EVALUATE A
CYCLE-ATTRACTIVE
CITY (DESIGN)

An evaluation tool
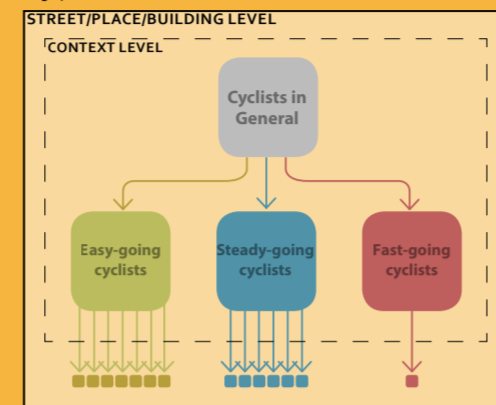
WHY SHOULD THIS EVALUATION BE USED?

More and more cities in the world are focussing on implementing a (re) new(ed) bicycle infrastructure. The bicycle infrastructure is often envisioned to make the city more attractive for the people (again), however a lot of the criteria to design for the bicycle infrastructure are left vague and (too) open for interpretation as 'attractiveness' is something personal. Because of this lack of definition the space for the cyclist is able to get compromised for other functions. This study shows that the further definition (per type of cyclist) of spatial design criteria for cycle-attractiveness could become a more elaborated evaluationtool for design choices when putting the priority for the space on cyclists per type and in different scales within the city.

WHAT IS BEING EVALUATED?

It is evaluated whether a proposal or implemented situation fits within a larger vision and relates through different scales while facilitating for different types of cyclists. The evaluation is done by focussing on the spatial criteria for cycle-attractiveness and directs towards a dynamic process where visions are constantly reflected within the implemented situation. The spatial criteria show that each type of cyclist prefers or are envisioned to use the space differently than other types of cyclists and therefore allows a more direct and fitting goal in specific areas of the city depending on its own characteristics in the current context or future development.

The cyclists are defined into three maingroups:
- **CYCLISTS IN GENERAL**
  - **CYCLISTS PER CATEGORY** (defined by their general mentality):
    - Easy-going cyclists: Seeing cycling as 'fun', taking their time, looking around to experience.
    - Steady-going cyclists: Seeing cycling as 'practical', being on time, looking towards their goal.
    - Fast-going cyclists: Seeing cycling as 'sport', taking their time, looking around to experience & towards their goal.
  - **CYCLISTS PER TYPE** (defined by their general goal or 'insecurity / limitation'):
    - Child-, Elderly-, Tourist-, Trip-, Shopping-, Attraction visiting- and Daily activity-
    - Weekly activity-, Occasional activity-, Student-, Commuting-, Working- and Visiting-
    - Racing cyclist

STREET/PLACE/BUILDING LEVEL
CONTEXT LEVEL

Cyclists in General

Easy-going cyclists | Steady-going cyclists | Fast-going cyclists

FOR WHO IS THIS EVALUATIONTOOL?

This evaluationtool can be used from two perspectives: evaluating an implemented situation and evaluating a proposal of a design.

Important involved (representative) stakeholders could be the Government/ Municipality, (public) bicycle association, (private) bicycle company or non-bicycle related associations (retail, residents, other traffic-users, etc.)

HOW CAN THIS EVALUATIONTOOL BE USED?

The usage of this evaluationtool allows a very flexible interpretation. The figures below show seven steps that should be taken by the designer or evaluator, however it does not matter amongst which of these steps is starter as long as all steps are looked at for a complete overview through all scales and perspectives. Each step advices to look at specific points and criteria. All spatial criteria which should be elaborated on can be found on the other side of this folder. The criteria point out a larger goal on which specific interventions can be reflected.

For this evaluationtool to work as properly and strong as possible the following relations are important to be defined in every process:
• the interaction between the context and location scale
• the (co)relation between the spatial criteria amongst each other

WHAT ARE THE LIMITATIONS OF THIS EVALUATIONTOOL?

It is to be noted that other criteria considering the climate, identity and management have an influence on the spatial criteria on all scales, however these effects have not been further looked at in this study.

This tool does not direct to specific interventions but it evaluates the larger goals of them. It is still up to the designer or planner to interpret the criteria and find suitable interventions to achieve them.

The spatial criteria in this tool focus on citystreets. Although most of the criteria can be used in a more residential- as well as in a more regional perspective this tool does not specify them. Because of the focus on citystreets the input of the fast-going cyclists in the city can be questioned since a network for these cyclists should be considered outside/bordering the city as they require more space and speed a city (in general) cannot facilitate.

THINGS TO KEEP IN MIND...

Planning a bicycle-network in the city is a dynamic process and should constantly be reviewed through the relation between each scale.

Interventions will be less effective if they are taken outside of their context. That is why it is important to always go through all steps.

It is important to show the positive effects of investing into a bicycle network to other (indirect) stakeholders in order to have as many agree and accept implementations.

The general question to ask: do the interventions add to achieving the larger vision of cycle-attractiveness? And how do the interventions affect other stakeholders?


FINAL GOAL

This tool ensures the facilitating of space for all types of cyclists on different scales in the city, altogether the networks should form a complete network for eveyerone to use. A specific design/evaluation goal is formulated to ensure the attractiveness of a route/place and directs to achieving this goal.

DEFINE THE VISION ON CONTEXT SCALE

Establish a complete bicycle network and specificy it in easy-going-, steady-going- and/or fast-going networks depending on the existing and future functions and developments in the city. Separate these networks (and from other modalities) as much as possible to ensure a clear goal.
Use the criteria for the context scale to evaluate

etc. •••
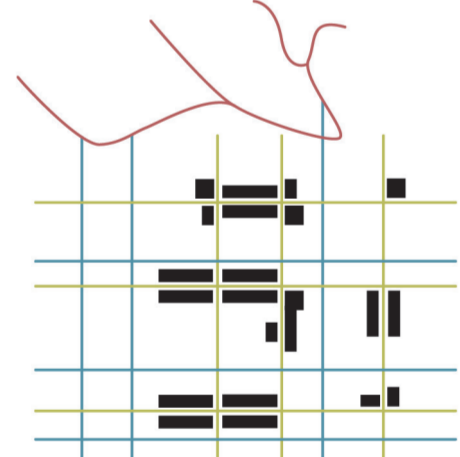
SET (DEVELOPMENT) PRIORITIES

Safety issues
Missing links in the network
Future developments
Minimum cycle-attractive
Contradictions with other traffic networks
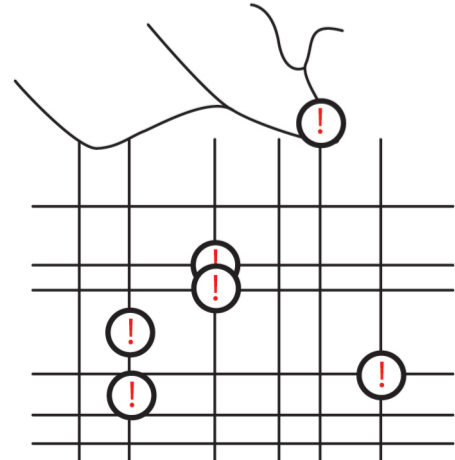
DEFINE HOW THE PLAN SHOULD INTERACT WITH OTHER STAKEHOLDERS

residents | stores

DEFINE THE REQUIRED SPACE FOR THE CYCLISTS

### DEFINE REQUIRED VIEW FOR THE CYCLISTS

DEFINE THE REQUIRED ELEMENTS OF ACTIVITY FOR THE CYCLISTS

(RE)EVALUATE THE LOCATION FOR THE SET VISION

Use the criteria at location scale to evaluate
Establish the critical elements to change of the functioning of the location as a whole.
Establish the required changes per cyclist category and per type of cyclist.
! Review the city vision and adjust to the opportunities and limitations of the specific location.

DO THE EASY-GOING CYCLISTS FIT WELL HERE?
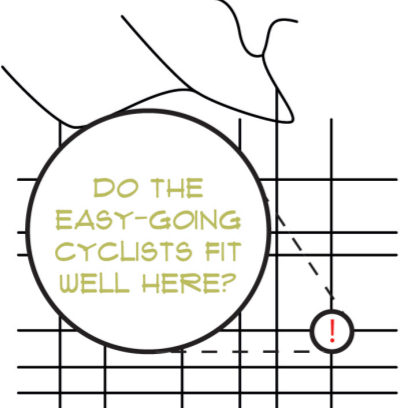
CONTEXT (CITY / REGION) CRITERIA
DEFINING THE NETWORK(S)

Max. distance between mainroutes should be 600 meters.

Main routes of cyclists and cars separated.

Within 300 meters a cyclist can choose a way to a different

Ability to see where a cyclist is on a route.

Room for changing direction. | Room for continuity. | Room for continuity.

OR | OR

Prefer to ride through green areas or other functions. | Prefer the quickest route over routes with specific functions. | Prefer to ride through green areas or other functions.

OR | OR

DEFINING THE FUNCTION(S)

The space is arranged taking into account cyclist measures.

It is clear what riding style is expected from the cyclist.

I understand I should cycle here!

Prefer a large concentration of functions close to each other along the route. | Prefer a large concentration of functions close to each other along the route. | Prefer a large concentration of functions close to each other along the route.

OR | OR

SPECIFIC LOCATION (STREET / PLACE / BUILDING) CRITERIA
SPACE FOR THE CYCLIST(S)

Smooth surface for comfort. | Max. 50° of treshold to avoid bumping into.

max. 50°

Cyclists assigned to the colour red in materials (in the Netherlands). | Parking spaces fitting the bicycles and space for the cyclist to stand next to it.

RED

Moving around obstacles | OR | Moving along obstacles

Smooth paving as material | OR | Smooth asphalt as material

Prefered width of the bicyclelane (corners should receive an extra 0,4m (with 15 km/h) or 0,75m (with 18 km/h) to allow a smooth turn.

TRIP CYCLIST | DAILY ACTIVITY CYCLIST

ATTRACTION VISITING CYCLIST | SHOPPING CYCLIST | VISITING CYCLIST

WEEKLY ACTIVITY CYCLIST | OCCASIONAL ACTIVITY CYCLIST

COMMUTING CYCLIST

OR

ELDERLY CYCLIST | RACING CYCLIST | WORKING CYCLIST

OR

CHILD CYCLIST | TOURIST CYCLIST | STUDENT CYCLIST

VIEW OF THE CYCLIST(S)

Clear beginning and ending of the street. | Distinct architecture making a street recognizable.

Uniqueness elements to become easily recognizable.

Familiar with the situation needs no signs | OR | Unfamiliar with the location requires signs

I know the way | this way

Clear views towards the goal | OR | Interesting views along the way

Unhindered sightlines to show the goal | OR | Unhindered sightlines to invite for activity

The required viewing distance depending on the average speed of the cyclist | OR

15 km/h | 18 km/h | 20 km/h

Eyes on the road from residents | OR | Eyes on the road from (public) functions

No large values towards architectural details | OR | Fine architectural details for interesting views

Required lighting depending on the traveltime during the day or evening

ELDERLY CYCLIST | DAILY ACTIVITY CYCLIST

OR

CHILD CYCLIST | STUDENT CYCLIST | VISITING CYCLIST

WEEKLY ACTIVITY CYCLIST | COMMUTING CYCLIST | RACING CYCLIST

ACTIVITIES OF AND FOR THE CYCLIST(S)

Activities towards the final goal | OR | Activities along the way

A strict relation between the public and private to allow minimum interaction | OR | A smooth relation between the public and private to create a large interaction

public | private

A limited density of amenities to reduce obstructions | OR | A high density of amenities for activities

Overlapping day/night functions required

ELDERLY CYCLIST | DAILY ACTIVITY CYCLIST | CHILD CYCLIST

VISITING CYCLIST | SHOPPING CYCLIST | RACING CYCLIST

TRIP CYCLIST | ATTRACTION VISITING CYCLIST | TOURIST CYCLIST

STUDENT CYCLIST | WORKING CYCLIST | WEEKLY CYCLIST

TRIP CYCLIST | ATTRACTION VISITING CYCLIST

TOURIST CYCLIST | SHOPPING CYCLIST | OCCASIONAL ACTIVITY CYCLIST

WORKING CYCLIST