

Erwin Bouius  
Director

Tosca van der Zwaag  
Projectmanager





## FOLKERSMA ROUTING EN SIGN

- Since 1998
- In-house departments
- Specialized in the development of recreational networks:
  - Cycling
  - Hiking
  - Sailing
  - Horseback riding
- From scratch to installation and maintenance
- Created over 30.000 km cycling network
- Managing more than 35.000 km of recreational networks



# A CYCLING JUNCTION SYSTEM



- Cycling routes connected by numbers > junctions
- Designed in two directions
- Easy navigation
- Discover the area and it's valuable sights



**35.000**  
kilometer

## Facts Dutch Cycling Junction Network

**9.500**  
junctions

*4 icon -long  
distance-  
cycling routes*

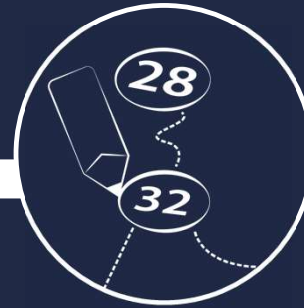
Positive experience during  
a cycle trip is mostly influenced by:

- Surroundings
- The bicycle
- Safety and comfort





## HOW DO WE DO IT?

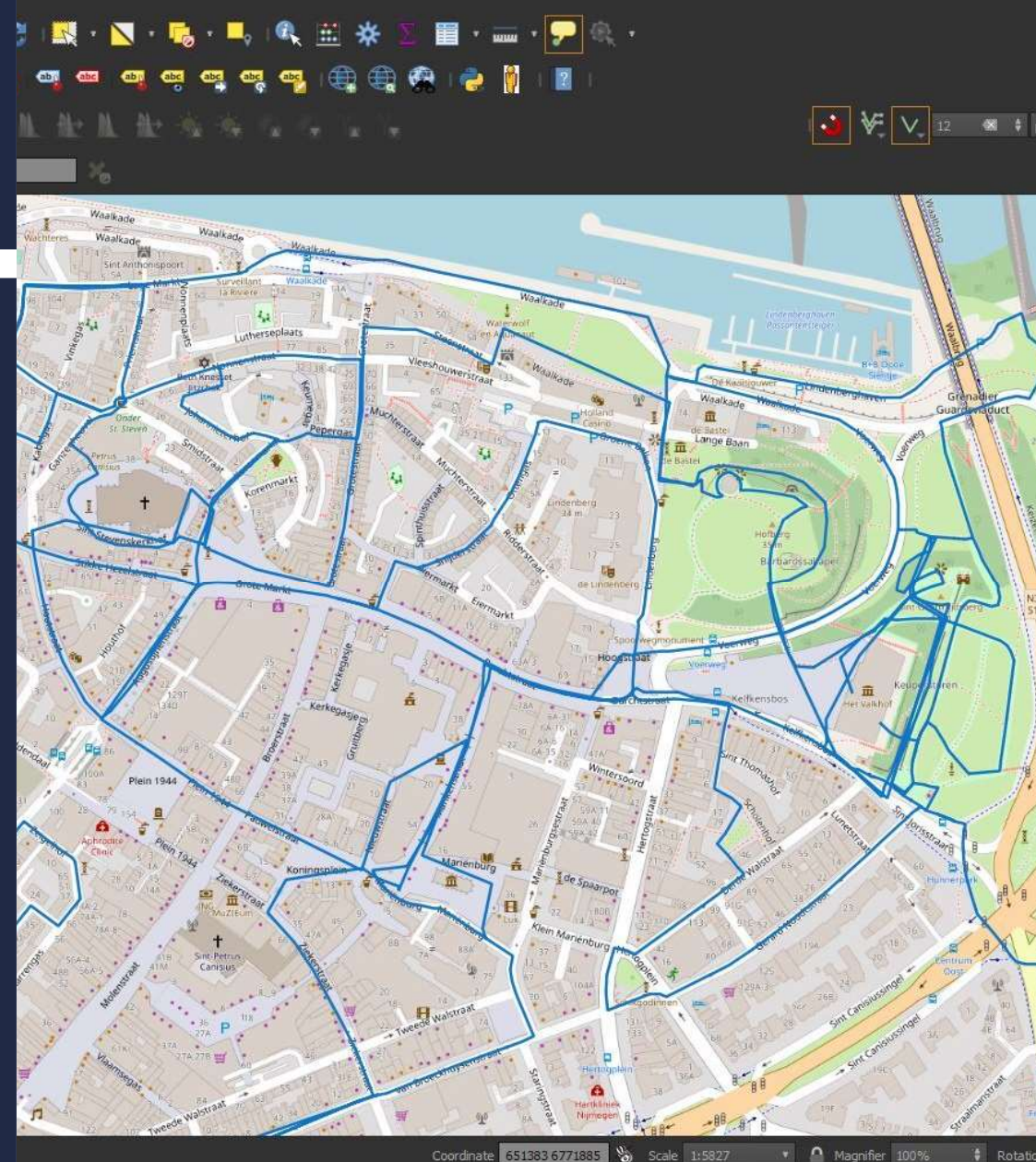


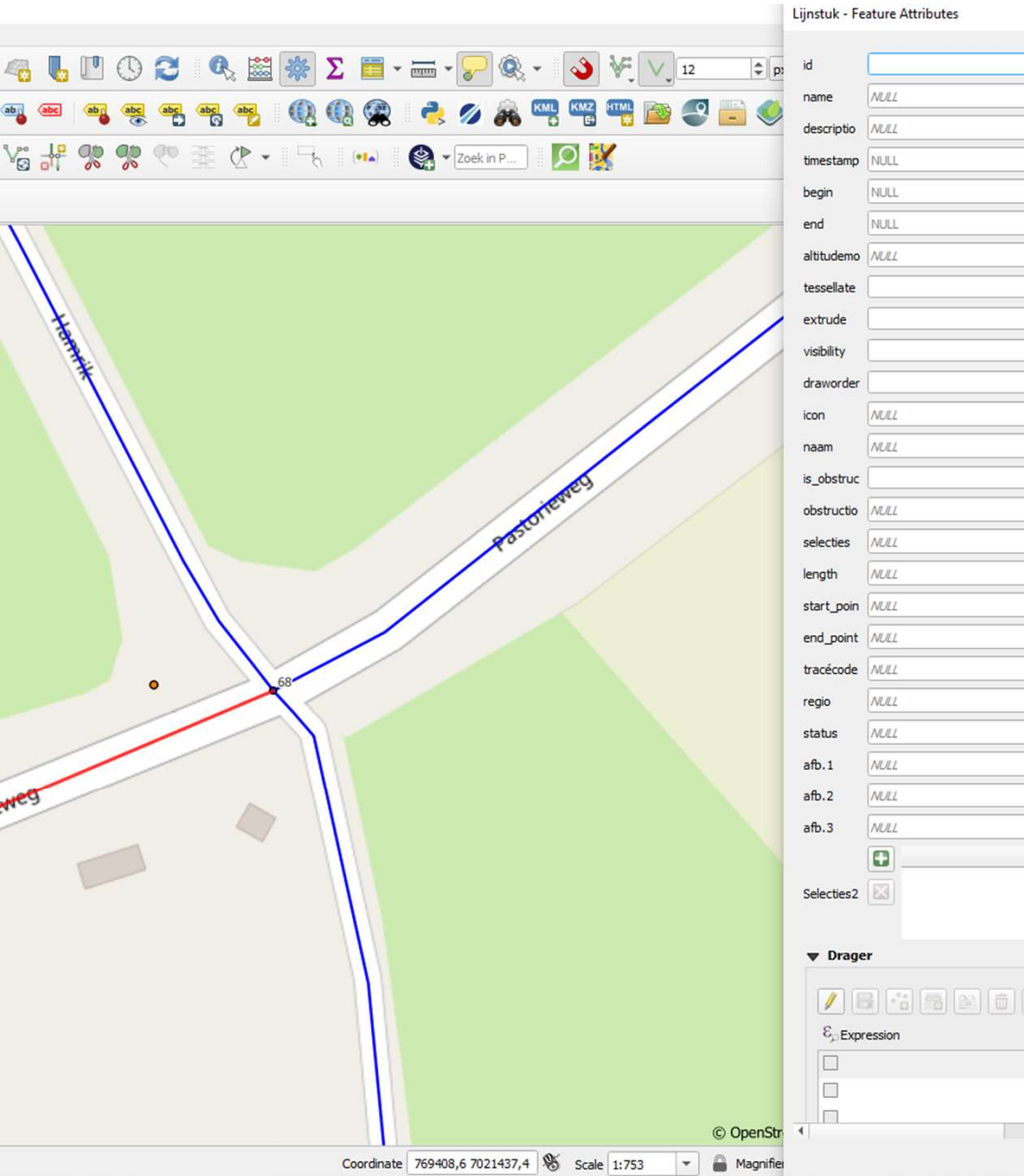
- Data
- GIS
- C-TIP
- Concept network
- Design
- Digitising
- Production signs
- Physical installation
- Management and maintenance
- Third parties

# DATA



- Collect data
  - Existing cycle routes
  - Points of Interest
- Connect data
- Add missing links
- Eliminate blind spots





# GIS



- Development concept networks in GIS
- Working with standardized templates
- Technical facts:
  - Junctions where three or more routes meet
  - Numbering junctions: 1-99
  - Minimal route length

## C-TIP



- Online route management platform
- User friendlines
- Realtime data
- Geographical locations based on coordinates
- Gives insight in the condition of a routenetwork



Over  
**1 million**  
unique  
locations

**255**  
active  
networks

**10**  
million  
pictures





## FIELD WORK FOR CONCEPT NETWORK

- Field inspection
  - Accessibility
  - Feasibility
  - Safety
  - Surface
  - Ownership
- Discussion with local governments
- Involvement of local interest groups
- Signage plan

# DESIGN



- Colors
- Design
- Materials
- Font
- Cartography
- CROW manual

Resulting in a

- Corporate Design Manual





## PRODUCTION SIGNS

- Generate production list in C-TIP
- Smart lay-out system
- Labelling signs
- Quality check

## PHYSICAL INSTALLATION



- Installation manual in C-TIP
- Installation recorded in C-TIP
- Real-time data
- Convenient support by GIS department





**10.000**  
reports  
made by cyclist

**40.000**  
reports  
yearly



## MANAGEMENT AND MAINTENANCE

- C-TIP
- Yearly inspection
- Making and receiving reports
- Ongoing development
- Data collection for third parties

## THIRD PARTIES



- C-TIP has direct connection with routedatabank
- Data for governments
- Data for other parties e.g. route planners (API) and physical maps
- Cyclists involvement
- Meldpunt routes





ASK AWAY!



**FOLKERSMA**  
ROUTING EN SIGN

[www.folkersma.nl](http://www.folkersma.nl)

Ready for some more cycling junction news?

Visit:

<https://www.c-tip.com>

<https://fietsplatform.nl/informatie/english>

<https://www.hollandcyclingroutes.com>