REVITALIZING THE HEART OF ROTTERDAM
TOWARDS A VIBRANT INNER CITY

MASTER THESIS P4
ARD JAN WOLTERS
MAY 2013

GRADUATION STUDIO URBAN REGENERATION
MASTER URBANISM TU DELFT
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1. PROBLEM FIELD.
1. PROBLEM FIELD

Rotterdam:

- 2nd largest city in the Netherlands
- 617,424 inhabitants (OBI, 2013)
- 1.3 million in region
1. PROBLEM FIELD

potentials:

- **fourth port** in world
- 3% of Dutch national income
- 12% of regional employment
- **20% port expansion.**

1st phase opened may 22.

(Havenbedrijf Rotterdam, 2011).
1. PROBLEM FIELD

potentials:

- **new central station** with high speed train connection to Amsterdam (Schiphol), Brussels and Paris
- **expected passenger growth** from 110,000 / day in 2012 to 320,000 / day in 2025
1. PROBLEM FIELD

potentials:

• cities are becoming more attractive for people, more job opportunities and better facilities

• expected city population growth +45,000 inhabitants in 25 years

• expected city household growth +25,000 households in 2025

• growth of number of students +6,000 until 2020

(Stadsontwikkeling, 2013)
1. PROBLEM FIELD

socio-economic issues

- lowest educated of the 4 major cities in the country
- lowest population prosperity of the 4 major cities
- businesses prefer a higher educated population before settling in a city. They choose Amsterdam and Utrecht over Rotterdam. (OBR, 2012)
- so higher educated people prefer to live in amsterdam and utrecht.
- Rotterdam is just 18th on the list of attractive cities to live in. Amsterdam and Utrecht are leaders.
- Rotterdam is going to lose the competition if no action is taken

Higher educated population in 2002 and 2011

<table>
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<tr>
<th>City</th>
<th>2002</th>
<th>2011</th>
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<tbody>
<tr>
<td>Rotterdam</td>
<td>26%</td>
<td>36%</td>
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<tr>
<td>The Hague</td>
<td>34%</td>
<td>40%</td>
</tr>
<tr>
<td>Amsterdam</td>
<td>48%</td>
<td>57%</td>
</tr>
<tr>
<td>Utrecht</td>
<td>51%</td>
<td>60%</td>
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Source: OBR, 2013

Vitalityweb of the four major Dutch cities

- Gray area = national average
- Source: Bureau Louter.
1. PROBLEM FIELD

spatial issues:

- since WWII Rotterdam been struggling with its image
FROM THIS DUTCH HISTORICAL CITY IMAGE IN 1930:
1. PROBLEM FIELD
1. PROBLEM FIELD
1. PROBLEM FIELD
1. PROBLEM FIELD
1. PROBLEM FIELD

TO A DESTRUCTED CITY
1. PROBLEM FIELD

AND A POSTWAR RECONSTRUCTION CITY WITH MODERNIST BUILDINGS AND FUNCTIONALIST STRUCTURE.
1. PROBLEM FIELD

AND WITH WIDE TRAFFIC BOULEVARDS AND CAR DOMINANCE
1. PROBLEM FIELD

WHICH IS STILL VISIBLE TODAY AT THE COOLSINGEL
1. PROBLEM FIELD
1. PROBLEM FIELD
1. PROBLEM FIELD

ALSO A CITY WITH A LOT OF HIGH RISE
1. PROBLEM FIELD
1. PROBLEM FIELD

LARGE SCALED BUILDINGS SOMETIMES LACK THE HUMAN SCALE AND CAUSE UNATTRACTIVE PUBLIC SPACES
1. PROBLEM FIELD
1. Problem Field

Poor relation with the street

Blind facades

Hotel INNTEL
1. PROBLEM FIELD

MANY STREETS HAVE UNATTRACTIVE PUBLIC SPACES
THE HUMAN SCALE IS SOMETIMES LOST NEAR LARGE BUILDINGS
1. PROBLEM FIELD

TRAFFIC GRIDLOCK AT COOLSINGEL

PUBLIC SPACE IS CLUTTERED AND UNINVITING
1. PROBLEM FIELD

LIVELY SHOPPING STREETS DURING THE DAY

KOOPGOOT
1. PROBLEM FIELD

HOWEVER AT NIGHT MONOFUNCTIONALITY MAKES THE STREETS QUIET AND UNSAFE
1. PROBLEM FIELD
1. Problem Field

- City center is relatively low populated. According to Jane Jacobs (1961) and Jan Gehl (2007), higher density of inhabitants is necessary for lively, healthy inner cities.

- City policy supports increase of housing, but it is going slowly. Additional measures necessary to make the city attractive and lively within next decade, not only inhabitants.
1. PROBLEM STATEMENT SUMMARY

- LOWER EDUCATIONAL LEVEL OF INHABITANTS
- BUSINESSES PREFER HIGHER EDUCATED POPULATION
- HIGHER EDUCATED PREFER AMSTERDAM AND UTRECHT
- LOWER POPULATION PROSPERITY
- NOT ENOUGH JOBS FOR HIGHER EDUCATED

Businesses prefer a higher educated population, which prefers Amsterdam and Utrecht, leading to lower population prosperity due to not enough jobs for higher educated people.
1. PROBLEM STATEMENT

- Low City Attractiveness
  - Car traffic is still dominating main streets
  - Automobile received priority in reconstruction plan after WWII

- Lack of Human Scale
  - Large scaled buildings often have poor relation with the streets

- Lack of Good and Attractive Public Space
  - Former lack of public space investments

- Lack of Activity and Liveliness
  - Monofunctional streets, quiet & unsafe evenings
  - Partial separation of functions in reconstruction plan after WWII
  - Small inner city housing program
  - Low amount of inner city inhabitants
1. PROBLEM STATEMENT

Socio-economical:
- Lower educational level of inhabitants
- Businesses prefer higher educated population
- Higher educated prefer Amsterdam and Utrecht
- Lack of good and attractive public space
- Not enough jobs for higher educated
- Lower population prosperity

Spatial:
- Lack of activity and liveliness
- Low city attractiveness
- Negative city image
- Car traffic is still dominating main streets
- Lack of human scale
- Lack of good and attractive public space
- Monofunctional streets, quiet & unsafe evenings
- Low amount of inner city inhabitants
- Former lack of public space investments
- Partial separation of functions in reconstruction plan after WWII
- Small inner city housing program

Automobile received priority in reconstruction plan after WWII
Large scaled buildings often have poor relation with the streets
Former lack of public space investments
Partial separation of functions in reconstruction plan after WWII
Small inner city housing program
1. PROBLEM STATEMENT

• The EDBR (2012) states that Rotterdam should invest in a more attractive city center.

This will improve the image of the city, and will help attract new businesses and people to the city. These things are inter-related.

• improving quality of public spaces can help significantly to improve attractiveness and thus the image of the city (Gehl, 2010).

• building more houses for people to live in the inner city can contribute to more life in streets and use of public space and facilities (Jacobs, 1961, Gehl, 2010).

• So how can a spatial plan help revitalizing the city center?
2. METHODOLOGY
Main research question:

What key urban design interventions can improve the inner city image of Rotterdam, in order to become more attractive for potentially new people and businesses and strengthen the socio-economic viability?

Subquestions/themes:

1. What are the spatial conditions for inner city quality + attractiveness?
2. What conditions for inner city quality are missing in Rotterdam and what is a key problematic area?
3. What comparable cases exist for improving inner city quality in other cities and what can be learned from them?
4. How are the conditions for inner city quality and the conclusions derived from the comparable cases applicable in spatial design interventions in the inner city of Rotterdam?

Urban design intervention
1. PROBLEM FIELD

GENERAL PROJECT AIMS

INCREASING INNER CITY QUALITY + ATTRACTIVITY THROUGH SPATIAL CONDITIONS

TO INCREASE THE IMAGE OF THE CITY

TO INCREASE THE CHANCE THAT NEW PEOPLE AND BUSINESSES WANT TO SETTLE IN THE CITY CENTER

IN ORDER TO INCREASE INNER CITY VITALITY AND ATTRACTIVENESS

AND CREATE A MORE VIALE CITY ECONOMY
3. METHODS

Literature research  
Document research

Theoretical framework

- Conditions for inner city quality

Analytical framework

- Key issues Rotterdam
- Examples of successful implementation in other cities

Research by design

- Vision for the center of Rotterdam
- Design solution for a key location

Historical analysis + governmental plans  
Spatial analysis of Rotterdam  
Reference study other cities

Interviews with experts
3. THEORETICAL FRAMEWORK
### 1. Spatial Conditions for Inner City Quality

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<tr>
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<tbody>
<tr>
<td><strong>1. Diversity</strong></td>
<td><strong>1. Lively city</strong></td>
<td><strong>1. Vitality</strong></td>
<td><strong>1. Activity</strong></td>
</tr>
<tr>
<td>a) Mix of uses per district and street</td>
<td>a) Invite people to walk, bike and stay in city space</td>
<td>a) fulfils the needs of its inhabitants within a safe environment</td>
<td>a) Generating pedestrian flows and vitality</td>
</tr>
<tr>
<td>b) Different activities during the day</td>
<td>b) Social and cultural opportunities in public space, optional activities</td>
<td>b) allows maximum scope for activity.</td>
<td>b) Seeding people attractors</td>
</tr>
<tr>
<td>c) Existence of residential function</td>
<td><strong>2. Safe city</strong></td>
<td><strong>2. Sense</strong></td>
<td>c) Achieving a diversity of primary and secondary uses</td>
</tr>
<tr>
<td></td>
<td>a) Cohesive urban structure with short walking distances</td>
<td>a) Residents can perceive and understand the city’s form and functions: legibility</td>
<td>d) Developing a density of population</td>
</tr>
<tr>
<td></td>
<td>b) Attractive public spaces</td>
<td><strong>3. Access</strong></td>
<td>e) Varying opening hours and stimulating the evening economy</td>
</tr>
<tr>
<td></td>
<td>c) Variation of functions</td>
<td>a) Allows people of all ages and backgrounds to gain the activities, resources, services and information</td>
<td>f) Promoting street life and people-watching</td>
</tr>
<tr>
<td></td>
<td>d) Eyes on the street from surrounding buildings</td>
<td><strong>4. Control</strong></td>
<td>g) Growing a fine-grained economy</td>
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<tr>
<td><strong>2. Permeability</strong></td>
<td><strong>2. Sustainable city</strong></td>
<td><strong>2. Image</strong></td>
<td></td>
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<tr>
<td>a) Short building blocks, frequent streets &amp; crossings</td>
<td>a) Large part of transport is ‘green mobility’ (by foot, bike or public transport)</td>
<td>a) Legibility</td>
<td></td>
</tr>
<tr>
<td><strong>3. Different building ages</strong></td>
<td>b) Safe and comfortable walking and cycling to and from public transport</td>
<td>b) Imageability</td>
<td></td>
</tr>
<tr>
<td>a) Fine grain of buildings with different ages</td>
<td>c) Good public transport and public space</td>
<td>c) Symbolism and memory</td>
<td></td>
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<tr>
<td><strong>4. People</strong></td>
<td><strong>3. Sustainable city</strong></td>
<td><strong>3. Form</strong></td>
<td>d) Psychological access</td>
</tr>
<tr>
<td>a) High residential density</td>
<td>a) Integrated bicycle and pedestrian networks in the city for public health increase</td>
<td>a) Achieving development intensity (density)</td>
<td>e) Receptivity</td>
</tr>
<tr>
<td>b) Concentration of people that use the street</td>
<td><strong>4. Healthy city</strong></td>
<td>b) Zoning for mixed use</td>
<td>f) Knowledgeability</td>
</tr>
<tr>
<td><strong>3. Healthy city</strong></td>
<td>a) Generating pedestrian flows and vitality</td>
<td>b) Building for a fine grain</td>
<td></td>
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<tr>
<td>a) Integrated bicycle and pedestrian networks in the city for public health increase</td>
<td>b) Seeding people attractors</td>
<td>c) Adaptable of the built stock</td>
<td>g) Streets: contact, visibility and horizontal grain</td>
</tr>
<tr>
<td></td>
<td>c) Achieving a diversity of primary and secondary uses</td>
<td>d) Human scale</td>
<td>i) The public realm quality</td>
</tr>
<tr>
<td></td>
<td>d) Developing a density of population</td>
<td>e) Varying opening hours and stimulating the evening economy</td>
<td>j) Ease of movement by different modes</td>
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<tr>
<td></td>
<td>e) Promoting street life and people-watching</td>
<td>f) Promoting street life and people-watching</td>
<td>k) Green space and water space</td>
</tr>
<tr>
<td></td>
<td>f) Growing a fine-grained economy</td>
<td>g) Growing a fine-grained economy</td>
<td>l) Landmarks, visual stimulation and attention to detail</td>
</tr>
<tr>
<td></td>
<td><strong>5. Fit</strong></td>
<td><strong>5. Control</strong></td>
<td>m) Architectural style as image</td>
</tr>
<tr>
<td>a) City provides the buildings, spaces and networks required for its residents to pursue their projects successfully</td>
<td>a) Citizens have a say in the management of the spaces in which they work and reside (participation)</td>
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2. COMBINED LIST OF SPATIAL CONDITIONS FOR INNER CITY QUALITY

1. Diversity
   a) Mix of uses per district and street
   b) Different activities during the day, active street life
   c) Existence of residential function
   d) Different building types, adaptable to change of function
   e) Different types of public space for different groups of people
   f) Fine grain of buildings with different functions, ages and architectural styles for a strong sense of place or imageability
   g) Fine horizontal building grain

2. Permeability, accessibility and coherence
   a) Short and accessible building blocks
   b) Frequent & easy road crossings and accessible public space
   c) Balanced traffic volumes and slow traffic movement, good balance between different road users
   d) Easily accessible public transport
   e) Transparent building facades
   f) Easily understandable, coherent, well enclosed public space with continuity of street frontages

3. Activity of people
   a) Minimum of residential density in each street
   b) Attractive & clean public spaces with human scale for bringing people together
   c) Activities/attractors for different groups of people
   d) Short walking distances between nodes / places in the city, concentrated walking activities
   e) Good public transport, bicycle and pedestrian flows/networks
   f) Street safety, eyes on the street
   g) Participation & responsibility of people in public space, optional activities possible
   h) Green and water spaces for recreation
3. SPATIAL CONDITIONS FOR PEDESTRIAN QUALITY

Jan Gehl (2010)
4. SPATIAL CONDITIONS FOR STREET QUALITY

Allan Jacobs (1993)

| 1. Places for People to Walk with Some Leisure |
| 2. Physical Comfort |
| 3. Qualities That Engage the Eyes |
| 4. Transparency |
| 5. Complementarity |
| 6. Maintenance |
| 7. Quality of Construction and Design |
| 8. Defined beginnings and endings |
| 9. Diverse buildings |
| 10. Special design details |
| 11. Benches + Lights |
| 12. Places for staying |
| 13. Accessibility for people |
| 14. Density + diversity of use which enlivens the street |
4. SPATIAL ANALYSIS
1. PUBLIC SPACE PLANS BY MUNICIPALITY

- PUBLIC SPACE CENTRAL STATION AND WEENA IS BEING RECONSTRUCTED
- LIJNBAAN & BINNENWEGPLEIN IS FINISHED
- IN DELAY: COOLSINGEL AND BLAAK

**public space projects**

- in progress (12/2012)
- planned after 2014
- completed before 12/2012
2. BUILDING PLANS

- AROUND 20 LARGE PROJECTS FINISHED IN LAST 10 YEARS
- 12 BUILDINGS STILL UNDER CONSTRUCTION
- ONLY 3 PROJECTS SERIOUS FOR THE COMING YEARS
3. TOTAL OF BUILDING PLANS

TOTAL ADDED PROGRAM 2004-2015

- 2951 apartments
- 756 hotel rooms
- 61,675 m² retail
- 286,380 m² office
- 7,545 m² horeca
- 4,000 m² cultural
- 7,319 parking places

= about 5,300 inhabitants
(1.73 inhabitants / dwelling in center)
4. FURTHER DENSIFICATION WITH SMALL PROJECTS

- LOW RISK, EASIER INVESTMENTS

**small ‘plug’ projects**

- ‘Plug Rotterdam’ projects
  - total 31,553 m²
  - (equivalent 315 dwellings)

  *source: studio Hartzema*
4. FURTHER DENSIFICATION WITH SMALL PROJECTS

- POTENTIAL FOR 30,000 HOUSES, MEASURED BY STUDIO HARTZEMA
- ONLY SMALL AMOUNT CAN BE DONE BY ‘PLUG’ (5%)

small ‘plug’ projects

- ‘Plug Rotterdam’ projects
  total 31,553 m²
equivalent 315 dwellings
  source: studio Hartzema

source: studio Hartzema
5. TESTING SOME OF THE CONDITIONS FOR INNER CITY QUALITY

IS THERE A MIX OF USES

public city life

- Leisure (restaurants, cafés, bars)
- Retail
- Culture
- Education
- Community services
- Medical care
6. Testing some of the conditions for inner city quality

Is there a mix of uses:

- Living
- Offices
- Retail
- Social services
- Cultural amenities
- Medical services
- Horeca
- Education
- Creative industry
6. TESTING SOME OF THE CONDITIONS FOR INNER CITY QUALITY

IS THERE A MIX OF USES
RETAIL, HORECA, CULTURE

- Blue: shopping
- Beige: horeca, culture
- Yellow: mixed and popular streets
- Red: lively center, according to function mix
6. TESTING SOME OF THE CONDITIONS FOR INNER CITY QUALITY

IS THERE HOUSING?
6. TESTING SOME OF THE CONDITIONS FOR INNER CITY QUALITY

CONTINUOUS ACTIVITIES DURING DIFFERENT TIMES OF THE DAY

Day activity. Source: dS+V

Night activity. Source: dS+V
6. TESTING SOME OF THE CONDITIONS FOR INNER CITY QUALITY

CONTINUOUS ACTIVITIES DURING DIFFERENT TIMES OF THE DAY

Day 8.00 - 18.00 pm: culture/shopping/commuting/meeting/tourism

Night 18.00 - 00.00 pm: going out/tourism/culture

- 30,000 pedestrians
- 15,000-20,000 pedestrians
- 10,000-15,000 pedestrians
- 5,000-10,000 pedestrians
- 1,000-5,000 pedestrians

Source: DS+V
6. TESTING SOME OF THE CONDITIONS FOR INNER CITY QUALITY

TRAFFIC IN BALANCE?

SOURCE: DS+V
6. TESTING SOME OF THE CONDITIONS FOR INNER CITY QUALITY

TRAFFIC IN BALANCE?

car domination
- main car traffic connections
- pedestrian streets
- parking garage
  (total 10,646 places +10,000 on streets)
6. TESTING SOME OF THE CONDITIONS FOR INNER CITY QUALITY

TRAFFIC IN BALANCE?
CITY COHERENCE?
6. TESTING SOME OF THE CONDITIONS FOR INNER CITY QUALITY

TRAFFIC IN BALANCE?

traffic barriers
- main car traffic connections (thicker = higher frequency)
- troubled connections between neighbourhoods
- neighbourhood formed by traffic barriers
6. TESTING SOME OF THE CONDITIONS FOR INNER CITY QUALITY

EASY CROSSINGS?
CITY COHERENCE?
Blaak: Busy traffic connection, difficult to cross. It takes a few minutes to cross the road.
Feyenoorder Guyon Fernandez rijdt vrouw aan op Coolsingel

'Dodelijk ongeval op Coolsingel'

'Dodelijk ongeval op Coolsingel'

'Coolsingel moet veiliger'

Main boulevard Coolsingel: traffic barrier making it a non attractive place for staying

Sinds 2009 zijn er 233 ongevallen geweest op de Coolsingel waarvan twee met een dodelijke afloop. De gemeenteraad pleit voor maatregelen. Een meerderheid van de Rotterdamse politiek wil maatregelen om de verkeersveiligheid op de Coolsingel te verbeteren. Aanleiding is het noodlottig ongeval van zaterdag waarbij een 73-jarige vrouw op een zebrapad op de Coolsingel om het leven kwam.

De PvdA wil het gebrukt worden om de verkeersveiligheid op de Coolsingel te verbeteren. Aanleiding is het noodlottig ongeval van zaterdag waarbij een 73-jarige vrouw op een zebrapad op de Coolsingel om het leven kwam.

De grootste oppositiepartij Leefbaar Rotterdam wil dat de Coolsingel een 30 km zone wordt en dat er oranje knipperbollen worden gebruikt. De gemeente Rotterdam heeft voor de actie op de Coolsingel gekozen, omdat de dubbele rijstroken daar extra gevaar opleveren.

De man is met spoed naar het Erasmus Medisch Centrum gebracht, waar hij in de loop van de ochtend overleed. Hulp mocht echter niet meer bijkomen. De politie doet verder onderzoek en is op zoek naar getuigen van het ongeval.

De veroorzaker is met de auto doorgereden. Korte tijd later werd elders een auto met drie personen geraakt dat een 22-jarige vrouw aanreed. Zeiraakte zwaargewond en werd overgebracht naar het Erasmus MC. Hulp mocht echter niet meer bijkomen. De politie doet verder onderzoek en is op zoek naar getuigen van het ongeval.

De PvdA wil het gebruik van oranje knipperbollen op de Coolsingel. Of er oranje knipperbollen worden gebruikt. De grootste oppositiepartij Leefbaar Rotterdam wil dat de Coolsingel een 30 km zone wordt en dat er oranje knipperbollen worden gebruikt. De gemeente Rotterdam heeft voor de actie op de Coolsingel gekozen, omdat de dubbele rijstroken daar extra gevaar opleveren.
7. CONCLUSIONS FROM SPATIAL ANALYSIS

• NUMBER OF BUILDING PROJECTS IS RAPIDLY DECLINING, PUBLIC SPACE IS LESS DEPENDENT ON DECLINING PRIVATE INVESTMENTS

• EFFORTS COULD BE FOCUSED ON SOME OF THE KEY PLACES

• TRAFFIC IS NOT IN BALANCE IN THE INNER CITY.

• CARS DOMINATE THE IMAGE OF THE MAIN STREETS.

• PUBLIC SPACE QUALITY OF MAIN STREETS IS POOR

• MAIN STREETS ARE MOSTLY NOT PART OF THE EVENING ACTIVITY: FUNCTION MIX NOT STRONG ENOUGH

• POOR PEDESTRIAN CONNECTIONS BETWEEN CENTER FRAGMENTS ACROSS MAIN STREETS: CITY COHERENCE IS LACKING, NETWORKS ARE FRAGMENTED.

DESIGN PROPOSAL FOR PUBLIC SPACE: MAIN STREET COOLSINGEL TO IMPROVE THE HEART OF THE CITY.
5. REFERENCE STUDY
1. COPENHAGEN
2. HAMBURG/ENSCHDE/GOTEBOG/TORONTO
3. NEW YORK TIMES SQUARE
6. VISION
1. Vision concept

**CURRENT SITUATION**
Car traffic dominance divides the city

**CONCEPT OF RING PRIORITY**
Decreasing road hierarchy within the center and divert through traffic around the city center to start revitalization of the center around the Coolsingel

**P+W**
Introducing concept of park + walk to decrease cars in the center
CURRENT SITUATION
PARKING INSIDE CENTER
FEW PARK + WALK POSSIBILITIES

CONCEPT OF P+W
PARKING CHEAPER ALONGSIDE THE RING STRUCTURE IN PARK + WALK FACILITIES
INCREASING PRICE OF INNER CITY PARKING FOR VISITORS
2. City wide concept for Park + Ride connected by public transport to city center
3. New parking and road network

Traffic vision for 2020
- Pedestrianized central public space
- Main car traffic connections
- City street
- Pedestrian street
- Existing parking garage
- Existing Park+ Walk location
- Park+ Walk under construction
- Proposed by municipality
- Park+ Ride location
- Proposed by author
- Park+ Ride location

500 m

Traffic vision for 2020
- Pedestrianized central public space
- Main car traffic connections
- City street
- Pedestrian street
- Existing parking garage
- Existing Park+ Walk location
- Park+ Walk under construction
- Proposed by municipality
- Park+ Ride location
- Proposed by author
- Park+ Ride location

3. New parking and road network
4. Coverage of P+W

Traffic vision for 2020

- main car traffic connections
- city street
- pedestrian street
- existing parking garage
- existing Park+Walk location
- Park+Walk under construction
- proposed by municipality
- Park+Ride location
- proposed by author
- Park+Ride location + 500m walking radius
5. Improved pedestrian connections from P+W to city facilities
7. DESIGN
1 Improving quality of public space of Coolsingel as design proposal

TO IMPROVE CONNECTIONS BETWEEN FRAGMENTS OF THE CITY

+ TO IMPROVE CONNECTIONS BETWEEN PARK + WALK AND CENTER ZONE

+ TO IMPROVE IMAGE OF THE CITY THROUGH PUBLIC SPACE OF THE MAIN STREET OF ROTTERDAM
2. Existing characteristics of Coolsingel

- No housing currently along Coolsingel;
- Shopping mainly in the central zone;
- Working concentrated along the street;
- Few horeca, no culture.
DIFFICULT CROSSINGS FOR PEDESTRIANS

SINGLE BIKE PATHS ON BOTH SIDES ARE WORKING WELL
THOUGH SOMETIMES DANGEROUS WITH PEDESTRIAN CROSSINGS
3. Existing profile of Coolsingel
4. Street character
4. Street character
4. Street character
5. **Reference study comparable boulevards in other cities**

**PARIS, AVENUE DES CHAMPS-ÉLYSÉES**

The main avenue of Paris is 70 meters wide and primarily a street with high amounts of car traffic flowing through. It is also used very much by pedestrian traffic. The width of the street easily accommodates these together. The pavements on both sides are a considerable 21 meters wide, while still leaving 2x 4 lanes for car traffic and two lanes of parking/taxiing/bus stops. The width of the pavement provides room for terraces, benches, trees and car-parking entrances. Every tree and street sign are placed in straight lines, which provides for an orderly sight. Car and pedestrian traffic are clearly divided here and each have their own valuable space, which makes this street work rather well.

Objects and trees placed in straight lines. Terraces in the middle of the pavement. Pavement structure accommodates the linear character of the street.

Trees are cut to provide sunlight on the pavement.

Terraces along the facade provide shelter and life to the street, kiosk in the middle of the pavement makes an interesting focus point.
PARIS, BOULEVARD RICHARD LENOIR

This typical green boulevard in Paris is 56 meters wide and contains a midsection with green and recreational facilities, while also providing room for a market on the southern section. There are bicycle lanes on each side of the midsection, protected by a car parking lane from the traffic lanes. The midsection is very green and well decorated, with lots of benches, water features, good plantations and large trees. The addition of a market makes this place well worked out. However, the pedestrian space along the building facades are very small, making this unattractive space to walk in.
DUBLIN, O'CONNELL STREET

The main street of Dublin has recently been redecorated to make more room for pedestrians and improve the image of the street. The street has 2x two lanes of traffic, and a bicycle lane next to the side pavement. The midsection divides the traffic lanes and gives room for bicycle parking and trees, and to give shelter to crossing pedestrians. In front of the Post Office another kind of pavement was used to mark this special spot, which created a kind of square where traffic was only divided by a subtle difference in level between pedestrian space and car space. It is intended to be used as a mixed zone.

In front of the post office the pavement is continuous, to improve the mixing of traffic with pedestrians and to create a special atmosphere in this part of the street.

Small trees along the side pavement provide for a more green sight while leaving a lot of sunlight to reach the street.
This street in Barcelona is different to the previous streets because it contains a special bicycle way in the middle of the street. On both sides of the street there is a wide recreational area on the pavements, providing lots of green, benches and even playgrounds. A special kind of pavement lets grass come through the pavement for a more green sight. This street is located in a dense residential area in the center of Barcelona and is used as a reference for the integration of green and cycling in the street.

Other kind of pavement for a greener sight of the street and requires low maintenance.

A separated bicycle lane to give safe passage for cyclists.

The green space is attractive to recreate, however not always useful in main boulevards that contain terraces or kiosks.
6. Concept

1. Improving connections from Park + Walk to Coolsingel
6. Concept

6. Removing kiosk and clutter from public space. Improving existing leisure facilities.
6. Concept

2. Improving pedestrian connections across Coolsingel
6. Concept

2. Improving pedestrian connections across Coolsingel to strengthen the networks and pedestrian flows
6. Concept

3. Changing street profile, removing through road at Koopgoot
adding new recreational function along the street and improve overall quality
• changing Hofplein traffic junction into a less prominent one
6. Concept

4. Introducing recreational connection towards Luchtsingel project
Adding water features to the Coolsingel, refering to the historical use of the street, and adding recreational value
6. Concept

source: ZUS
6. Concept

5. Improving + introducing new public meeting places
7. New Profile
8. Preliminary design
8. Preliminary design
8. Preliminary design
8. Preliminary design
8. Preliminary design
The new connection with the Luchtsingel provides good opportunities to cross the Weena easier towards the north or Central Station.
10. impressions

The removal of the Stadhuisplein kiosks provide a clear spatial connections between City Hall and the square (Gehl, 2010). The square pavement is also continued across the Coolsingel, marking the place that is the Stadhuisplein.
The addition of the waterspace provides interesting place to stay and recreate (Gehl, 2010).
Several bridges cross the water at Beursplein. Providing interesting sightlines across the Coolsingel.
The steps along the water are very suitable for recreational purposes. However, people can also sit on benches.