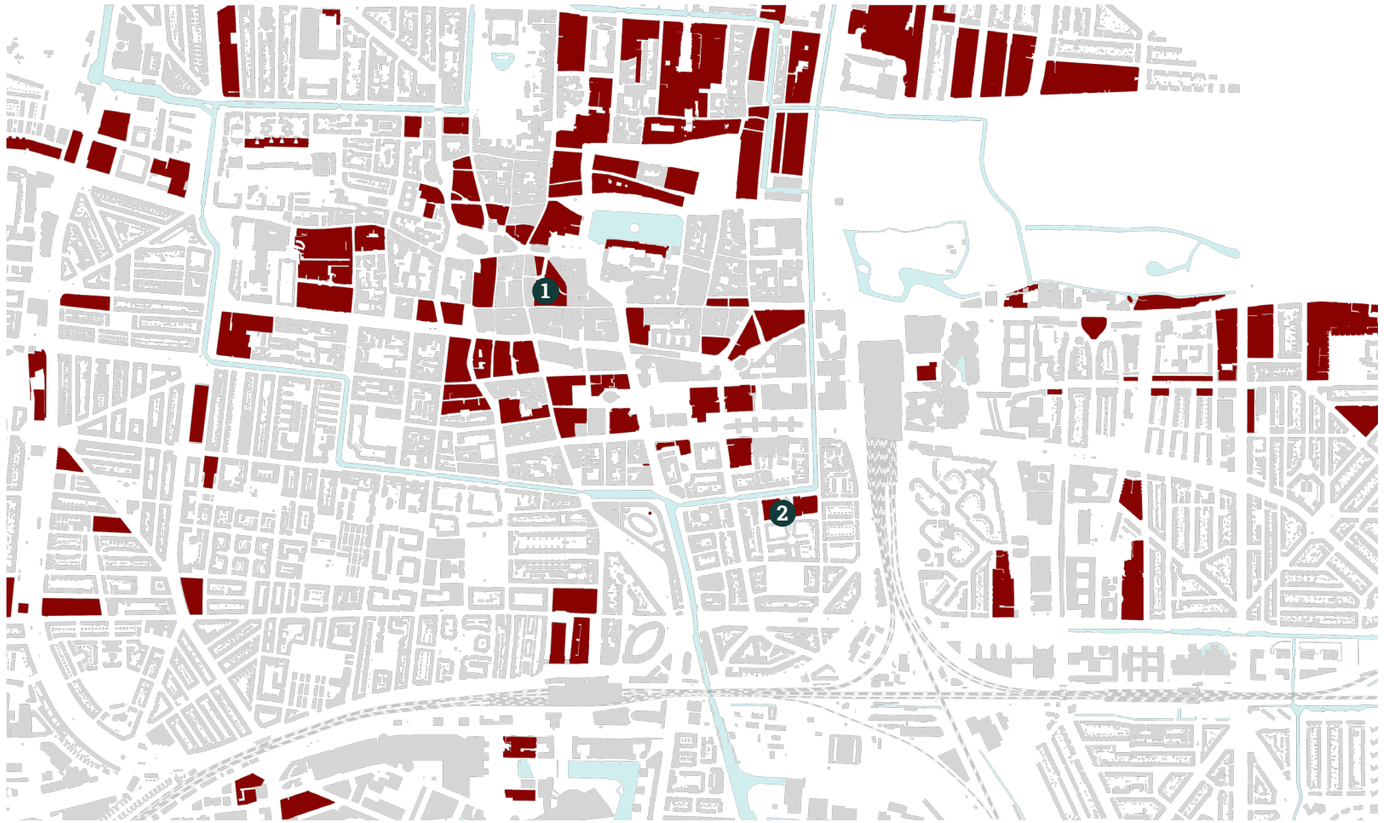
3. Alignment of land-use and mobility

4. Mixed use and vibrant

4-8 storeys high

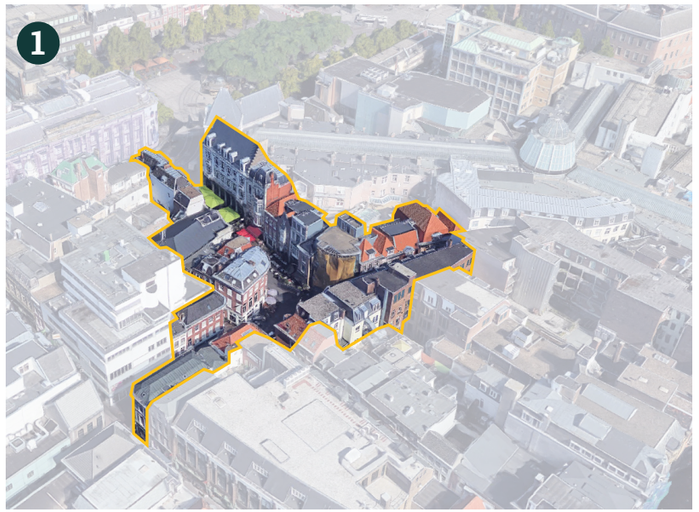
Where are urban life volumes?

Method: GIS mapping



Blocks that are mixed use (0.2-0.8 MXI) and 3 to 9 building layers (3-9 L)

Source: PBL, 2019



Historic inner-city

50 adresses (BAG)
4-6 storeys
0.36 hectares
138 dwellings/hectare

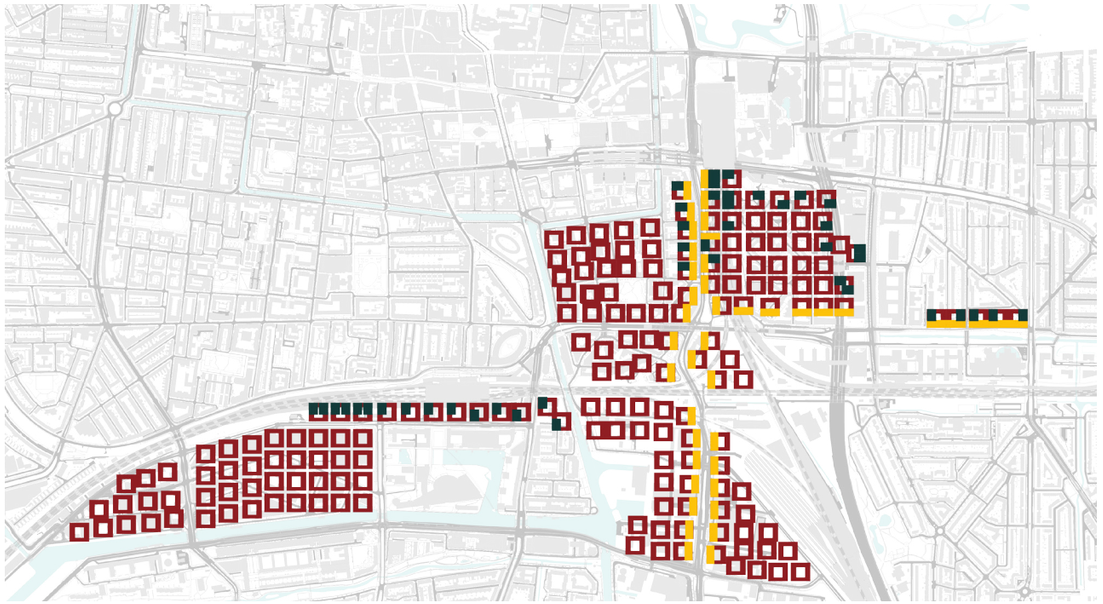
New urban block

54 adresses (BAG) (18 in front apartments)
5-7 storeys
0.38 hectares
142 dwellings/hectare

How many do we need?

Method: stamping scalestudy

Scenario 1

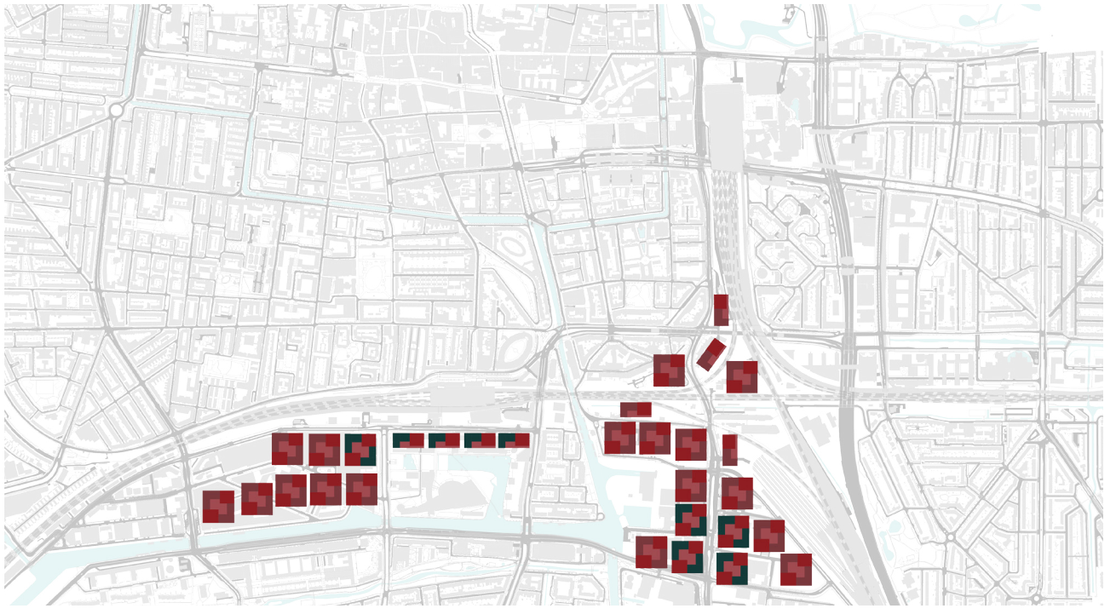


Legend

- offices: 44 x 10 floors of 1200m² | total: 528.000m²
- Dwelling-tower: 42 x 150 units | total: 6.600 units
- Dwelling-block: 187 x 70 units | total: 13.090 units

Main stamp

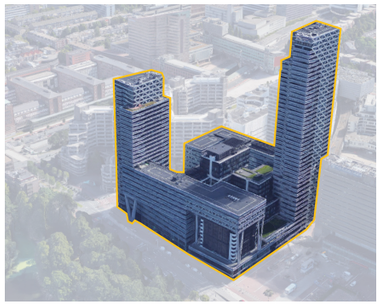
Scenario 2



Legend

- Residential focus: 800 dwellings, 10.000m² functions
  x20 = 16.000 dwellings
- Office focus (New Babylon numbers): 55.000m² offices
  330 dwellings, 15.000m² functions
  x9 = 495.000m² office, 2970 dwellings

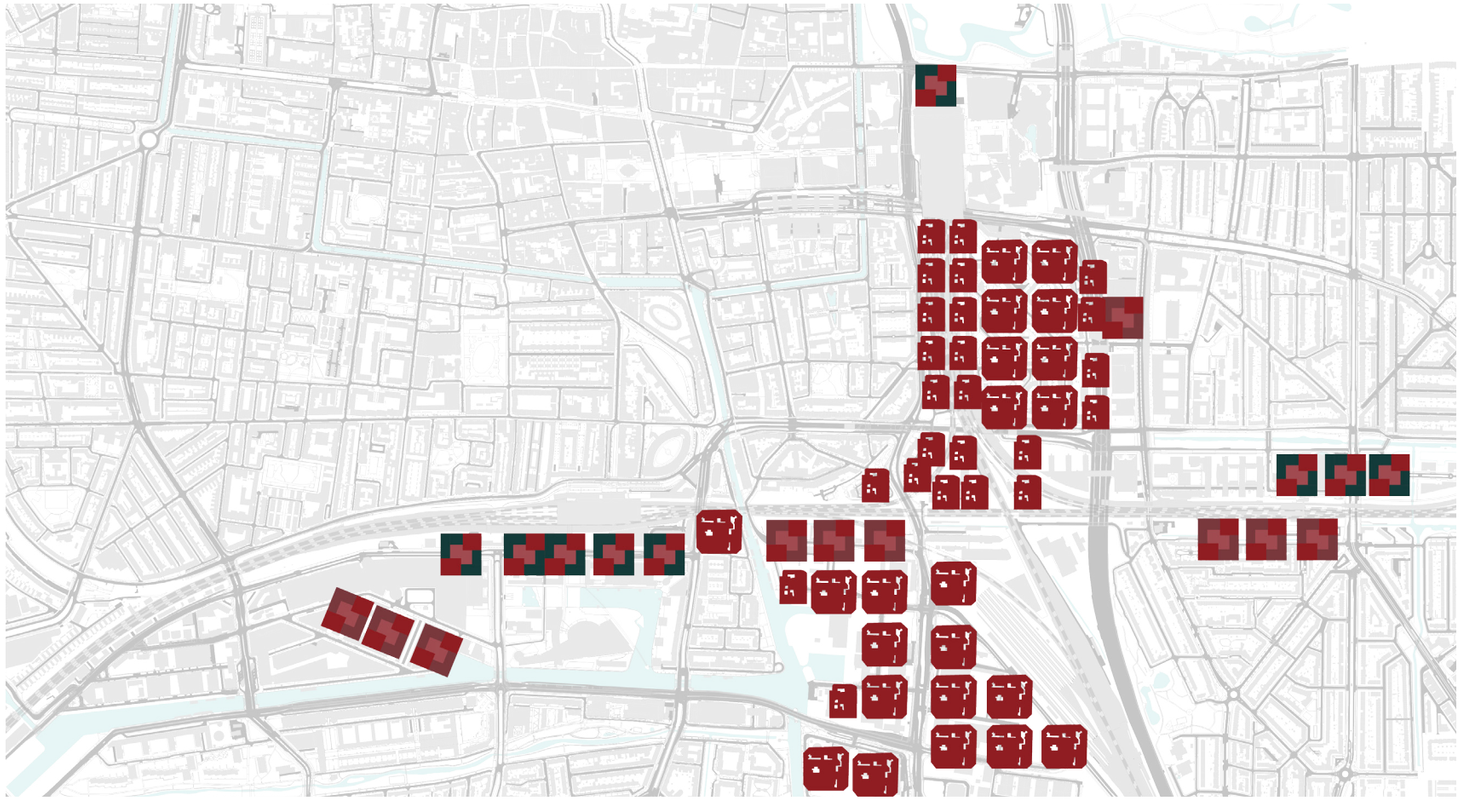
Main stamp



How many do we need?

Method: stamping scalestudy

Scenario 3: Select highrise clusters connected through mid-rise urban life volumes



Legend

- Residential focus: 800 dwellings, 10.000m² functions
  x7 = 5.600 dwellings
- Office focus (New Babylon numbers): 55.000m² offices
  330 dwellings, 15.000m² functions
  x9 = 495.000m² office, 2.970 dwellings
- Barcelona block: 300 dwellings, 2000m² functions
  x22 = 6.600 dwellings
- Paris block: 132 dwellings, 500m² functions
  x24 = 3.168 dwellings

Conclusion

SQ1

SQ1: What could the proposed densification of 18.500 dwellings and 500.000 extra m² of office space look like in terms of urban typology, configuration and morphology?

- **The CID does not have enough space for classic urban life volumes**
- **Highrises will have to play a role in order to reach the stated ambitions**
- **More space needs to be created to optimize high density urban life volumes**

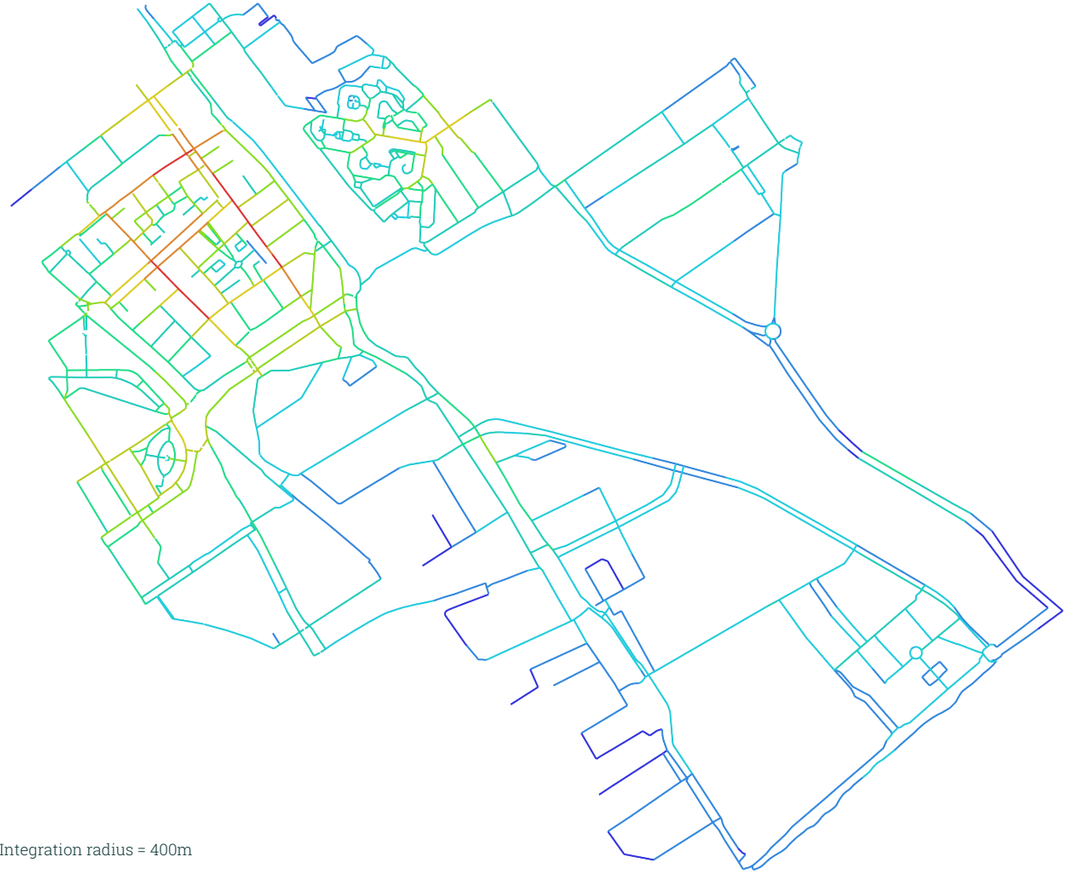
SQ2

Network study

SQ2: In what way are the current CID-clusters disconnected and what is needed to improve and maintain the interconnectivity?

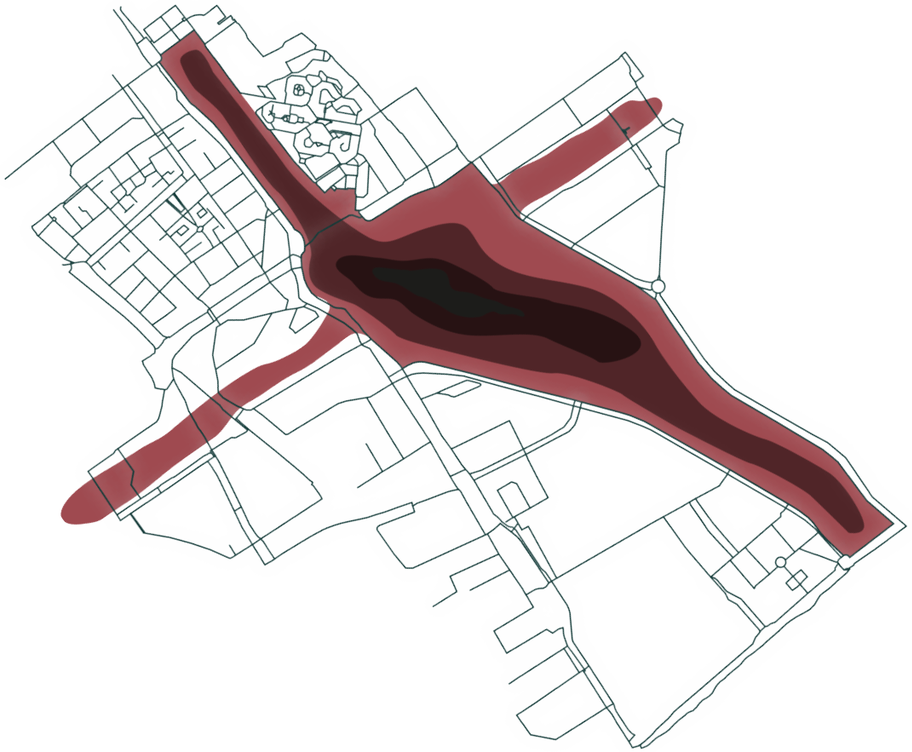
What is the current situation?

Method: space syntax



Integration radius = 400m

Grand canyon of the CID



What is needed?

Method: theory review

Connectivity, proximity and ‘nearness’ to amenities and facilities within walking distance

(Lehmann, 2016: 10)

Holistic walkability: an indicator of better urban areas that attract redevelopment, population increase and have high liveability.

(Forsyth, 2015: 285)

What is the future situation?

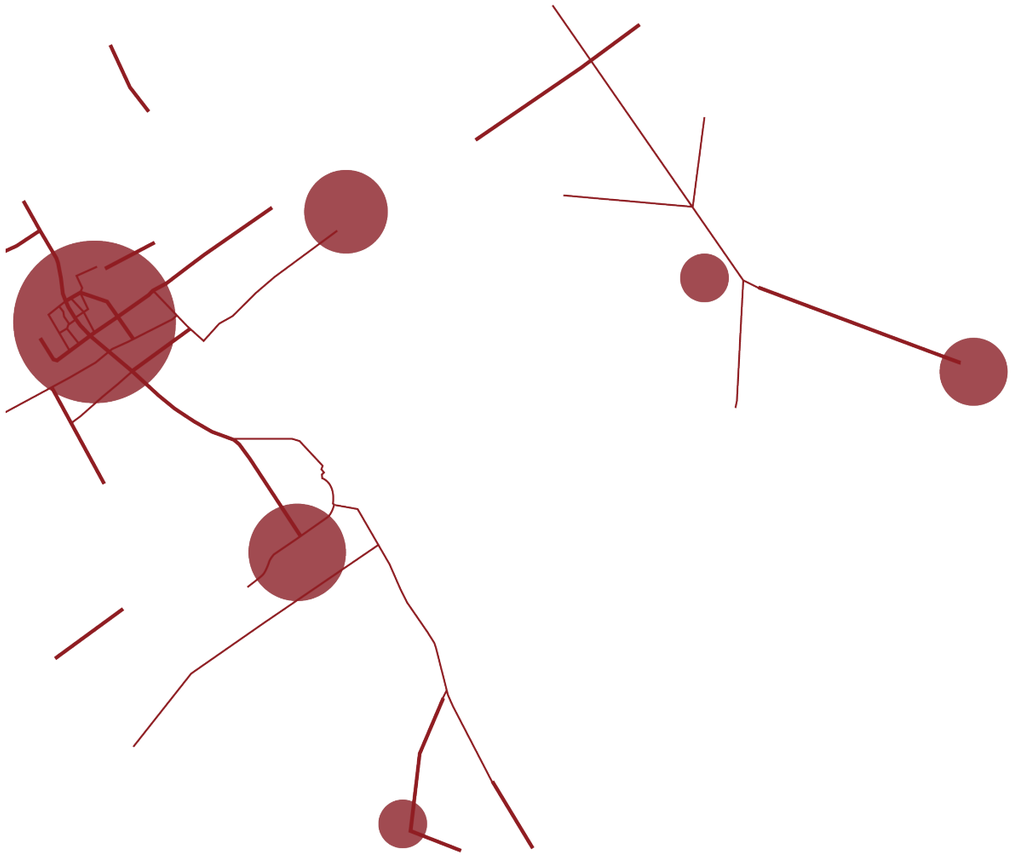
Method: cluster identification

Heatmap of shops and amenities

What is the future situation?

Method: cluster identification

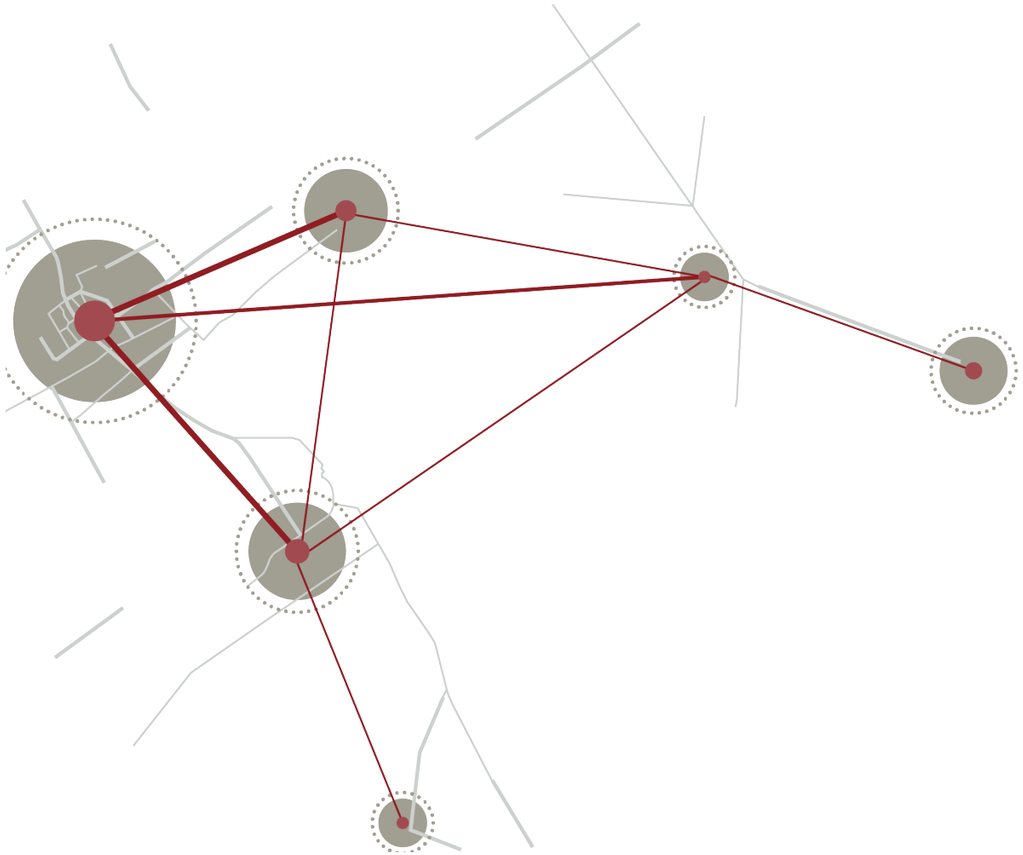
Reduction



What is the future situation?

Method: cluster identification

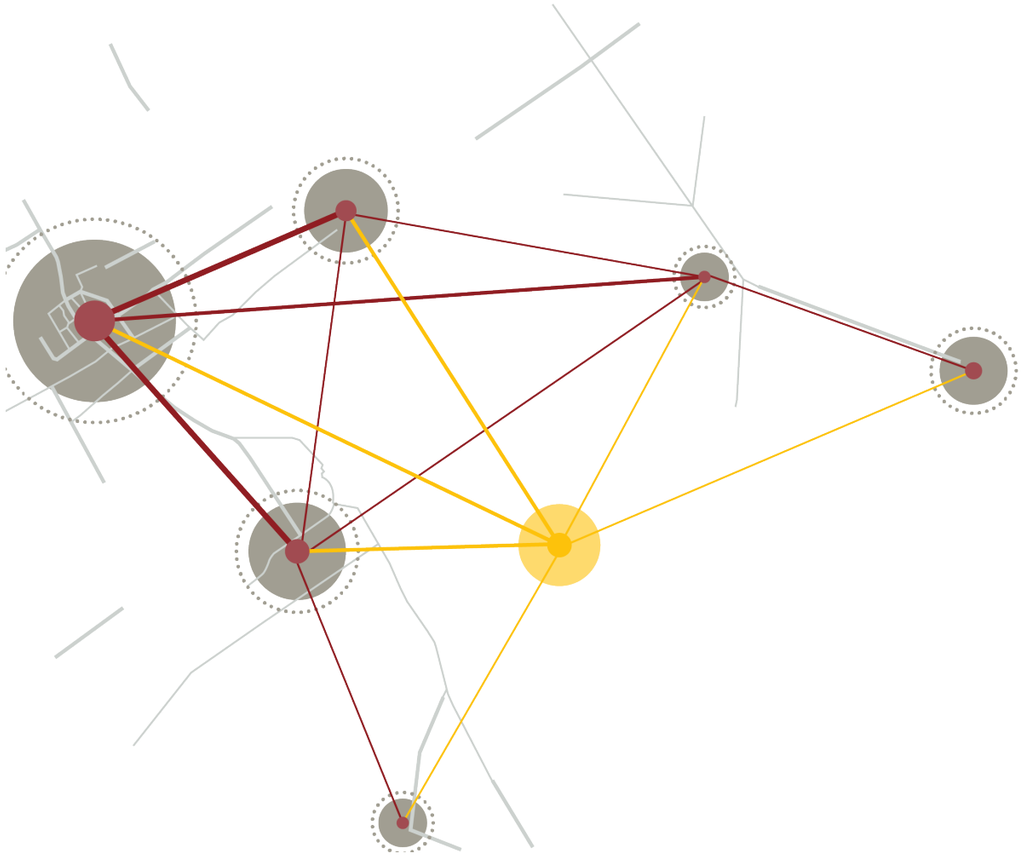
Relation to eachother (flows in thickness)



What is the future situation?

Method: cluster identification

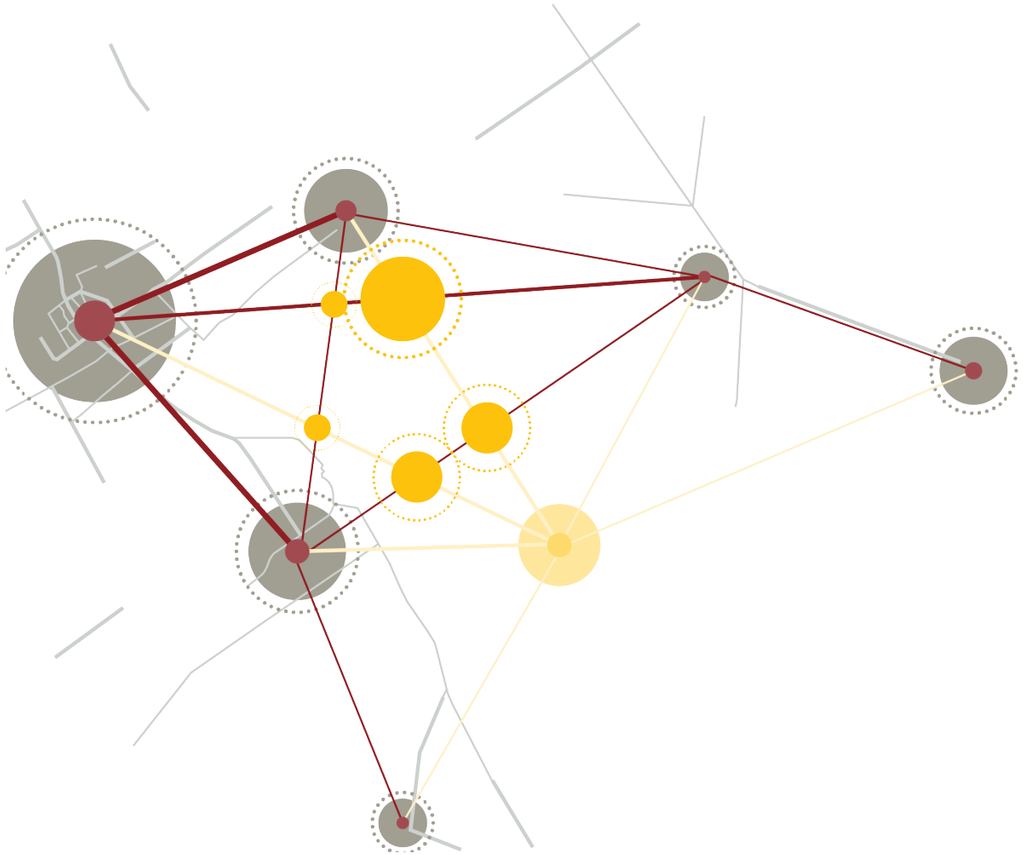
Effect of Binckhorst



Where should the pedestrian network be improved?

Method: betweenness shortest path

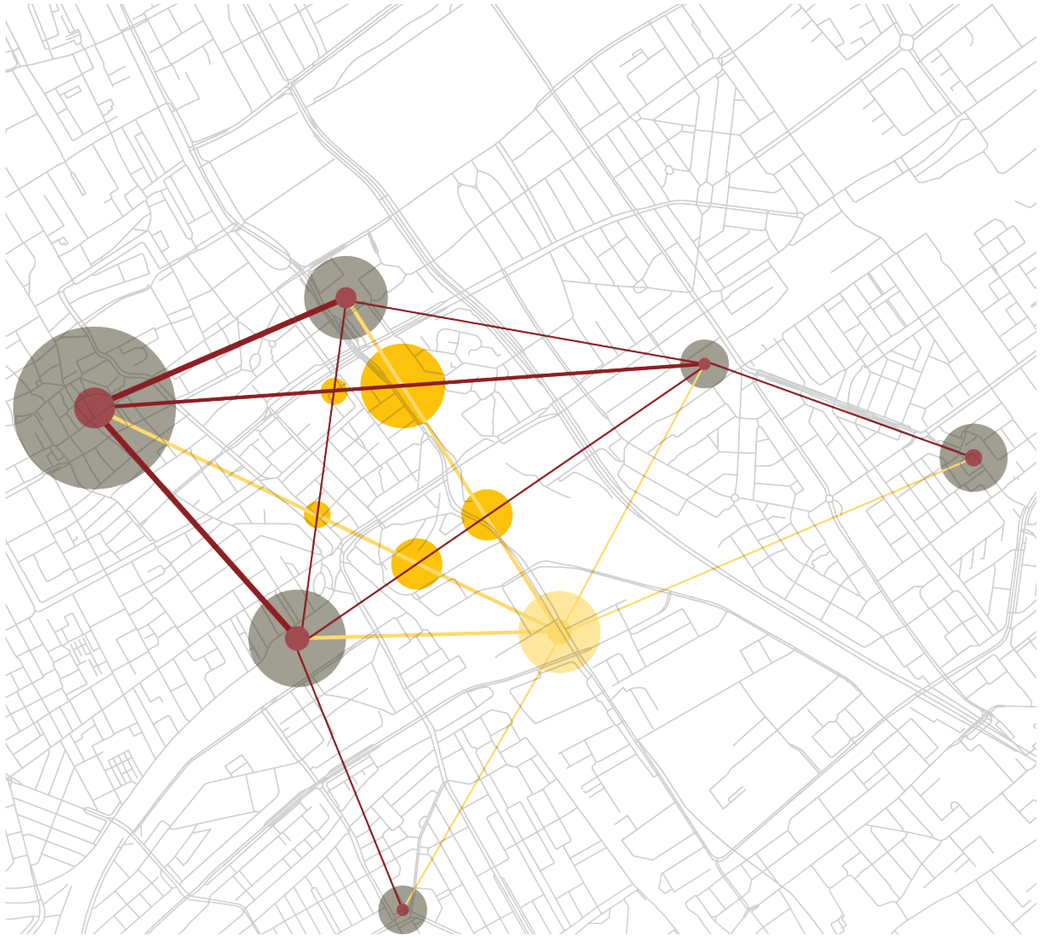
New clusters of interest



Where should the pedestrian network be improved?

Method: betweenness shortest path

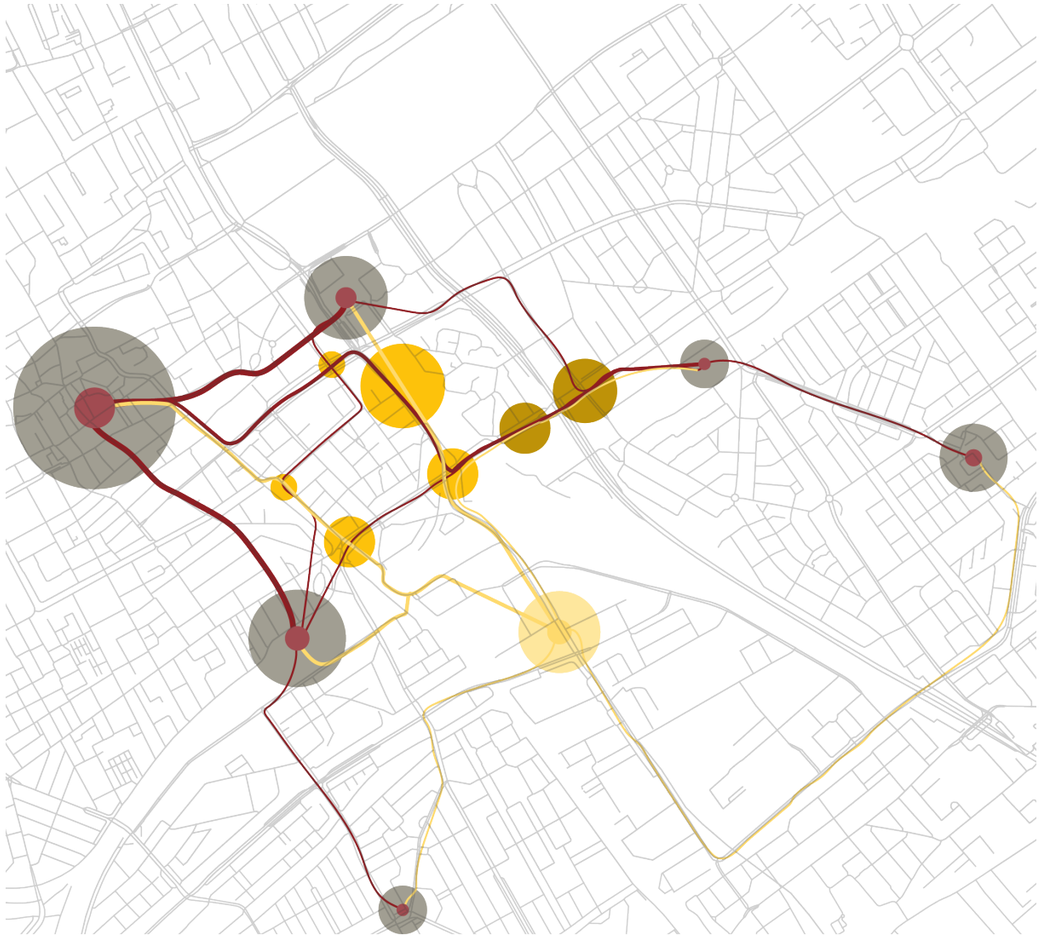
New clusters of interest place on existing network



Where should the pedestrian network be improved?

Method: betweenness shortest path

Future clusters of interest for a walkable network



Conclusion

SQ2

SQ2: In what way are the current CID-clusters disconnected and what is needed to improve and maintain the interconnectivity?

- **The effect of the infrastructures on the walkability of the CID is clearly visible in big open white spots**
- **For a walkable network more places of interest in the heart of the CID should be created**
- **Infrastructural barriers should be razed for proper usage of active modes**

SQ3

Quality study

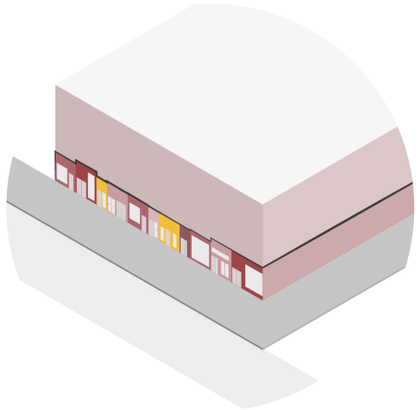
SQ3: What are the indicators of urban life and how do they translate to practical design solutions in the CID context?

What are urban life indicators?

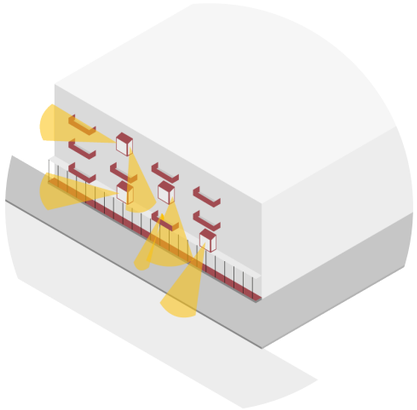
Method: theory review

Small blocks

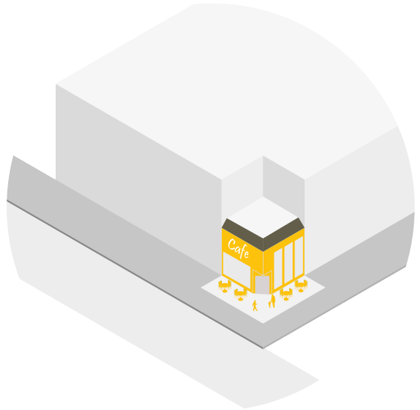
Open and lively edges



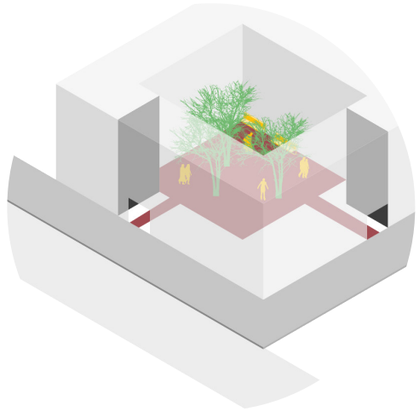
Eyes on the street



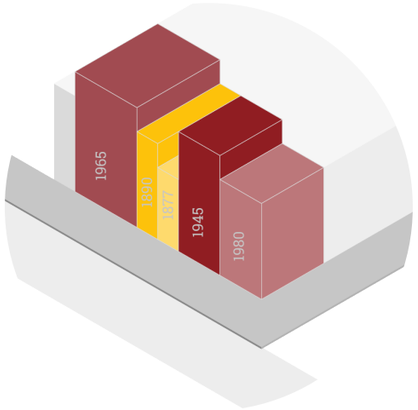
Sidewalk cafe



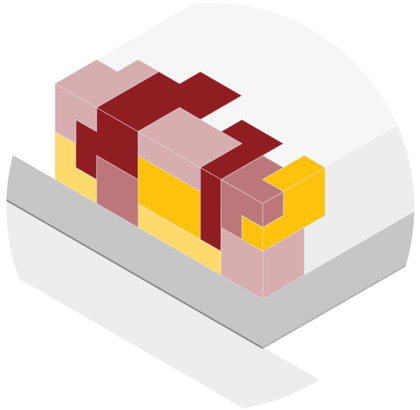
Common space



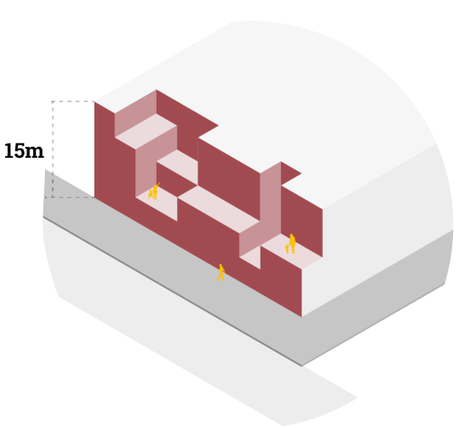
Mix of building ages



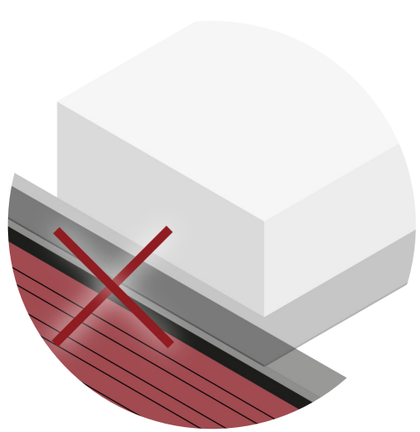
Mix of primary uses



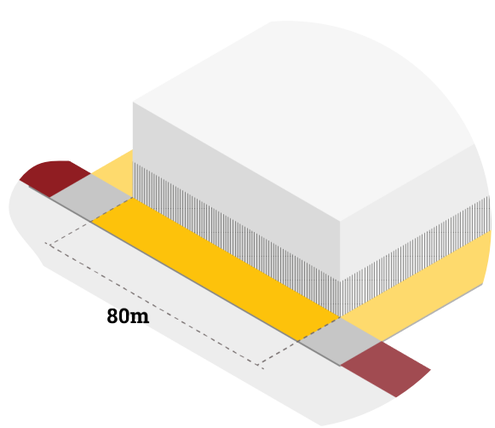
Human dimension



No border vacuums



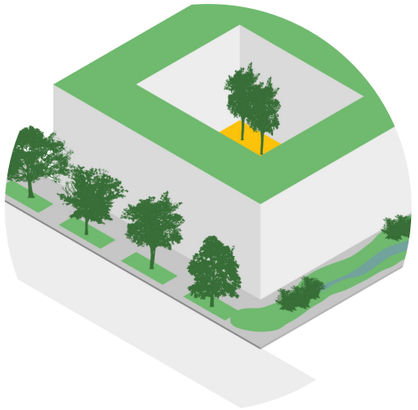
Manageable segments



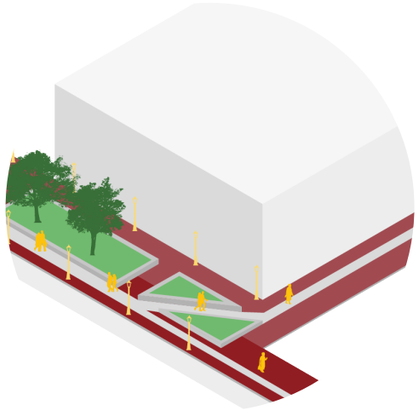
What are urban life indicators?

Method: theory review

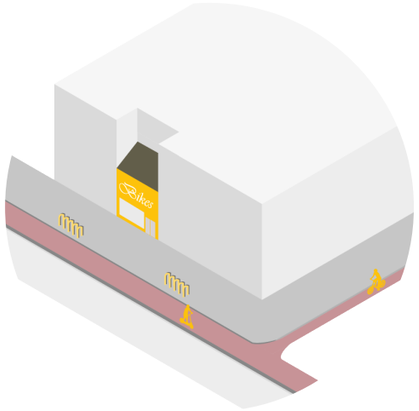
Urban green space



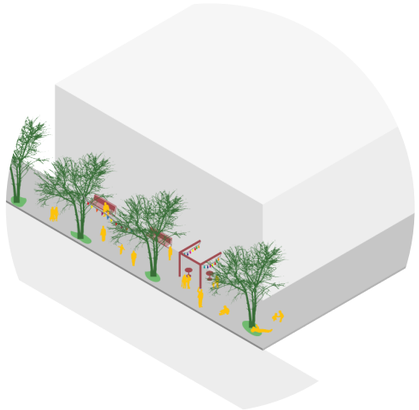
Walkability



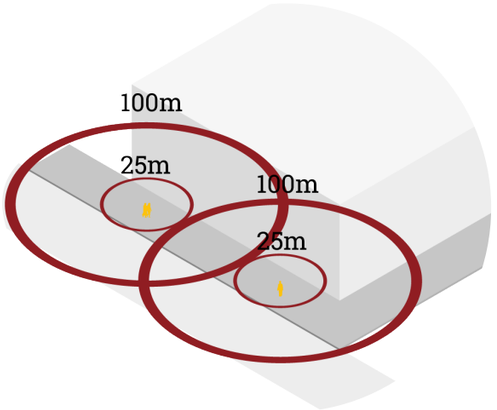
Bicycle culture



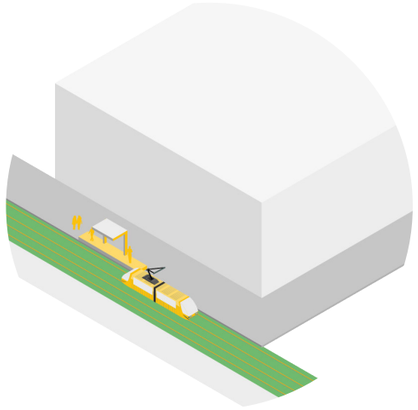
Social interaction



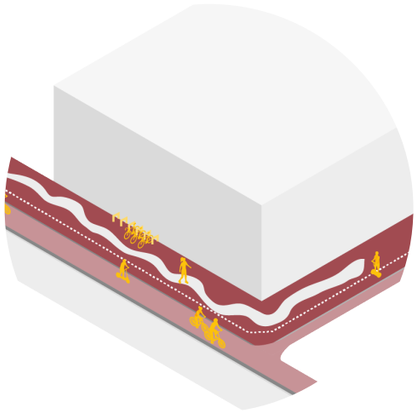
Social field/vision



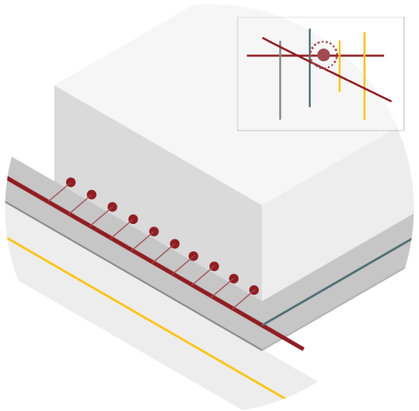
Public transportation



Active modes

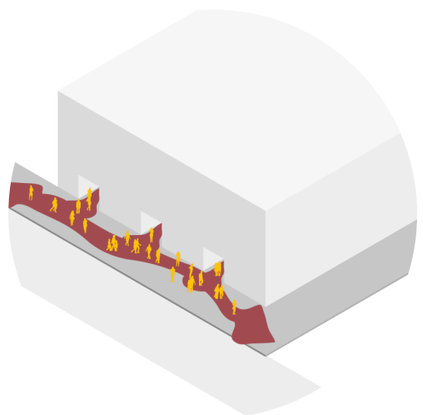


Spatial centrality



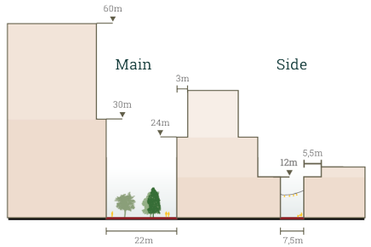
Social activities

Critical mass of people

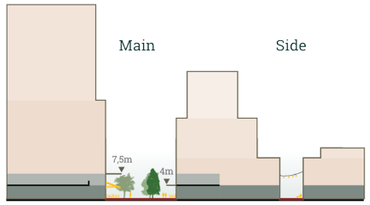


How do the indicators translate to patterns?

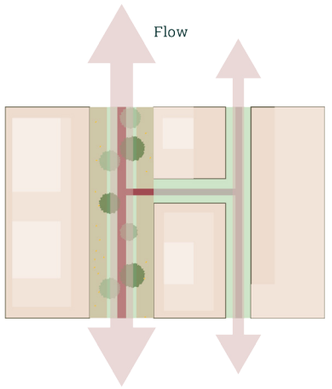
Method: case studies



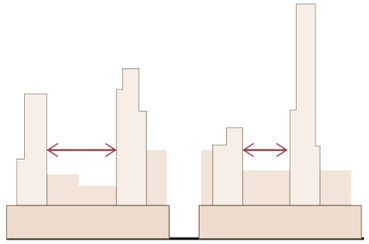
Setbacks



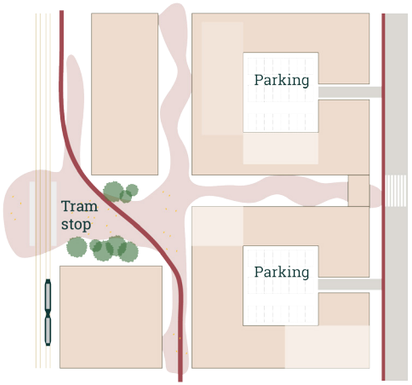
Double height plinths



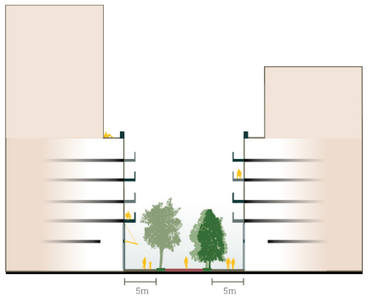
Design according to centrality



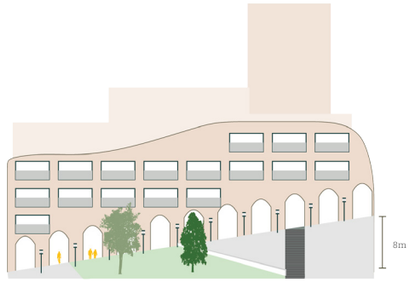
Put highrises on podiums with plenty of space inbetween



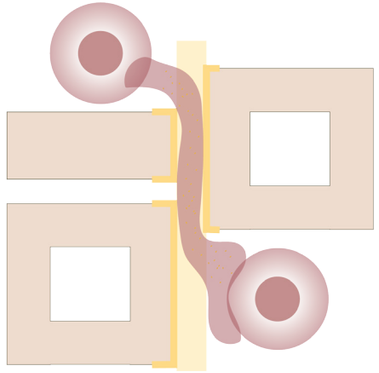
No cars to be seen



Wide sidewalks



Solve height differences with architecture



Use existing hotspots to guide quality

Conclusion

SQ3

SQ3: What are the indicators of urban life and how do they translate to practical design solutions in the CID context?

- **The indicators themselves are not usefull in design. Distilling patterns that correspond to these indicators from case-studies helps**
- **Pick the different urban life qualities according to centrality of the street**
- **With smart setbacks and street design, highrises can be incorporated in an urban life way**

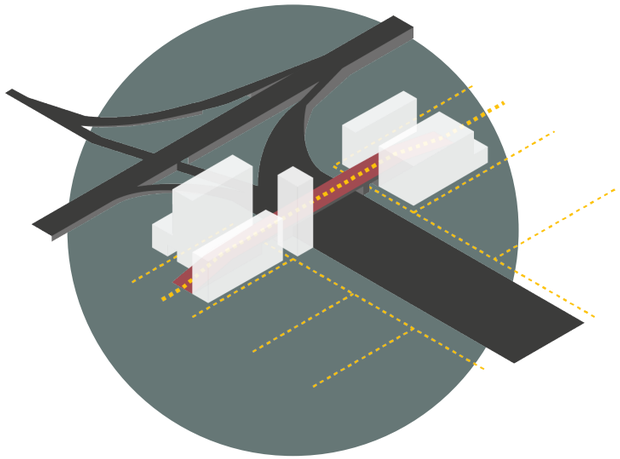
SQ4

Research by design

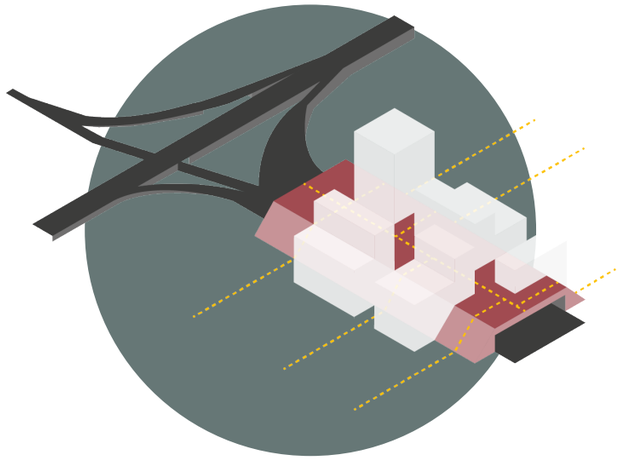
SQ4: Which urban design scenarios are able to connect the four CID-clusters in a human-minded city at eye level approach fostering urban life?

How should the railway emplacement be overcome?

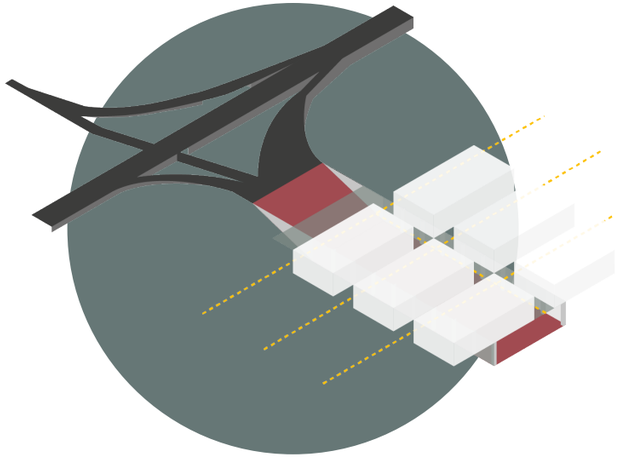
Method: assessing scenarios



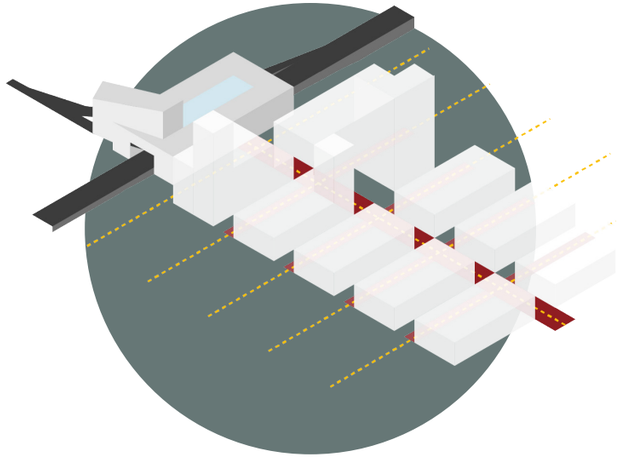
1 Using the current situation



2 Overbuilding



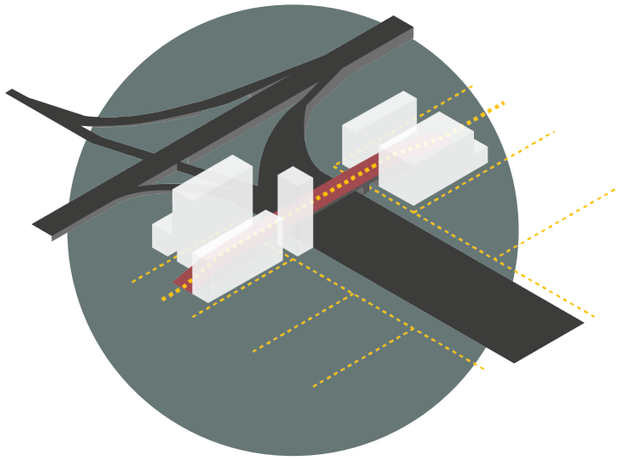
3 Burying the tracks



4 Grand Central station

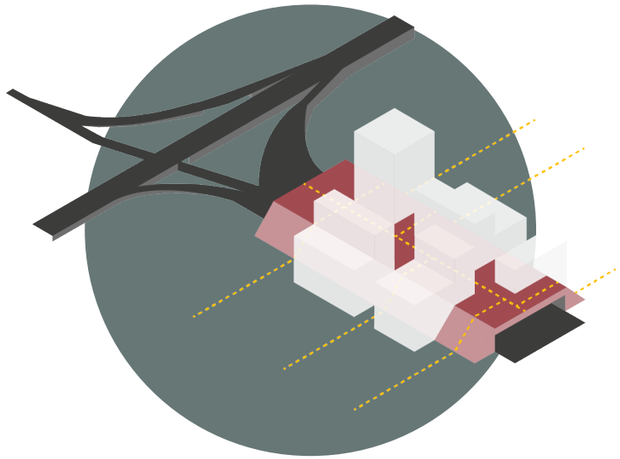
How should the railway emplacement be overcome?

Method: assessing scenarios



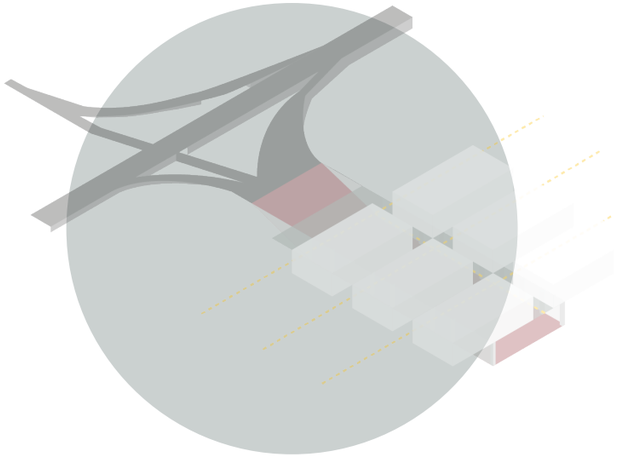
1 Using the current situation

- Most feasible
- Still a barrier

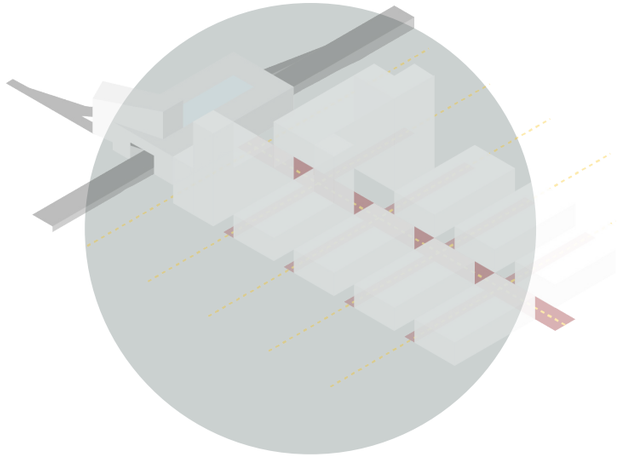


2 Overbuilding

- Urban life
- Height differences



3 Burying the tracks

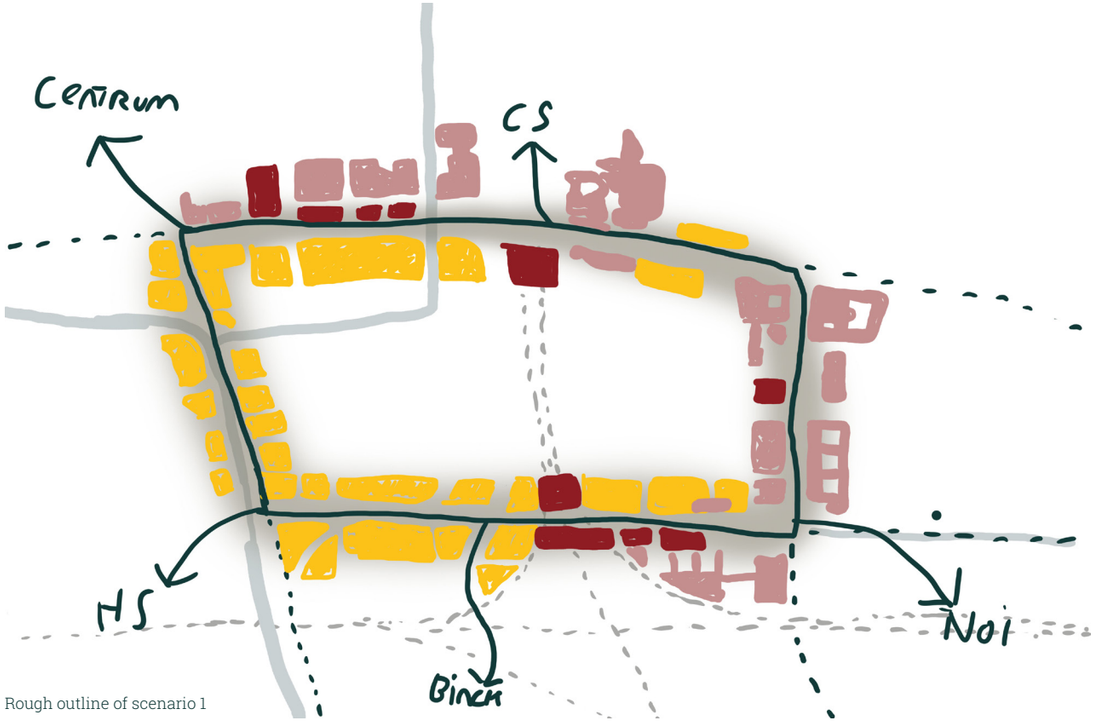


4 Grand Central station

What strategy should be elaborated further?

Method: assessing scenarios

The safe option: select market-driven development

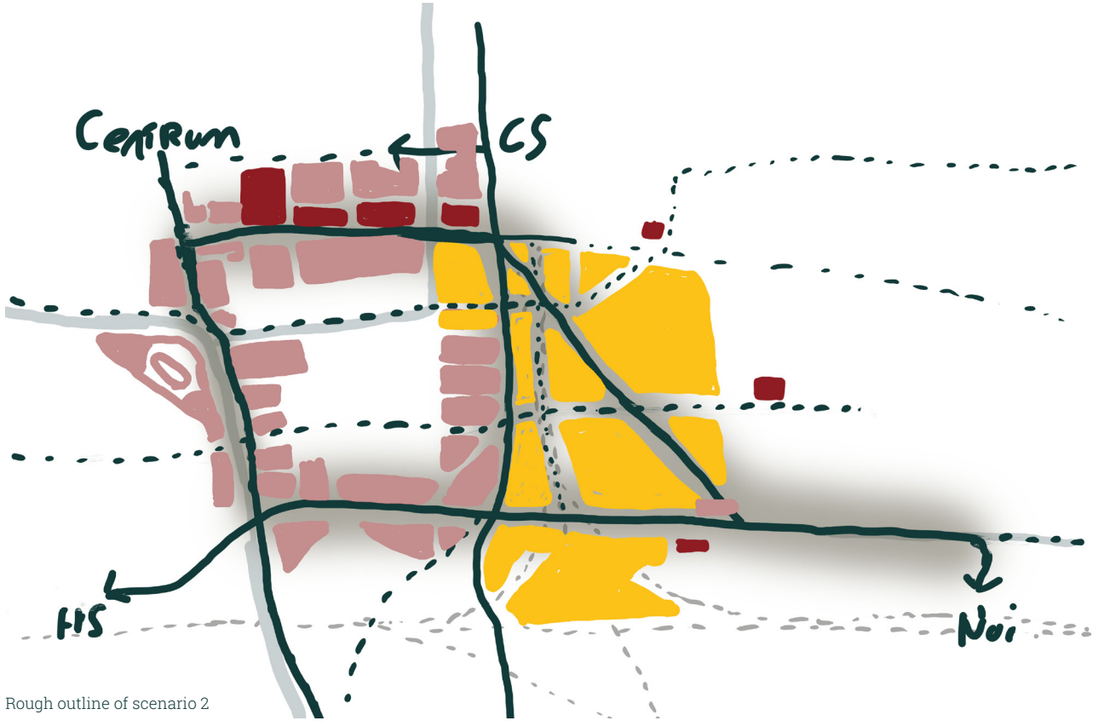


Rough outline of scenario 1

= transformation
= new infill
= strengthen

Volumes: 0 5 10
Network:
Feasibility:

The optimal option: the modern notion of urban life applied to the CID



Rough outline of scenario 2

= transformation
= new infill
= strengthen

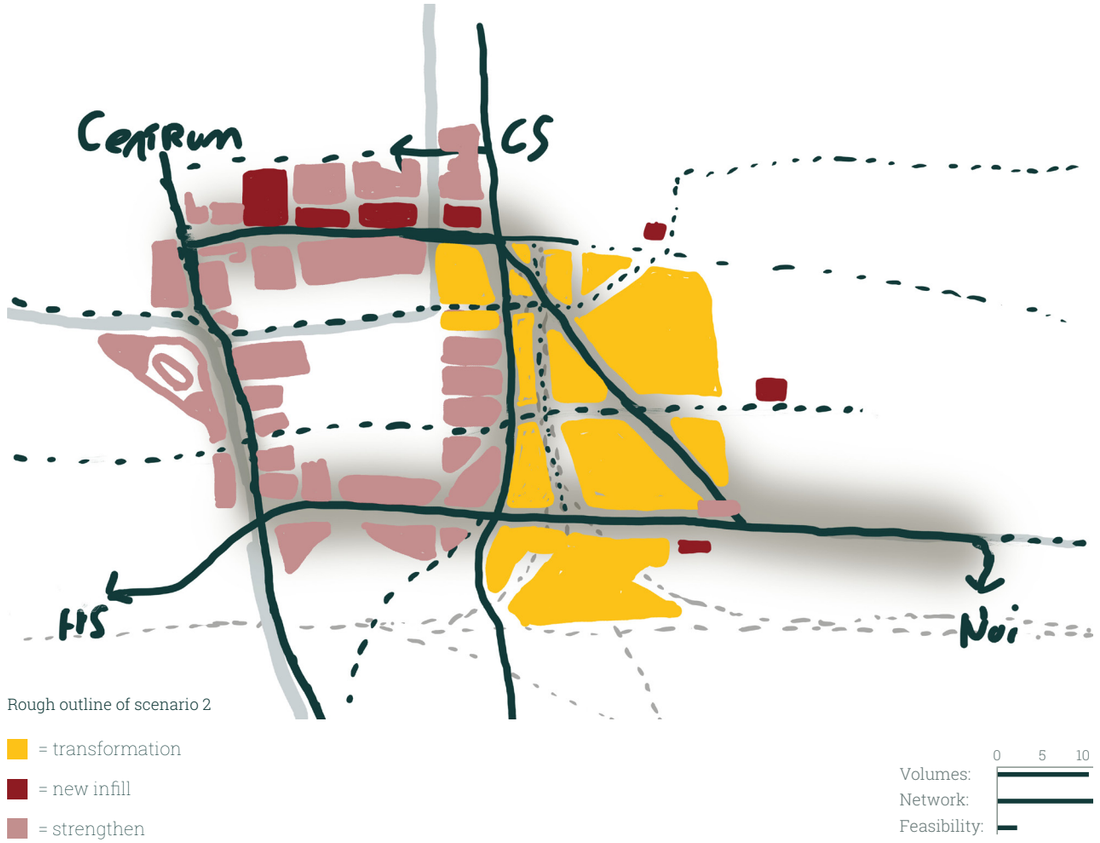
Volumes: 0 5 10
Network:
Feasibility:

What strategy should be elaborated further?

Method: assessing scenarios

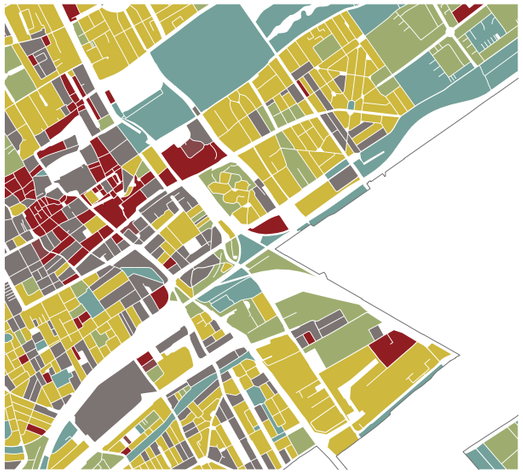
- More extreme
- More likely of finding conflicts between urban life and compact city
- Controversial in current practice
- Able to demonstrate all previous studies' optimal solutions

The optimal option: the modern notion of urban life applied to the CID

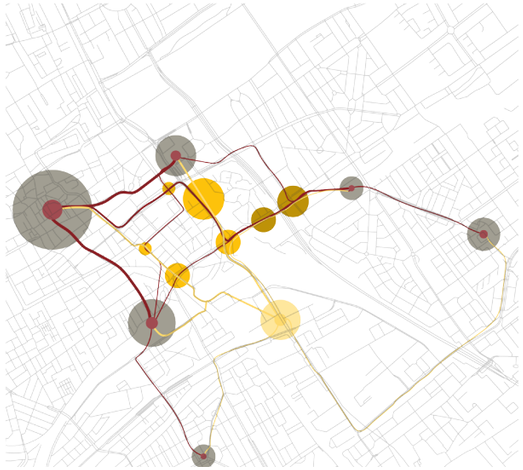


What do the volume- and networkstudy prescribe?

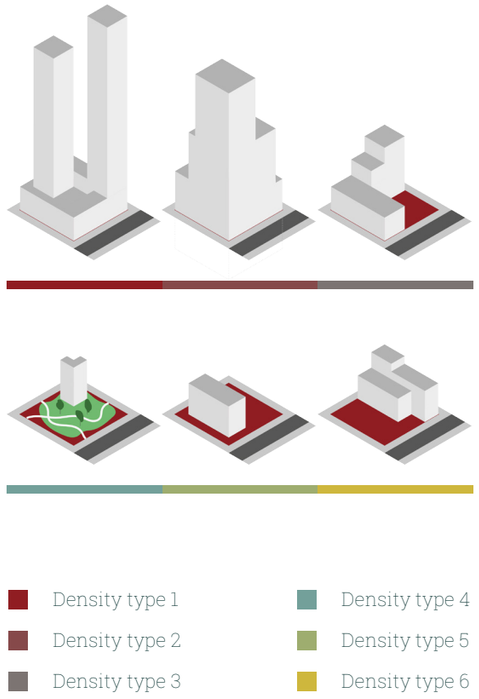
Method: datamapping



Density map



Network and cluster map



Vision

What do the volume- and networkstudy prescribe?

Method: datamapping

- A doubling of the citycentre
- Ideal place for densification according to network centrality
- High density of places of interest

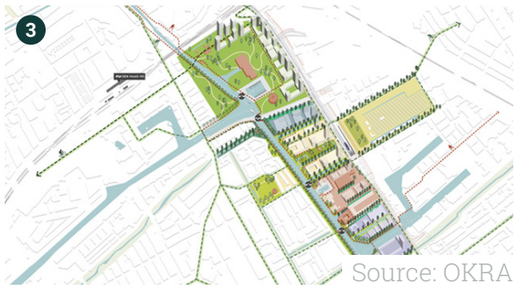
Vision

What planned developments are around the project site?

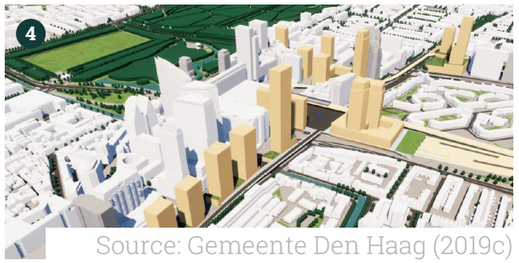
Method: datamapping

Source: Syntrus

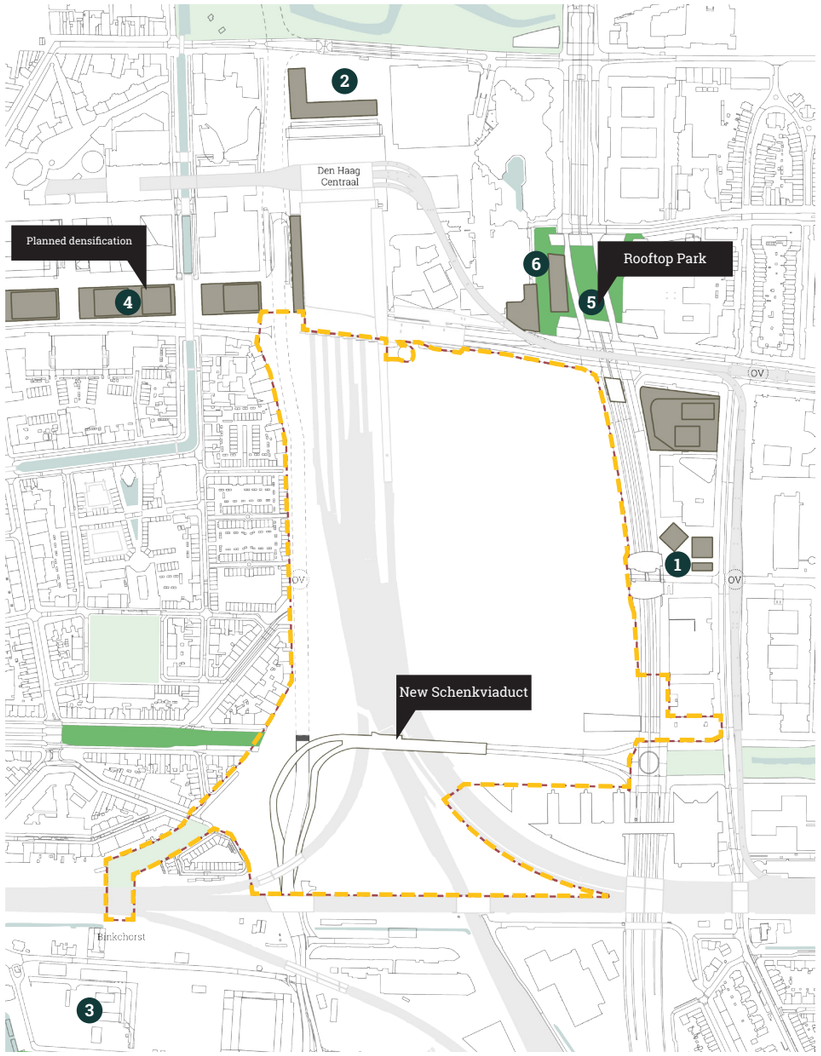
Source: Synchroon



Source: OKRA



Source: Gemeente Den Haag (2019c)



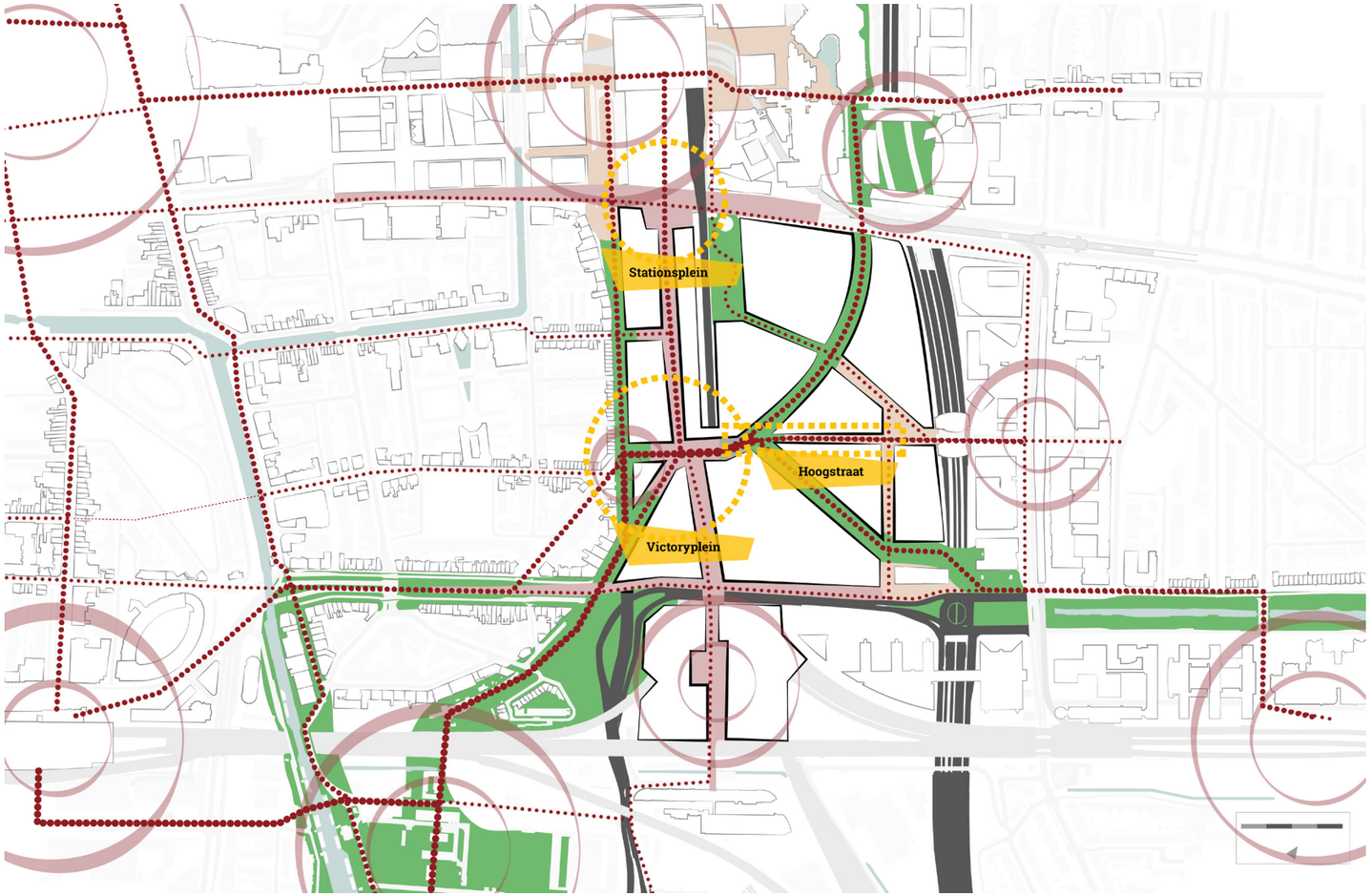
Source: Provast

Source: Provast

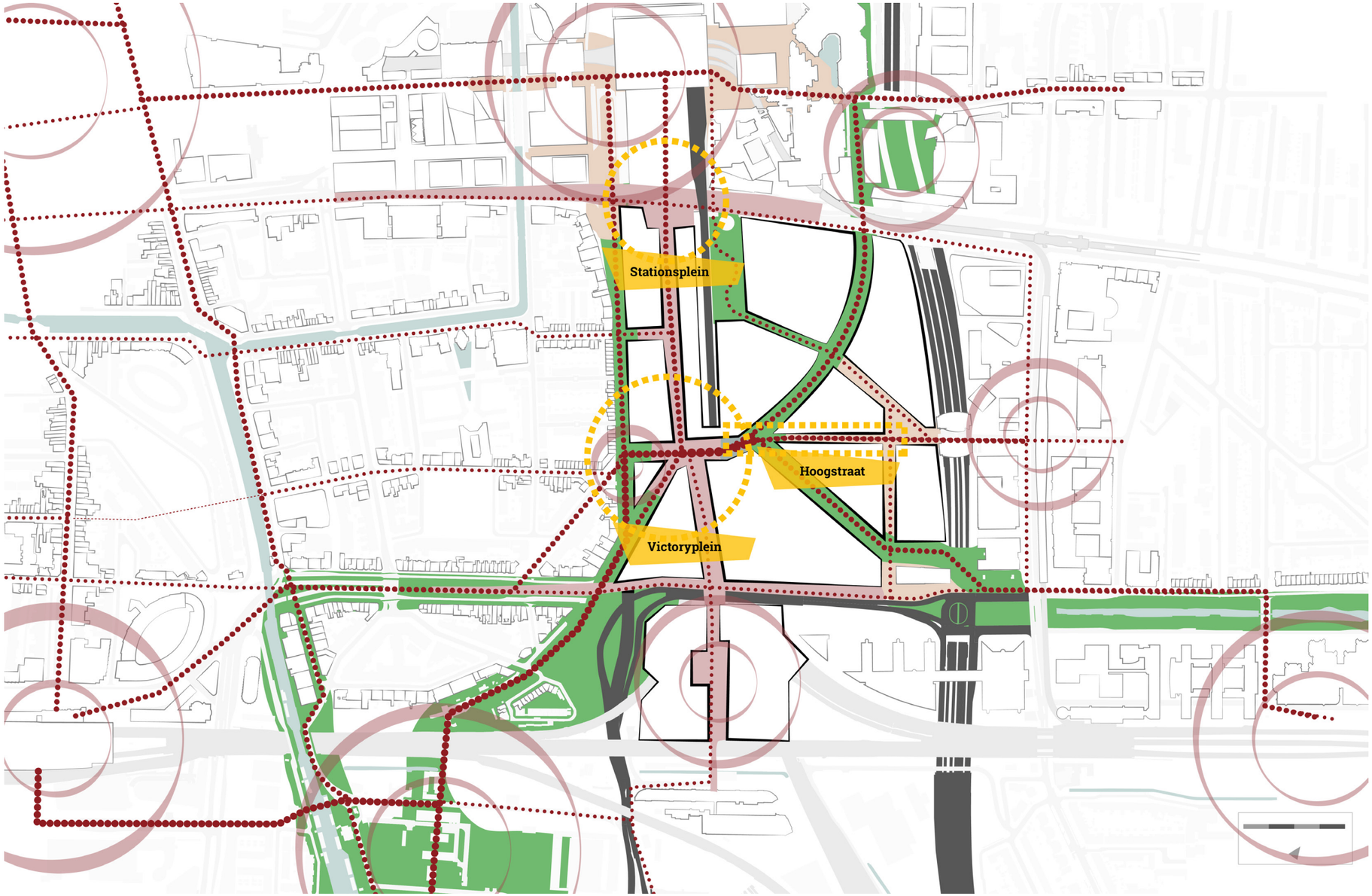
Which clusters and flows will arise?

Method: datamapping

VISION



VISION

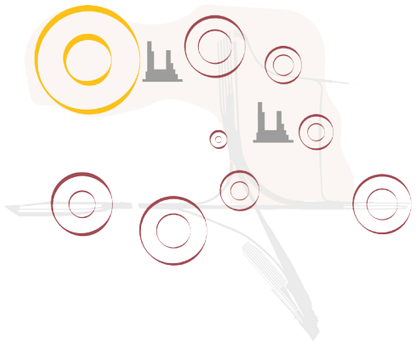

Stationsplein
Hoogstraat
Victoryplein
Legend
= Heightened platform
= Railways
= Infrastructural barriers
= Flow
= Green space focus
= Urban focus

Whether people are enticed to walk around and stay in city space is very much a question of working carefully with the **human dimension** and issuing a tempting invitation.

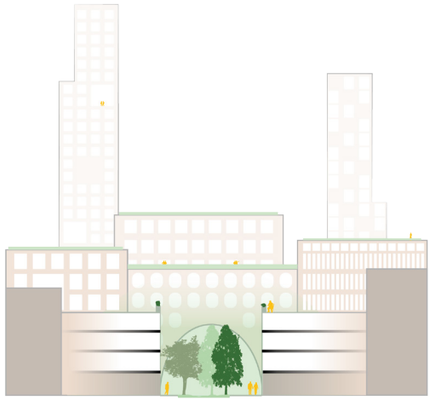
(Gehl, 2013: 17)

DESIGN GOALS

Volumes

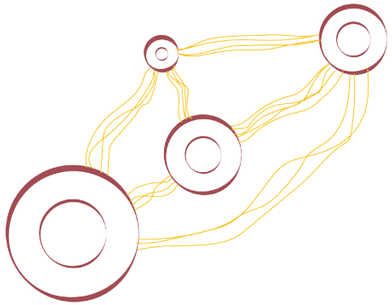


An expansion of the centre

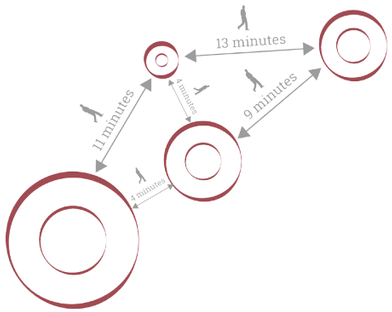


A qualitative and quantitative housing contribution

Network

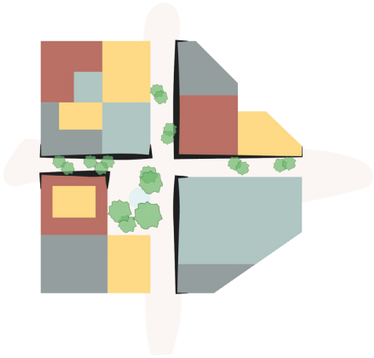


Optimized betweenness

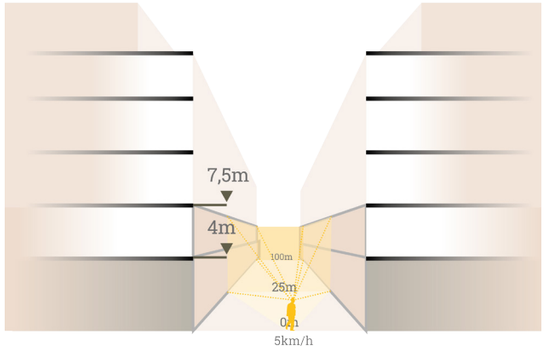


The ‘15 minute city’

Quality

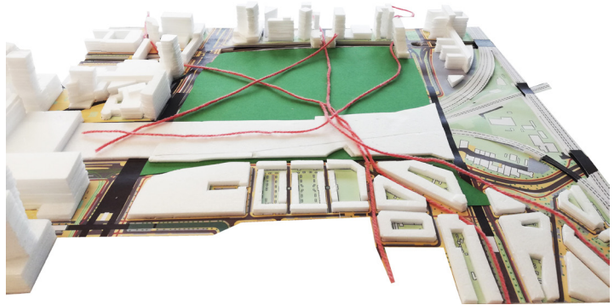


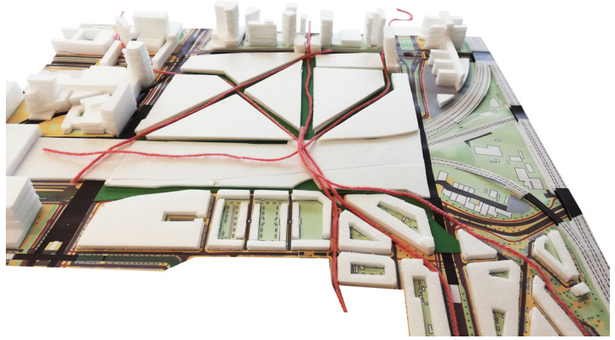
Identity and ambition with the Victory BoogieWoogie

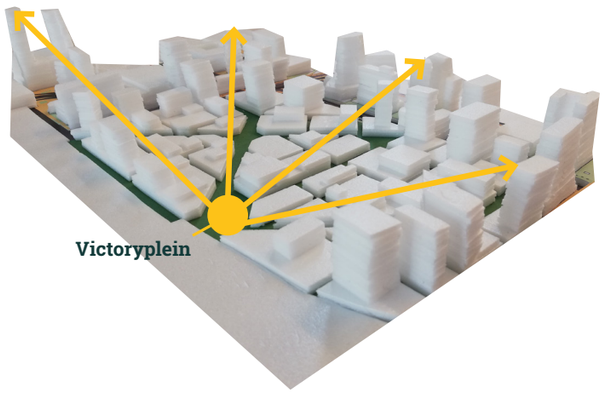


Human scale through urban life patterns

AN ITERATIVE 3D DESIGN PROCESS







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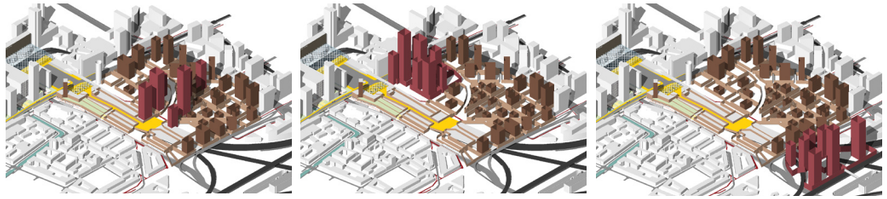
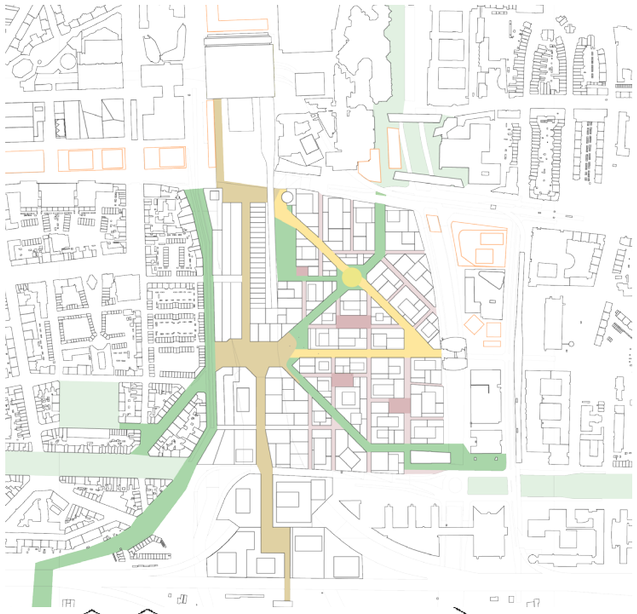
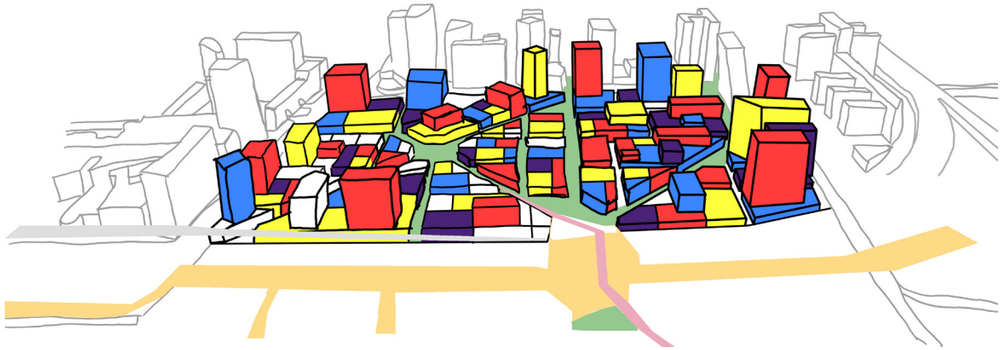
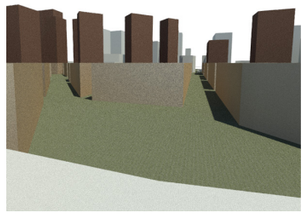
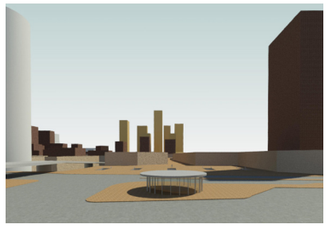
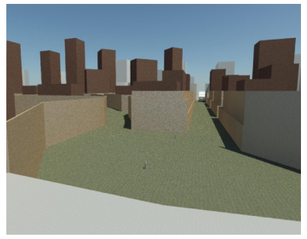


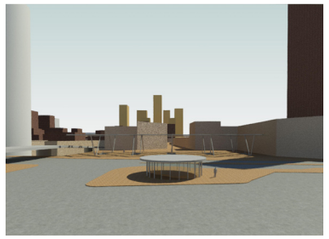


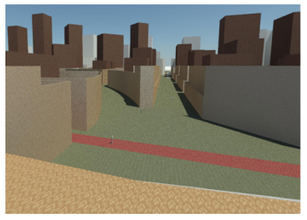


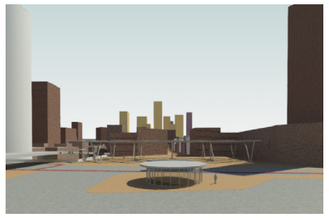


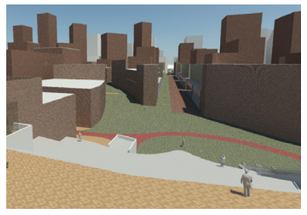


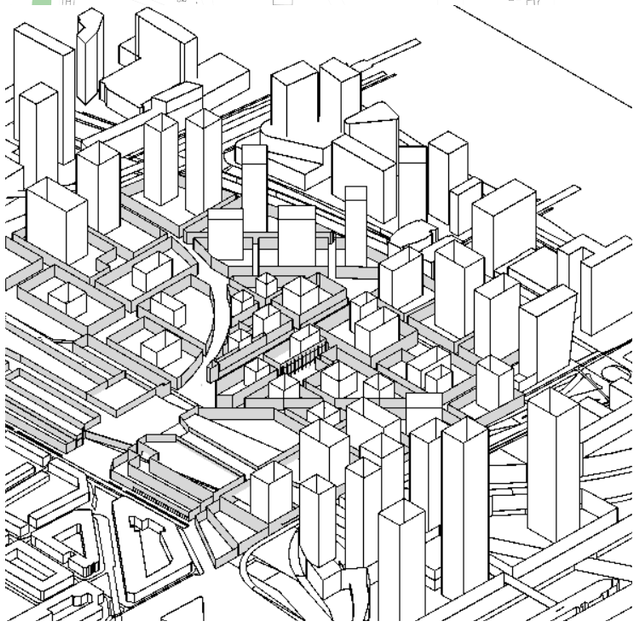


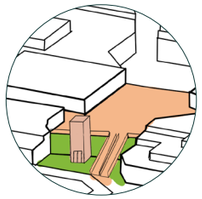


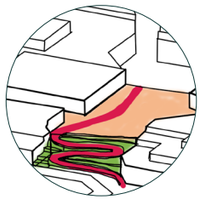


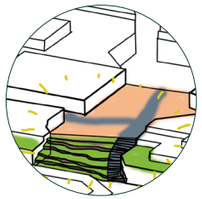


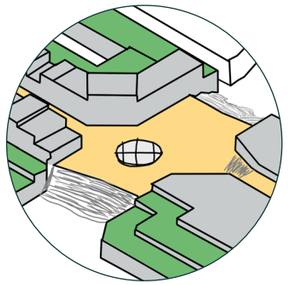


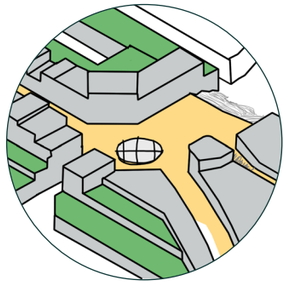










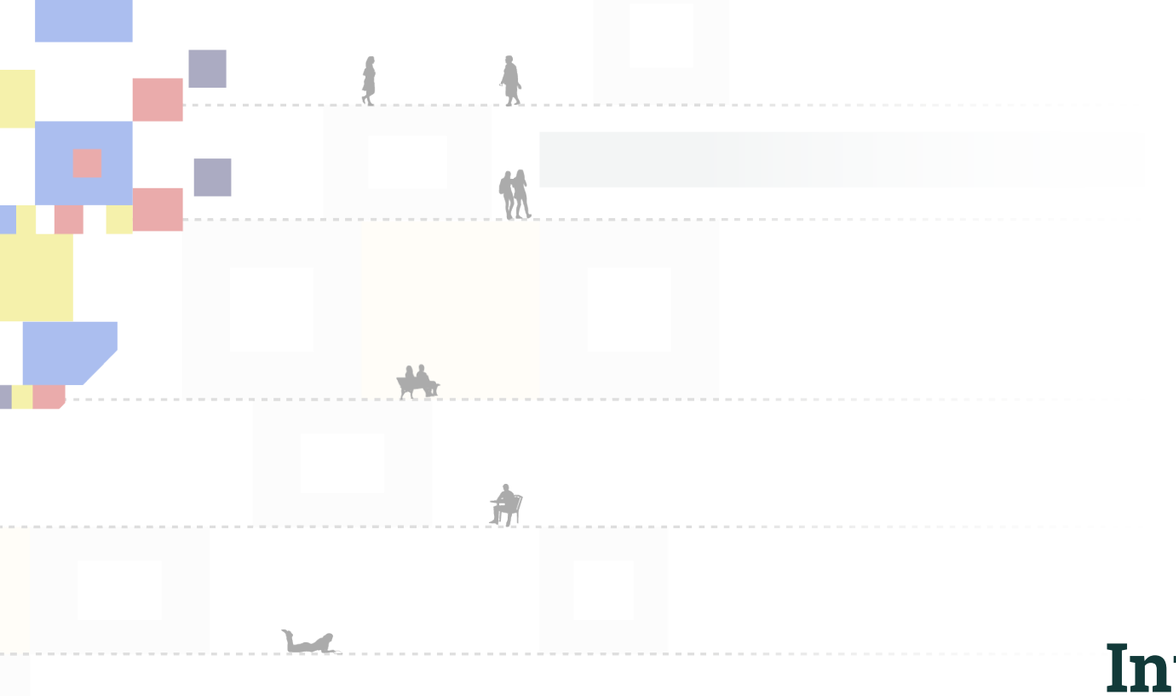


Conclusion

SQ4

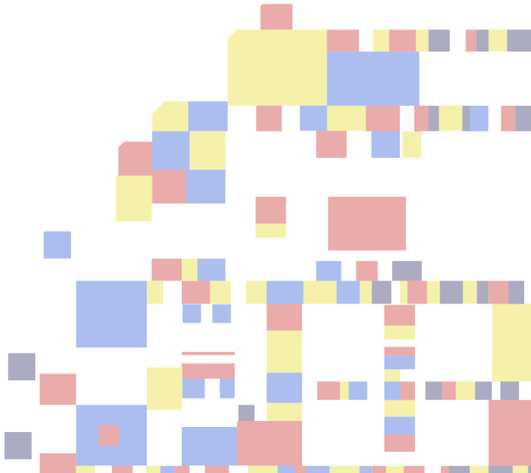
SQ4: Which urban design scenarios are able to connect the four CID-clusters in a human-minded city at eye level approach fostering urban life?

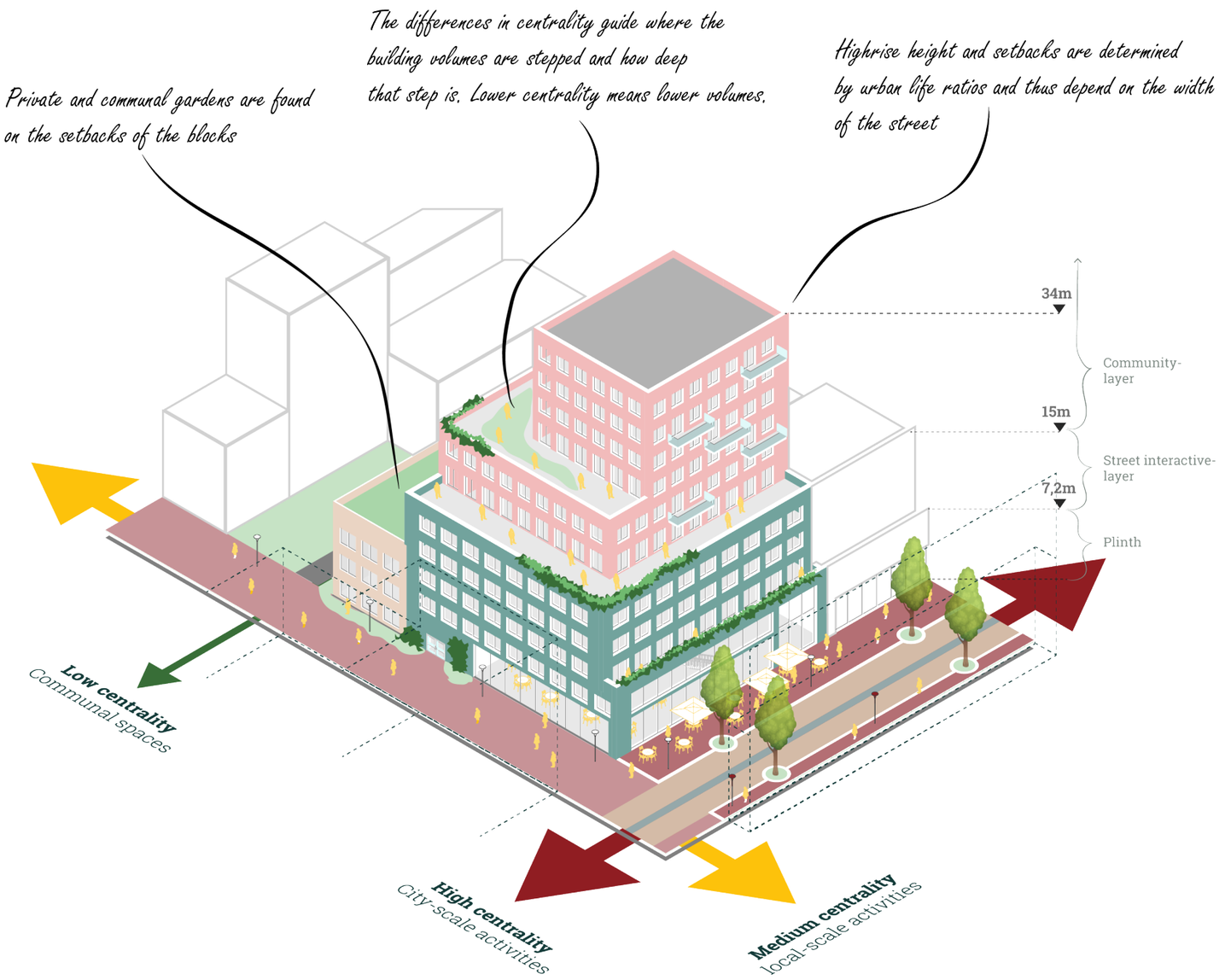
- **Design on all scale levels was needed to really incorporate urban life in the compact city**
- **Numerous conflicts were found leading to a constant balancing act without clear-cut solutions**
- **3D eye level views are crucial in working with the human scale**

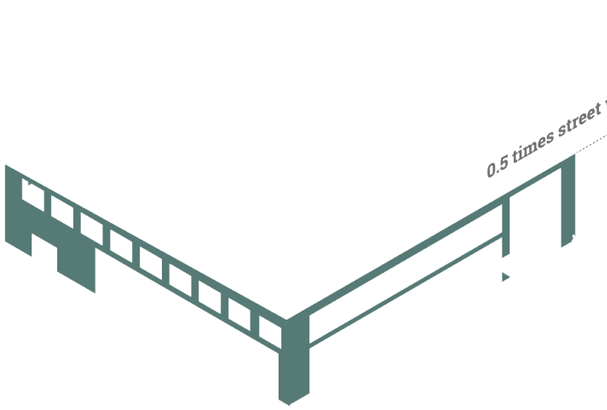


Intermezzo

The found generic concepts/dimensions

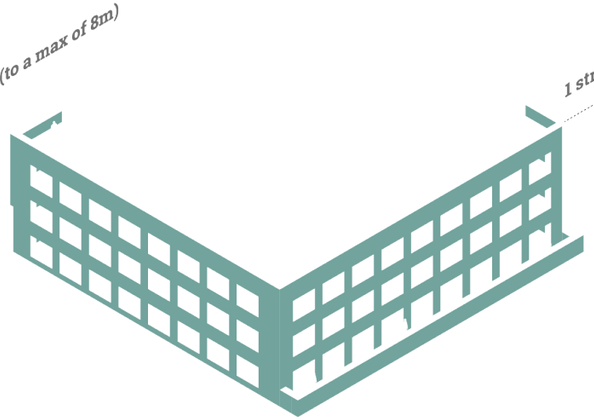



Private and communal gardens are found on the setbacks of the blocks
The differences in centrality guide where the building volumes are stepped and how deep that step is. Lower centrality means lower volumes.
Highrise height and setbacks are determined by urban life ratios and thus depend on the width of the street
34m
Community-layer
15m
Street interactive-layer
7,2m
Plinth
Low centrality
Communal spaces
High centrality
City-scale activities
Medium centrality
local-scale activities



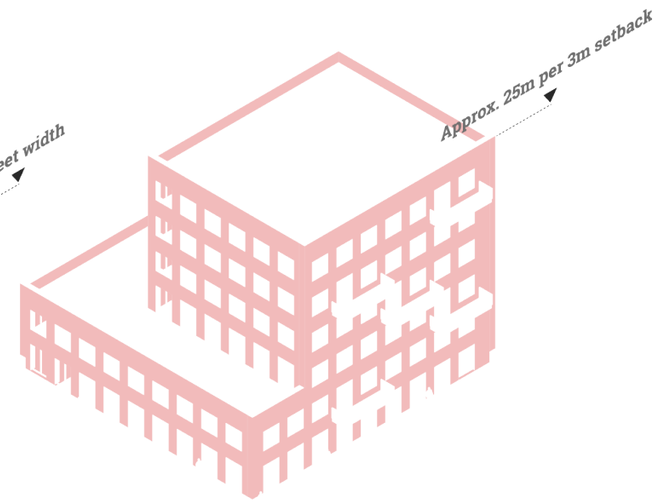
Plinth

Aim: functions



Street-connected layer

Aim: families



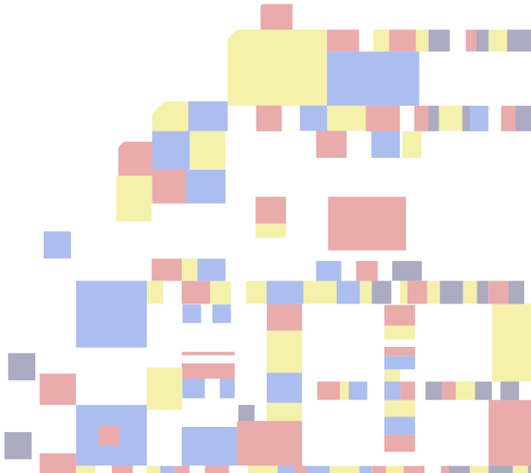
Highrise community layer

Aim: smaller households

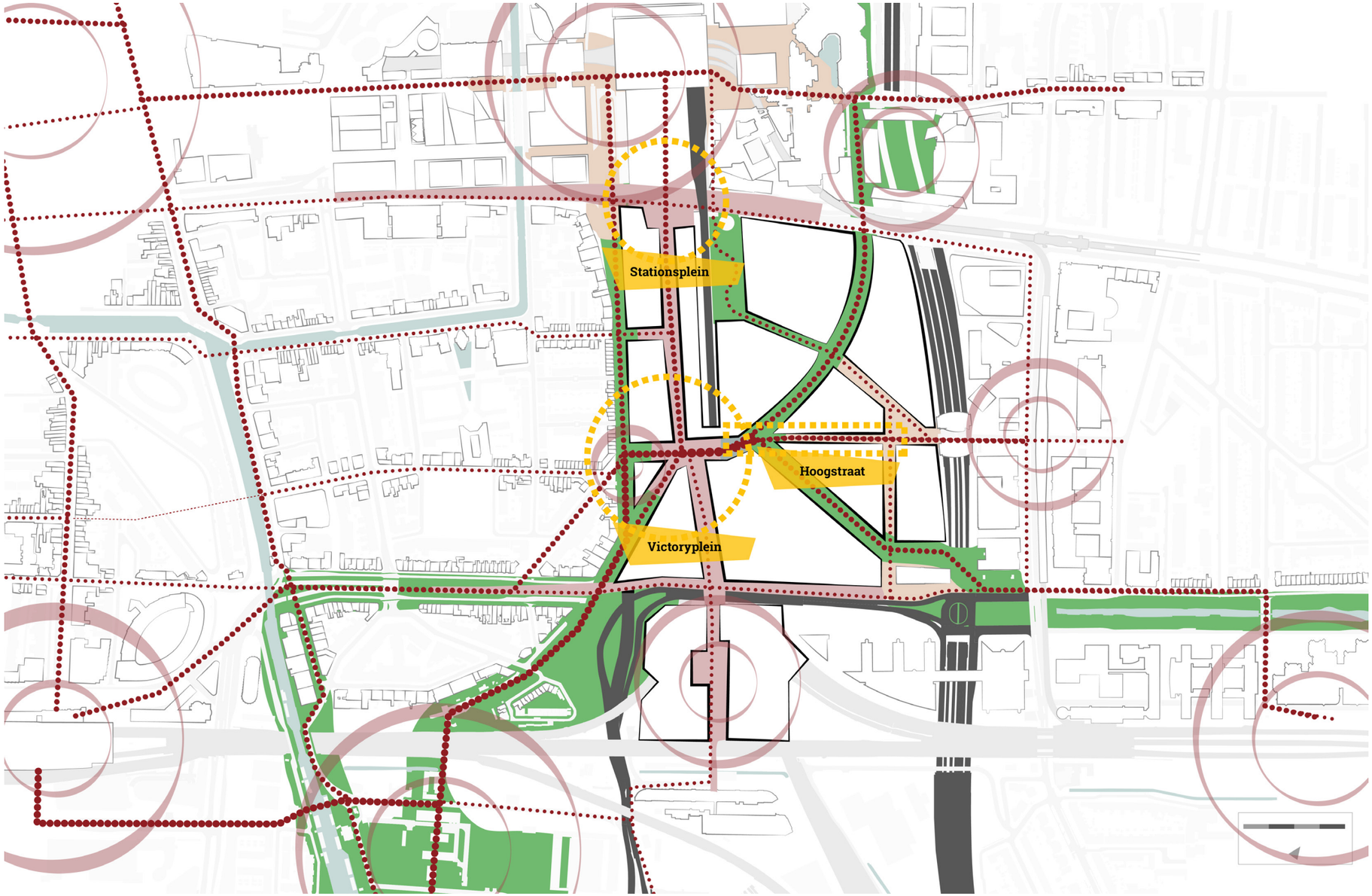
MRQ

Design elaboration

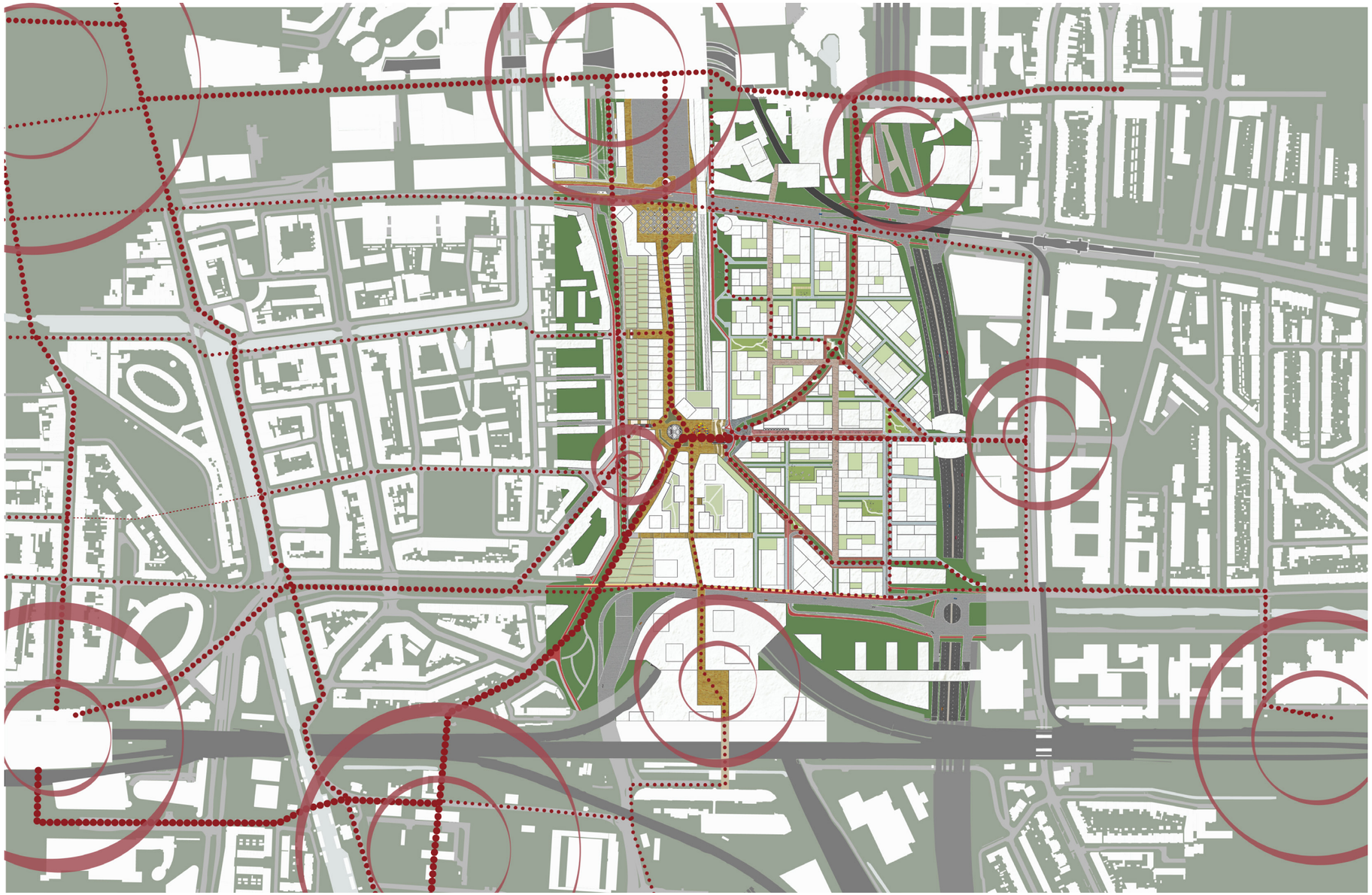
MRQ: How can the clusters of the Central Innovation District be interconnected and densified in an urban design that uses urban life principles to optimize high density living and mitigate the negative effects of the compact city?



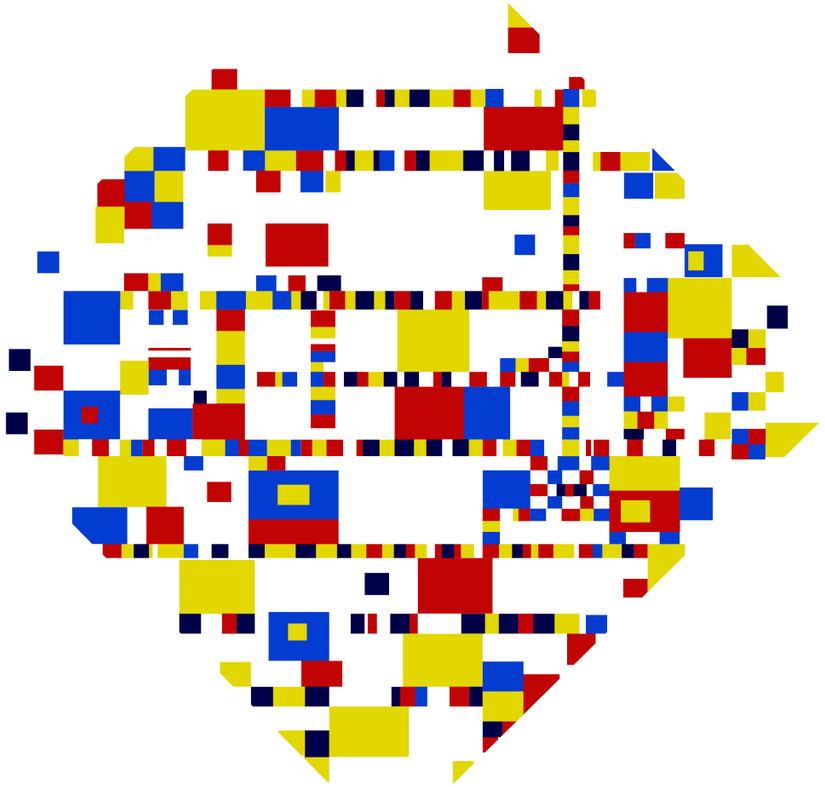
VISION


Stationsplein
Hoogstraat
Victoryplein
Legend
= Heightened platform
= Railways
= Infrastructural barriers
= Flow
= Green space focus
= Urban focus

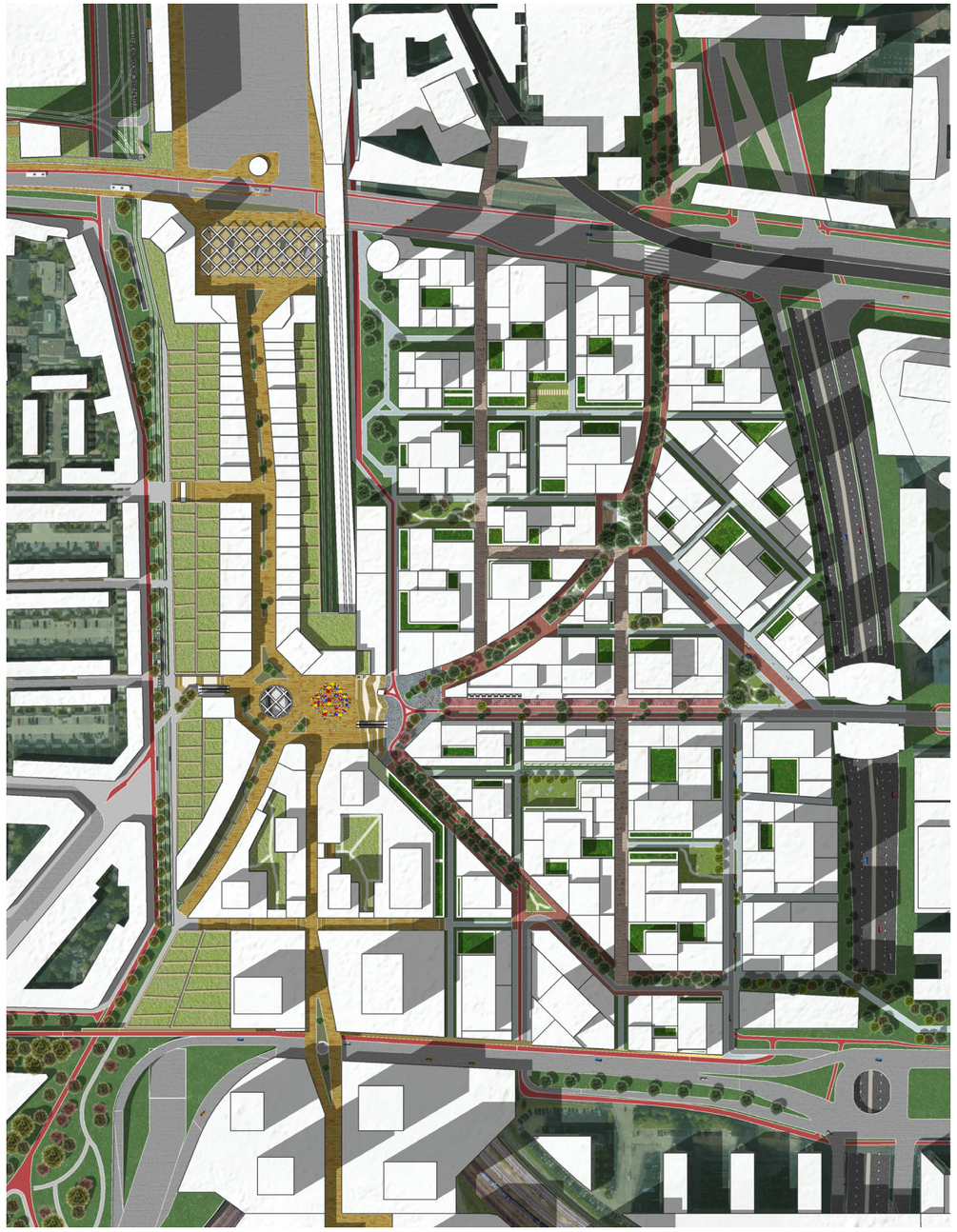
DESIGN


Legend
= Green roof
= Railways
= Infrastructural barriers
= Flow

MASTERPLAN

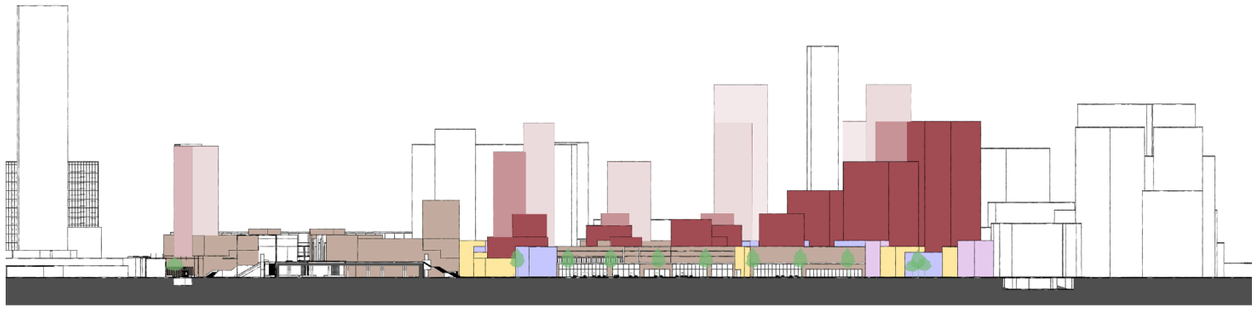


N

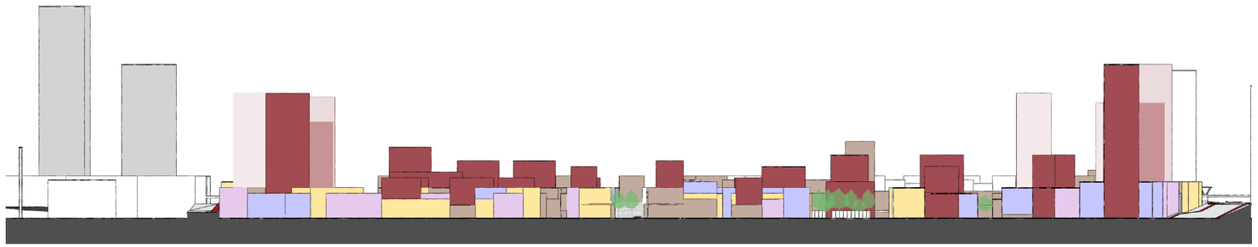


Sections

AA'



BB'



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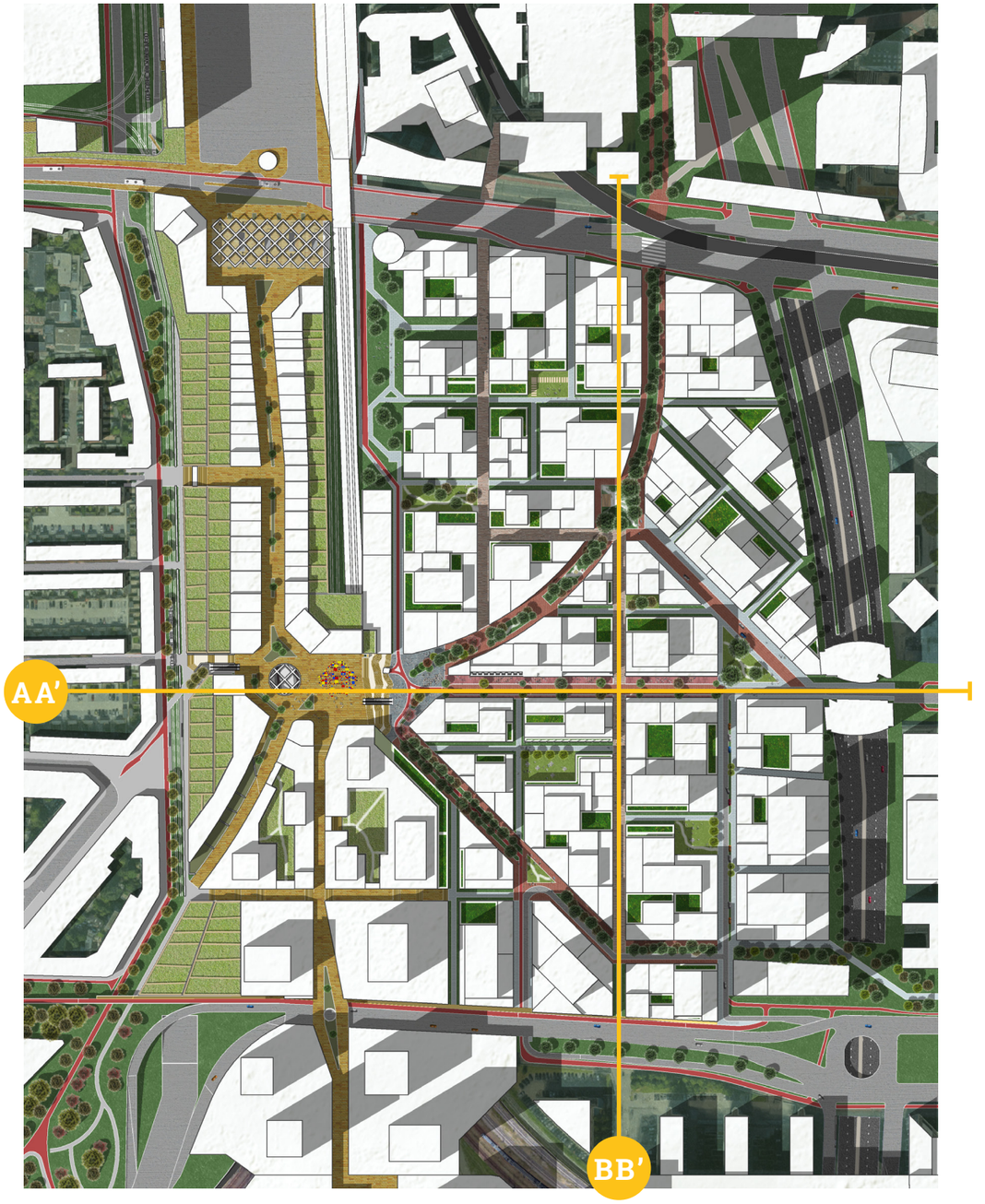
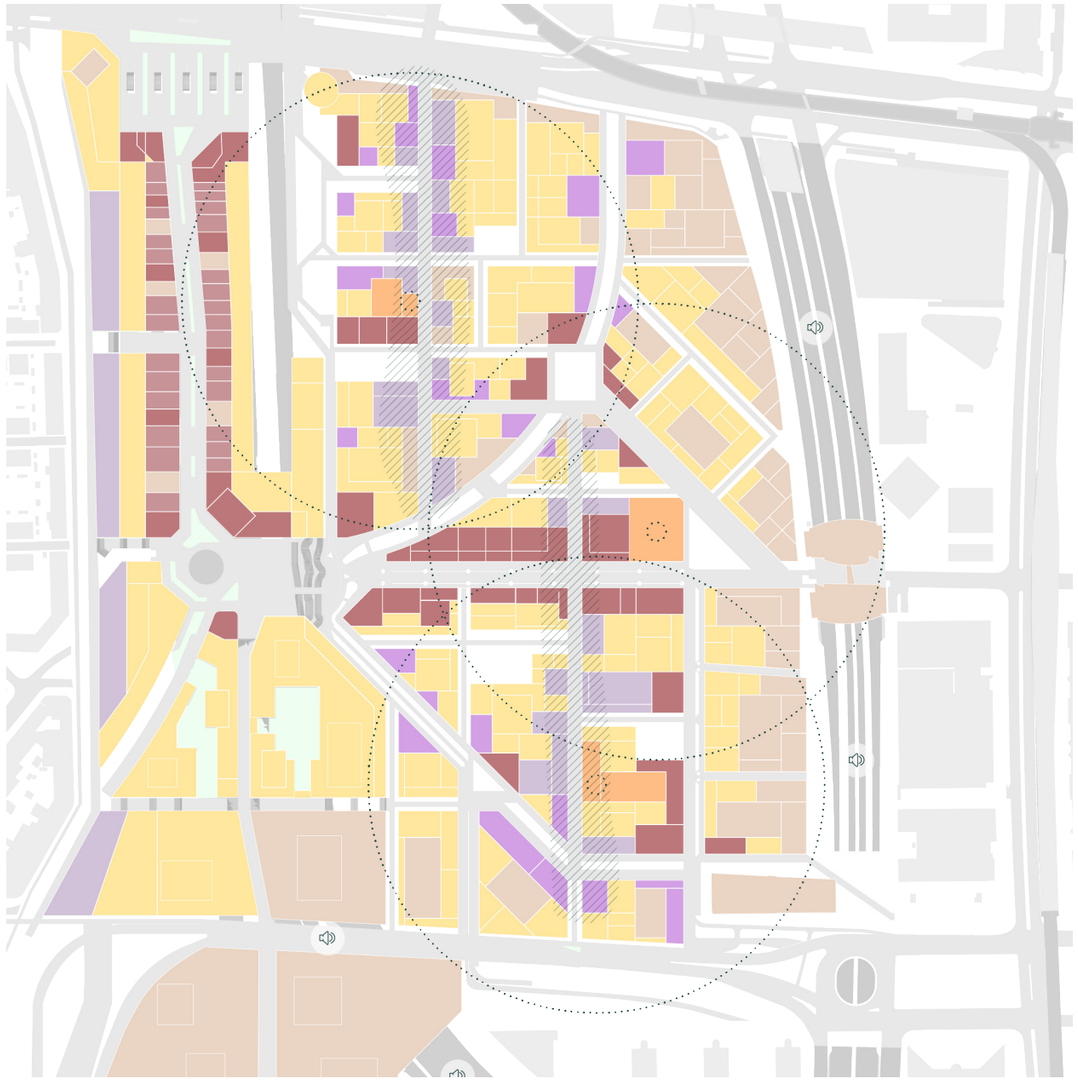


Street level program

Legend

- residential
- offices
- makers/cultural
- chain shopping
- local shopping
- supermarket
- horeca
- local focus
- walking shed (3 min.)



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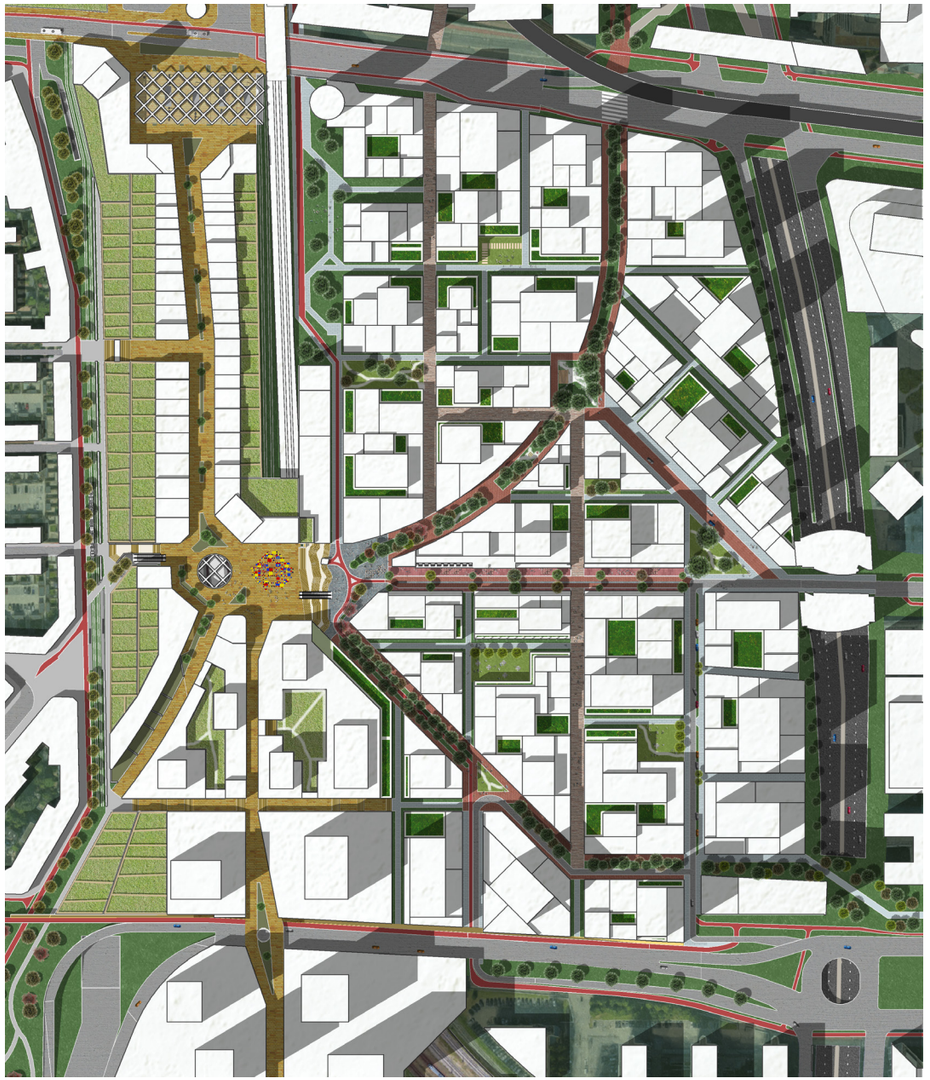
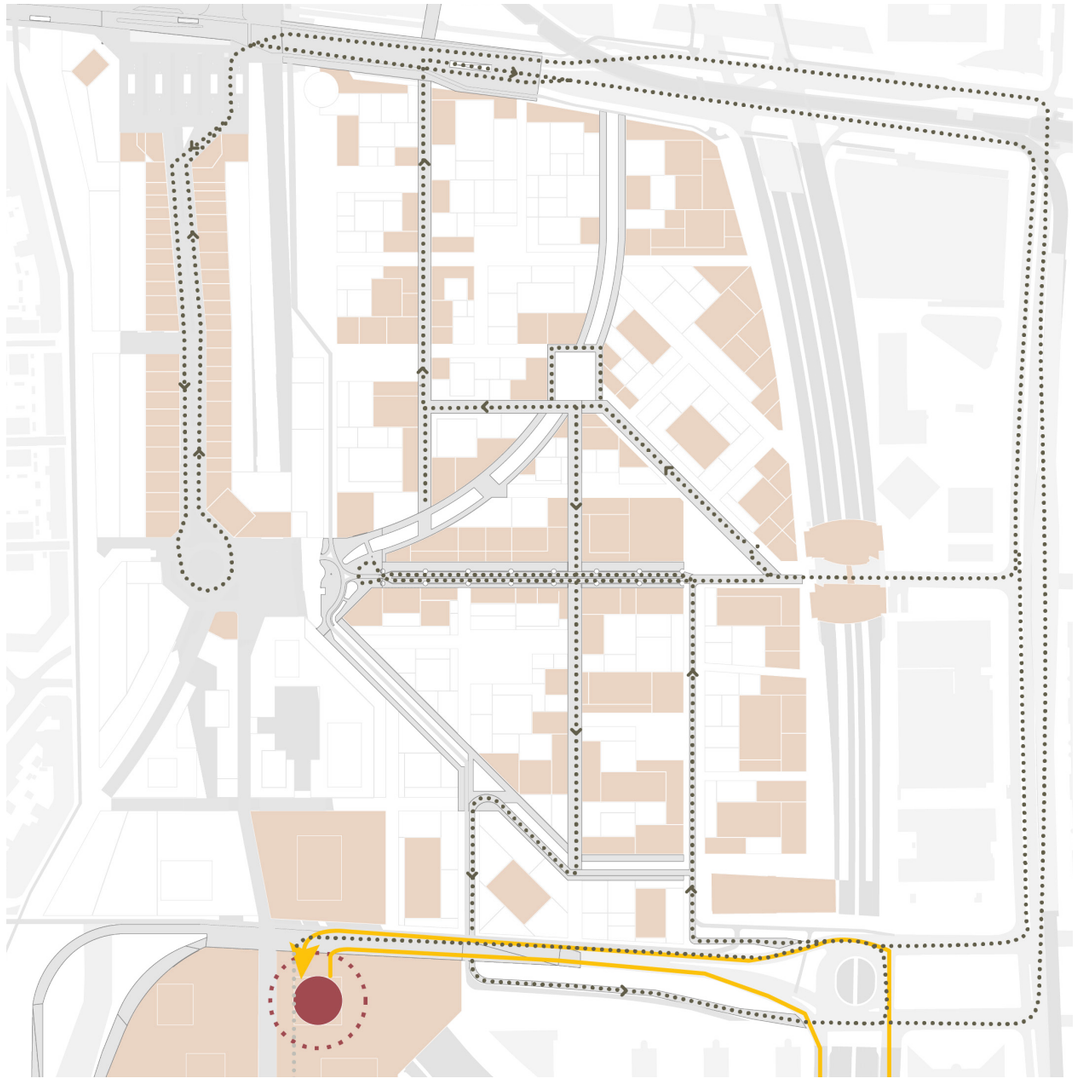


Logistics

Legend

- urban freight traffic
- small logistic vehicle
- consolidation centre
- logistic need
- traffic direction



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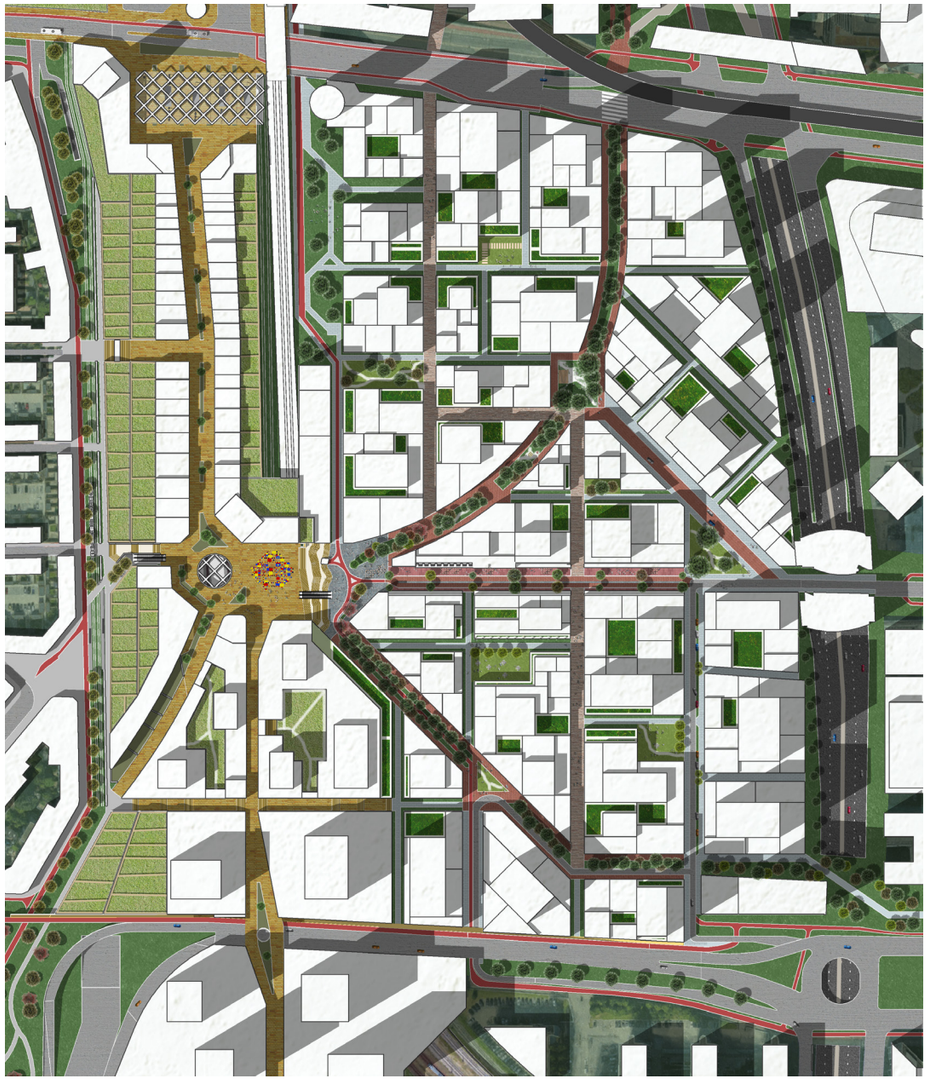
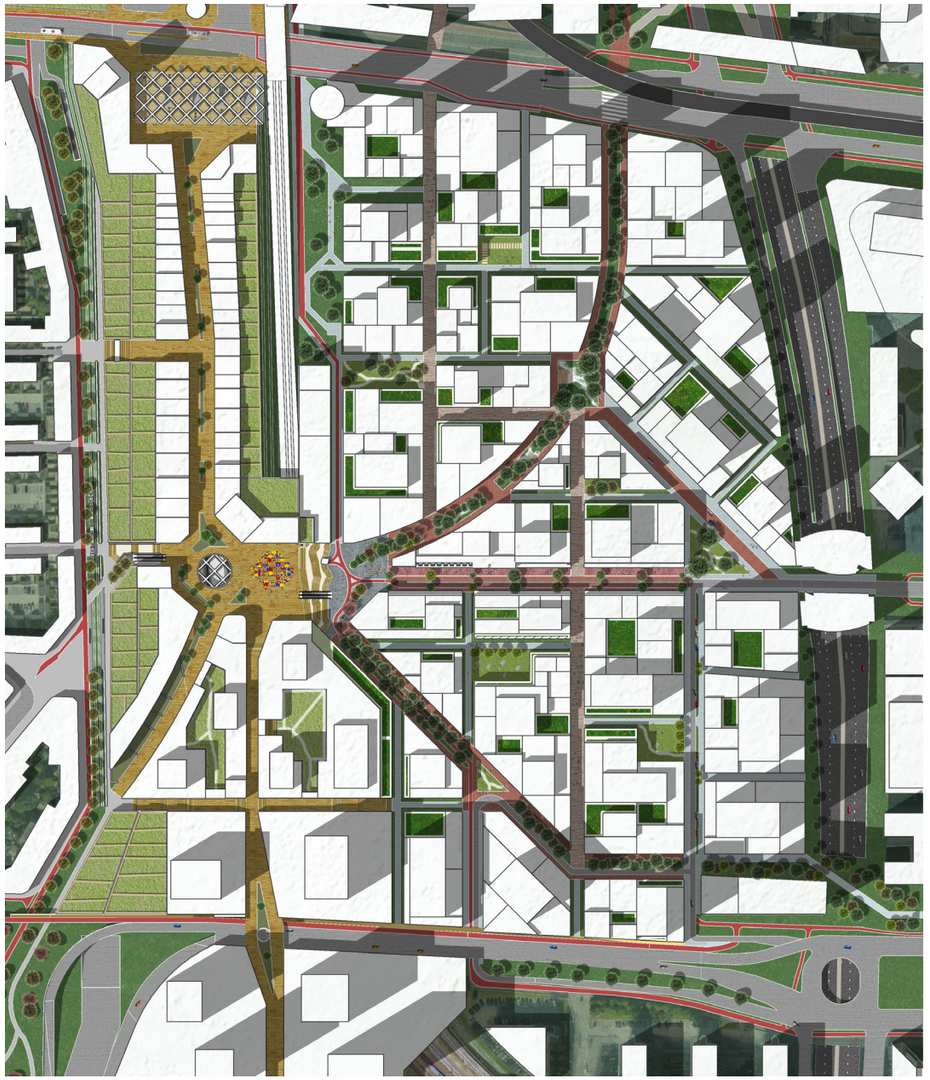


Public space

Legend

- urban green space
- public subspaces
- private gardens
- brown pavers
- bicycle path
- Hoogstraat red pavers
- bluegrey pavement
- asphalt
- platform yellow brick
- sightlines

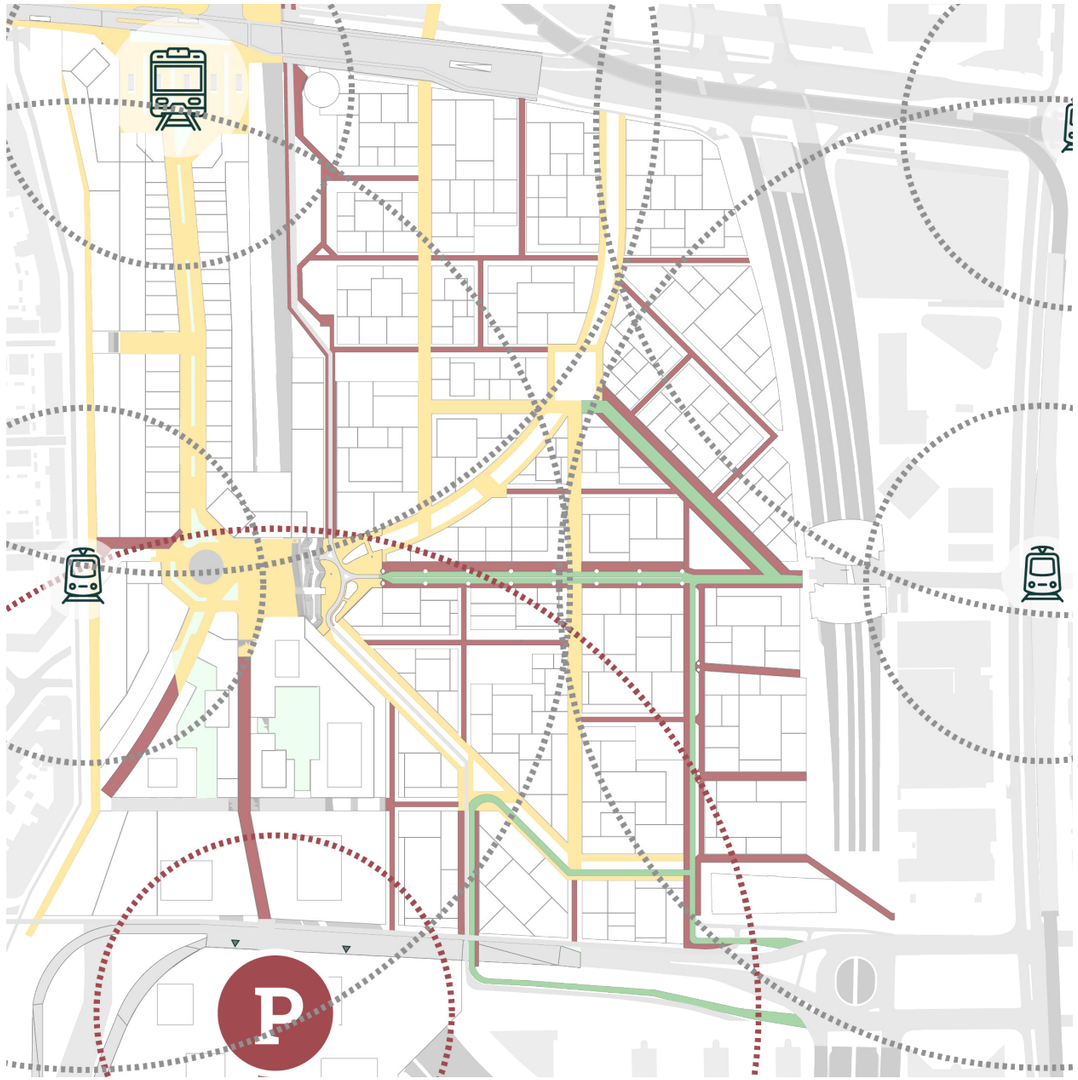
N

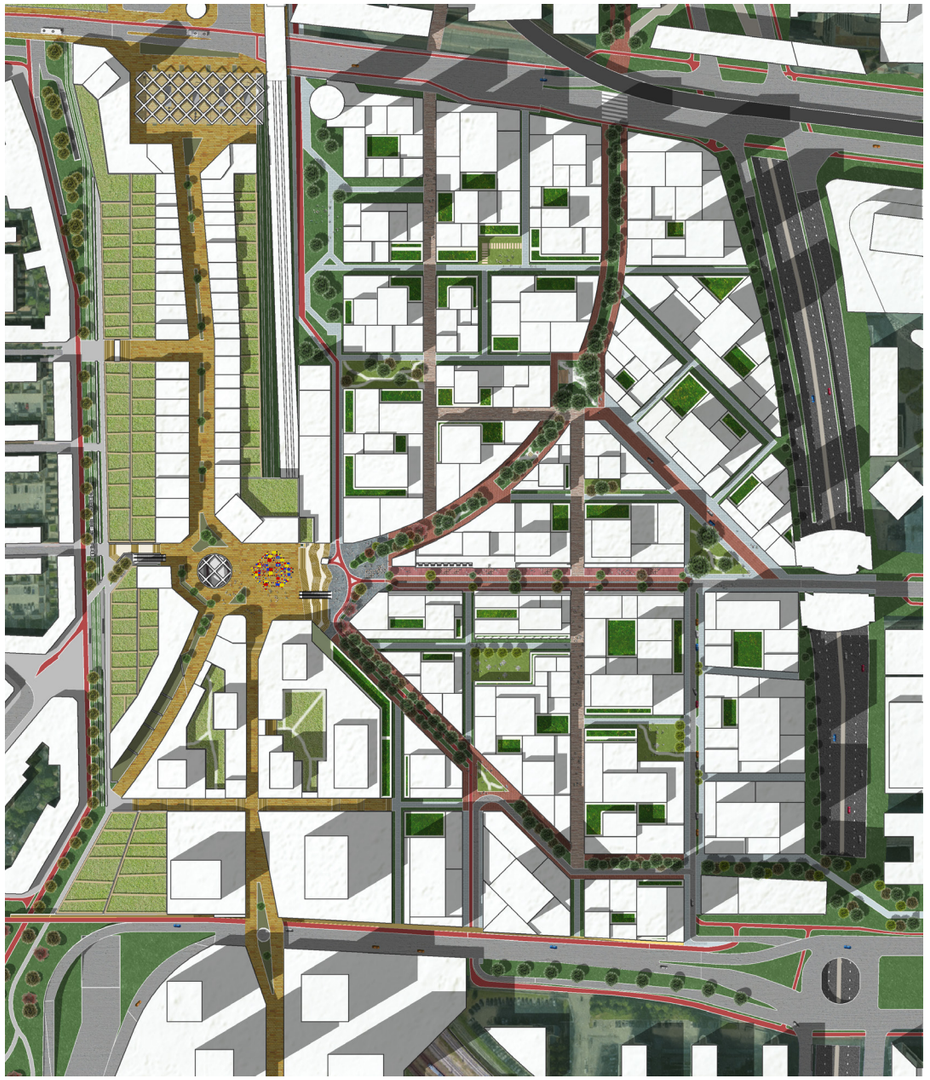


Transport

Legend

- car allowed
- only inhabitants
- car not allowed
- car parking
- pedestrian shed
- public transport

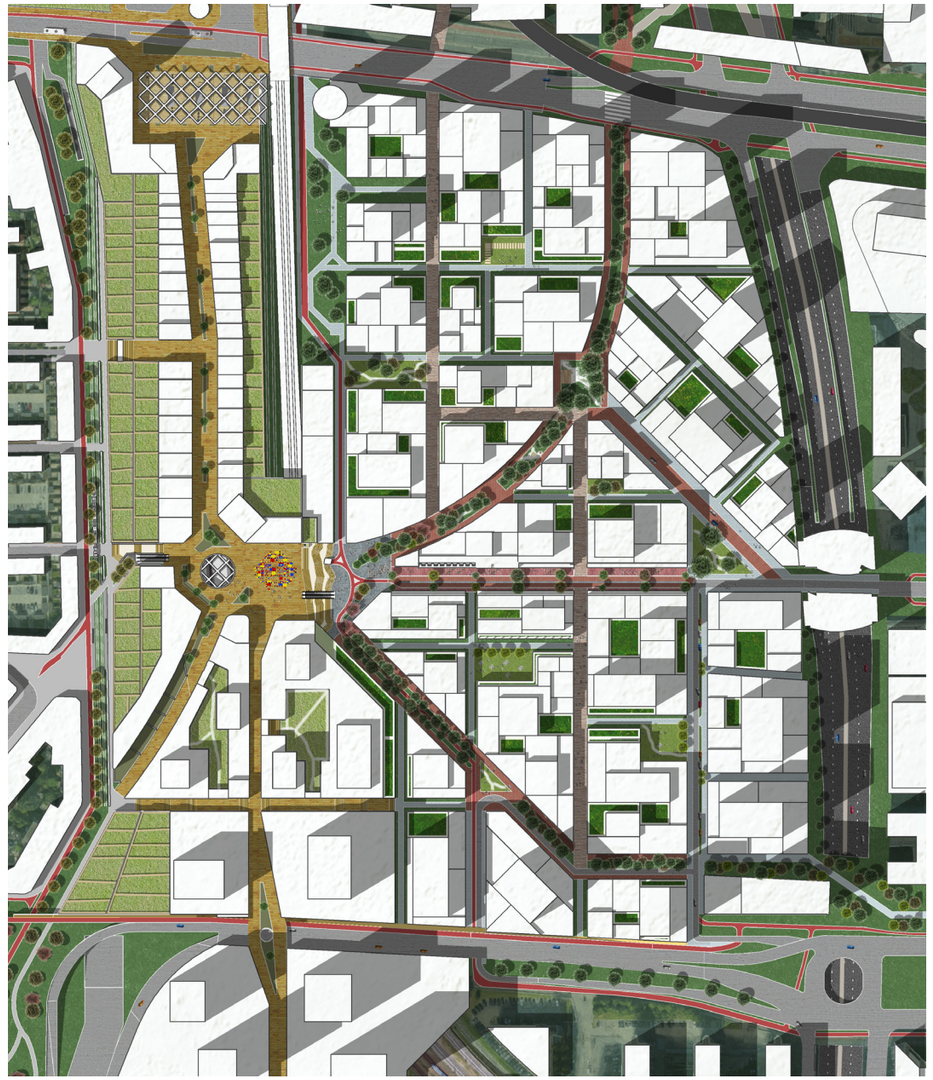




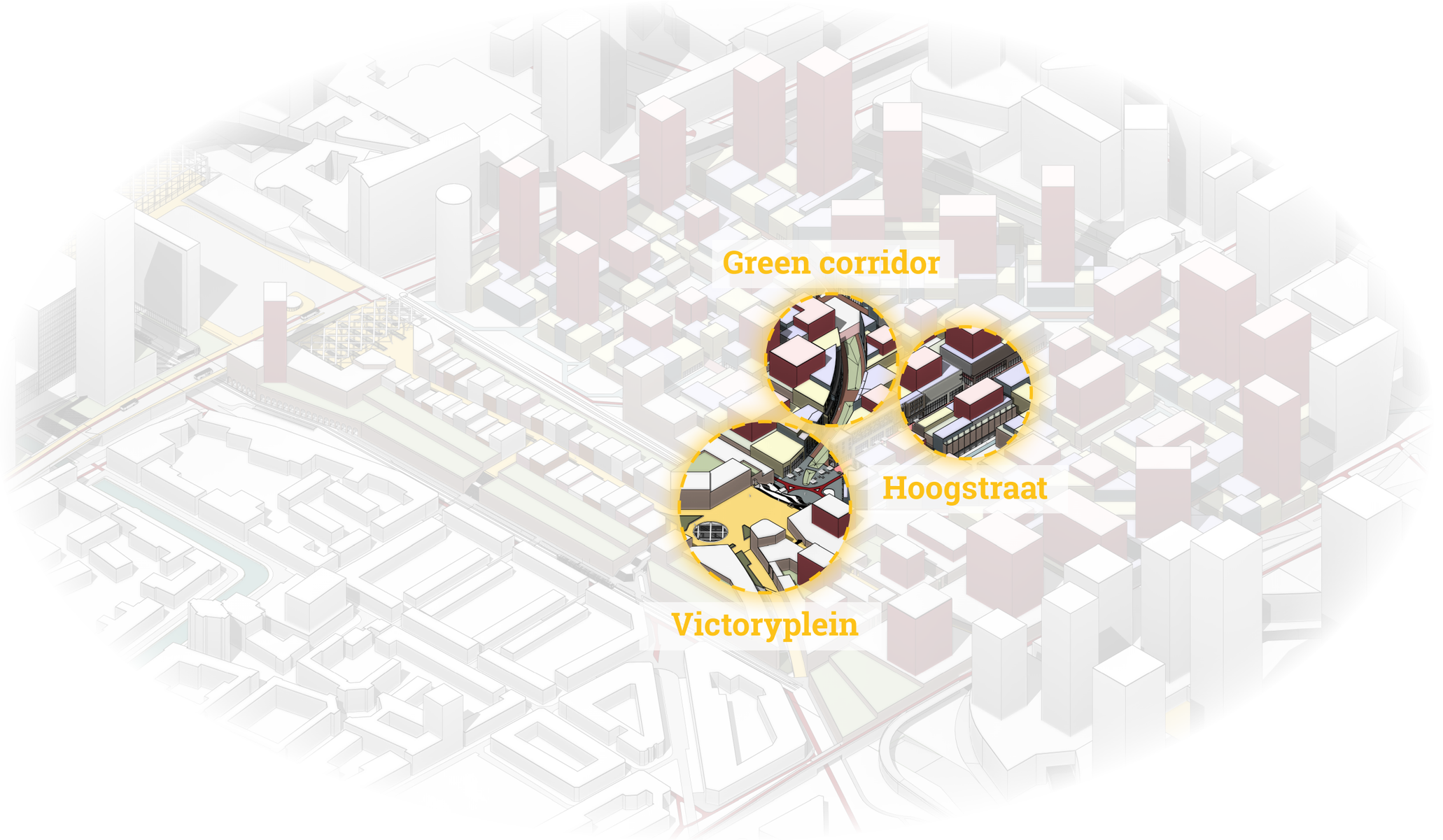
Urban green space

Legend

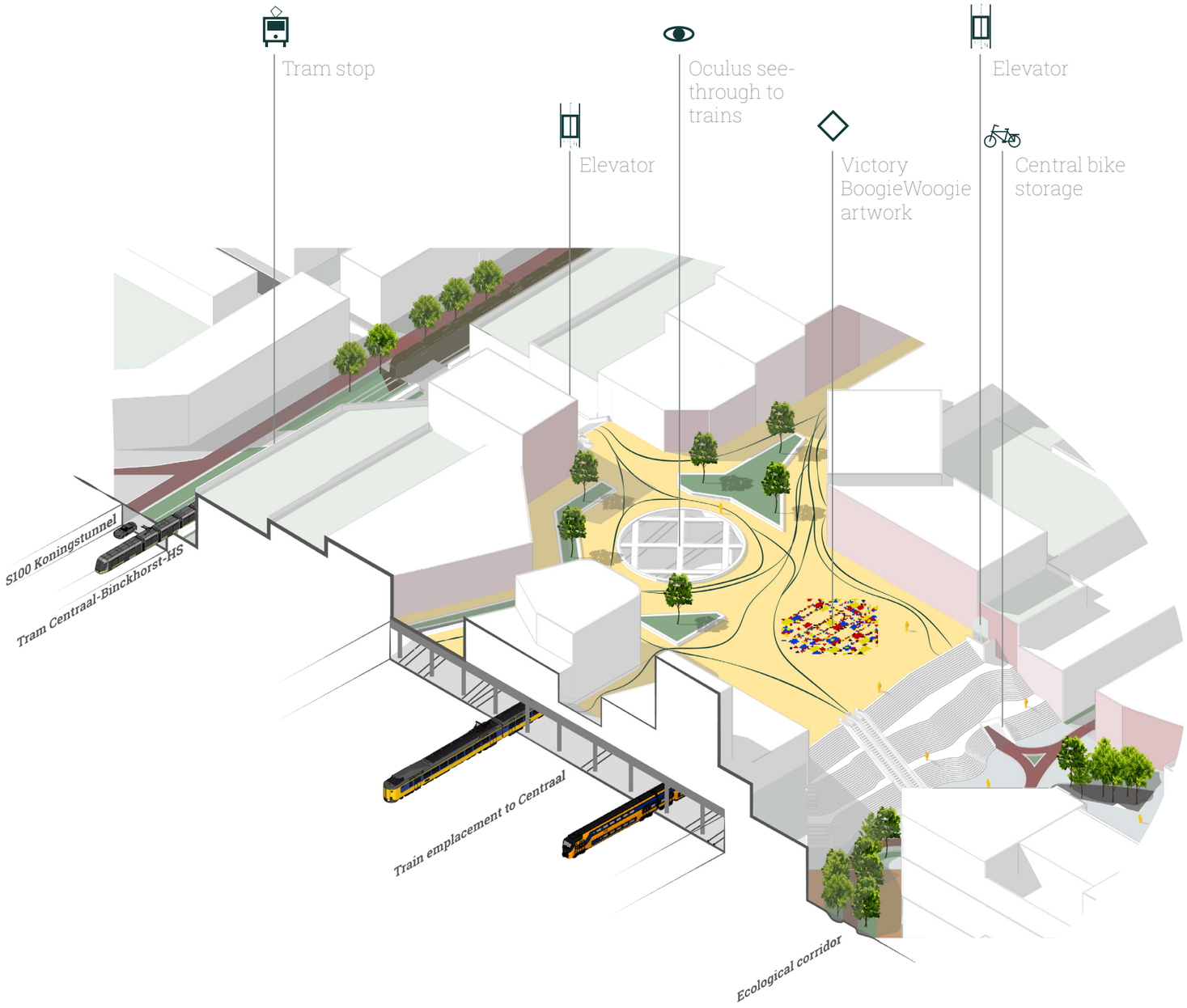
- ecological connection
- park
- terraced gardens
- communal rooftops
- public green spaces
- big sewage lines



BUILDING ENVELOPES


Green corridor
Hoogstraat
Victoryplein

Victoryplein




Vaak u met ons.....U blijft gezond en fris

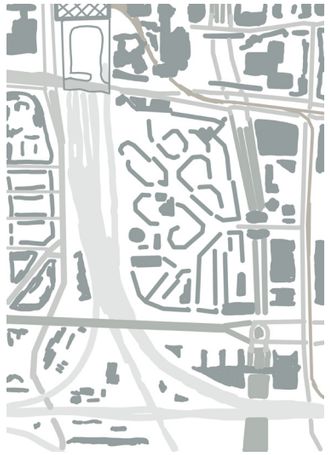
Hoogstraat


Highrises after setback for better street-level climate and experience
Terraced greenery for optimal sun
16m
14m
7,2m
Double height plinths
Wider pavement on sun-side
5,5m
2,5m
15m
Shops on south side, restaurants on north.


WORTELTAART
BANANENCAKE
MUFFINS
CUPCAKES

Green corridor

PHASING



Phase 0 - current situation

Phase 6 - optimal situation

2020 - 2027

Phase 1
Automobile circulation

Initiative: government

2025 - 2035

Phase 2
the heightened district

Initiative: government/developers

2030 - 2035

Phase 3
Hoogstraat and Spoorcirkel

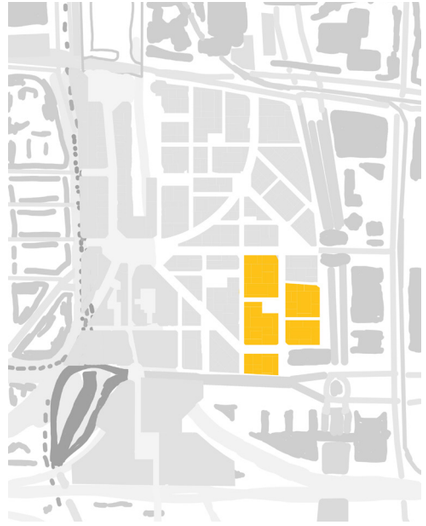
Initiative: developers/corporations

2035 - 2050

Phase 4
Transform corporation property

Initiative: corporations

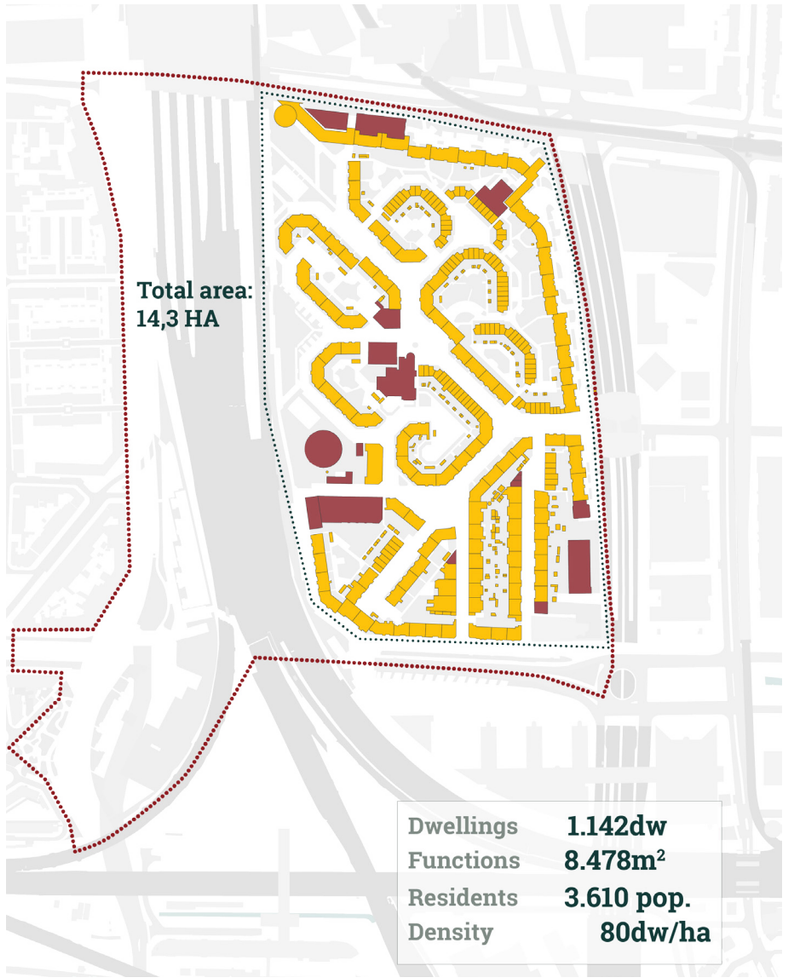
2040 - 2055



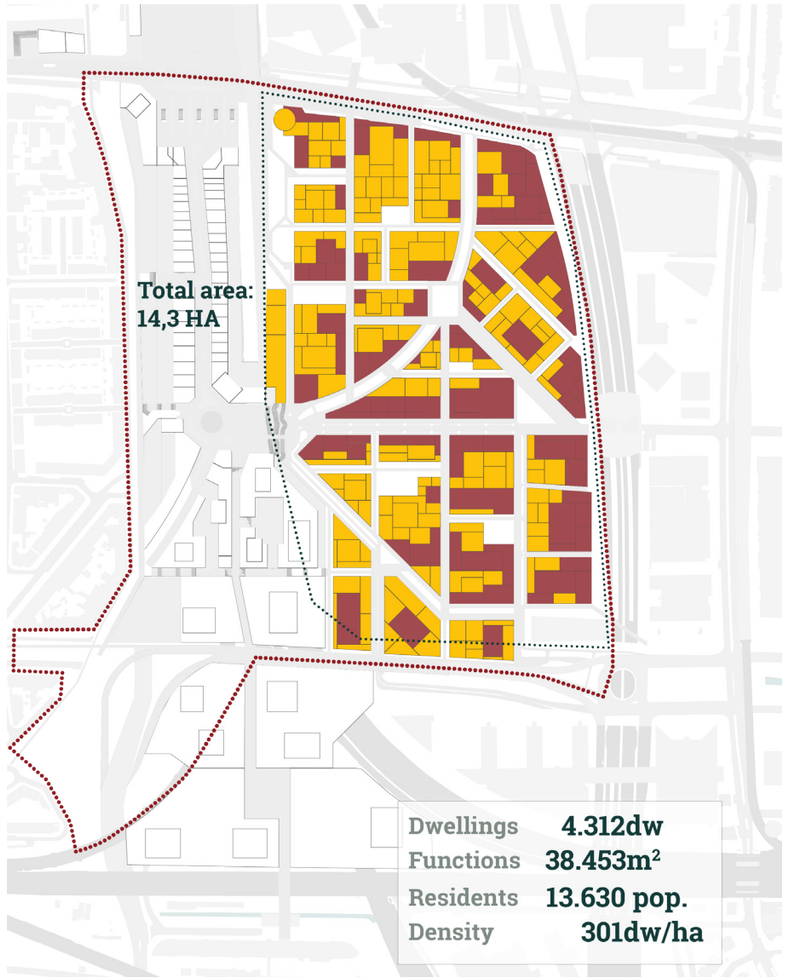
Phase 5
Transform private property

Initiative: developers

Density



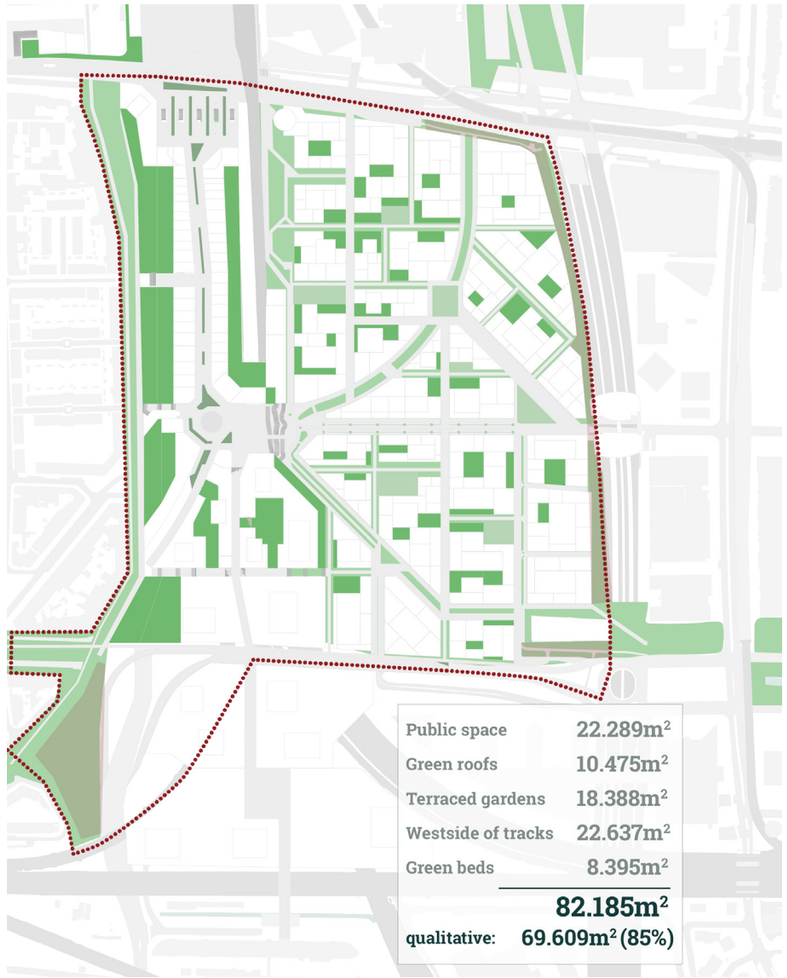
Current situation



Plan situation

Urban green space

Current situation



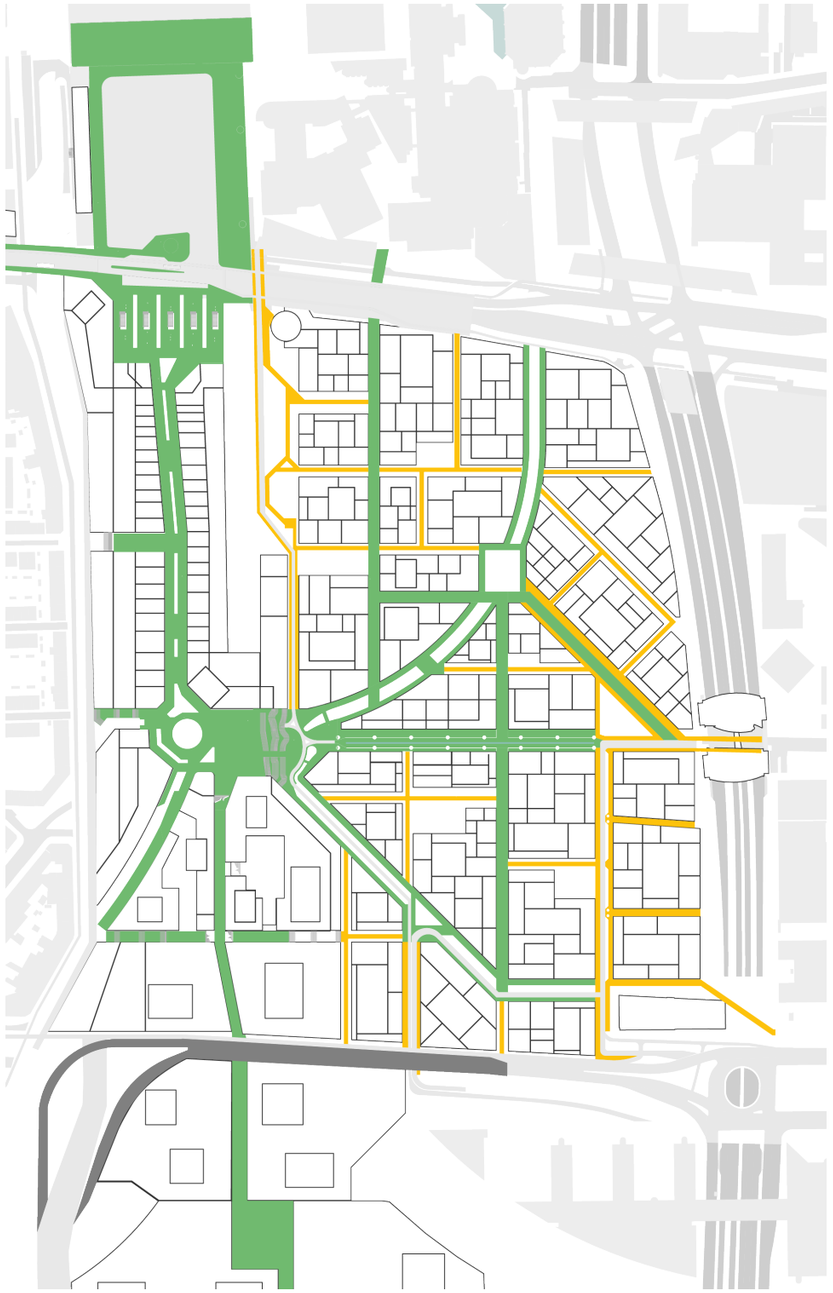
Plan situation

Noise pollution

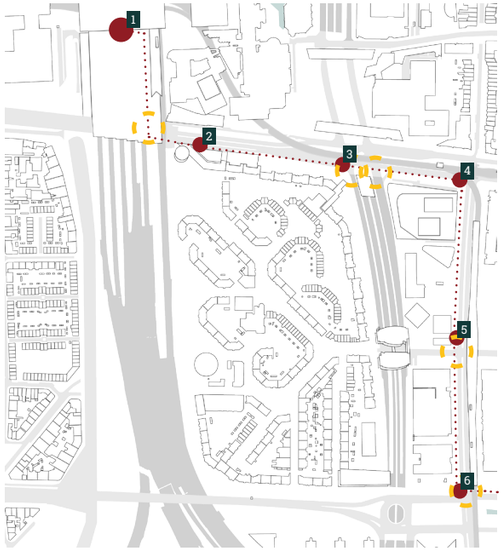
Current situation

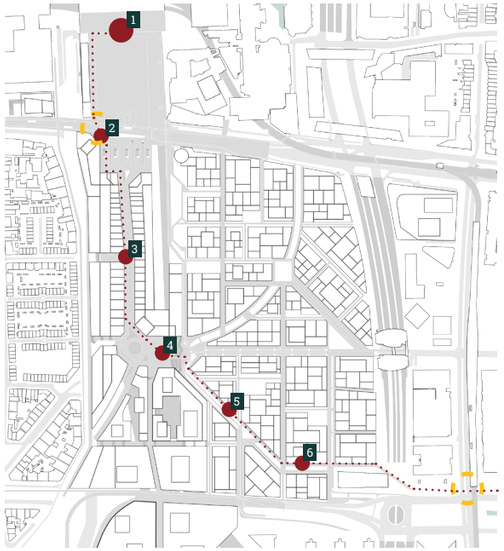
Plan situation

COVID-19 resilience



Walkability





Scene 2: view along Prins Bernhardviaduct

Scene 4: entrance to Beatrixkwartier

Scene 6: towards Laan van NOI

Start

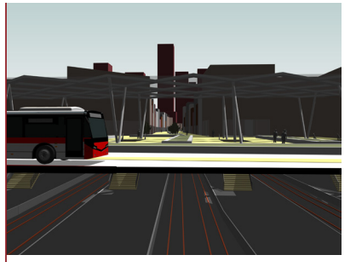
Further towards Laan van NOI

Scene 1: view from Den Haag Centraal

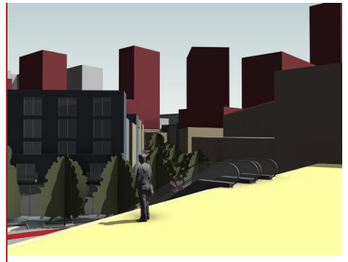
Scene 3: encounter with Utrechtsebaan entryways

Scene 5: situation near OV-stop Beatrixkwartier

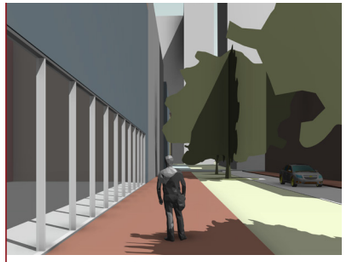
Source: Google Streetview



Scene 2: new Stationsplein



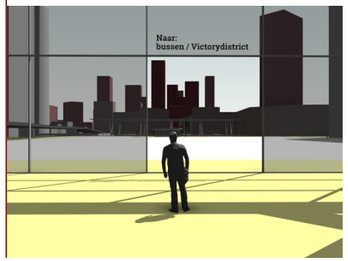
Scene 4: view from Victoryplein



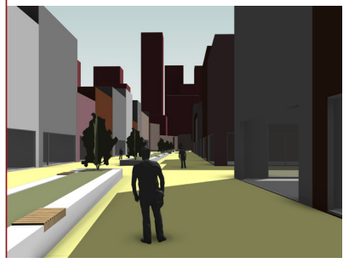
Scene 6: towards Beatrixkwartier

Start

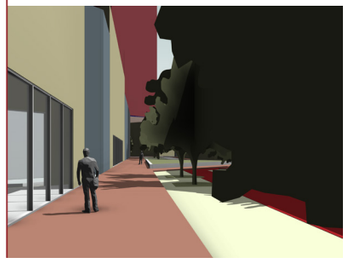
Further towards Laan van NOI



Scene 1: view from Den Haag Centraal



Scene 3: Shopping street towards Victoryplein



Scene 5: ecological corridor

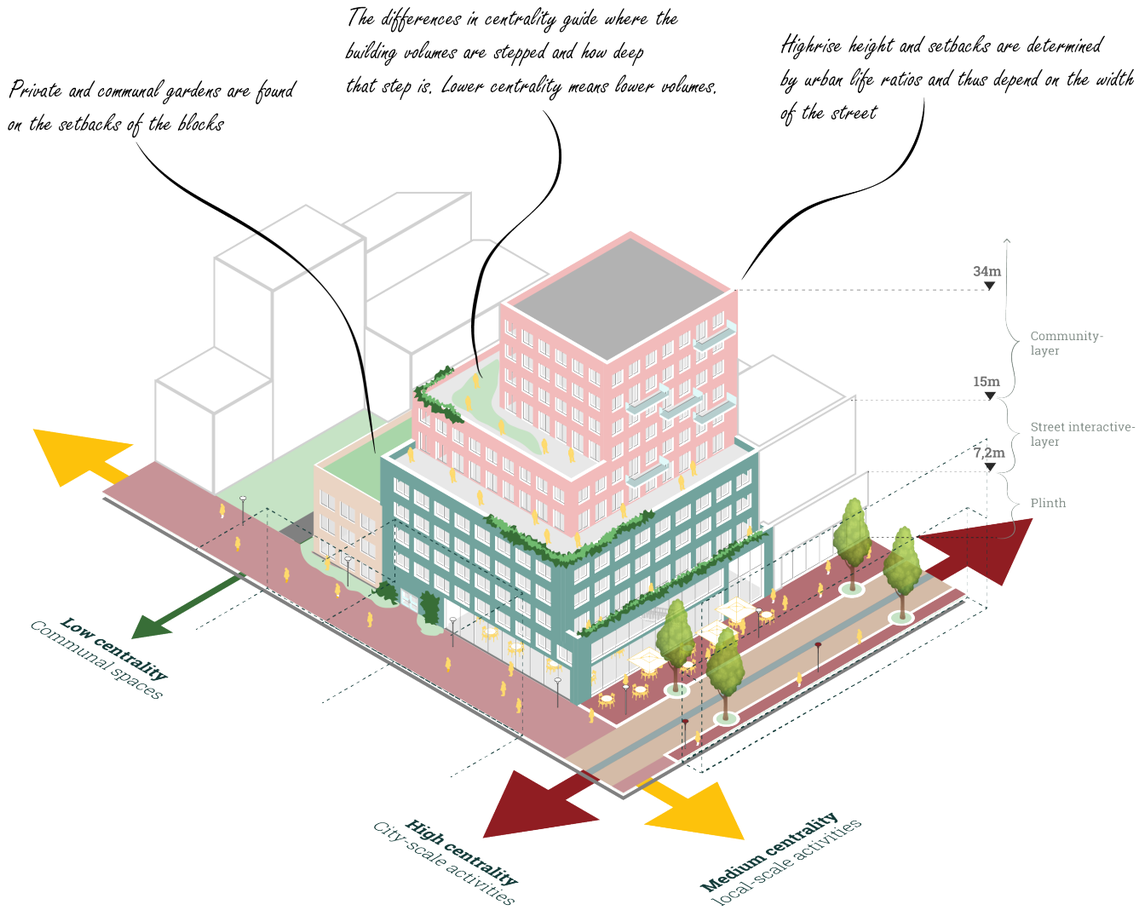
Conclusion

MRQ

MRQ: How can the clusters of the Central Innovation District be interconnected and densified in an urban design that uses urban life principles to optimize high density living and mitigate the negative effects of the compact city?

- **The urban design should combine all aforementioned conclusions in regards to volumes, network and quality**
- **This will lead to an optimized environment for adding large quantities of housing in a way that significantly improves the whole city**
- **This approach also minimizes the impact of the negative effects associated with the compact city**
- **There are not many clear-cut solutions that solely have positive effects**
- **The designed district is an highly optimized scenario. In that way it does not realistically reflect the current realities in financial feasibility and certainly, the approach to existing urban area**
- **The CID offers a unique chance to boldly take a step into fixing past mistakes in urban design and guiding the housing debate into a new direction**

Transferable lessons



- Integrating urban life in the compact city is all about street ratios and the human scale
- Centrality is determined by betweenness, angular integration and cluster interaction
- Volumes should react on centralities and add appropriate quality aspects related to centrality
- Lower centralities mean lower street-to-building ratios and a more communal, local focus
- Higher centralities can support higher densities and more public functions
- Setbacks help in ensuring a human-focused scale on the street level

Thank you for listening

Sebastien Reinink

P5 presentation
24th of June, 2020

VICTORY COMPACT CITY

Fostering urban life in the compact city to optimize high density urban living