CITY PEDESTRIANIZED
CREATING URBAN ENVIRONMENTS FOR PEOPLE TO WALK

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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
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?

- Flexible
- More interaction with the surroundings
- More social interaction with other people
- Low environmental impact
- Promote your own personal health
- Affordable mode of transportation

BENEFITS OF YOU BEING PEDESTRIAN
POSITIVE EXPERIENCES OF YOU BEING PEDESTRIAN

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)
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?

A DRINK ON A TERRACE?

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

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

(TORONTO CITY COUNCIL 2002)
P5

CITY PEDESTRIANIZED
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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?
AND MUCH MORE

JAN GEHL  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
A wide variety of conditions are derived from different disciplines, standpoints and at different levels of scale.
GEMZŒ (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.

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

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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

Sketch by Doug Klotz (City of Portland 1998)
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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?
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.
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)

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

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…”

LET’S FOCUS ON ONE THING

IN A NUTSHELL
A PATTERN LANGUAGE

LET US MAKE A SMALL PUBLIC SQUARE

61 SMALL PUBLIC SQUARES

14 identifiable neighborhood
31 promenade
14 work community
123 pedestrian density
125 stair seats
124 activity pockets
126 something roughly in the middle
122 building fronts
106 Hierarchy of open space
30 activity node

IN A NUTSHELL
MIX OF LAND USE

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]
PATTERN CATALOGUE

PATTERN FIELD
(OVERVIEW OF THE COMPLEXITY)
P5 CITY PEDESTRIANIZED
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PRACTICE

SUB 3 HOW COULD THE PATTERN CATALOGUE EVALUATE THE URBAN ENVIRONMENT 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

source of image: Google Earth
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

0 200 300 400 m

Diagram showing various transportation nodes and their connections.
[P25] SHORT BUILDING BLOCKS

- Building block > 150 m
- Building block > 90 - < 150 m
- Building block < 90 m

- Water quay
- Building / Building block
- Railway

Scale: 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
PEDESTRIANIZED 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
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PRACTICE

SUB 3  HOW COULD THE PATTERN CATALOGUE EVALUATE THE URBAN
ENVIRONMENT 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
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
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:
• No removing of buildings or building blocks.
• No changes of the position of the quay.

Opportunities
• Adjusting or adding of buildings or building blocks is allowed.
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ADJUSTING THE URBAN ENVIRONMENT, WITH EXISTING SITUATION AS A STARTING POINT
FEASIBLE PERSPECTIVE

NO MIX OF FUNCTIONS
LONG BUILDING FRONTAGES
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

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

- Tram stop
- Rail
Primary route for pedestrians

Secondary route for pedestrians
DESIABLE

[P24] MIX OF LAND USE
[P25] SHORT BUILDING BLOCKS
[P26] NARROW BUILDING FRONTAGES
[P27] HEIGHT OF BUILDING
[P33] TRANSPARENCY
[P46] AWNING
[P47] ARCADE
P5  CITY PEDESTRIANIZED
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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
THANK YOU FOR LISTENING

BUT MAYBE YOU HAVE SOME QUESTIONS?

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