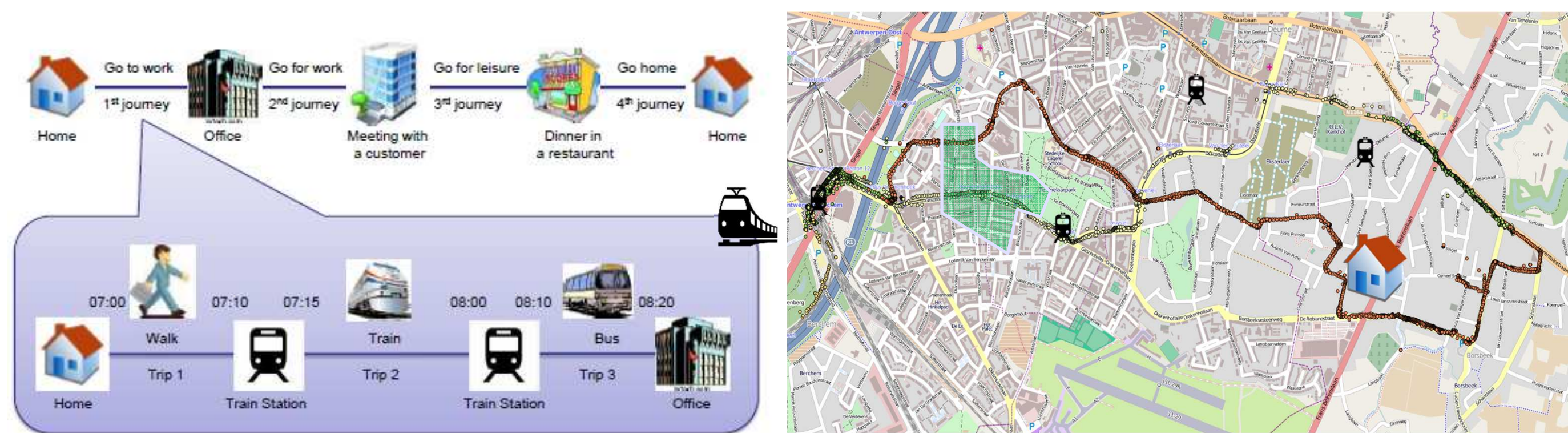


Introduction

Questions about how people decide travel mode or route can only be answered if enough high-quality data are available. In the past, individual travel data were collected in a-posteriori surveys (trip diaries), which imposed several restrictions on their quality: travel time (start, stop) and route geography (origin, destinations) were only roughly described for short periods. Today, new ICT (e.g. smartphones) offers opportunities for test quality and length improvements and, at the same time, to reduce test participants' burden. They can provide exact record of positioning and time at both travel origin and destination, and even the route between them.



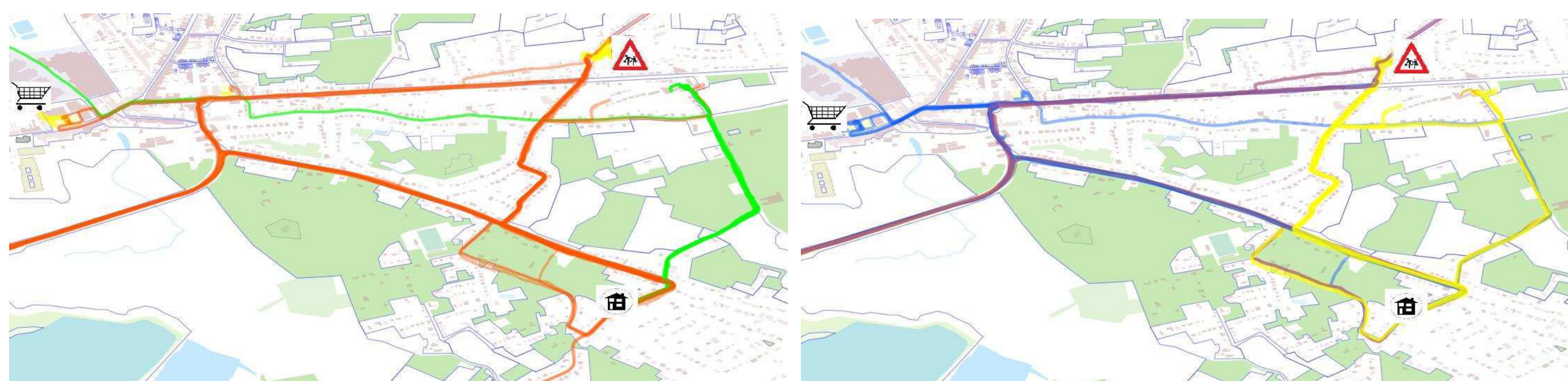
The purpose of travel behavior surveys is to analyse the spatial and temporal organization of trips and the activity patterns.

The MOVE-platform

For that reason, Ghent University developed the MOVE-platform, a data platform for collecting, processing and monitoring single travel data, by means of sources like GPS-loggers, smartphones or bluetooth scanners. They developed a dedicated smartphone app, called CONNECT, to collect travel data. Beginning his trip, the user selects travel mode and trip purpose, and then starts the trip pushing the 'start-button'. 'Pause-button' introduces modal changes and 'stop-button' finally ends the trip logging. This allows a live recording of individual trips, with minimal manual intervention by the user.



GUI of the CONNECT-app



Individual trip maps by mode (left) and by purpose (right)

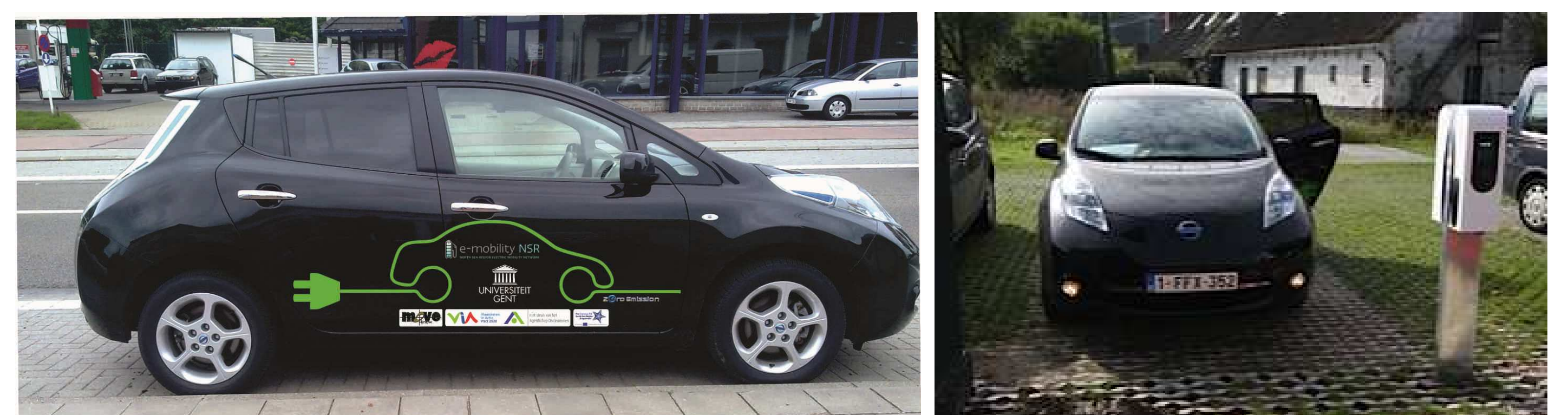
Earlier applications

The MOVE-platform has proven its value in several earlier projects:

- **Flemish Living Labs Electric Vehicles:** 5 labs to analyse EVs and promote their advantages, used the MOVE-platform to group travel and charging data from EVs.
- **Bike2Work:** a derived app, where users log their bike trips to work. Monthly, an overview of their trips is automatically generated, as a proof for their cycling. Using that tool employers can validate their monthly reports, saving a lot of administrative efforts, while a large set of cycling data is collected.

E-Mobility NSR

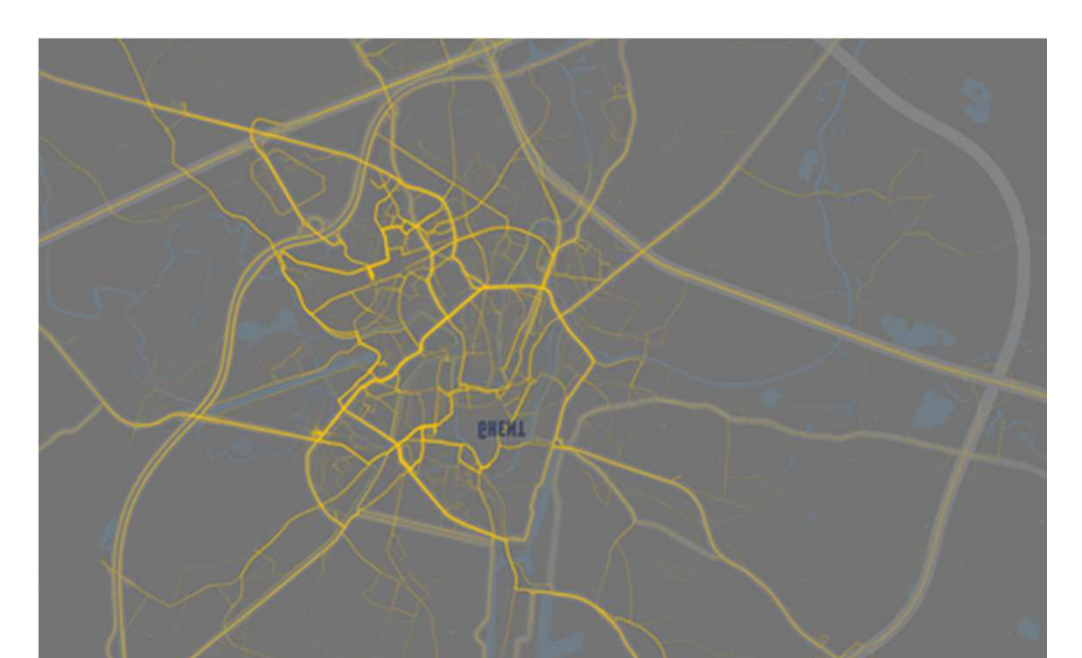
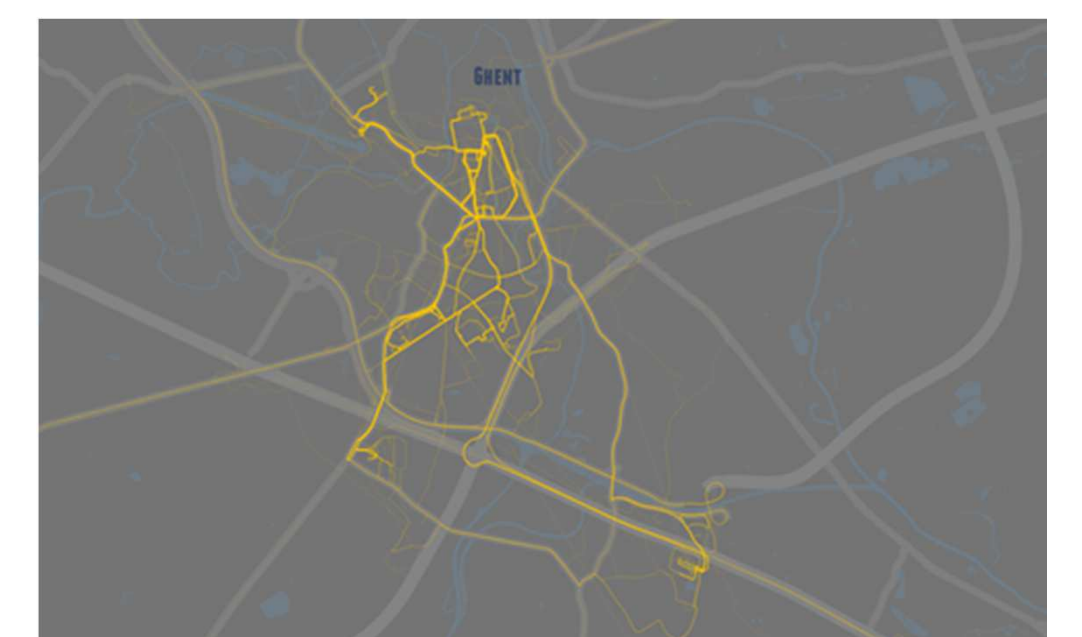
E-Mobility NSR is an Interreg IVb North Sea Region project, coordinated by Hamburg University of Applied Sciences, with a partnership of 11 organisations covering all countries in the Region: Belgium (Flanders Region), Denmark, Germany, Netherland, United Kingdom, Norway and Sweden. Its scope is to increase regional accessibility by fostering e-mobility diffusion and stimulating the use of public and private electric car transport as well as freight across the North Sea Region (NSR) (see: www.e-mobility-nsr.eu)



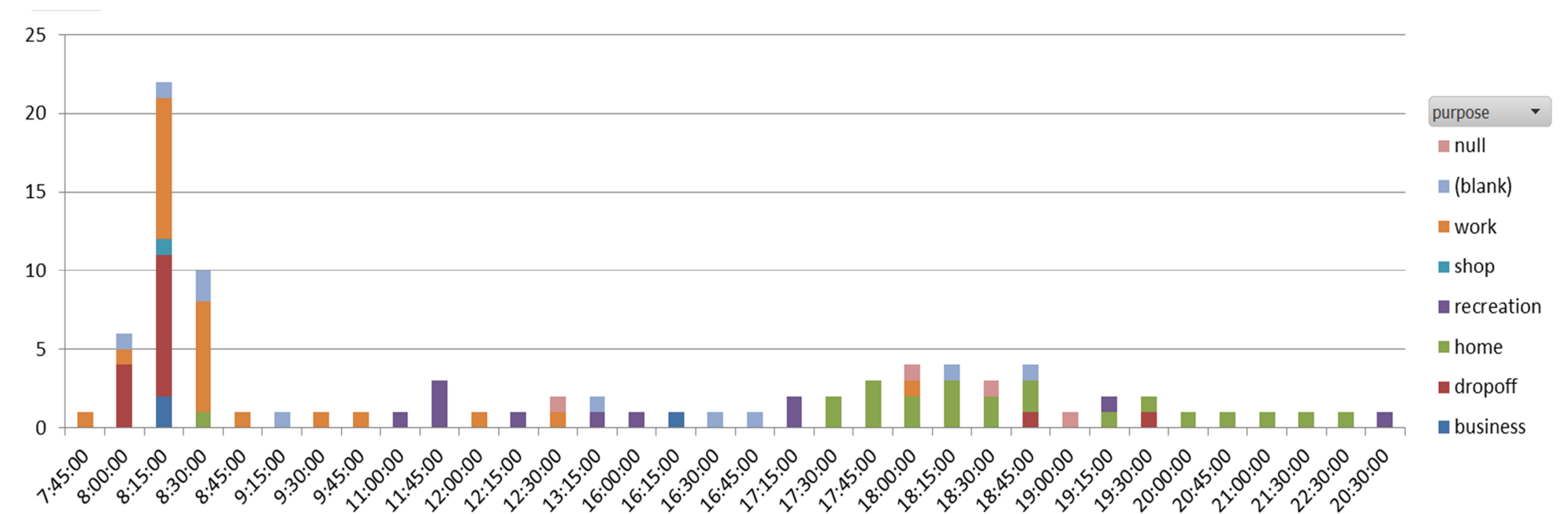
E-Mobility EV and charging station as used in the co-housing test sites.

Within this project, Ghent University coordinates the work-package on "Smart-grid solutions" for EVs, with the goal to develop models of smart-grid compatible with EV needs. In the field tests, designed to measure the current EVs storage capacities, as well as their charging needs and their energy consumption, the MOVE-platform has been used and implemented. Particular success obtained the cohousing car-sharing test.

Cohousing is a special type of collaborative housing, where residents actively participate in the operation of their own neighbourhoods. Since July 2013, 4 cohousing units, varying between 20 and 40 people, are testing 2 EV each through an internal car-sharing system. Participant questionnaires are filled online before, during and after the test, in order to evaluate in a dynamic way their EVs perception. Their travel behaviours are monitored with the MOVE-platform: EVs are logged with GPS-loggers, participants record their trip behaviours in CONNECT.



Cohousing trips daily maps



Overview of individual trip pattern

Some conclusions

CONNECT is based on 'active logging', which still requires limited manual intervention from the end-user. The app is evolving towards 'passive logging', that is, users' trips logged automatically by simply turning on the smartphone. Passive logging is a major step towards 24/7 monitoring

On the side of the car-sharing cohousing EV test, participants are enthusiasts of both EVs and approach, promising to continue it after the end of the project.