P5

CITYPEDESTRIANIZED
CREATING URBAN ENVIRONMENTS FOR PEOPLE TO WALK

STEFAN VAN BELLEN

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11.30 - 12:00

DELFT UNIVERSITY OF TECHNOLOGY
Faculty of Architecture
Department Urbanism
Studio of Mobile Strategies - Spatial Strategies for
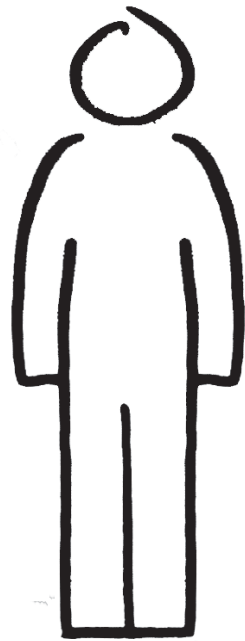Innovative Mobility Environments in the Networked City Region

INTRODUCTION
THEORY
PRACTICE
EVALUATION

P5

CITYPEDESTRIANIZED
CREATING URBAN ENVIRONMENTS FOR PEOPLE TO WALK

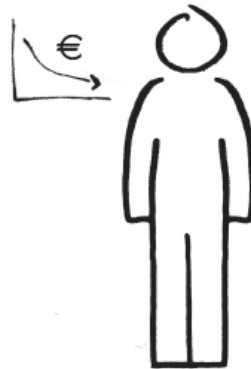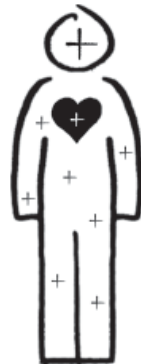# INTRODUCTION

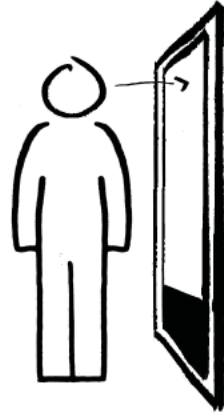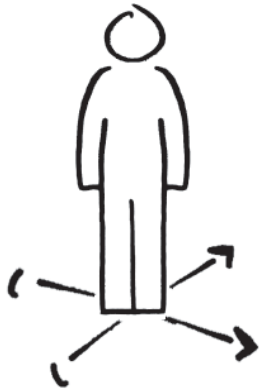HAVE YOU EVER WALKED
THROUGH THE CITY CENTER?

YOU ARE NOT ALONE, BECAUSE
THE MOST OF US DO IT EVERY
DAY

PRIMARY FORM OF MOBILITY

YOU HAVE OWN REASONS OR
MOTIVES TO WALK

YOU HAVE THE OPPORTUNITY TO
EXPLORE AND EXPERIENCE THE
SURROUNDING ENVIRONMENT

THIS IS .... (FILL IN YOUR NAME)

WHY SHOULD YOU WALK?

BENEFITS OF YOU BEING PEDESTRIAN

- FLEXIBLE

- MORE INTERACTION WITH THE SURROUNDINGS

- MORE SOCIAL INTERACTION WITH OTHER PEOPLE

- LOW ENVIRONMENTAL IMPACT

- PROMOTE YOUR OWN PERSONAL HEALTH

- AFFORDABLE MODE OF TRANSPORTATION
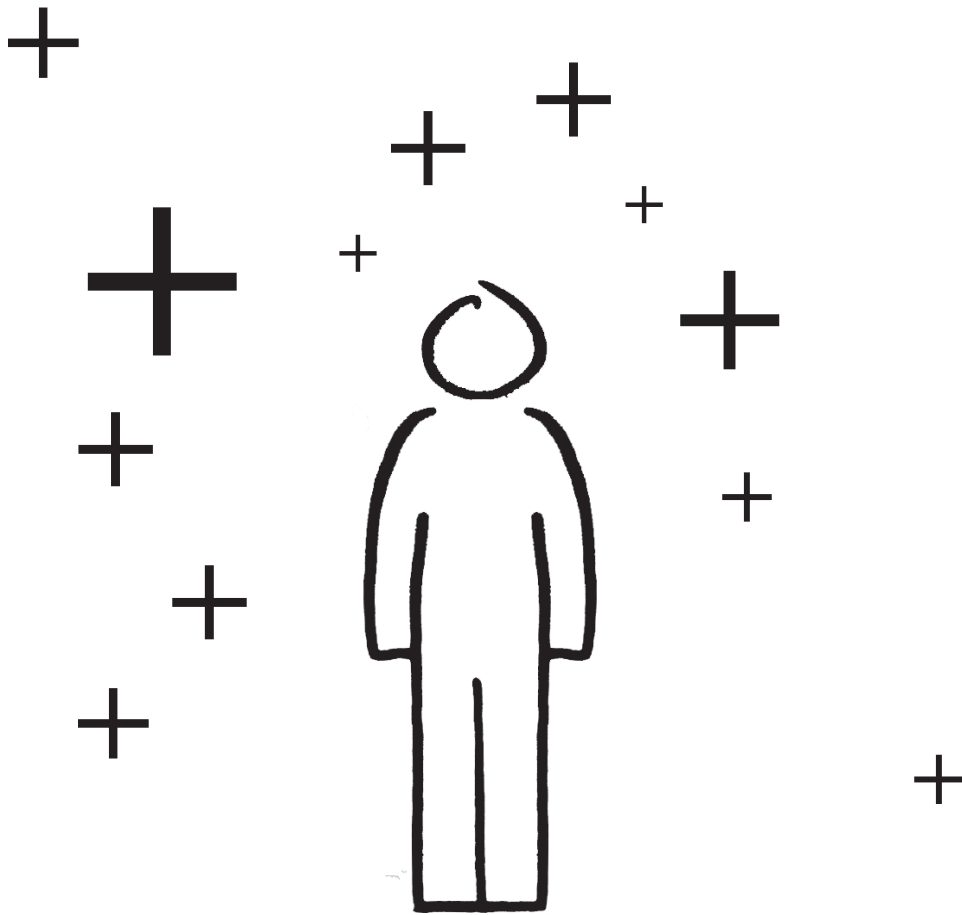
THIS IS …. (FILL IN YOUR NAME)
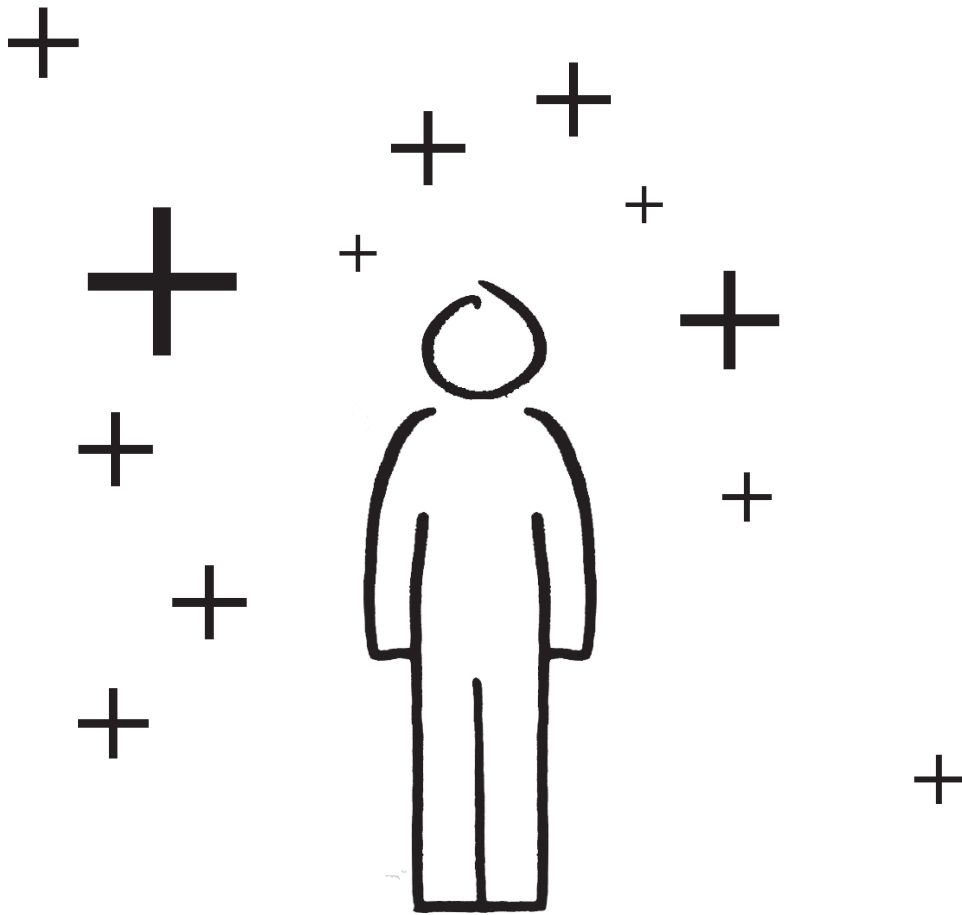
POSITIVE EXPERIENCES OF YOU
BEING PEDESTRIAN

POSITIVE EXPERIENCES OF YOU BEING PEDESTRIAN

A NICE SUMMER DAY?

A DRINK ON A TERRACE?

....

(FILL IN YOUR OWN POSITIVE EXPERIENCES)

THIS IS .... (FILL IN YOUR NAME)

THIS IS .... (FILL IN YOUR NAME)

POSITIVE EXPERIENCES OF YOU BEING PEDESTRIAN

A NICE SUMMER DAY?

A DRINK ON A TERRACE?

....

(FILL IN YOUR OWN POSITIVE EXPERIENCES)

HOWEVER, YOU ALSO COULD HAVE NEGATIVE EXPERIENCES WHILE WALKING
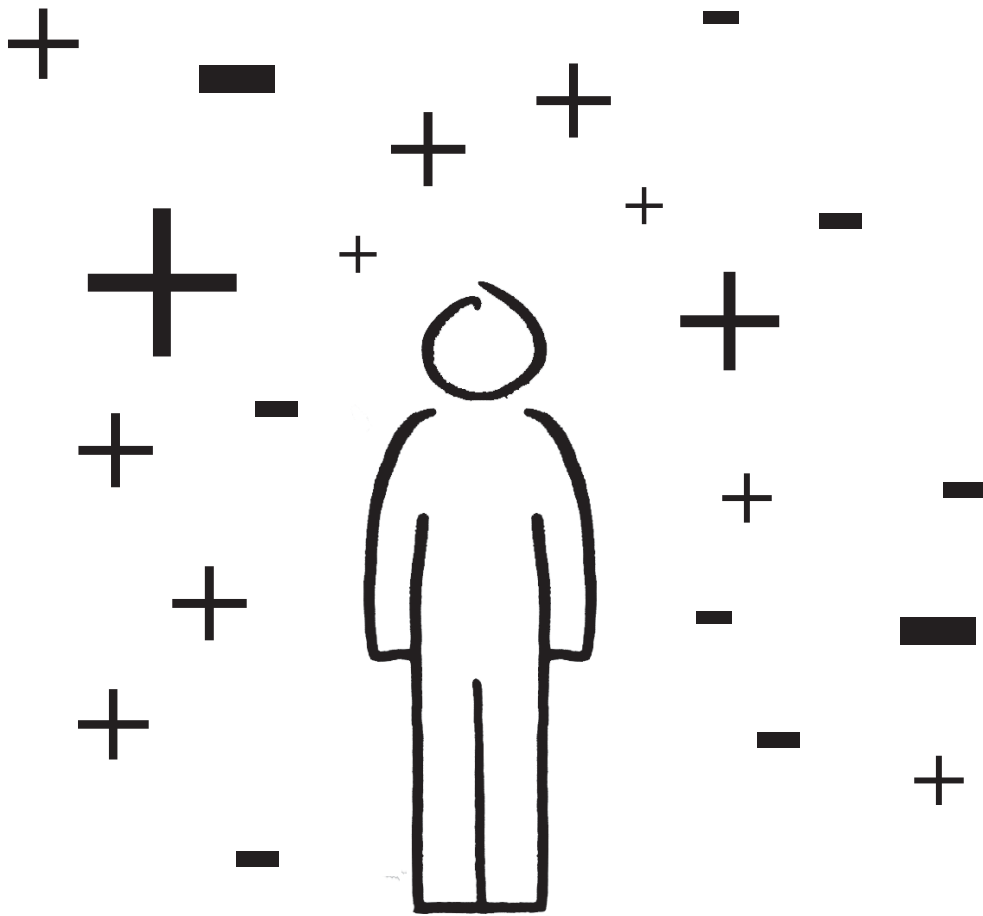
THIS IS .... (FILL IN YOUR NAME)

POSITIVE EXPERIENCES OF YOU BEING PEDESTRIAN

A NICE SUMMER DAY?

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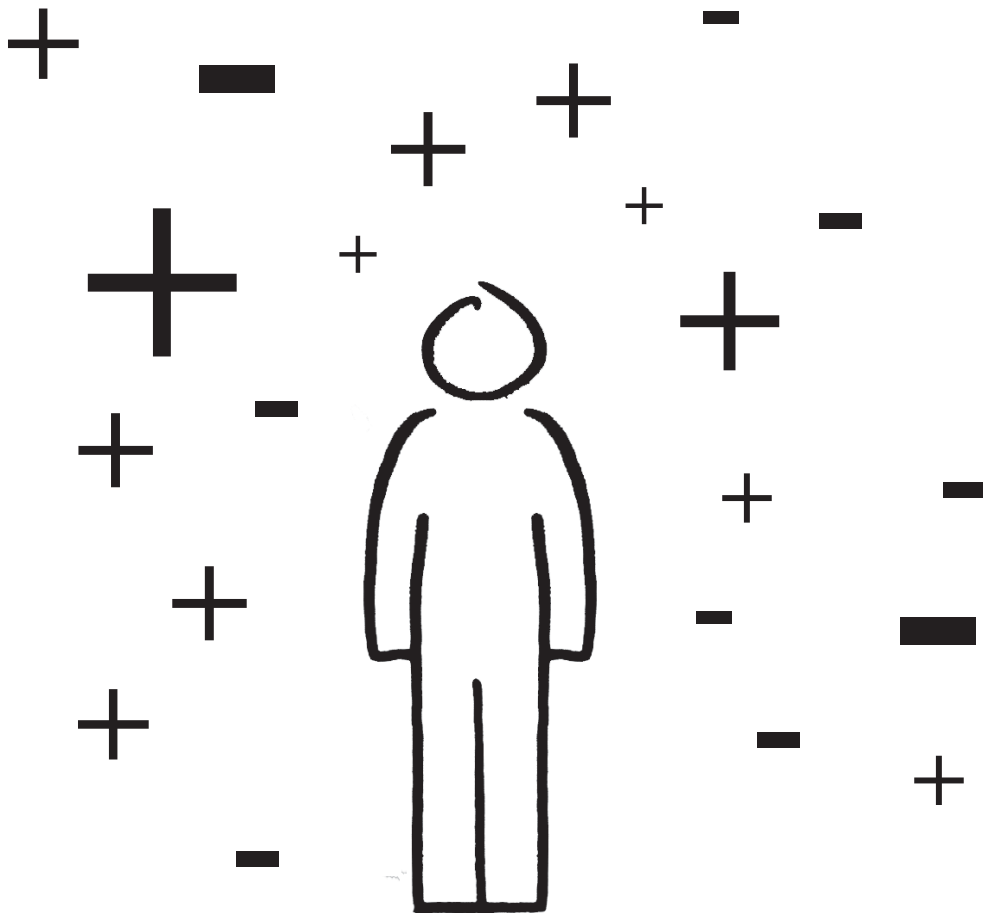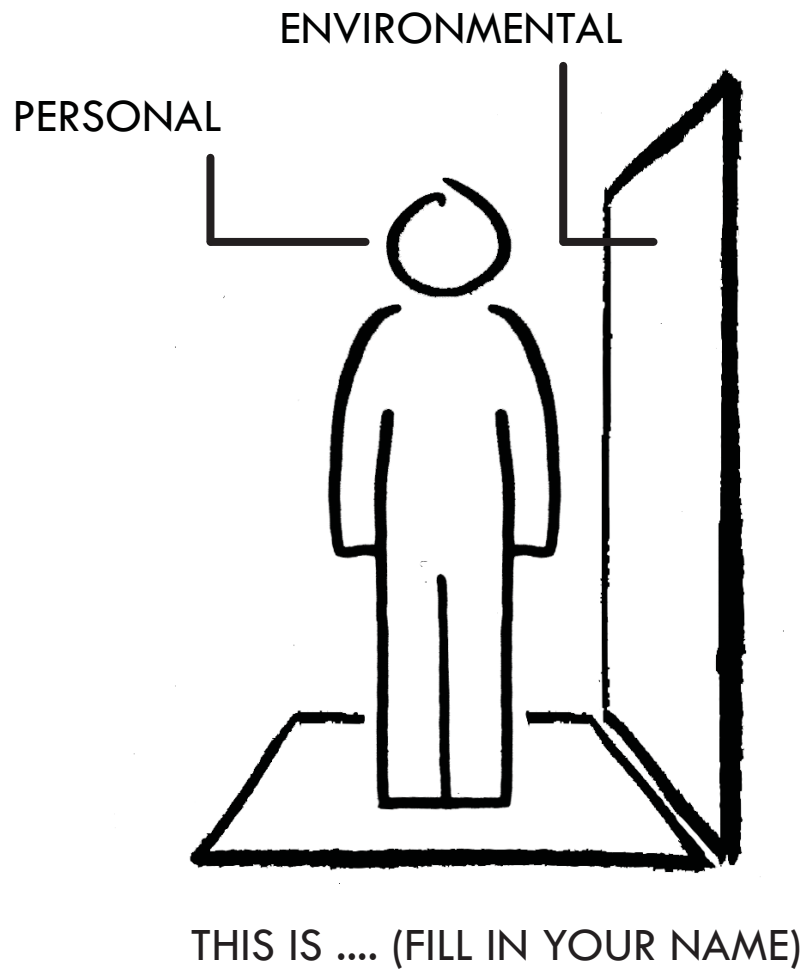
(FILL IN YOUR OWN POSITIVE EXPERIENCES)

HOWEVER, YOU ALSO COULD HAVE NEGATIVE EXPERIENCES WHILE WALKING

TOO MUCH WIND?

DESERTED AND DARK AREA?

....

(FILL IN YOUR OWN NEGATIVE EXPERIENCES)

ENVIRONMENTAL

PERSONAL

THIS IS …. (FILL IN YOUR NAME)

THE DECISION OF PEOPLE TO ACTUALLY WALK DEPENDS ON PERSONAL AND ENVIRONMENTAL FACTORS
(HANDY ET AL 2002)

PERSONAL

ENVIRONMENTAL

THIS IS .... (FILL IN YOUR NAME)
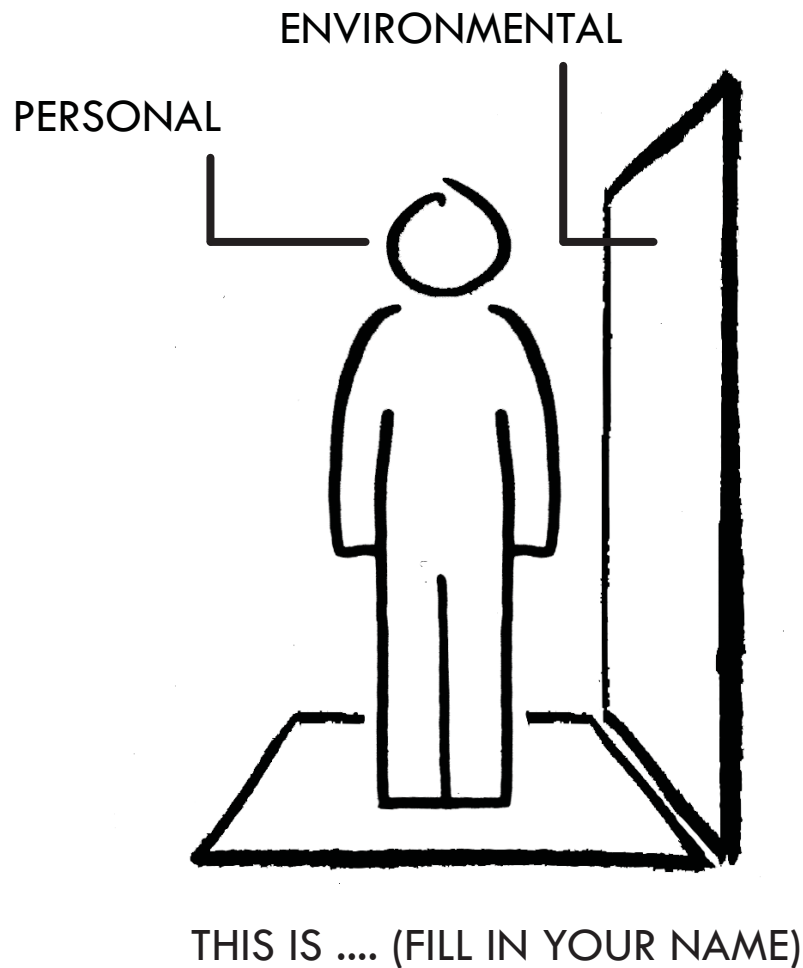
THE DECISION OF PEOPLE TO ACTUALLY WALK DEPENDS ON PERSONAL AND ENVIRONMENTAL FACTORS
(HANDY ET AL 2002)

THE URBAN ENVIRONMENT HAS A GREAT INFLUENCE ON THE DECISION TO WALK
(GEHL 2006, HANDY 1996, SOUTHWORTH 2005)

RESEARCH QUESTION

HOW COULD THE CITY CENTER BECOME AN URBAN ENVIRONMENT THAT FACILITATES AND ENCOURAGES PEOPLE TO WALK?

IN ORDER TO WALK SAFELY, CONVENIENTLY, DIRECTLY AND COMFORTABLY, PEDESTRIAN REQUIRE AN URBAN ENVIRONMENT THAT CORRESPONDS TO THEIR NEEDS
(TORONTO CITY COUNCIL 2002)

RESEARCH QUESTION

HOW COULD THE CITY
CENTER BECOME AN
URBAN ENVIRONMENT
THAT FACILITATES AND
ENCOURAGES PEOPLE TO
WALK?

BASIC NEEDS

ATTRACTIVENESS: ENJOY

IN ORDER TO WALK SAFELY, CONVENIENTLY, DIRECTLY
AND COMFORTABLY, PEDESTRIAN REQUIRE AN URBAN
ENVIRONMENT THAT CORRESPONDS TO THEIR NEEDS
(TORONTO CITY COUNCIL 2002)

P5 CITYPEDESTRIANIZED
CREATING URBAN ENVIRONMENTS FOR PEOPLE TO WALK

THEORY

SUB 1 WHAT ARE CONDITIONS FOR AN URBAN ENVIRONMENT THAT FACILITATES AND ENCOURAGES PEOPLE TO WALK?

SUB 2 HOW TO ORDER THE WIDE VARIETY OF CONDITIONS FOR THE URBAN ENVIRONMENT FOR PEOPLE TO WALK?
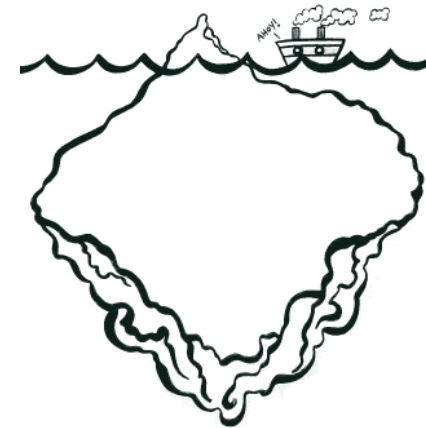
JAN GEHL
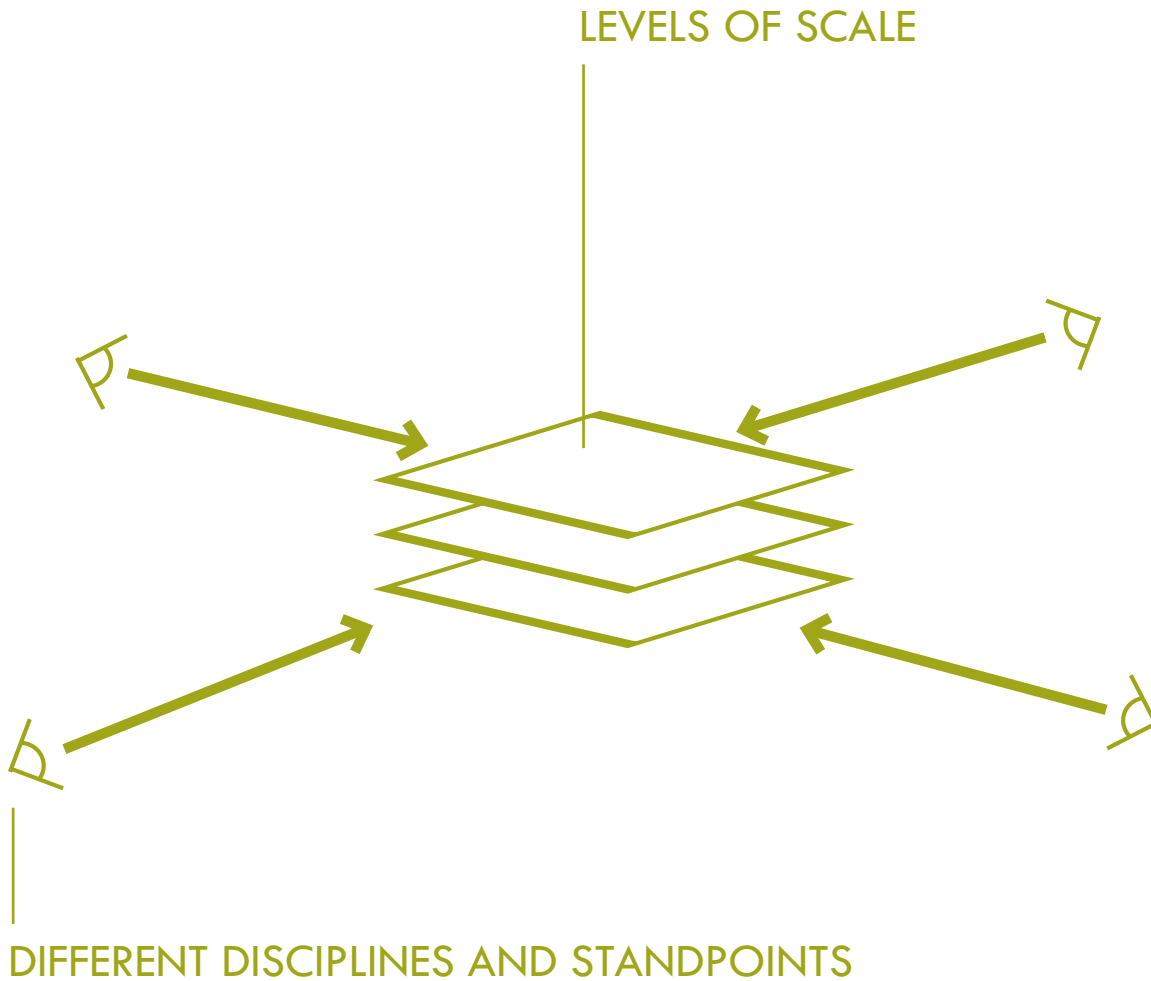
AND MUCH MORE

JANE JACOBS

LITERATURE STUDY

SEVERAL DESIGNERS AND PLANNERS HAVE RESEARCHED THE INFLUENCE OF THE URBAN ENVIRONMENT ON THE DECISION OF PEOPLE TO WALK.
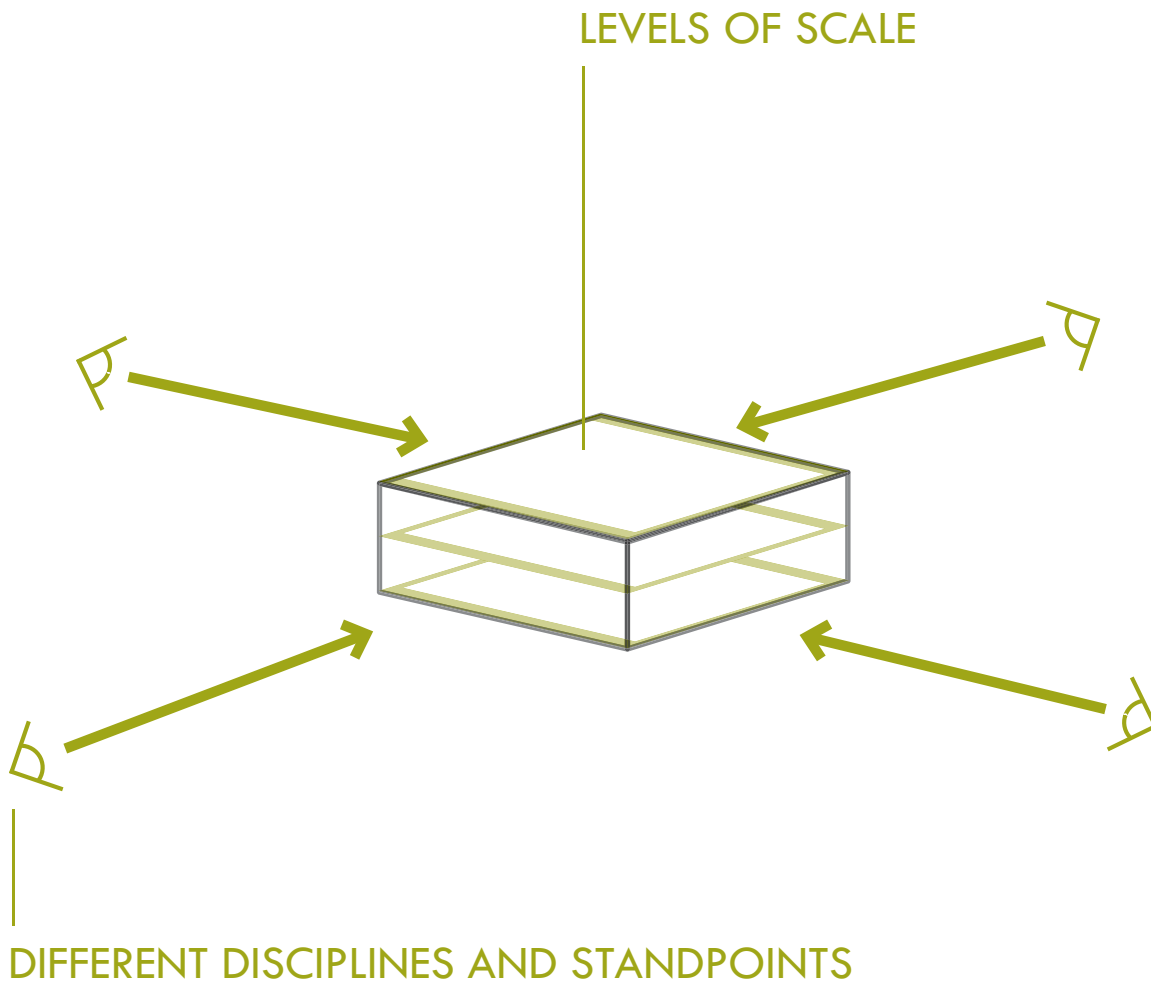
TIP OF THE ICEBERG

Sketch by Laura Szumowski

LEVELS OF SCALE

DIFFERENT DISCIPLINES AND STANDPOINTS

A WIDE VARIETY OF CONDITIONS ARE DERIVED FROM DIFFERENT DISCIPLINES, STANDPOINTS AND AT DIFFERENT LEVELS OF SCALE.

LEVELS OF SCALE

DIFFERENT DISCIPLINES AND STANDPOINTS

LITERATURE STUDY

AS A DESIGNERS OR PLANNERS, YOU SHOULD BE ABLE TO UNDERSTAND TO WHOLE URBAN ENVIRONMENT AROUND THE PEDESTRIAN, TO FACILITATE AND ENCOURAGE THEM TO WALK

GEMZØE (2006) STATED THAT IT TAKES MORE THAN JUST GOOD PAVING TO PRODUCE AN EXCELLENT PEDESTRIAN LANDSCAPE. IT IS THE WHOLE ENVIRONMENT AROUND THE PERSON WALKING THAT HAS TO BE UNDERSTOOD.

Sketch by Doug Klotz (City of Portland 1998)
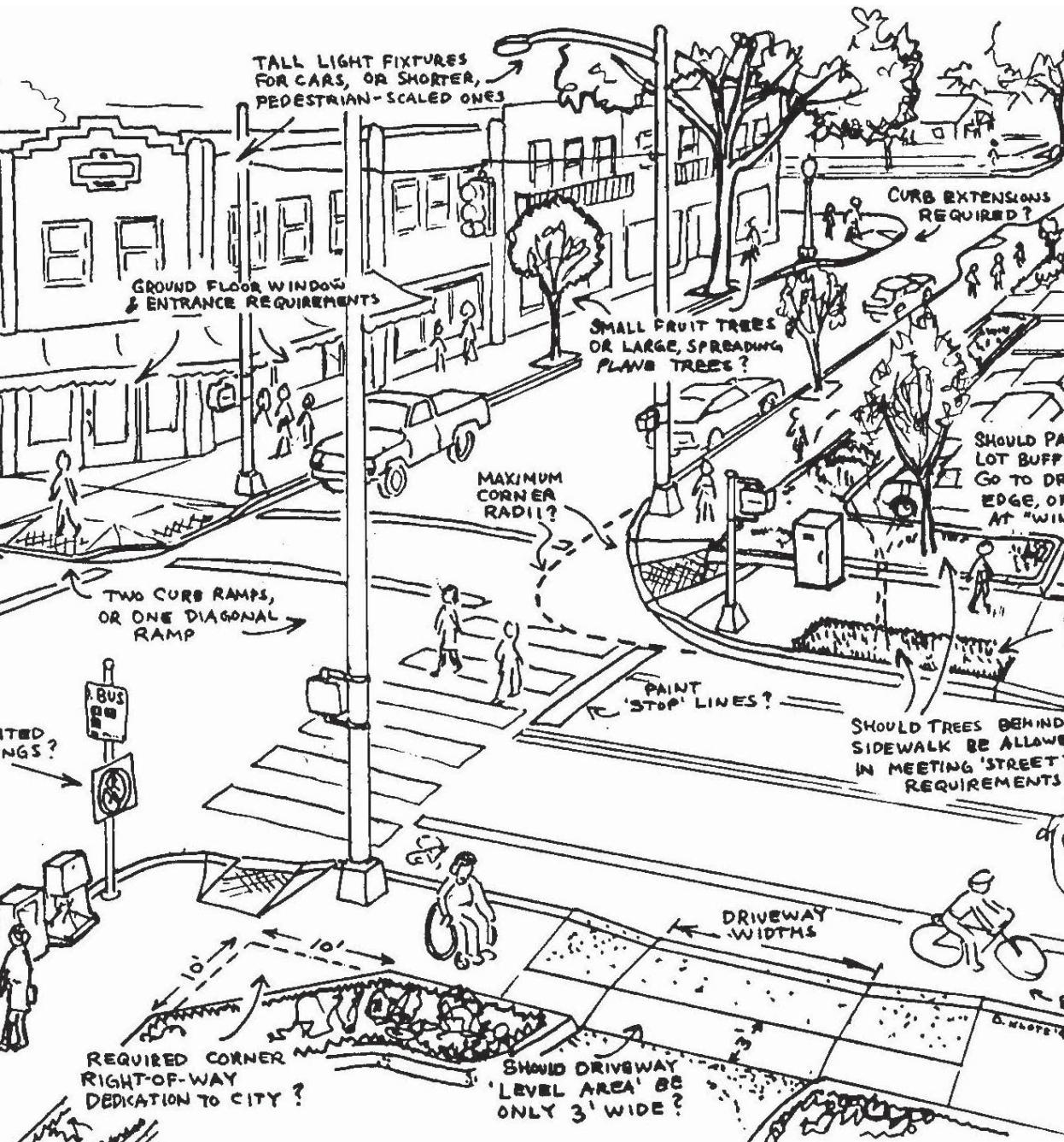
LITERATURE STUDY

THERE IS A URGE FOR A
DESIGN INSTRUMENT THAT
ENABLES DESIGNERS AND
PLANNERS TO DESIGN THE
URBAN ENVIRONMENT AS A
WHOLE.

BOTH FOR PLANNING AND
DESIGNING

MULTIPLE APECTS

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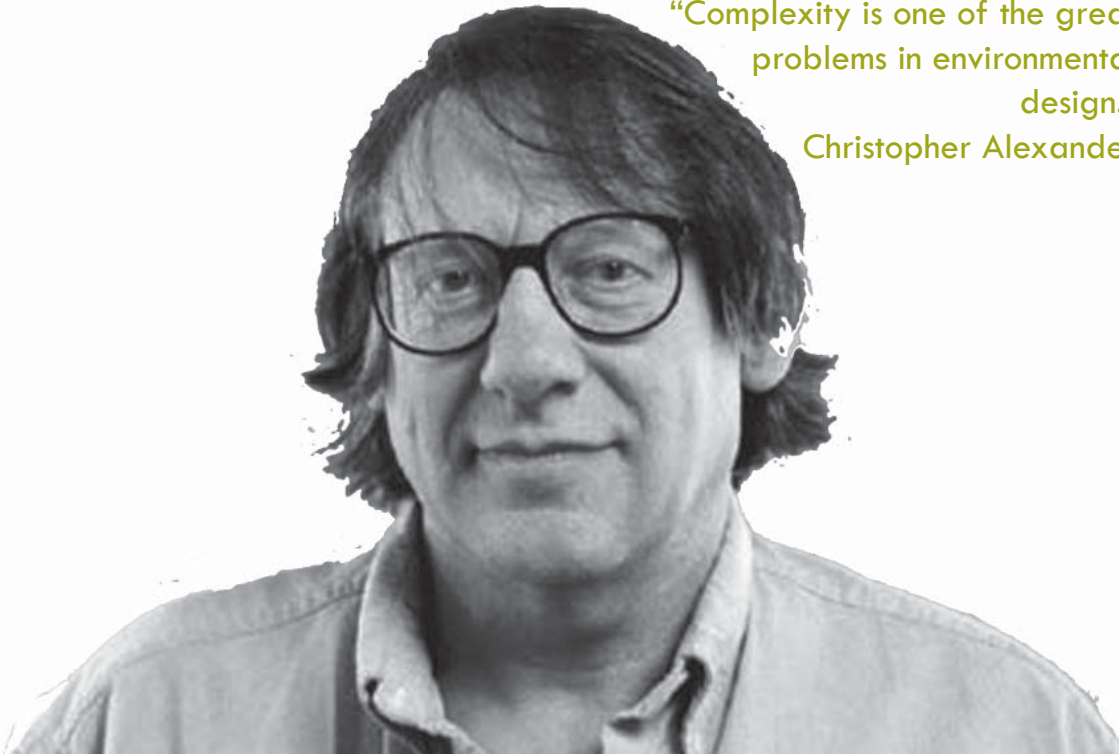
PATTERN CATALOGUE

NEW

A DESIGN INSTRUMENT THAT
ENABLES DESIGNERS AND
PLANNERS TO UNDERSTAND
THE URBAN ENVIRONMENT
FOR PEDESTRIANS AND TO
MAKE DESIGN DECISIONS
THAT CORRESPOND TO THE
NEEDS OF PEDESTRIANS

"Complexity is one of the great problems in environmental design."
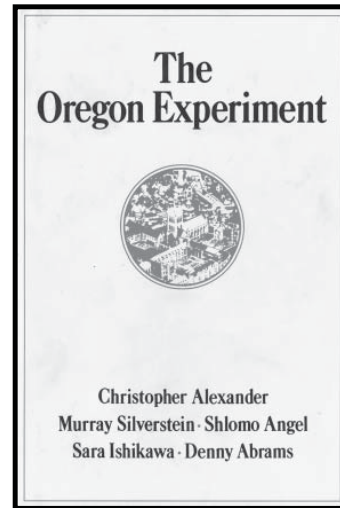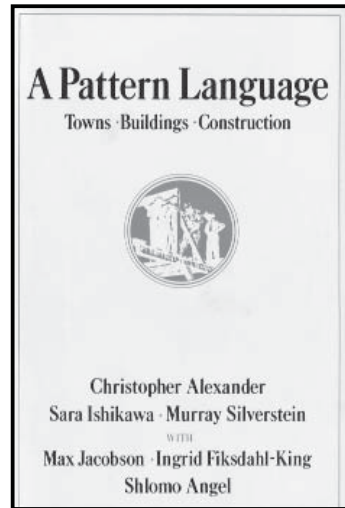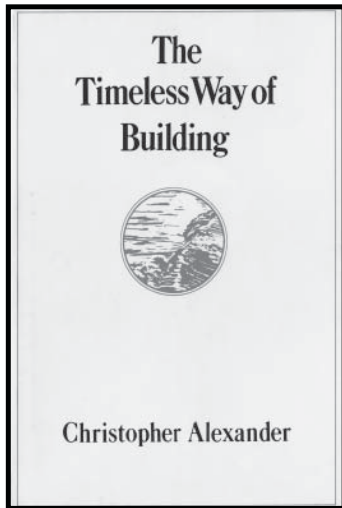Christopher Alexander

A PATTERN LANGUAGE

CHRISTOPHER ALEXANDER

The Timeless way of Building (Alexander 1979)

A Pattern Language: Towns, Buildings, Construction (Alexander 1977)

The Oregon Experiment (Alexander 1975)

The Timeless Way of Building

Christopher Alexander

A Pattern Language
Towns · Buildings · Construction

Christopher Alexander
Sara Ishikawa · Murray Silverstein
WITH
Max Jacobson · Ingrid Fiksdahl-King
Shlomo Angel

The Oregon Experiment

Christopher Alexander
Murray Silverstein · Shlomo Angel
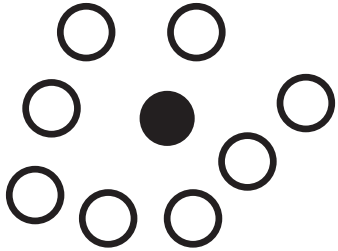Sara Ishikawa · Denny Abrams

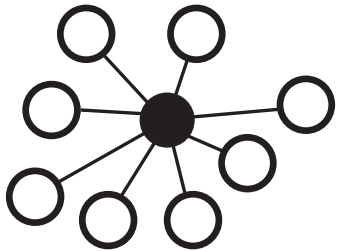THEORY ⟶ PRACTICE

IN A NUTSHELL

A PATTERN LANGUAGE

"WHEN YOU BUILD A THING
YOU CANNOT BUILD THAT
THING IN ISOLATION, BUT
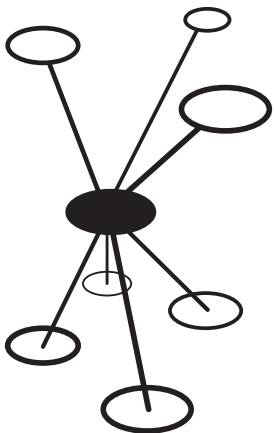MUST REPAIR THE WORLD
AROUND IT AND WITHIN IT..."

IN A NUTSHELL

No pattern is an isolated entity

Each pattern can exist in the world, only to the extent that it is supported by other patterns.

Each pattern is connected to certain 'larger' pattern which come above it in the language; and to certain 'smaller' patterns which come below it in the language. The pattern helps to complete those larger patterns which are 'above' it, and is itself completed by those smaller patterns which are 'below' it.

"WHEN YOU BUILD A THING YOU CANNOT BUILD THAT THING IN ISOLATION, BUT MUST REPAIR THE WORLD AROUND IT AND WITHIN IT..."

LET'S FOCUS ON ONE THING

IN A NUTSHELL

14 identifiable neigborhood

31 promenade

30 activity node

14 work community

61 SMALL PUBLIC SQUARES

125 stair seats

106 Hierarchy of open space

124 activity pockets

122 building fronts

126 something roughly in the middle

123 pedestrian density
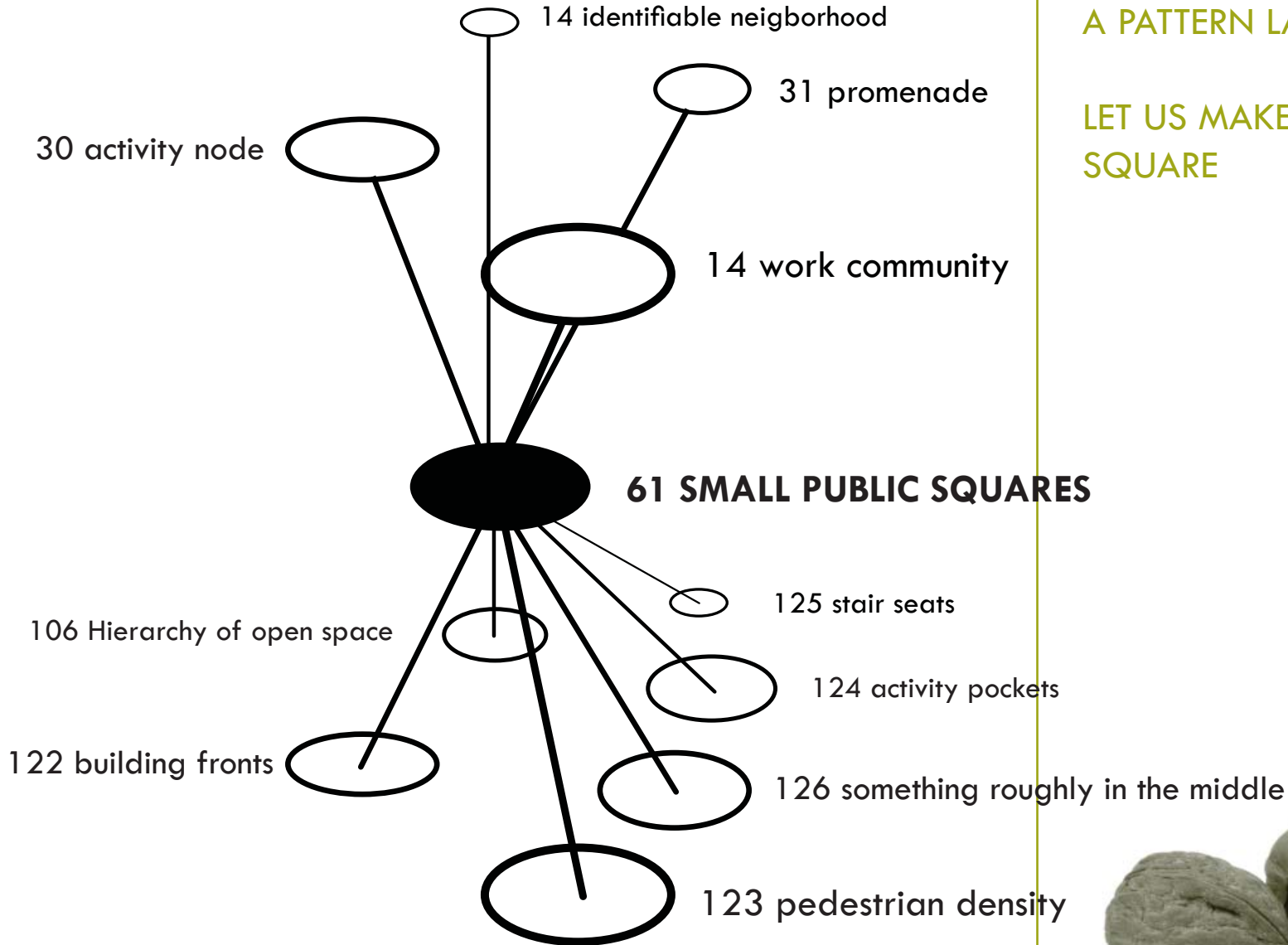
LET US MAKE A SMALL PUBLIC SQUARE

IN A NUTSHELL

MIX OF LAND USE

Jacobs 1961
Morris & Zisman 1962

STATEMENT
Pedestrians need mixed land use to be able to reach different types of functions in a short distance.

CLARIFICATION
The concentration or zoning of uses of one kind in a urban area make it difficult for pedestrians to get to multiple destinations by walking. Areas with massive buildings not having on-street-activity, have a negative influence on pedestrian use. Mix of land use or functions generate diversity and activity during different times of the day. Areas with one primary use, such as office buildings, tend to be areas that are only lively in the morning, at lunch time and again during the evening rush. Outside these hours, the areas appear deserted and can act as barriers within the city. The clustering of similar functions is detrimental for the city life and the perceived safety of the city.

SOLUTION
Make sure that urban areas have a mix of offices, housing and other functions. Provide a mix of land use on the level of the street or the building block. Each street or building block should have a mixture of housing, different types of commercial buildings, public buildings and offices.

RELATION
Diversity [P05]
Narrow building fronts [P26]

PATTERNCATALOGUE 75

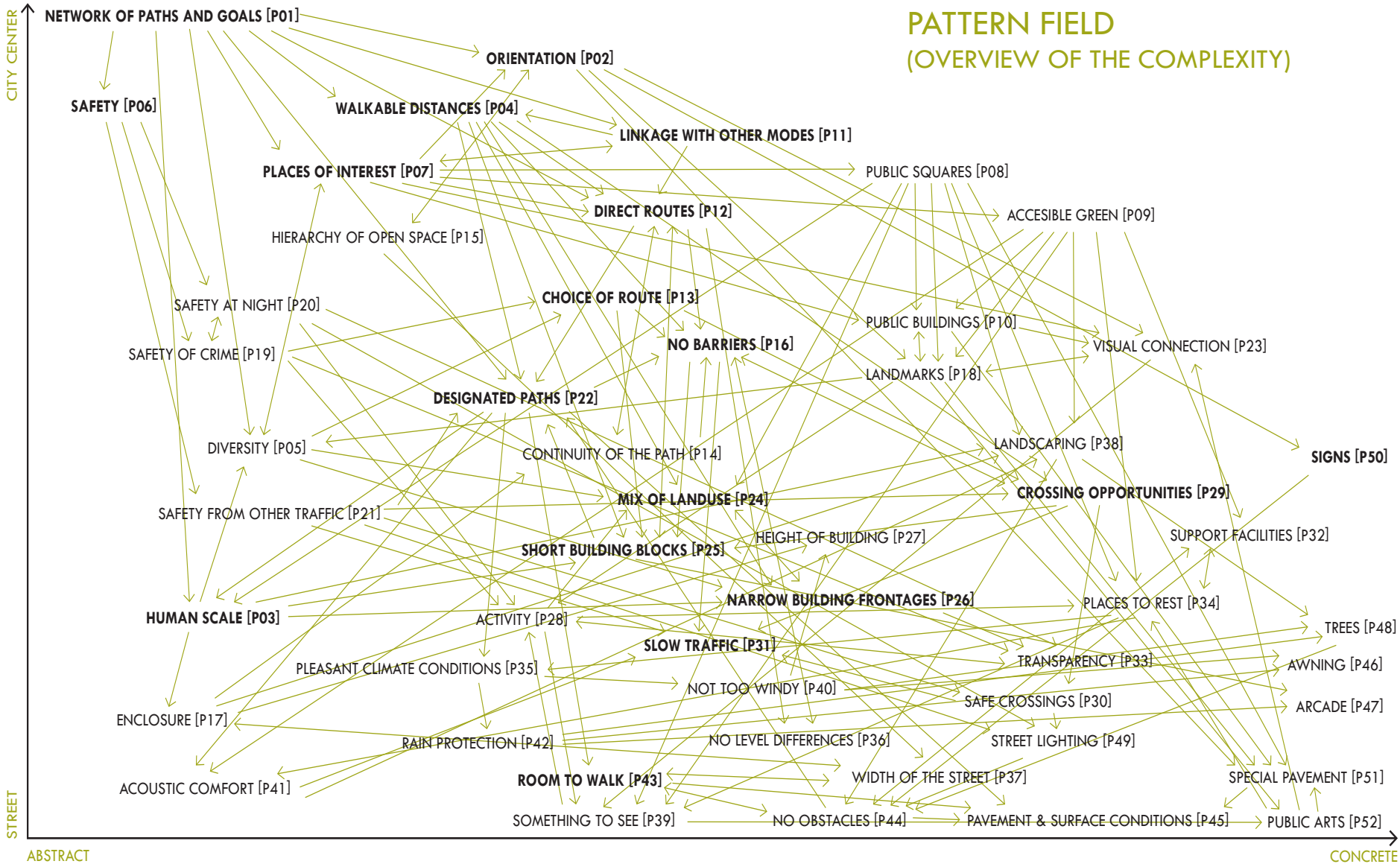PATTERN CATALOGUE

52 RELATED PATTERNS

DESIGN AND PLANNING

MULTIPLE ASPECTS

source of image: flickr.com

PATTERN CATALOGUE

PATTERN FIELD
(OVERVIEW OF THE COMPLEXITY)

CITY CENTER

STREET

ABSTRACT

CONCRETE

NETWORK OF PATHS AND GOALS [P01]
ORIENTATION [P02]
SAFETY [P06]
WALKABLE DISTANCES [P04]
LINKAGE WITH OTHER MODES [P11]
PLACES OF INTEREST [P07]
PUBLIC SQUARES [P08]
DIRECT ROUTES [P12]
ACCESIBLE GREEN [P09]
HIERARCHY OF OPEN SPACE [P15]
CHOICE OF ROUTE [P13]
PUBLIC BUILDINGS [P10]
VISUAL CONNECTION [P23]
SAFETY AT NIGHT [P20]
NO BARRIERS [P16]
SAFETY OF CRIME [P19]
LANDMARKS [P18]
DESIGNATED PATHS [P22]
DIVERSITY [P05]
LANDSCAPING [P38]
CONTINUITY OF THE PATH [P14]
SIGNS [P50]
MIX OF LANDUSE [P24]
CROSSING OPPORTUNITIES [P29]
SAFETY FROM OTHER TRAFFIC [P21]
HEIGHT OF BUILDING [P27]
SUPPORT FACILITIES [P32]
SHORT BUILDING BLOCKS [P25]
NARROW BUILDING FRONTAGES [P26]
PLACES TO REST [P34]
HUMAN SCALE [P03]
ACTIVITY [P28]
TREES [P48]
SLOW TRAFFIC [P31]
TRANSPARENCY [P33]
PLEASANT CLIMATE CONDITIONS [P35]
AWNING [P46]
NOT TOO WINDY [P40]
ENCLOSURE [P17]
SAFE CROSSINGS [P30]
ARCADE [P47]
RAIN PROTECTION [P42]
NO LEVEL DIFFERENCES [P36]
STREET LIGHTING [P49]
ACOUSTIC COMFORT [P41]
WIDTH OF THE STREET [P37]
SPECIAL PAVEMENT [P51]
ROOM TO WALK [P43]
SOMETHING TO SEE [P39]
NO OBSTACLES [P44]
PAVEMENT & SURFACE CONDITIONS [P45]
PUBLIC ARTS [P52]

P5 CITYPEDESTRIANIZED
CREATING URBAN ENVIRONMENTS FOR PEOPLE TO WALK

PRACTICE

SUB 3 HOW COULD THE PATTERN CATALOGUE EVALUATE THE URBAN ENVIROMENT OF THE CITY CENTER?

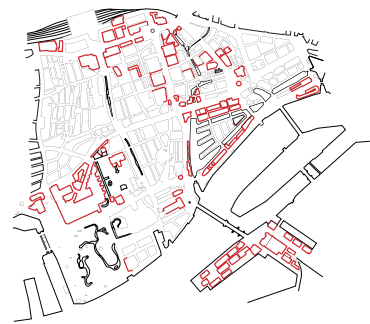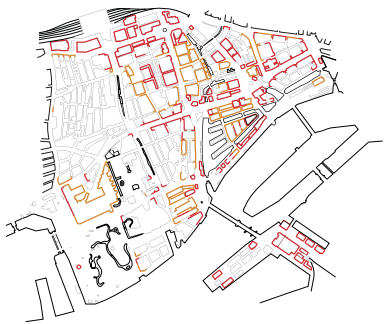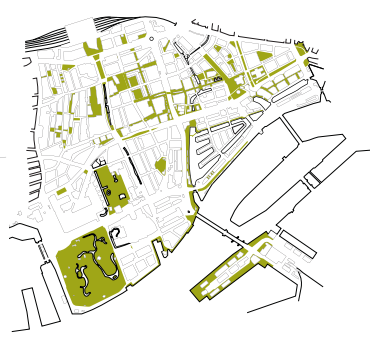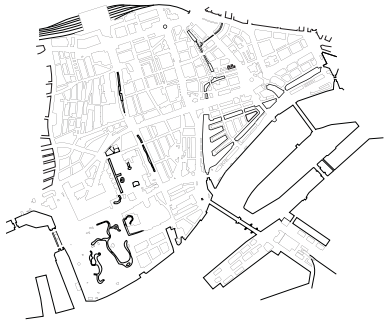**SUB 4** HOW COULD THE PATTERN CATALOGUE BE USED IN A SPATIAL DESIGN?
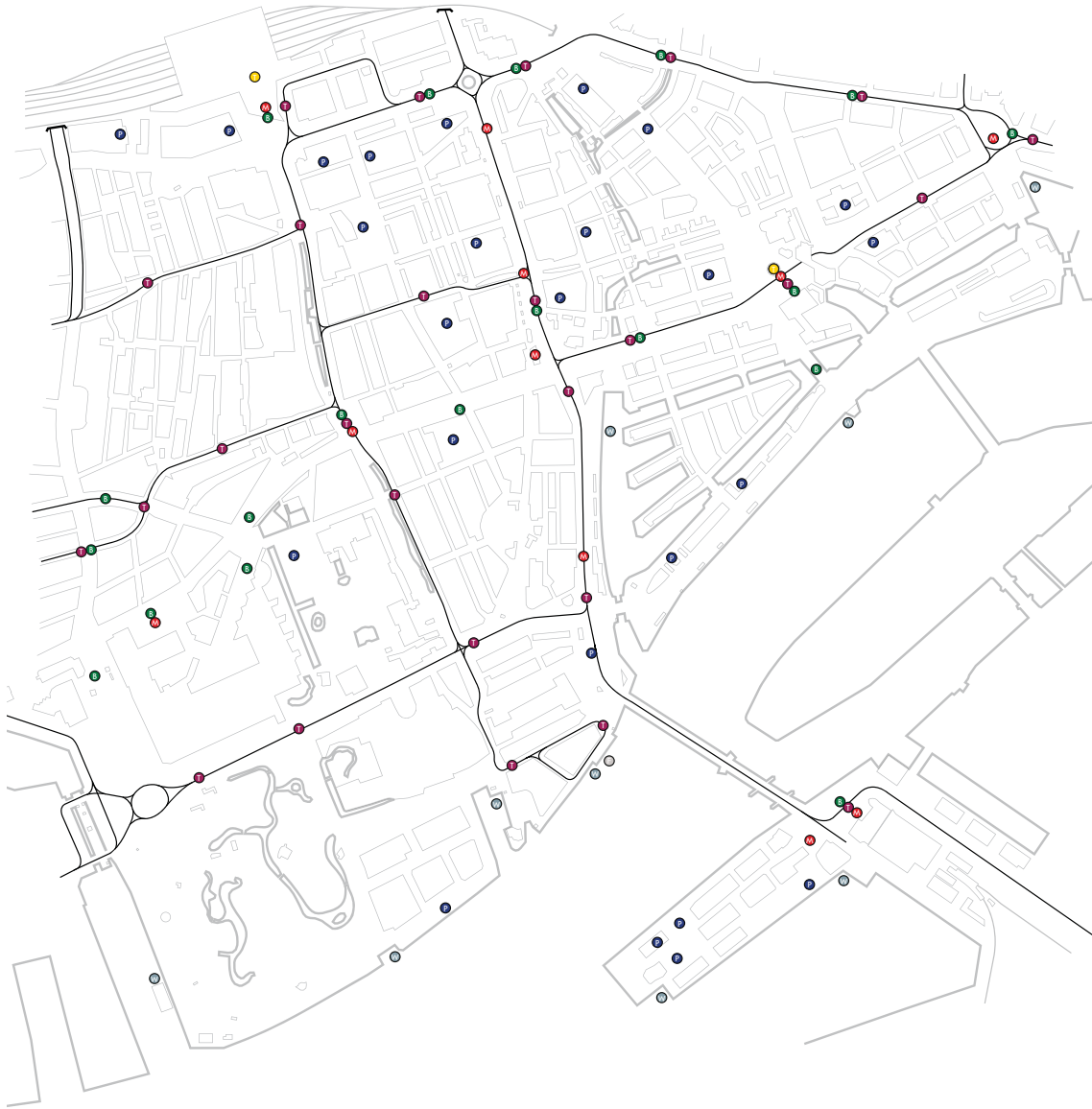
TEST CASE

CITY CENTER OF ROTTERDAM

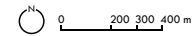IT MIGHT AS WELL BE A
DIFFERENT CITY

DIAGNOSIS

PATTERNS ARE EXAMINED IN
THE URBAN ENVIRONMENT

DIAGNOSIS | EXAMPLE

[P11] LINKAGE WITH OTHER MODES

- 🟡 Train station
- Ⓜ Metro station
- 🔴 Tram stop
- 🟢 Bus stop
- 🔵 Parking garage/area
- 🔵 Watertaxi stop
- ⚪ Fast Ferry Stop

- 〈 Water quay
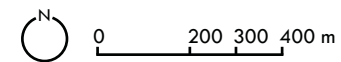- ▭ Building / Building block
- 〈 Railway

N 0 200 300 400 m

Building block > 150 m

Building block > 90 - < 150 m

Building block < 90 m

Water quay

Building / Building block

Railway

N

0   200 300 400 m

DIAGNOSIS

CONCLUSION MAP

AREAS THAT NEED FIXING
A MAJORITY OF PATTERNS
ARE NOT PRESENT

AREAS THAT WORK WELL
AN AREA THAT CORRESPOND TO
MOST OF THE PATTERNS

THIS DOES NOT MEAN THAT THESE
GREEN AREAS COULD NOT BE
IMPROVED

DIAGNOSIS

HEAVY VEHICLE TRAFFIC
LARGE SCALE BUILDINGS
UNATTRACTIVE WALLS
BARRIER

HEAVY VEHICLE TRAFFIC
LARGE SCALE BUILDINGS
BLANK WALLS
LACK OF CONNECTIVITY

MONO FUNCTIONAL AREA
NO PLACES OF INTEREST

TESTCASE

ROTTERDAM | WIJNHAVEN

Danger
Test area

DIAGNOSIS

BARRIERS:
- HEAVY VEHICLE TRAFFIC & HARBORS

SERVICE STREETS:
- UNATTRACTIVE BLANK WALLS
- NO ROOM TO WALK

LARGE SCALE BUILDINGS:
- LONG BUILDING FRONTAGES
- BUILDING HEIGHT
- NO MIX OF FUNCTIONS

LACK OF CONNECTIVITY
- NO DIRECT ROUTES
- NO PUBLIC TRANSPORTATION

PUBLIC FUNCTIONS
- MUSEUMS
- CAFE'S, BARS & RESTAURANTS

PLACES TO REST

SOMETHING TO SEE

P5

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CREATING URBAN ENVIRONMENTS
FOR PEOPLE TO WALK

PRACTICE

SUB 3 HOW COULD THE PATTERN CATALOGUE EVALUATE THE URBAN
ENVIROMENT OF THE CITY CENTER?

SUB 4 HOW COULD THE PATTERN CATALOGUE BE USED IN A SPATIAL
DESIGN?

A RETAINABLE PERSPECTIVE

Limitations:

- No adjustments, removing or adding of buildings or buildings blocks.

- No adjustments or adding of new types of land use.

- No infrastructural or transportation adjustments.

A FEASIBLE PERSPECTIVE

Limitations:

- No removing of buildings or buildings blocks.

- No changes of the position of the quay.

Opportunities

- Adjusting or adding of buildings or building blocks is allowed.

- Public space may be adjusted.

- Change of land use is allowed.

- New entry points are allowed.

- New connections are allowed.

A DESIRABLE PERSPECTIVE

Limitations:

- None

## ROTTERDAM | WIJNHAVEN

3 PERSPECTIVES

USING THE PATTERN CATALOGUE DIFFERENTLY

RETAINABLE PERSPECTIVE

Limitations:

- No adjustments, removing or adding of buildings or buildings blocks.

- No adjustments or adding of new types of land use.

- No infrastructural or transportation adjustments.

PERSPECTIVE SHOWS WHAT CAN BE CHANGED IN PUBLIC SPACE TO ENHANCE THE URBAN ENVIRONMENT
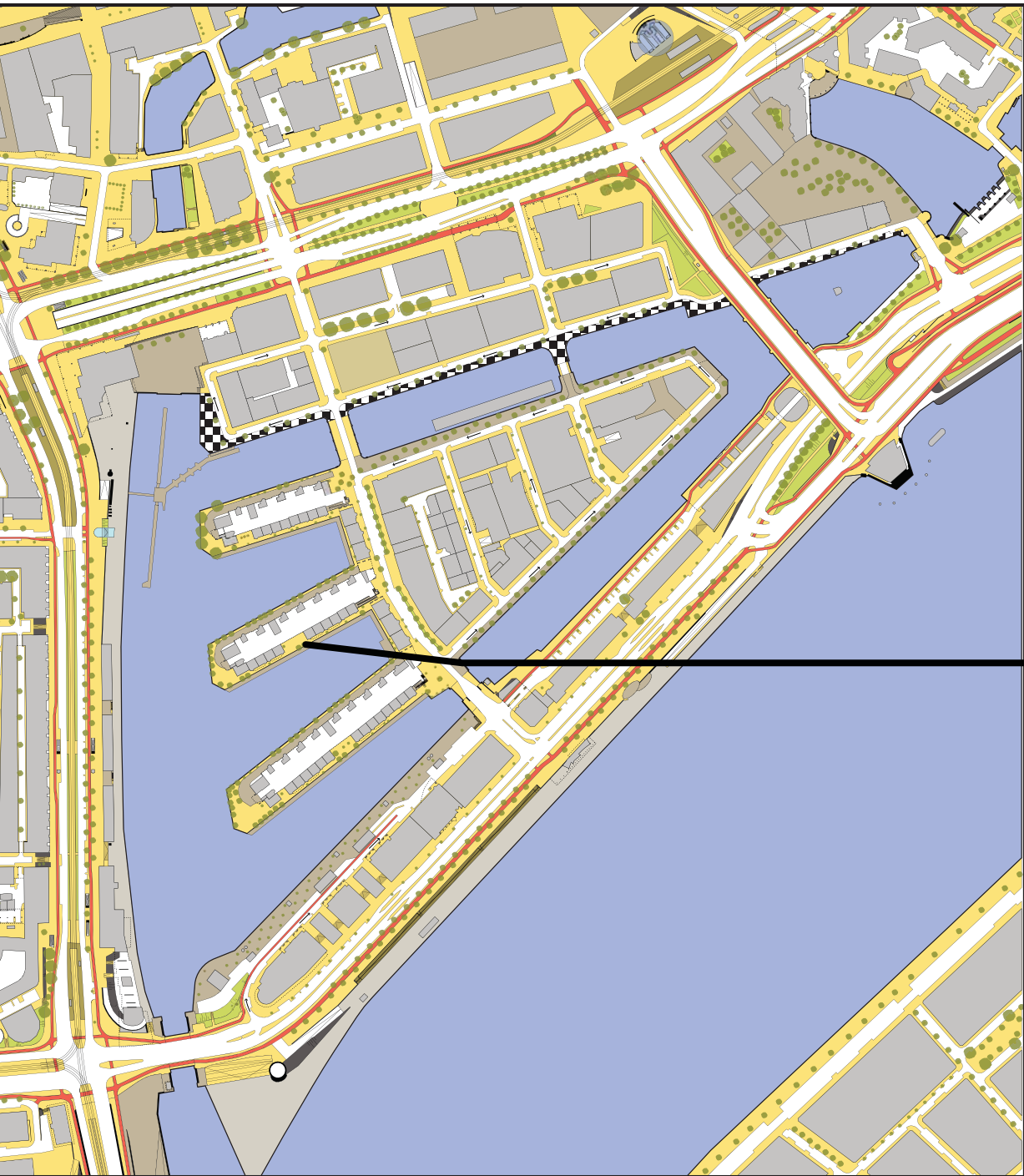
RETAINABLE PERSPECTIVE

NO DESIGNATED PATHS
LACK OF PLACES TO REST

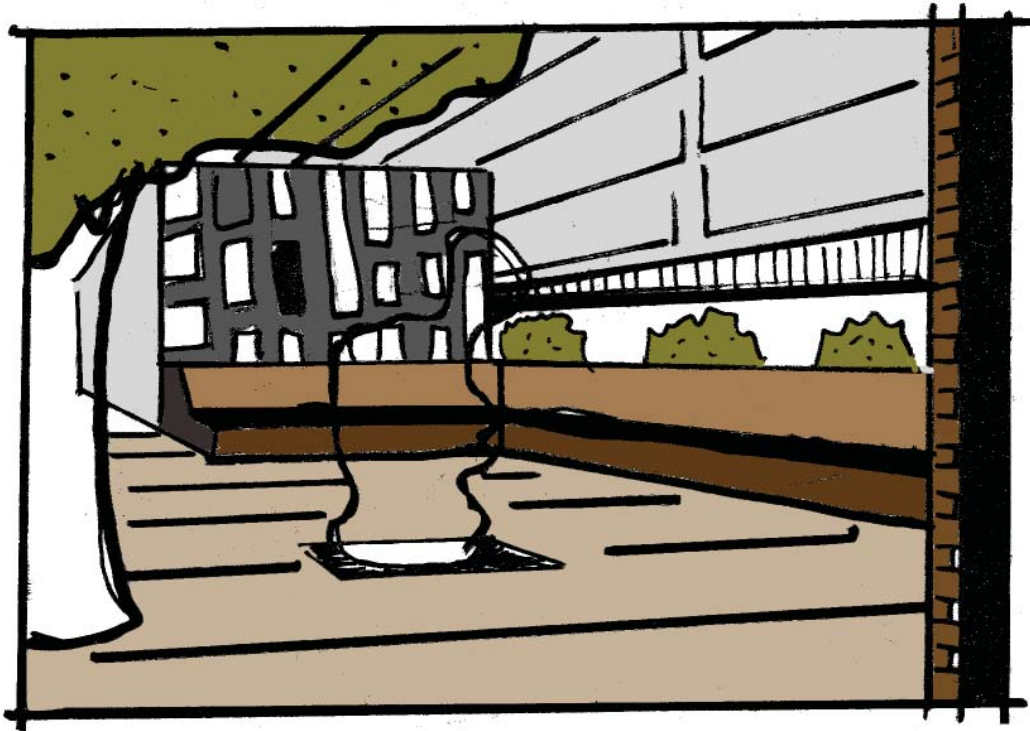LOCATION: JUFFERKADE

LOCATION: JUFFERKADE

RETAINABLE PERSPECTIVE

[P34] PLACE TO REST

- [P32] SUPPORT FACILITIES
- [P39] SOMETHING TO SEE
- [P41] ACOUSTIC COMFORT
- [P35] PLEASANT CLIMATE CONDITIONS

[P22] DESIGNATED PATH

- [P35] PLEASANT CLIMATE CONDITIONS
- [P41] ACOUSTIC COMFORT
- [P43] ROOM TO WALK
- [P44] NO OBSTACLES
- [P45] PAVEMENT & SURFACE CONDITIONS
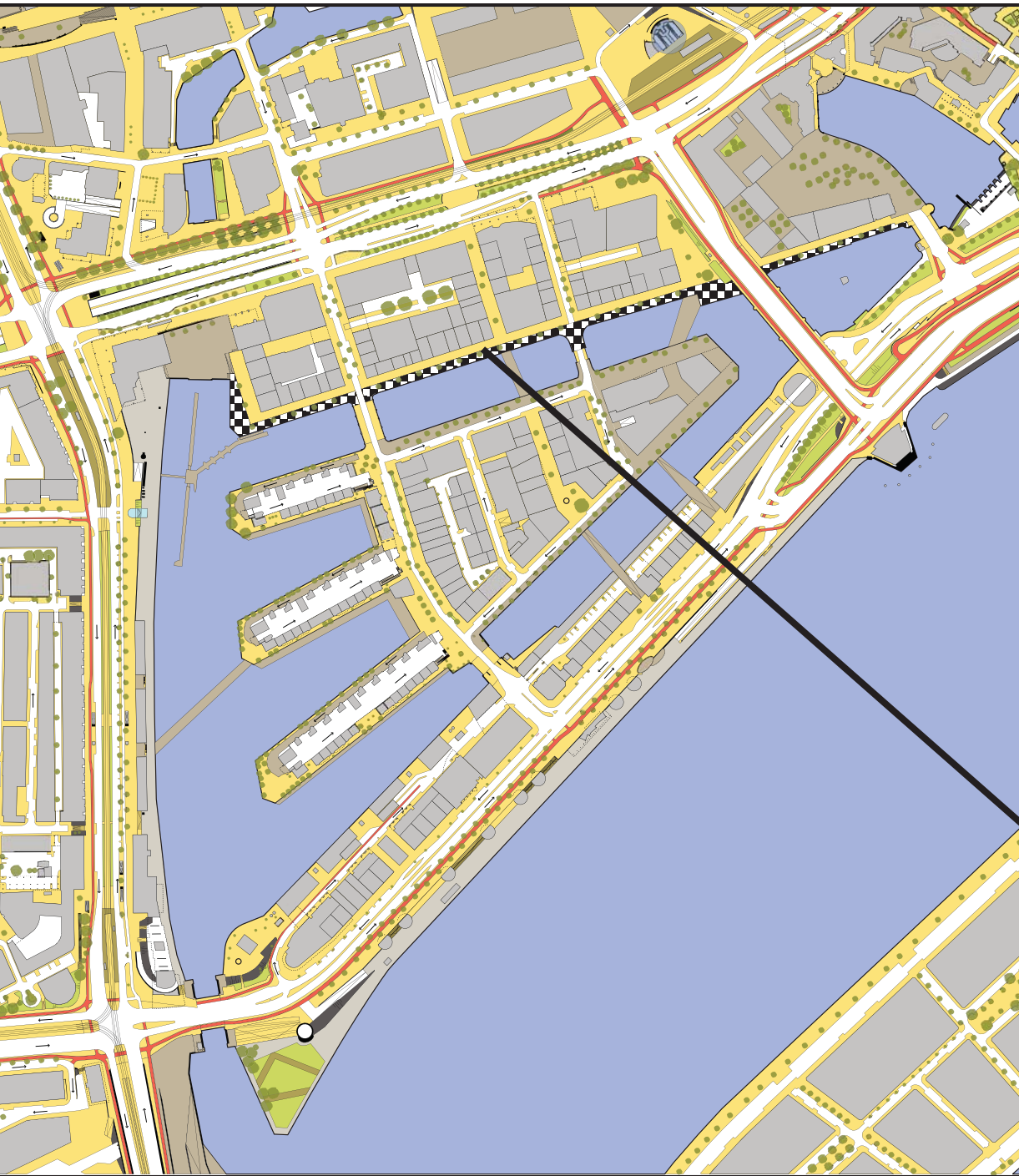
RETAINABLE PERSPECTIVE

[P34] PLACE TO REST

- [P32] SUPPORT FACILITIES
- [P39] SOMETHING TO SEE
- [P41] ACOUSTIC COMFORT
- [P35] PLEASANT CLIMATE CONDITIONS

- [P51] SPECIAL PAVEMENT

[P22] DESIGNATED PATH

- [P35] PLEASANT CLIMATE CONDITIONS
- [P41] ACOUSTIC COMFORT
- [P43] ROOM TO WALK
- [P44] NO OBSTACLES
- [P45] PAVEMENT & SURFACE CONDITIONS

FEASIBLE PERSPECTIVE

Limitations:

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Opportunities

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- New connections are allowed.

ADJUSTING THE URBAN ENVIRONMENT, WITH EXISTING SITUATION AS A STARTING POINT

FEASIBLE PERSPECTIVE

NO MIX OF FUNCTIONS
LONG BUILDING FRONTAGES

LOCATION: WIJNHAVEN

LOCATION: WIJNHAVEN

FEASIBLE PERSPECTIVE

[P24] MIX OF LAND USE
[P26] NARROW BUILDING FRONTAGES
[P33] TRANSPARENCY

[P28] ACTIVITY

[P22] DESIGNATED PATH

- [P35] PLEASANT CLIMATE CONDITIONS
- [P41] ACOUSTIC COMFORT
- [P43] ROOM TO WALK
- [P44] NO OBSTACLES
- [P45] PAVEMENT & SURFACE CONDITIONS

FEASIBLE PERSPECTIVE

[P24] MIX OF LAND USE
[P26] NARROW BUILDING FRONTAGES
[P33] TRANSPARENCY

[P28] ACTIVITY

[P22] DESIGNATED PATH

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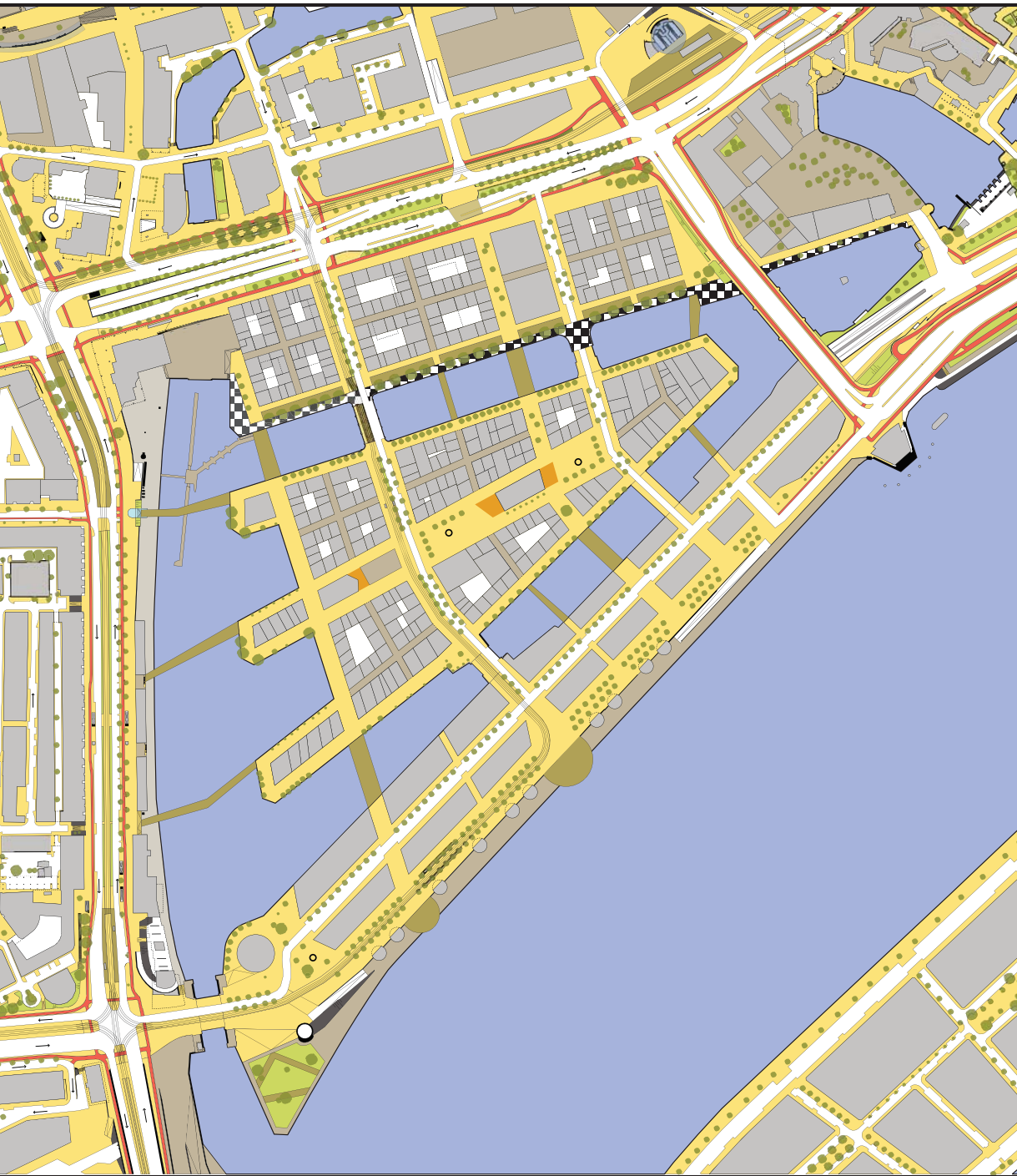
DESIRABLE PERSPECTIVE

Limitations:

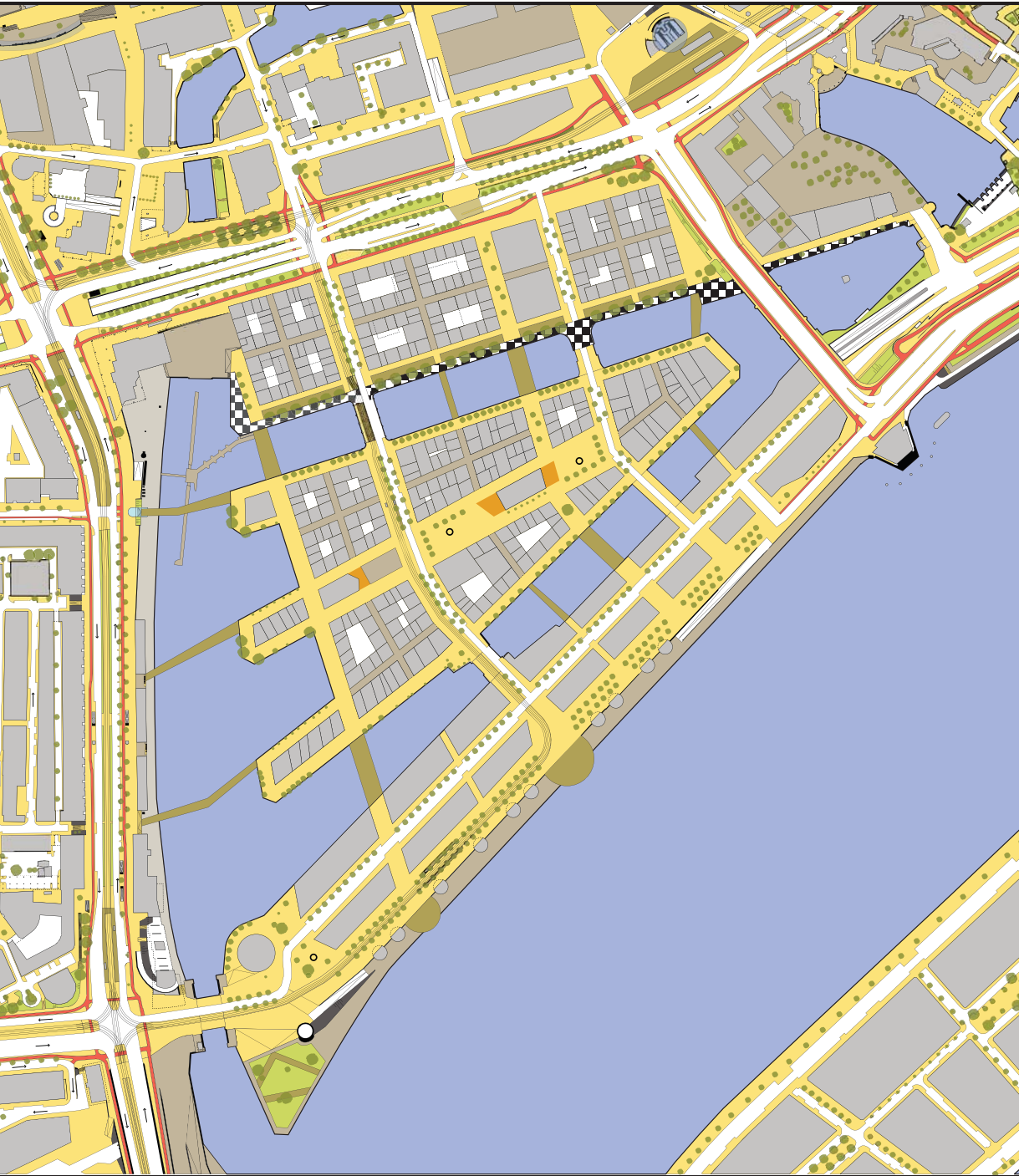• None

THE RESULT OF USING THE
PATTERNS AT THEIR FULLEST

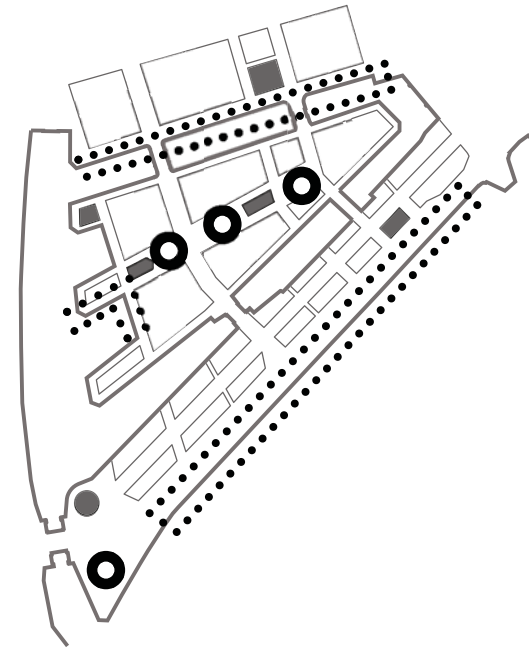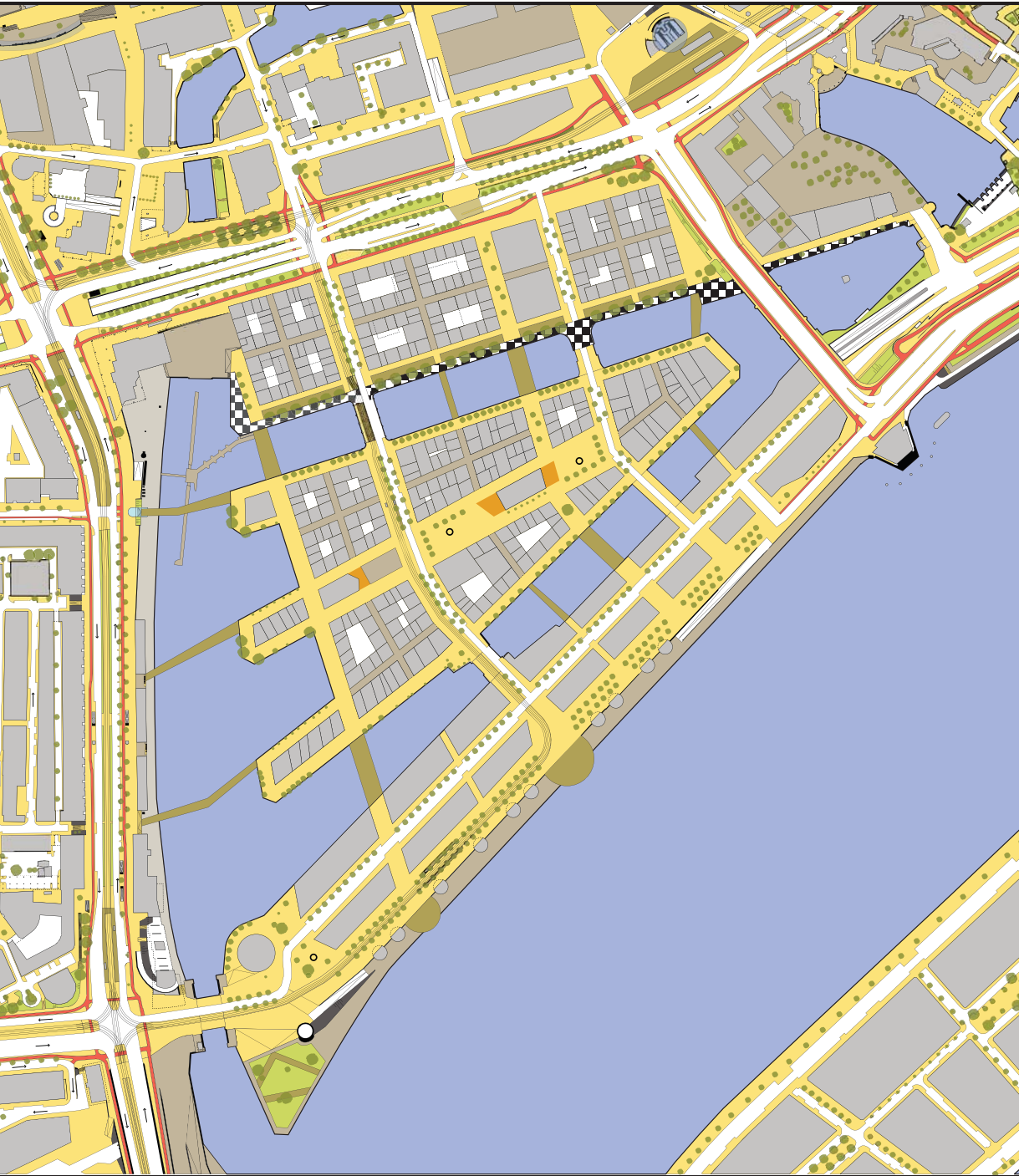PLANNING AND DESIGNING

NEW WAY OF BUILDING

DESIRABLE PERSPECTIVE

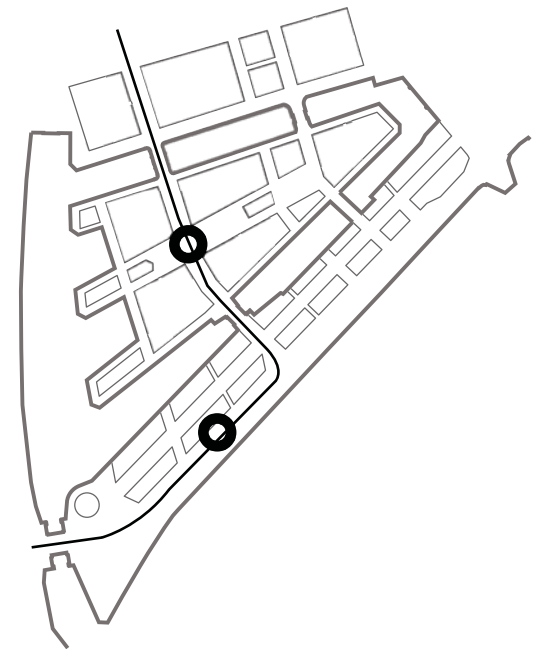[P01] NETWORK OF PATHS
AND GOALS

DESIRABLE PERSPECTIVE

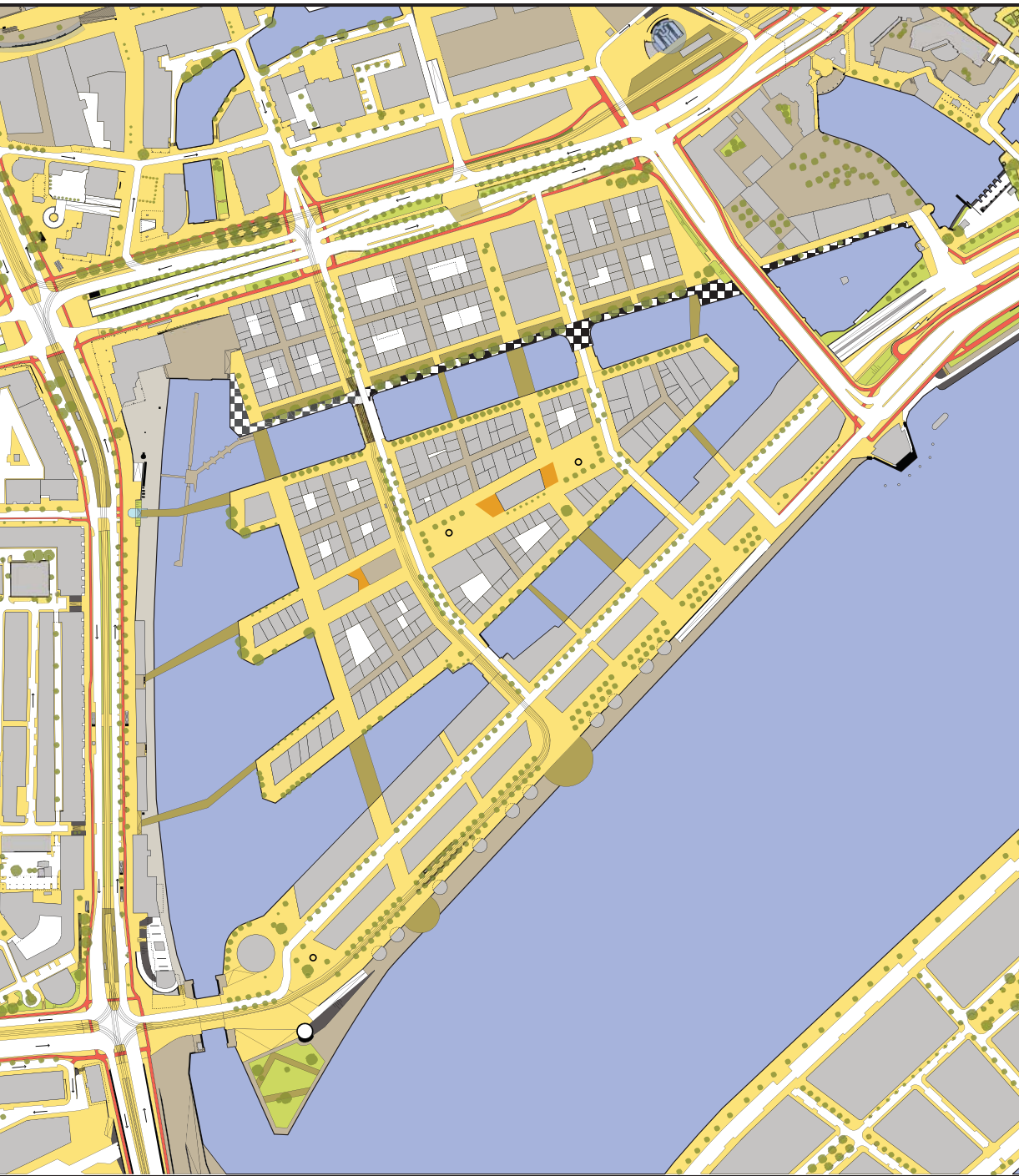- ◉ Public Square
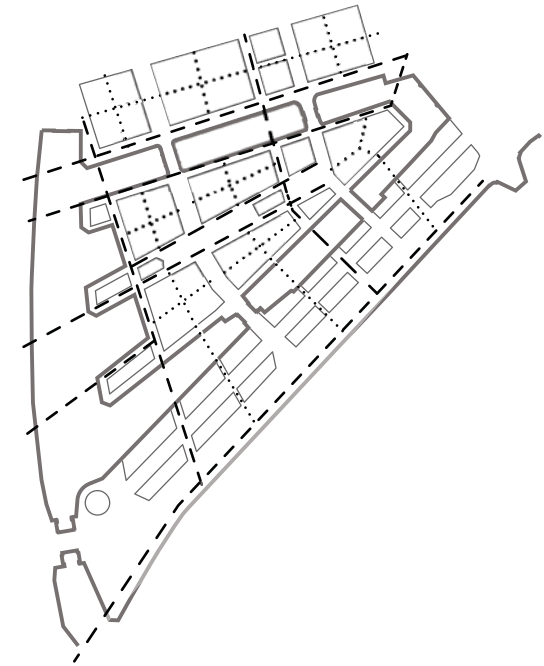- ⁝⁝ Waterfront or Harbor
- ▪ Public Building

DESIRABLE PERSPECTIVE

● Tram stop

/ Rail

DESIRABLE PERSPECTIVE

- - - Primary route for pedestrians

.... Secondary route for pedestrians

HEIGHT OF BUILDING

SHORT BUILDING BLOCKS

ARCADE

NARROW BUILDING FRONTAGES
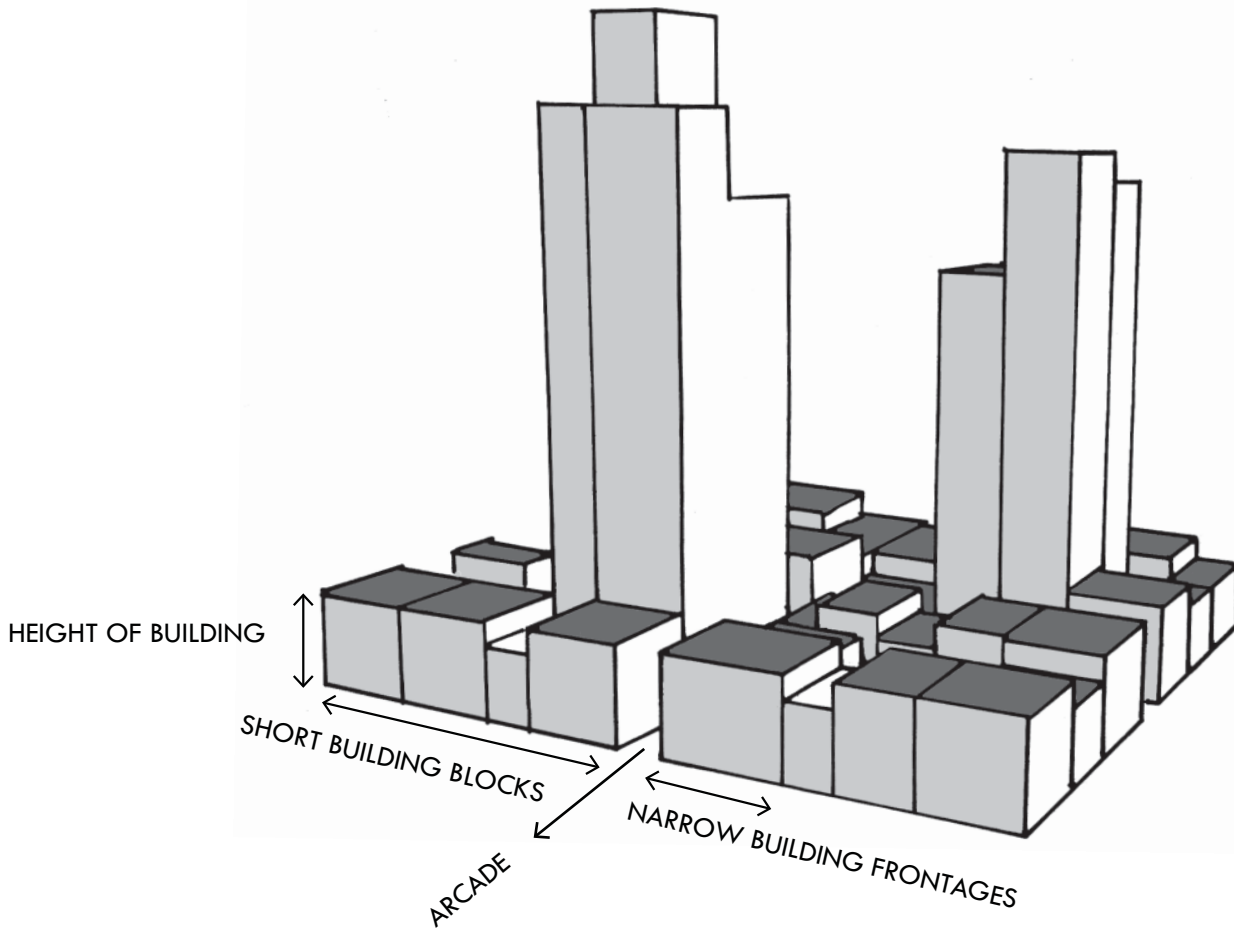
DESIRABLE

[P24] MIX OF LAND USE
[P25] SHORT BUILDING BLOCKS
[P26] NARROW BUILDING FRONTAGES
[P27] HEIGHT OF BUILDING
[P33] TRANSPARENCY
[P46] AWNING
[P47] ARCADE

P5 CITYPEDESTRIANIZED
CREATING URBAN ENVIRONMENTS FOR PEOPLE TO WALK

EVALUATION

HOW COULD THE CITY CENTER BECOME AN URBAN ENVIRONMENT THAT FACILITATES AND ENCOURAGES PEOPLE TO WALK?

PATTERN CATALOGUE

1. PROVIDES THE CONDITIONS

2. EVALUATES THE URBAN ENVIRONMENT

3. GIVES SOLUTIONS TO SOLVE THE PROBLEMS FOUND

PATTERN CATALOGUE

KEEP UPDATING AS MORE
RESEARCH WILL BE DONE

MORE TESTING FOR FEEDBACK
ALSO TRY AT DIFFERENT CITIES
AND OTHER TYPES OF URBAN
ENVIRONMENTS

DEVELOP A STRATEGY TOOL

AND REMEMBER:
• ONE PART OF AN INTEGRAL DESIGN
• NEED OF A STRATEGY

THIS IS .... (FILL IN YOUR NAME)

THANK YOU FOR LISTENING

BUT MAYBE YOU HAVE SOME QUESTIONS?