





A tray, a sensor behind the window with a camera counting **permanently** :

- **Cyclists**
- **Cars**
- **Pedestrians**
- **Trucks + coaches**

#ModalSplit

#Speeds



Replacing expensive
counters.

1 counter/week = 5 x
Telraam permanent

#LowCost



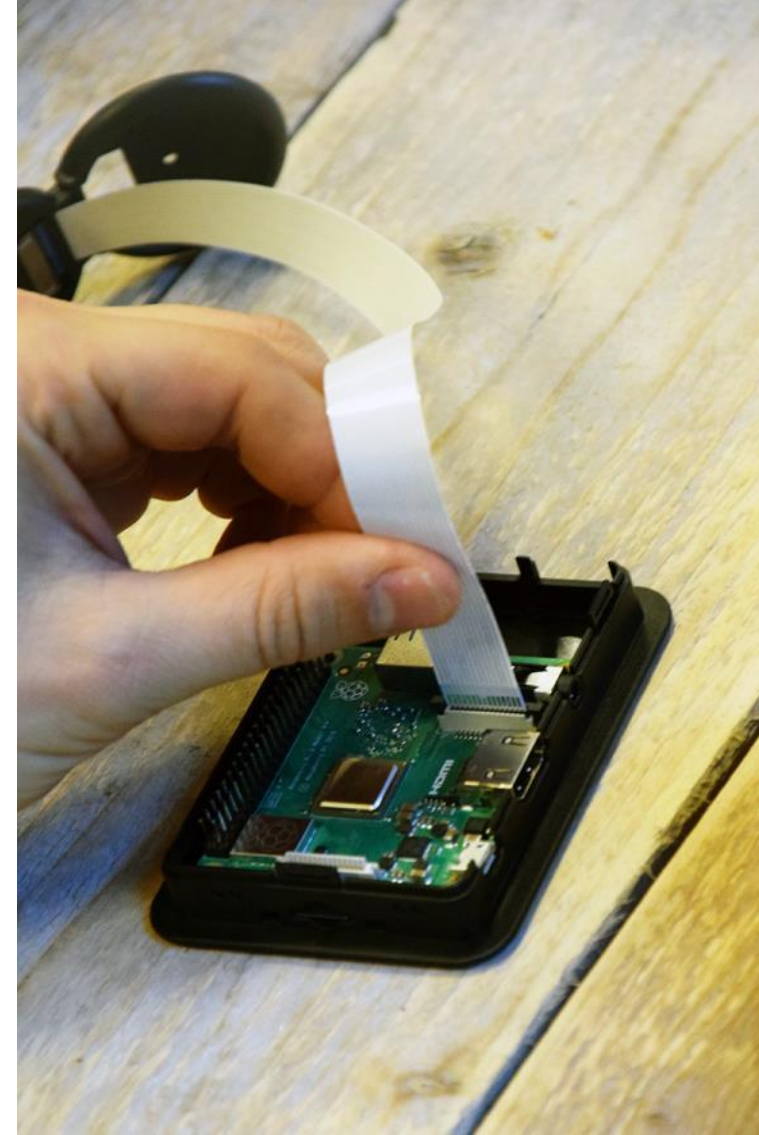
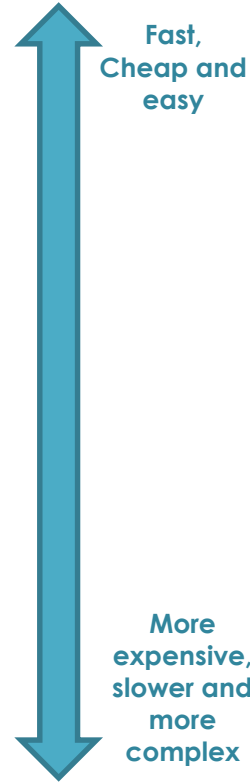
That's how we give citizens a **voice**.

In this way, they can work with the municipality or city council **to adjust the circulation, ask for extra cycling space or prevent traffic jams**.

The measurement data also **objectify** the gut feeling of citizens.

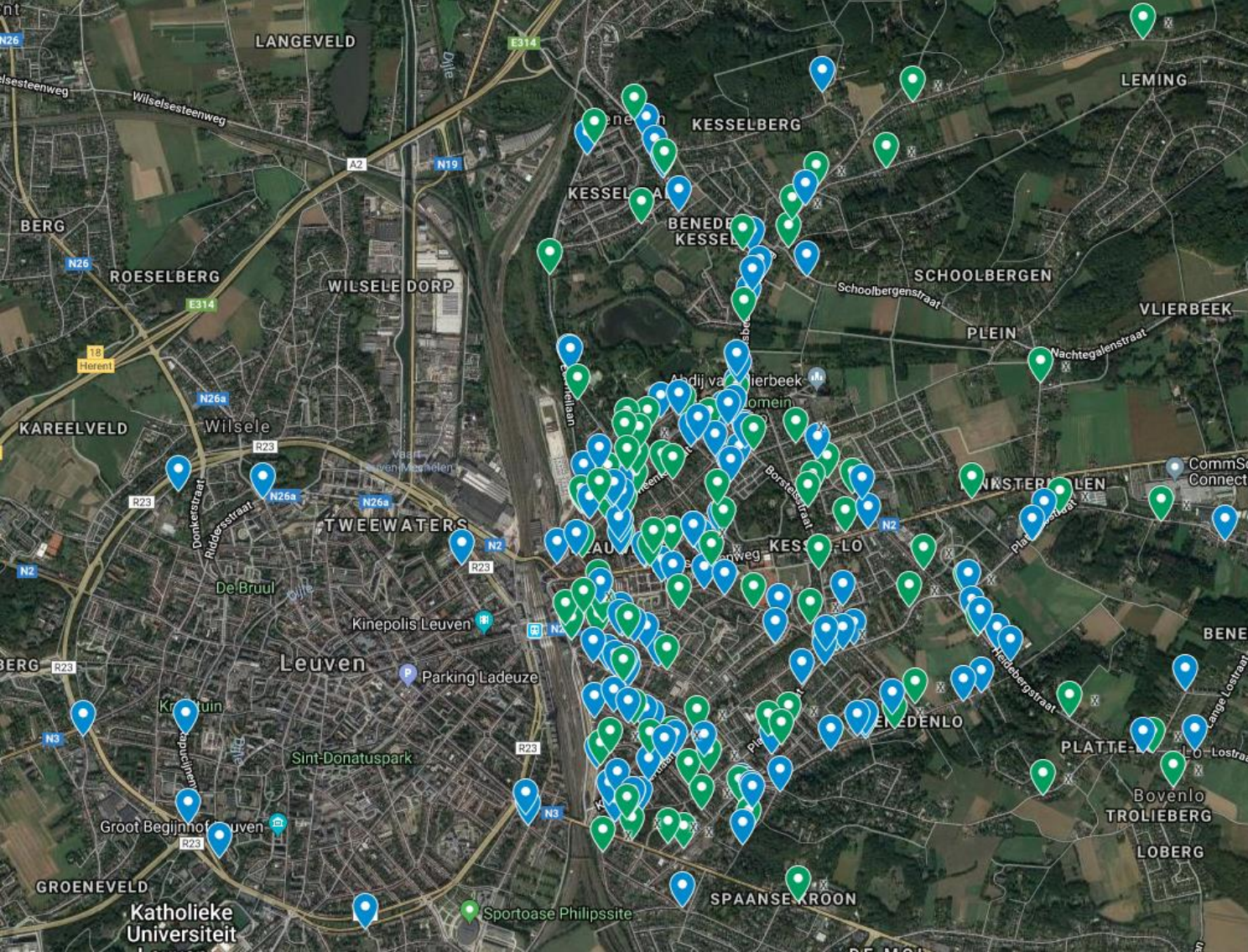
MATRIX OF POSSIBLE MEASURES

- Basis for constructive neighborhood dialogue
- Traffic direction adjustments
- Choice of an optimal approach route towards cycle highways
- Adaptation of parking facilities/zones
- Background info sweeping routes
- Speed reduction measures
- Detection and dispersion of traffic
- Impact of road works on diversion
- Distribution effect of road works on diversion
- Adaptation of light control of traffic lights
- Input and adjustments to the mobility plan
- Infrastructure adaptations
- ...



TELRAAM

PILOT KESSEL-LO (LEUVEN)



Together with citizens
we will do traffic
counts.

No less than 250
people were
interested in Kessel-Lo.
And finally 100 were
selected.

#CitizenScience
#Participatory

PILOT KESSEL-LO



Telraam

@TelraamTelraam

Volg je nu

En we zijn vertrokken met de eerste 50 Telramers! Vanaf morgen permanente verkeerstellingen door burgers in Kessel-Lo [#CitizenScience](#)



20:12 - 21 mrt. 2019

3 retweets 18 vind-ik-leuks



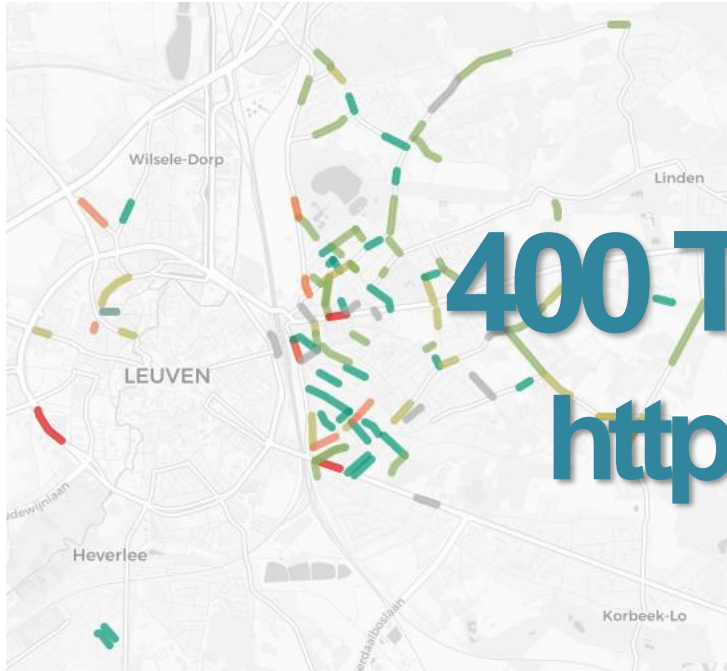
2 3 18



TELRAAM

TELRAAM - DATA

Leuven



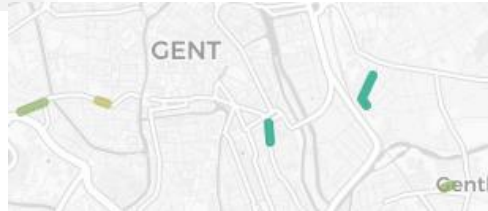
Antwerpen
with Straatvinken



400 Telramen live*
<https://telraam.net>



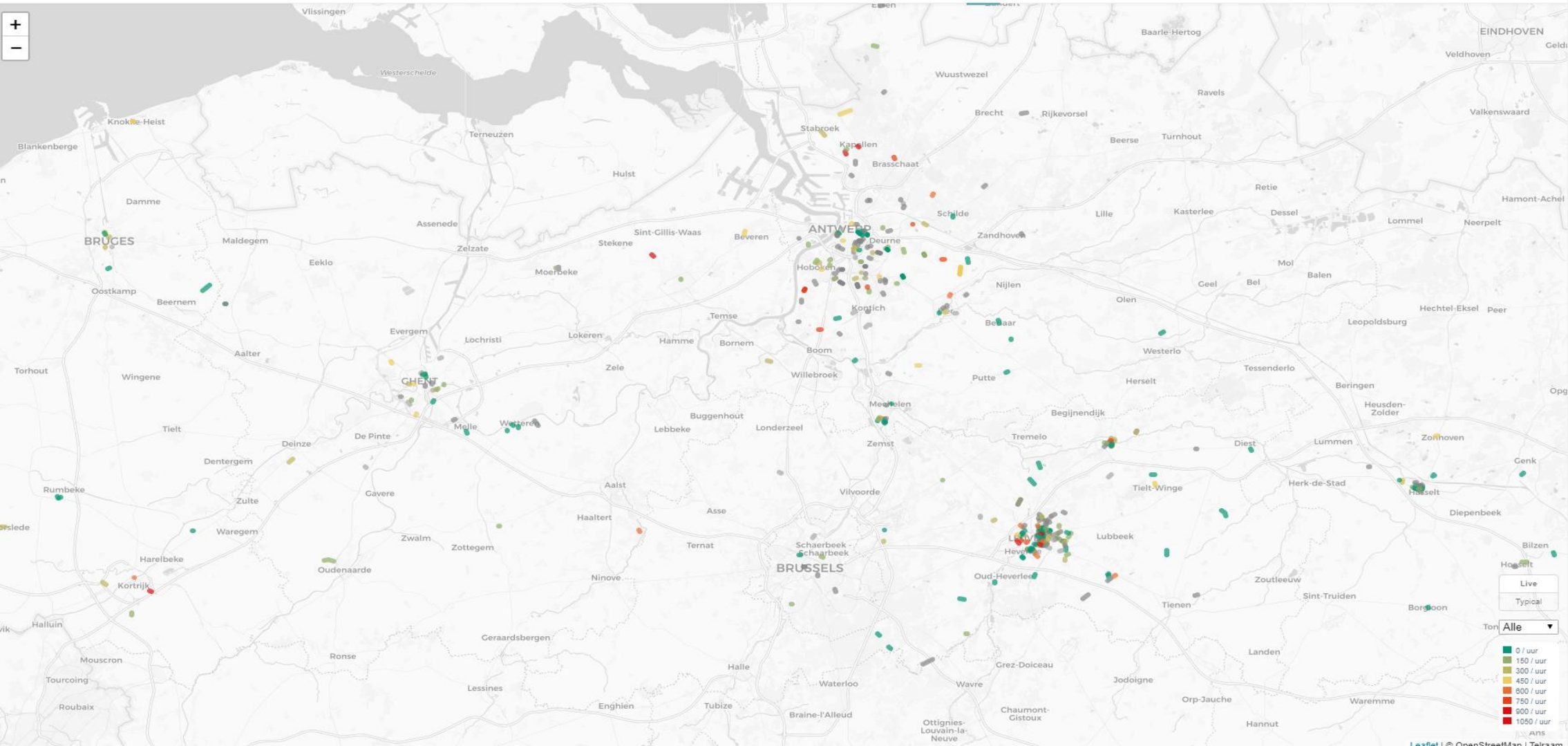
Aarschot



Gent

TELRAAM

Brussel, Diest, Scherpenheuvel, Westerlo, Tienen, Hoeselt, Brugge, Mechelen...

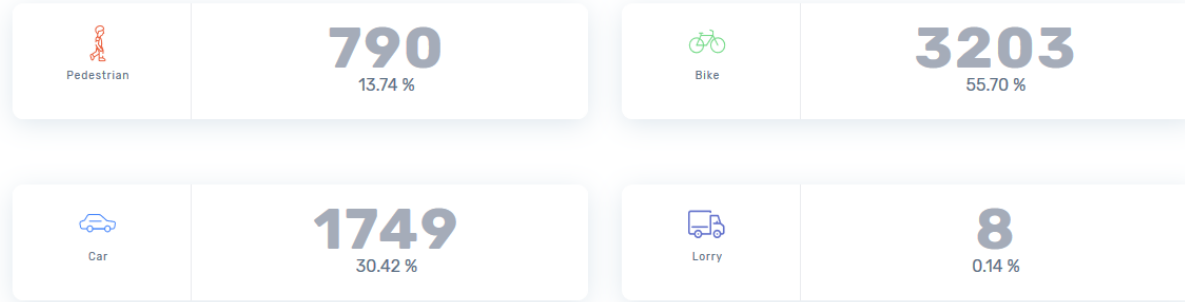


Live
Typical

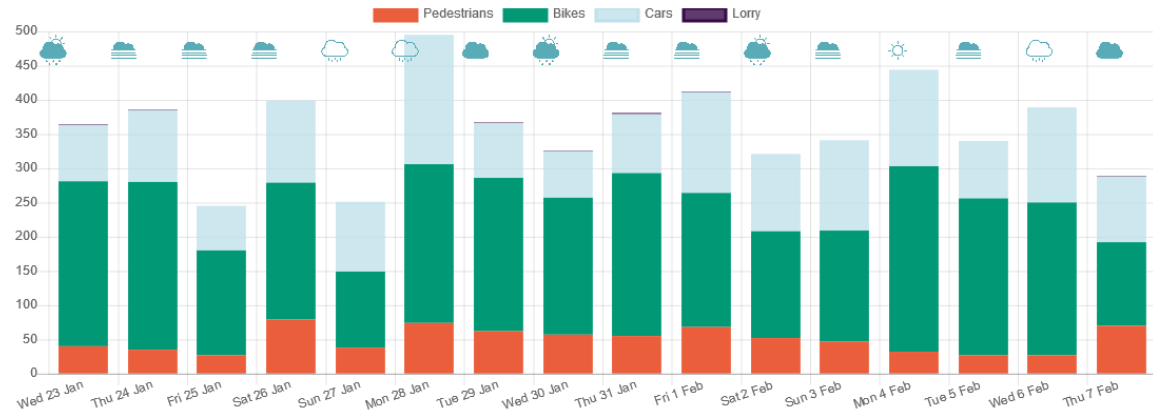
Ton Alle

- 0 / uur
- 150 / uur
- 300 / uur
- 450 / uur
- 600 / uur
- 750 / uur
- 900 / uur
- 1050 / uur

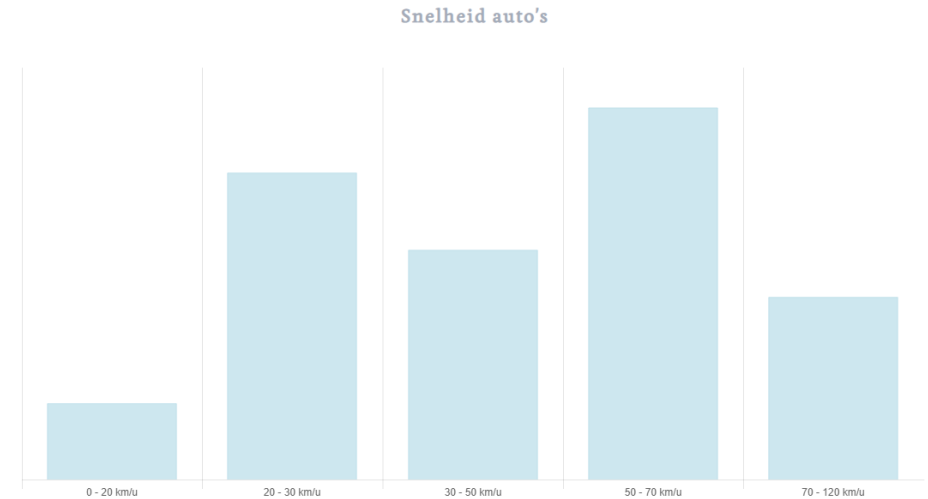
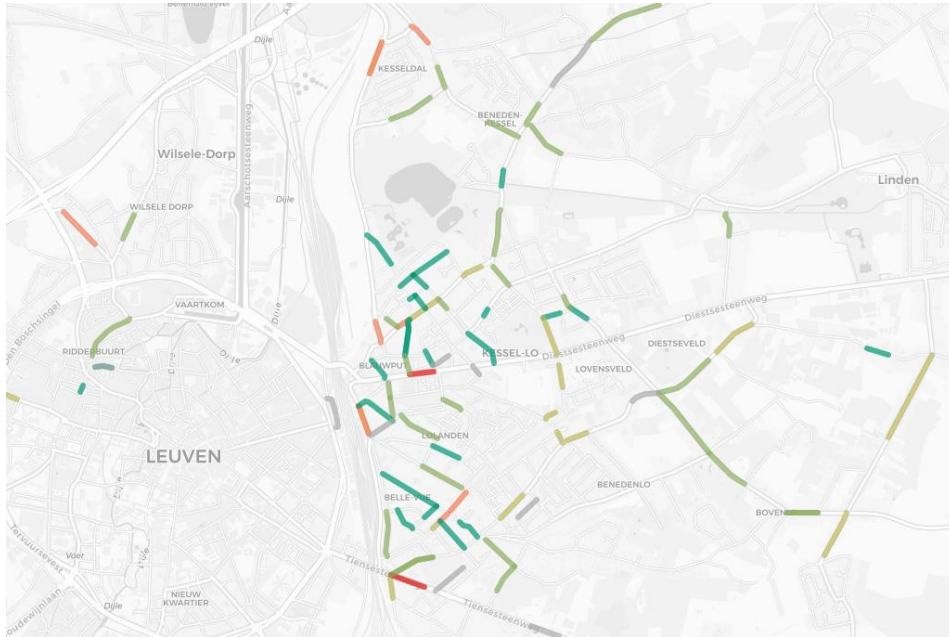
VISUALISATION MODAL SPLIT



Overzicht per dag



VISUALISATION SPEEDS

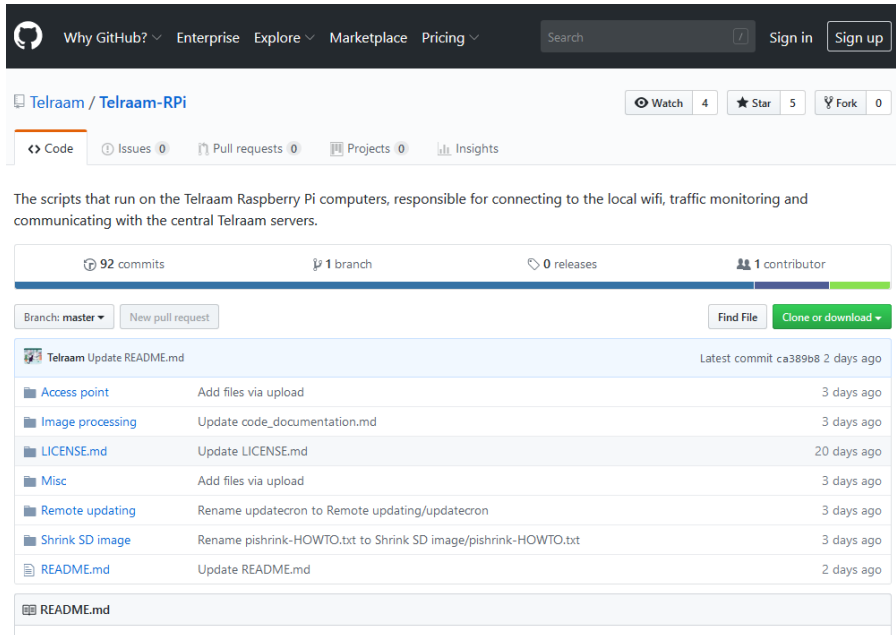


T E LRAAM

Future developments

Community

- <https://github.com/Telraam/Telraam-RPi>
- <https://telraam-api.net/>



The screenshot shows the GitHub repository page for Telraam/Telraam-RPi. The repository has 92 commits, 1 branch, 0 releases, and 1 contributor. The main branch is master. The repository contains several files and folders, including Access point, Image processing, LICENSE.md, Misc, Remote updating, Shrink SD image, and README.md. The README.md file is highlighted, showing its latest commit from 2 days ago.



PUBLIC API TELRAAM 1.0

Introduction

- GET welcome
- GET all available cameras
- GET active segments
- GET camera by mac id
- GET cameras by segment id
- GET all segments
- GET segment by id
- POST report by id
- POST report

Public API TELRAAM 1.0

GET welcome

`https://telraam-api.net/v0`

GET all available cameras

`https://telraam-api.net/v0/cameras`

This HTTP `GET` request method is meant to retrieve all available cameras from the server. Cameras are identified by a unique Mac identifier and it belongs to a specific user:

- `mac`;
- `User`;

Additionally some information on where the camera is situated is provided

- `segment_id`;
- `direction`;
- `status`;
- `manual`;



TELRAAM

Smart Mobility Belgium Project
Start September '18 > 2 Years
Strong multidisciplinary team

<https://www.smartmobilitybelgium.be/projets>

waanz.in

MOBIEL21
ZET MENSEN IN BEWEGING

TM TRANSPORT
& MOBILITY
LEUVEN

.be

Automatic simulations of highway traffic based on open source count data



**OFFICIAL
LAUNCH**

KU LEUVEN

**Welcome to the
CREATIVE LABORatory for
Intelligent Transport Systems!**

The screenshot shows a GitHub repository page for 'OpenTrafficCenter' by user 'HimpeWillem'. The repository is a basic implementation of a traffic monitoring and control center for the Flemish Highway system in Matlab. It has 114 commits, 1 branch, 0 releases, and 1 contributor. The repository is licensed under GPL-3.0. The file list includes 'FIGURES', 'MATLAB', 'README.md', and 'license.txt'. The README.md file is open, showing the title 'OpenTrafficCenter' and a description: 'A basic implementation of a traffic monitoring and control center of the Flemish Highway system in Matlab developed by the L-Mob Research Center at the KULeuven'. The introduction section states that the application allows users to visualize traffic data and create a simple traffic model for any corridor along the highways of Flanders (Belgium). It also mentions that the traffic data is provided by the open data platform of Flanders and is externally repackaged and made available on <http://www.itscrealab.be>.

OpenTrafficCenter: Visualizing traffic conditions within clicks

The screenshot displays the OpenTrafficCenter web application interface. The main area shows a map of Leuven, Belgium, with a route highlighted in red and green. The route starts at a starting point (6675) and ends at an end point (6310). The map includes latitude and longitude coordinates and a scale bar. The right sidebar contains controls for selecting the route, date, and time, and buttons for loading data and analyzing it.

Select Route on Map

E314 Leuven Lummen

6675 Starting Point

6310 End Point

Valid Route Selected

Select Date and Time

11-Dec-2018 15:00 Starting Time

11-Dec-2018 20:00 End Time

5 Data Files Found

Load Data

Collect Data Delete Detectors

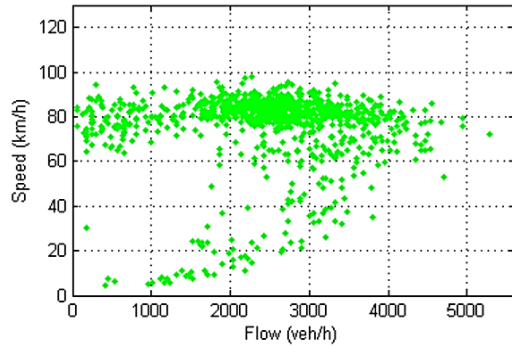
13867 Data Points Selected

Analyse

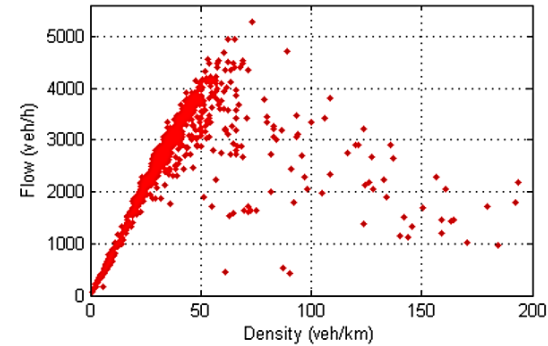
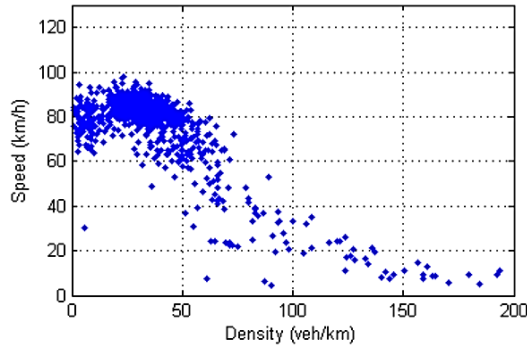
Process Data Run Model

Compare Results

Automatic identification and retrieval of open data traffic measurements along the path between points



Traffic state on the main highway

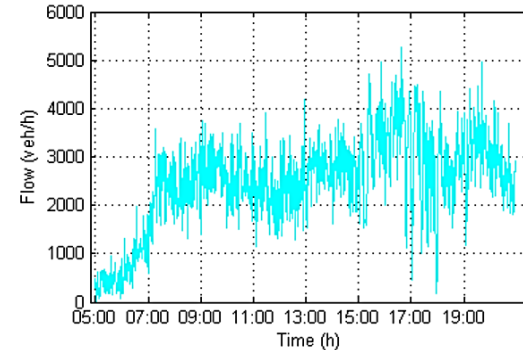
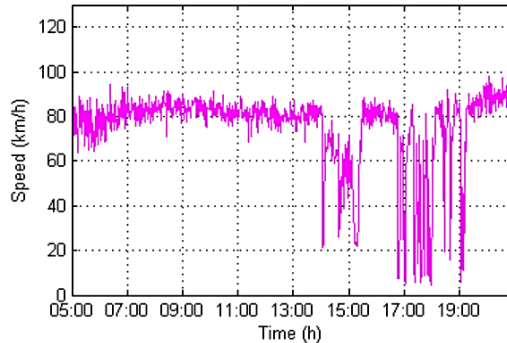


Position:
0.152582

Lane:
SUM

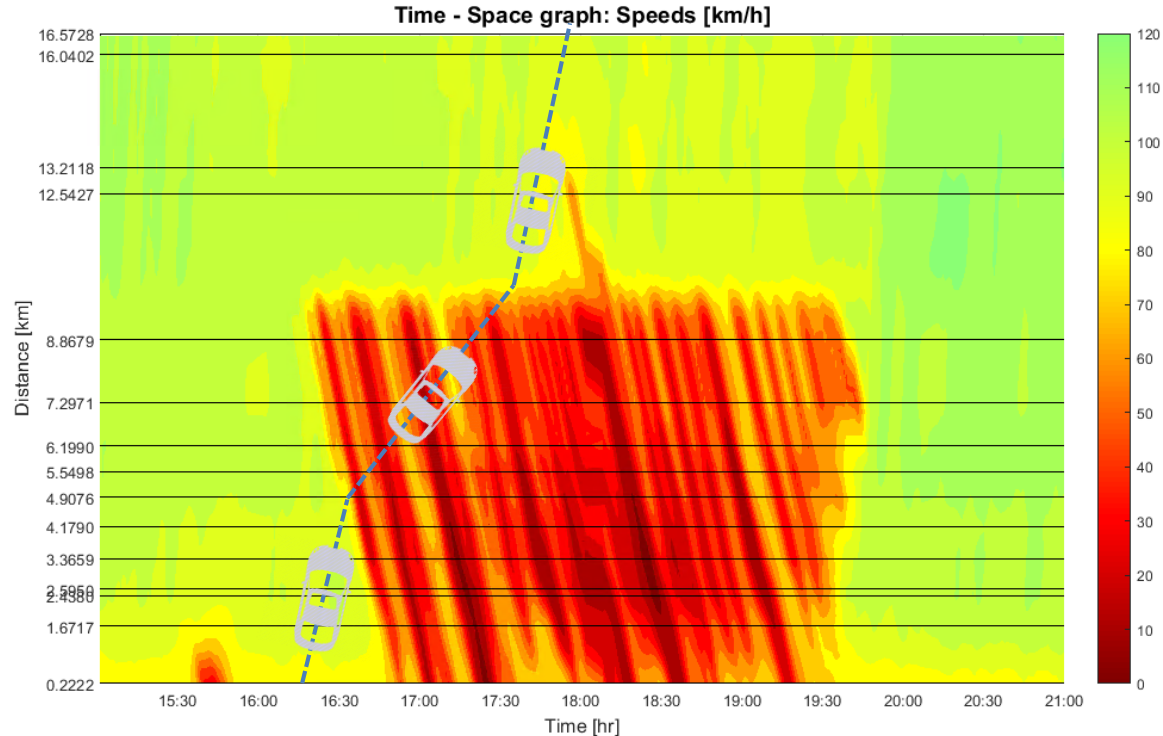
Sum of all lanes [2 lanes]

Aggregation:
1 min

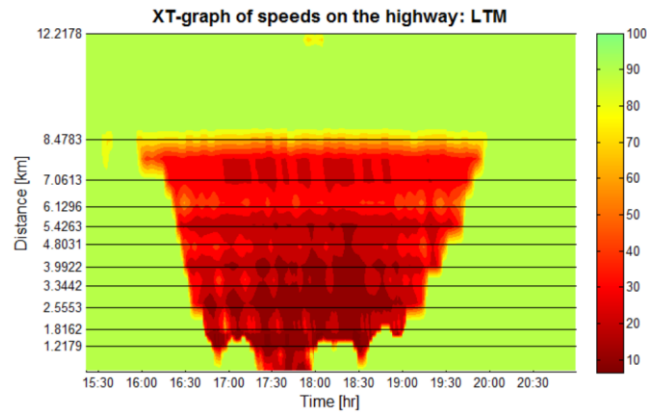
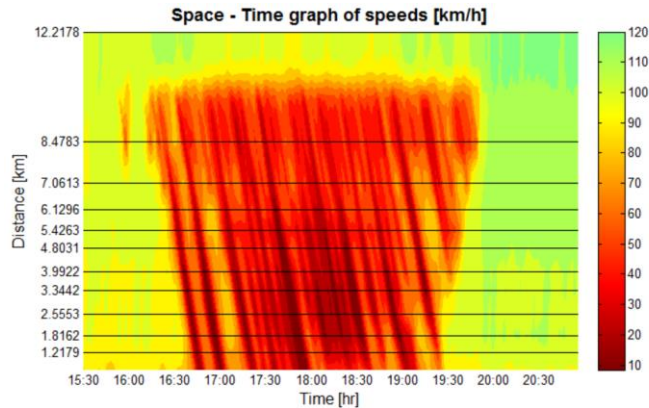
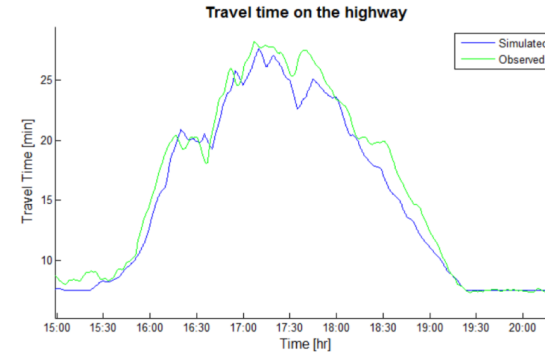
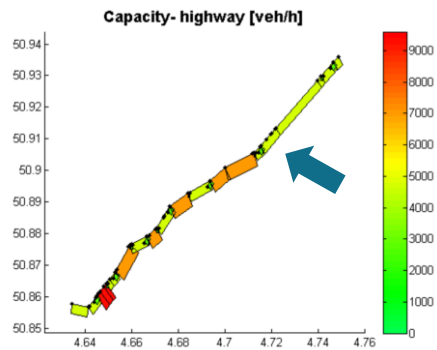


Realtime: Traffic state estimation

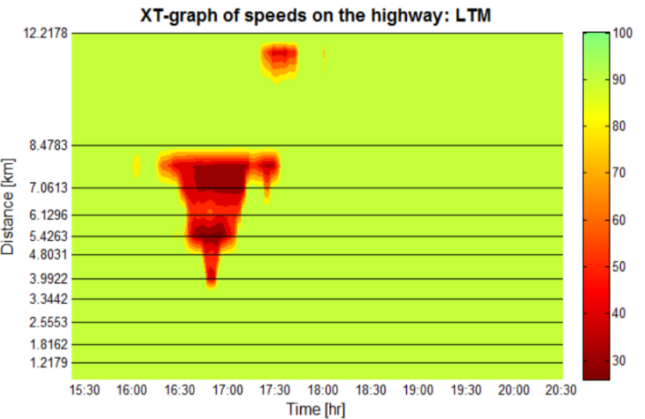
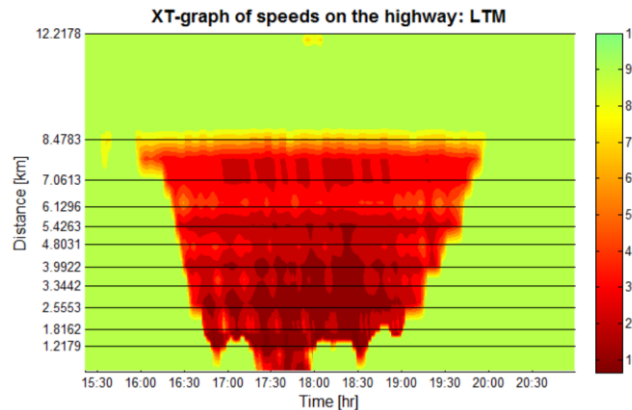
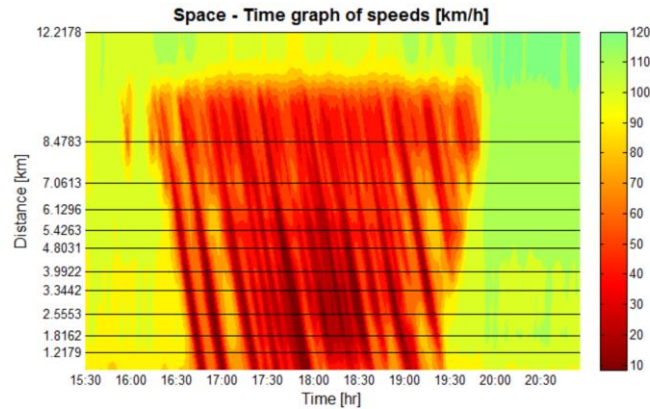
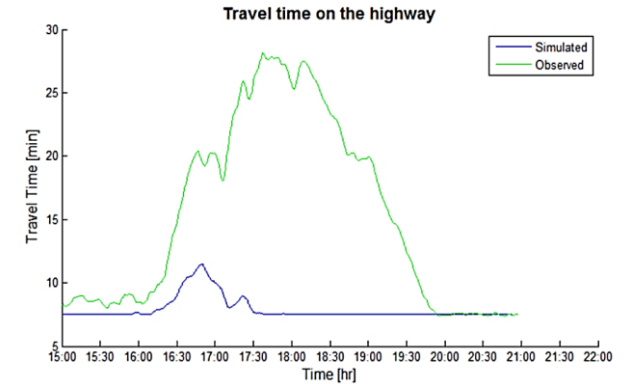
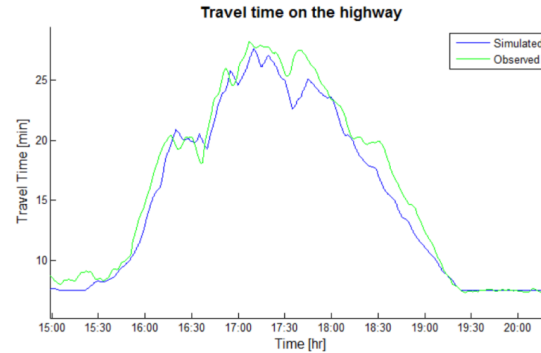
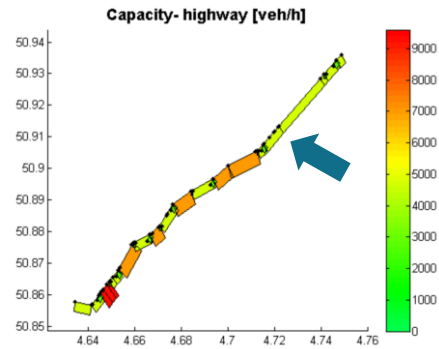
- Data filtering and interpolation



Automated set-up of dynamic traffic simulation



Forecast outcome of scenario's



Our mission



Promote the use of (dynamic) traffic models

- Educate
Most gains are in the algorithms
- Evidence based on observations
Real-world networks
Opportunities for open data
- Reduce set-up time
Large networks require huge efforts
 - Computation time
 - Calibration effort



TELRAAM

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waanz.in

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ZET MENSEN IN BEWEGING

ML TRANSPORT
& MOBILITY
LEUVEN

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