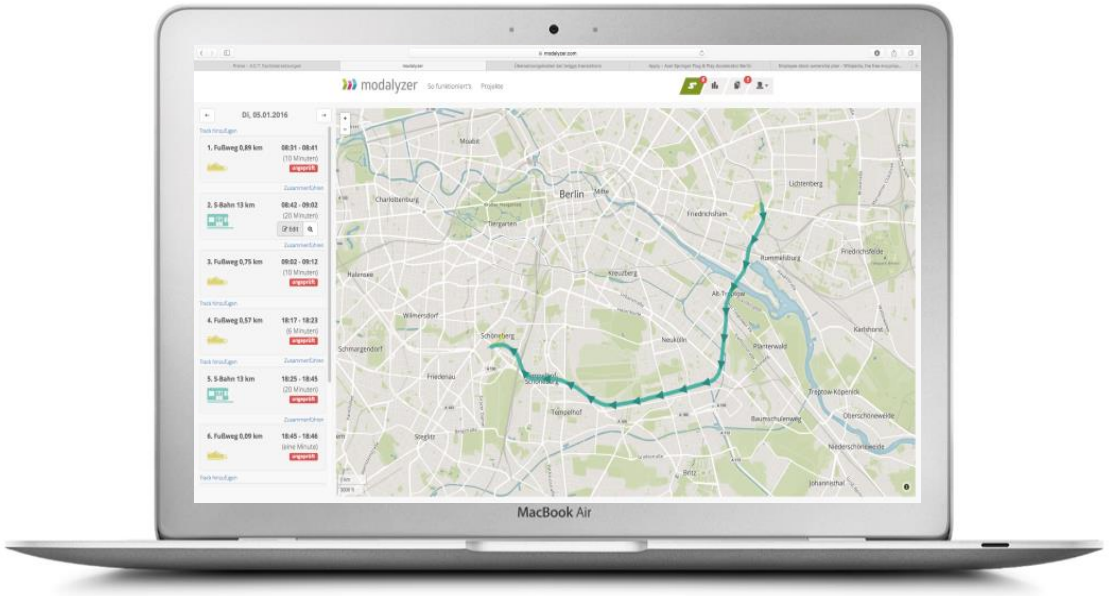
Innovationszentrum für Mobilität
und gesellschaftlichen Wandel

Overview & application examples in
Ukraine and Colombia
Berlin, 25.09.2018, Transport & Climate
Change Week

modalyzer – a smartphone-based mobility diary

modalyzer



2 Typical questions of traffic planners

„How do people use public and private transport options?

How do they combine different modes of transport?

Do new mobility services substitute/cannibalize public transport?

How does usage alter over time [day, week, year, decades]?

Which role does urban cycling play and how to support this mean of transport in future?

3 Smartphone GPS tracking app modalyzer

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Our clients

Ministries & councils

Operators & companies

Science & research

Urban & transport planning

Challenges

- Growing City
- Raising traffic flows
- Reduction of emissions
- Strengthen of the public transport system
- Demand for alternative transportation (mobility and logistics)
- Identification of complex pathway patterns (mobility patterns)
- Increasing multi-and intermodal mobility

Goals

- New or update of an existing mobility concept for the city or an area
- Improvement of public transport
- Need for specific measurements e.g. reduction of dangerous or crowded zones
- Implementation of a new system e.g. bikesharing, carsharing, charging infrastructure
- Better connection of transport modes to develop a mobility network

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modalyzer is a smartphone app with automatic mode recognition

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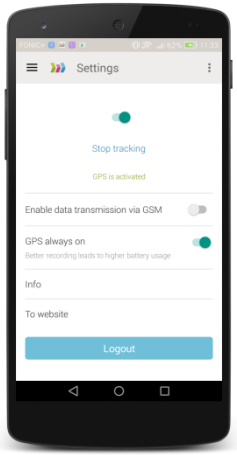
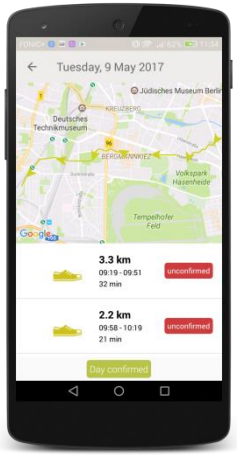
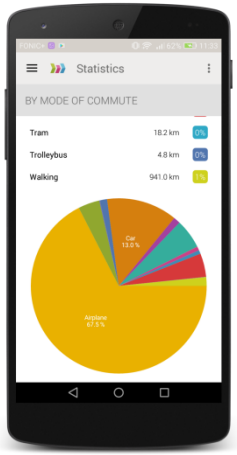
Tracking



Confirming/Editing



Statistics

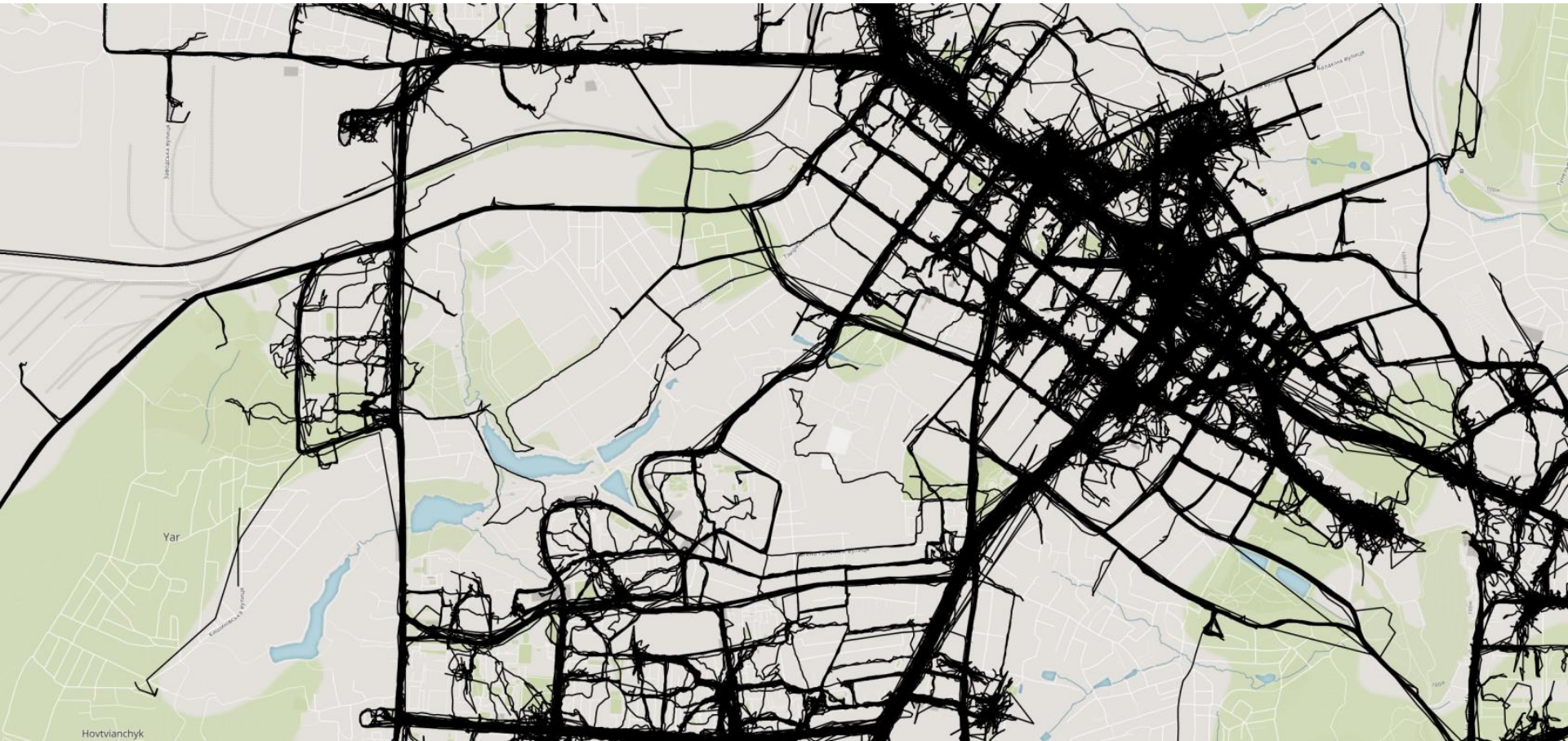


Automatic recognition globally

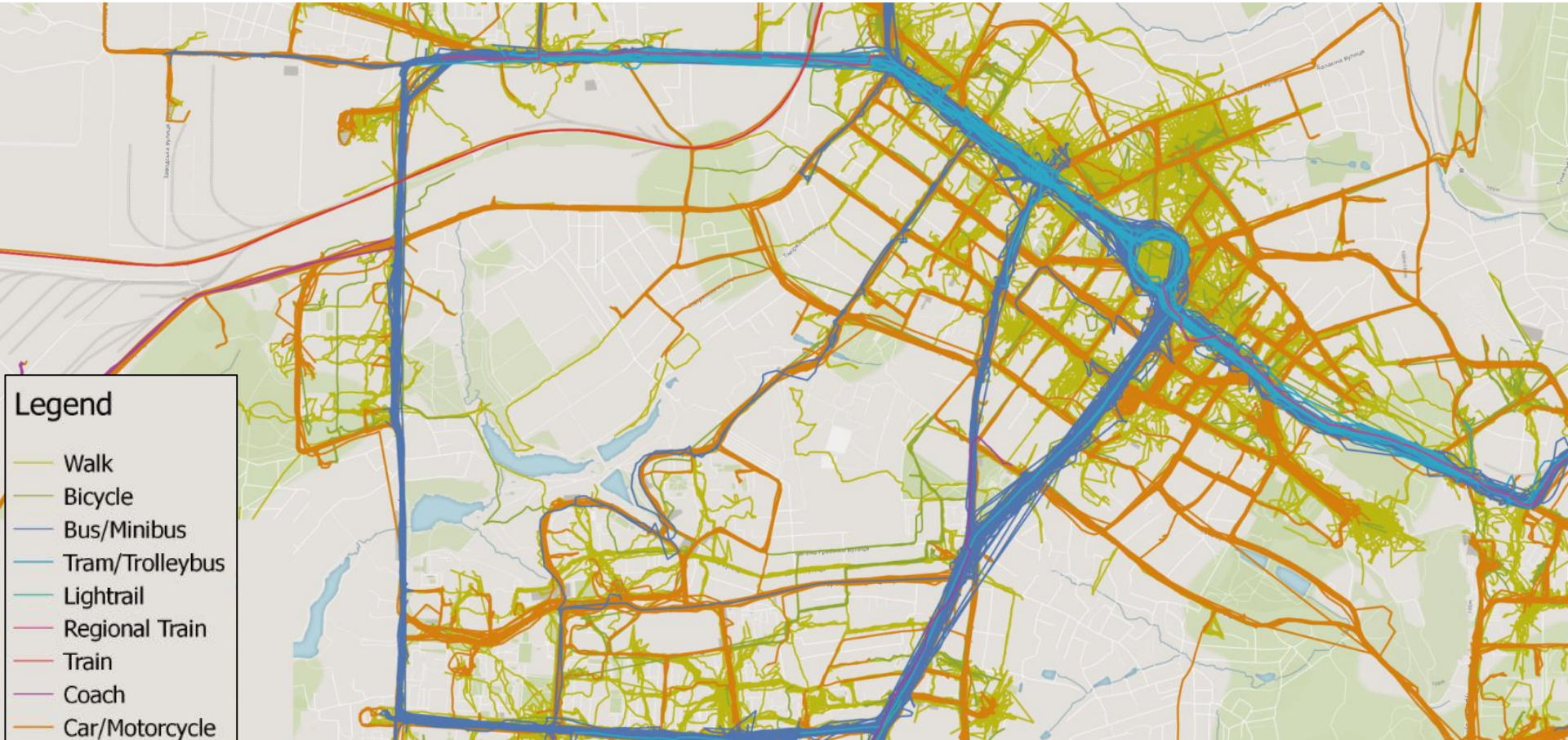
Automatic recognition in selected markets

Manual editing globally

Data-processing: From input to knowledge



Data-processing: From input to knowledge



Smartphone GPS tracking app modalyzer

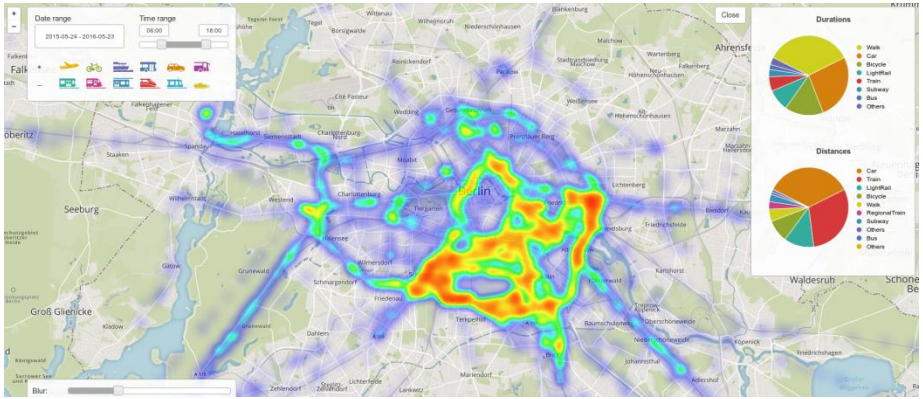
Our product

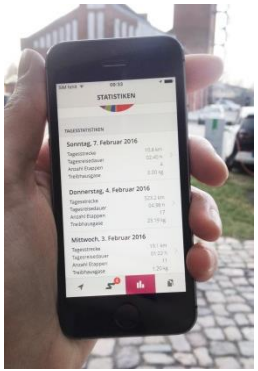
- Tracking app implementation
  - Android & iOS
  - Participatory approach
  - Large n dataset
  - Available in English, German, Spanish & Ukrainian
- Proven track record
  - > 14,000 users
  - > 75,000 user days
  - > 3,500,000 km

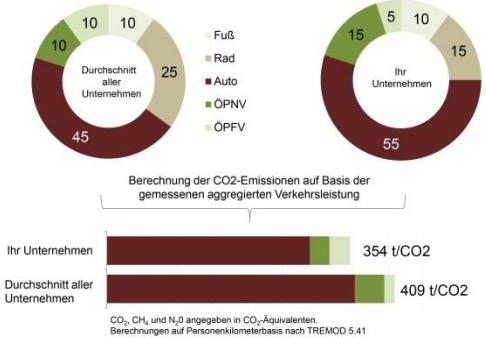
What sets us apart

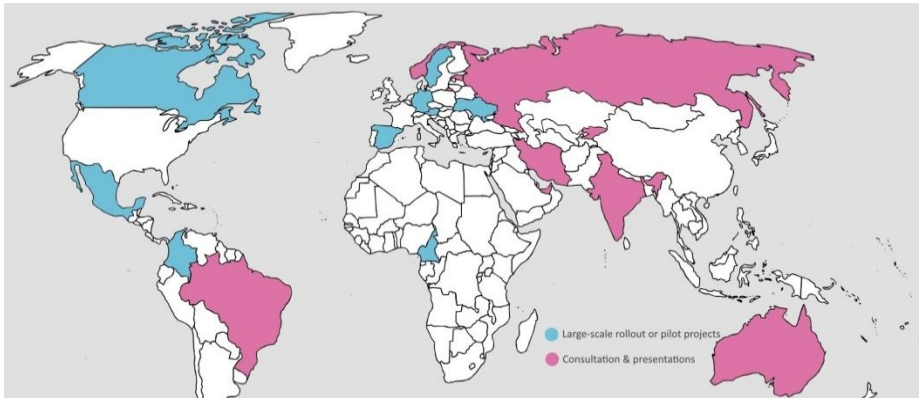
- Full service package from field experts
- "High level of automation" and rapid delivery of results
- The possibility of long-term surveys with completely new insights into the (multimodal) mobility behaviour
- Automatic mode recognition for up to 9 transportation modes (15 in total)
- Focus on inter- & multimodal mobility detection
- Data privacy
- Mobility knowledge

Some data impressions, globally applicable



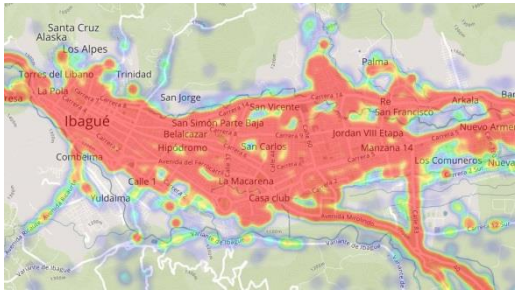






International references: Proven track-record

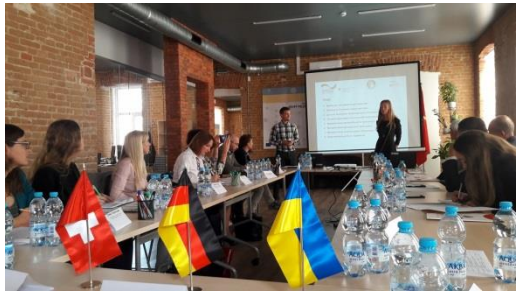
Colombia



- City: Ibagué
- Duration: 6 weeks (2017)
- Users: > 400
- Data: 23,500 km

- Goal: data-driven recommendations for the creation of local *Mobility Masterplan*

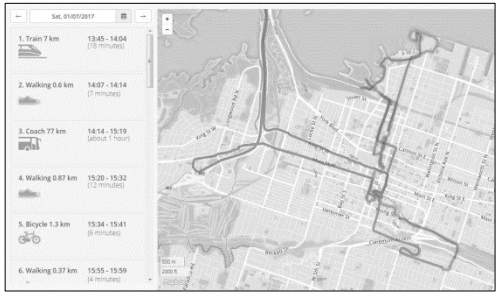
Ukraine



- Cities: Zhytomyr, Vinnytsia, Chernivtsi, Poltava
- Duration: 5 months (2017)
- Users: > 1,100
- Data: 235,000 km

- Goal: modal split study in four Ukrainian cities; supporting the implementation of an *Integrated Urban Masterplan*

Canada



- Region: Greater Toronto
- Duration: 2 months (2017)
- Users: ongoing, > 900 (only Android)
- Data: 270,000 km

- Goal: Supplementing the existing household travel survey

Use case: Ibagué, Colombia

Preparation

- Adaptation to the local situation:
  - Integration of Open Street Data, Transport modes
- Recruitment:
  - Poster, flyers, incentives, students

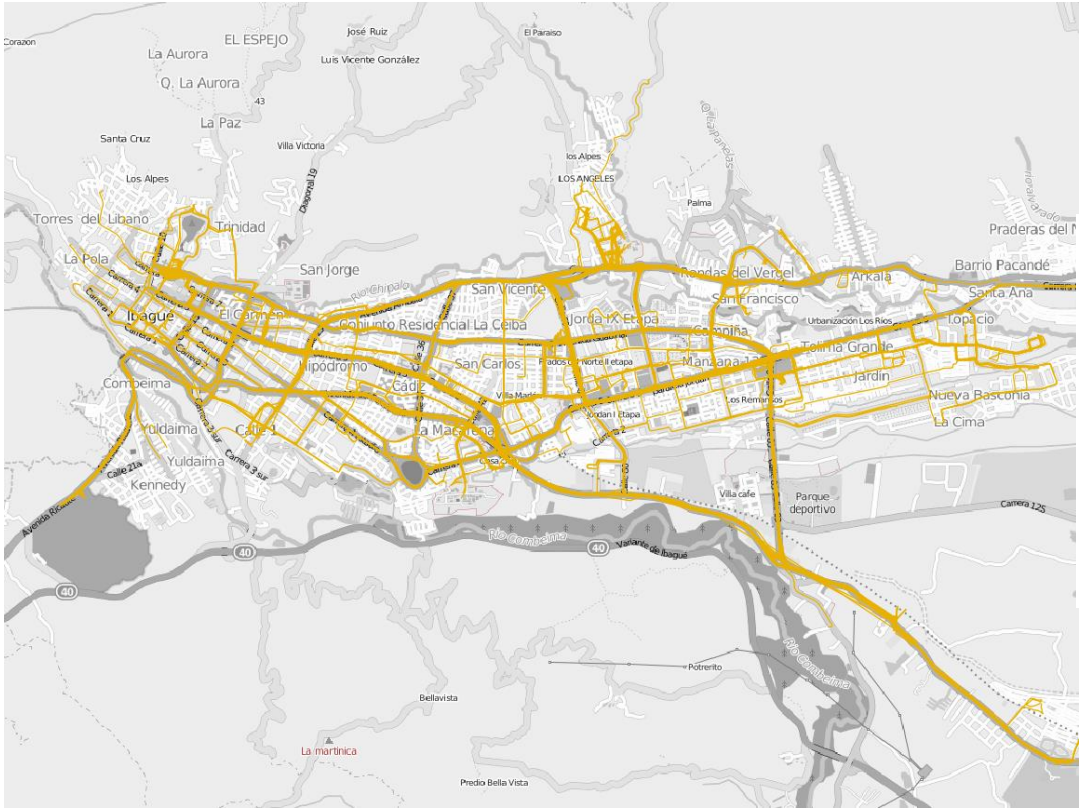
Collection

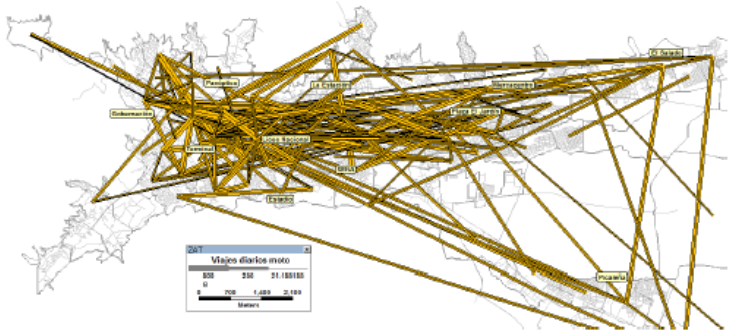
- 45-day collection phase
- Steering: students, push up news, videoclips and manuals, Q&A

Analysis

- Data-analysis and comparison with Masterplan
- Creation of Dashboard and Report

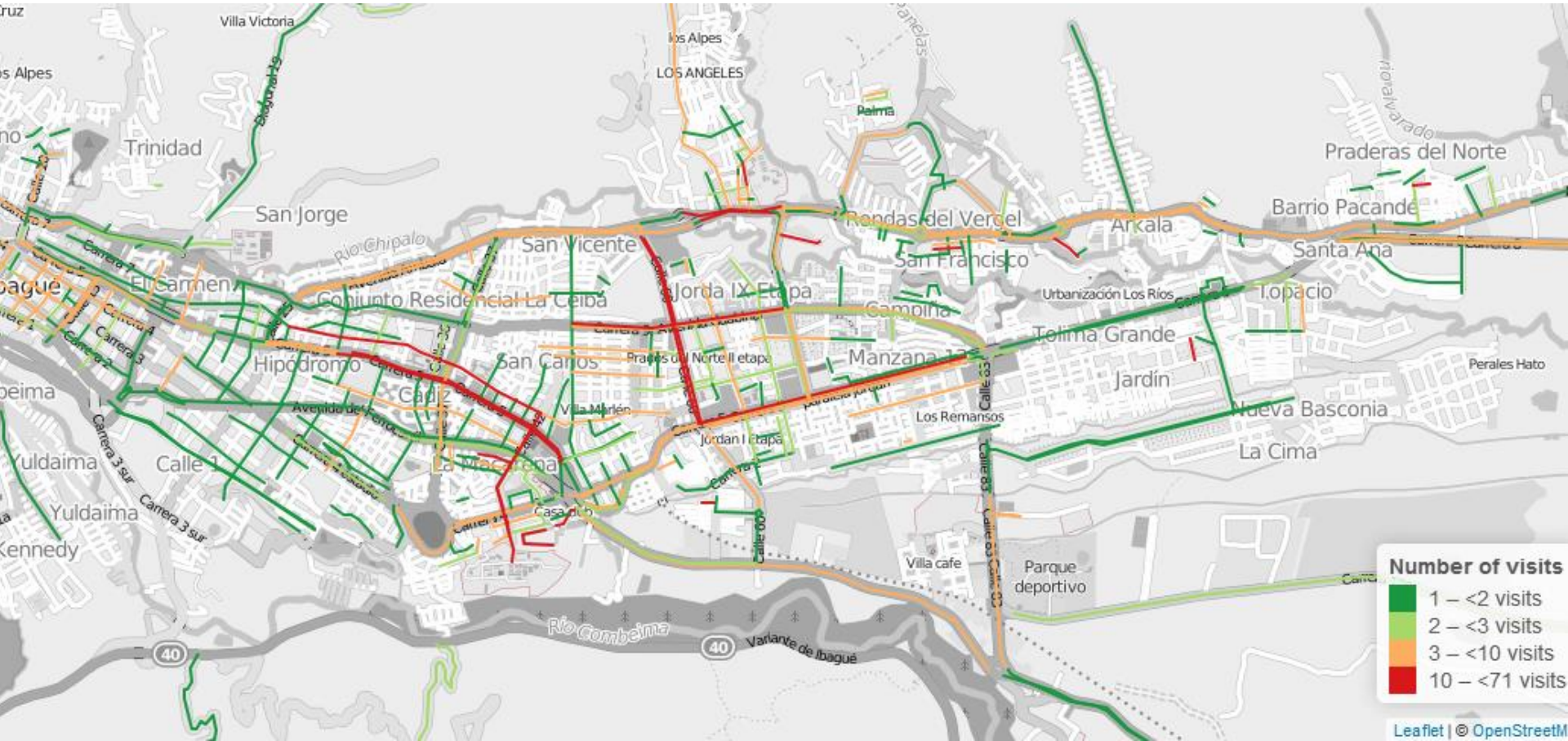
11 Motorcycle tracks in Ibague



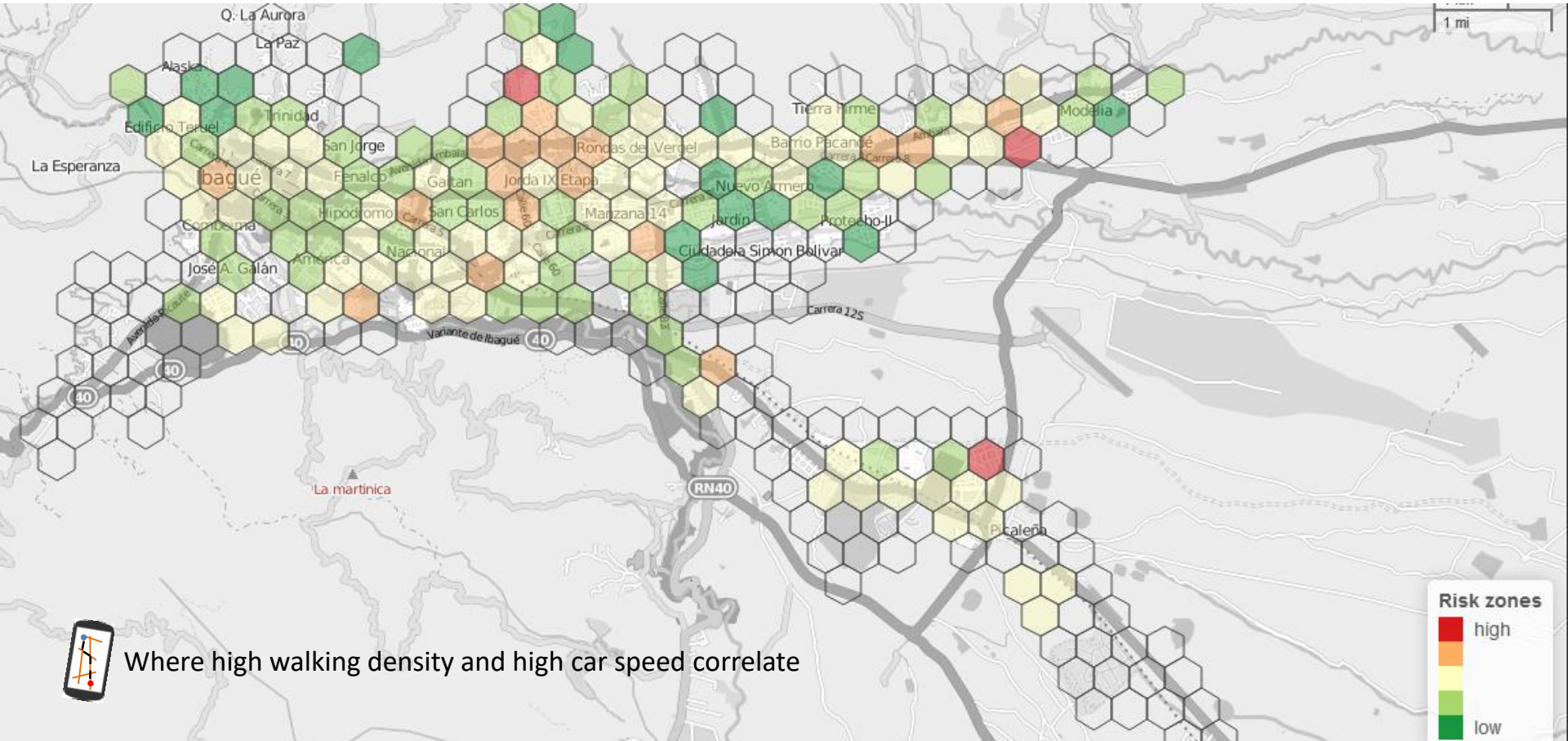


Elaboración propia 2017

12 Hot spots of bicycle usage



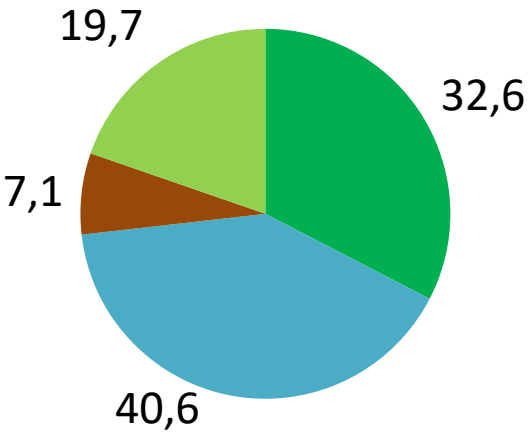
13 High risk zones for pedestrians



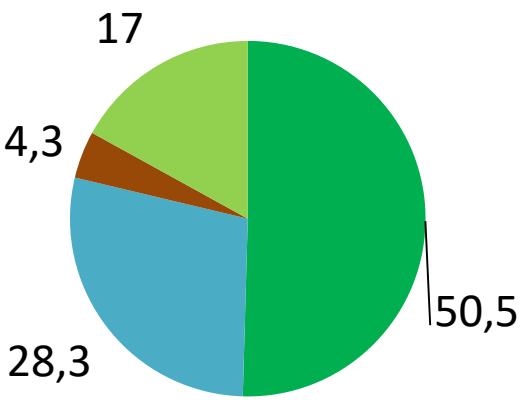
Where high walking density and high car speed correlate

Impact monitoring for measures taken

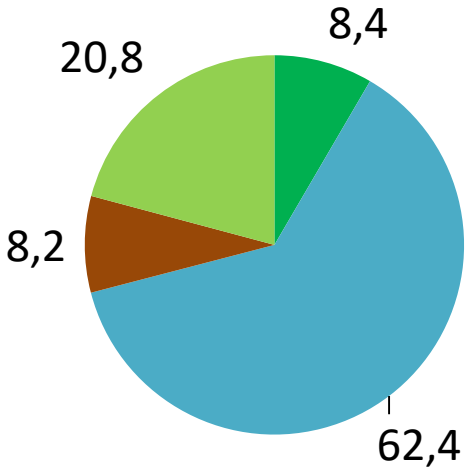
By no. of trips
(share in %)



By no. of tracks
(share in %)



By travelled distances
(share in %)

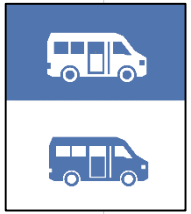


- Walk
- Individual motorized transport
- Public transport
- Bicycle

Use case: Ukraine

Preparation

- Translation
- Adaptation to the local situation:
  - Integration of Open Street Data, Marshrutka, Trolleybus



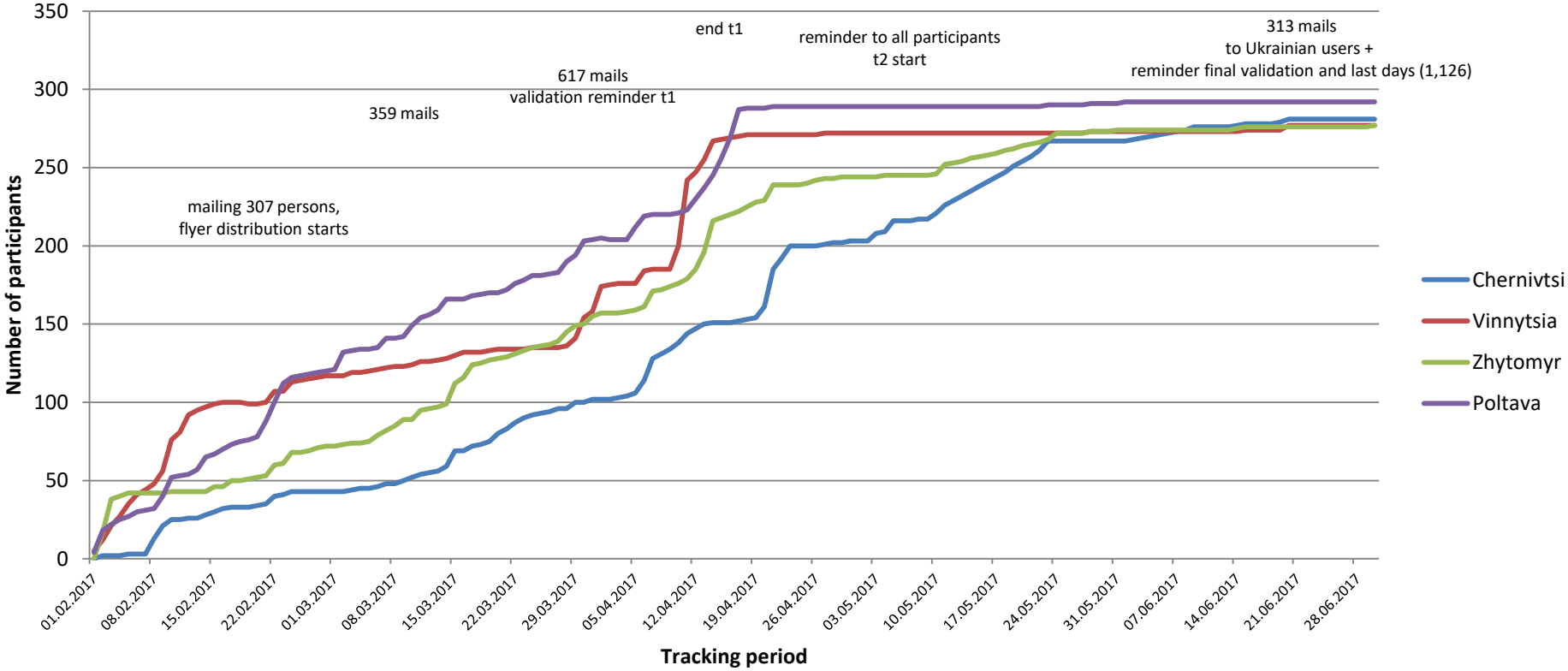
Collection

- 5 months collection phase
- Manifold recruitment options

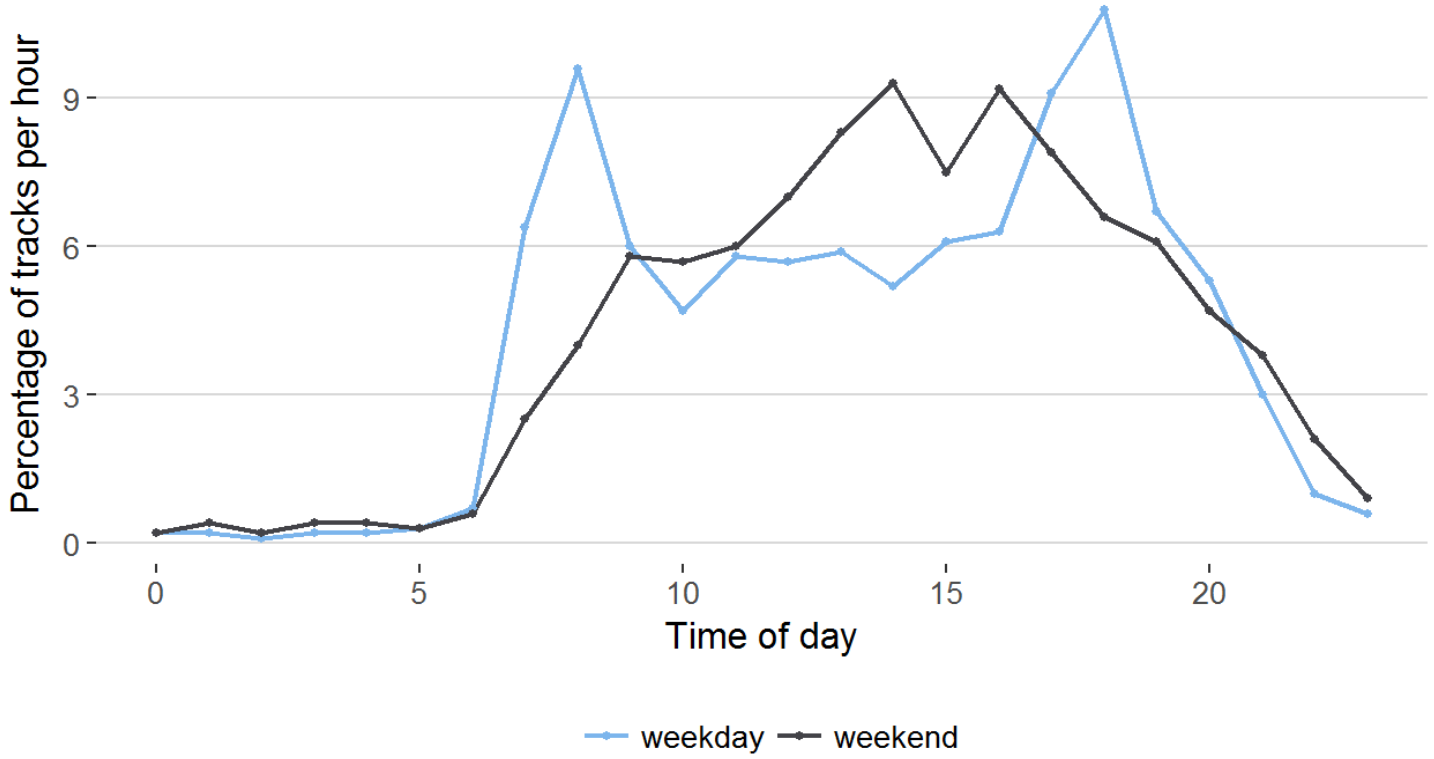
Analysis

- Data-analysis
- Creation of Dashboard and Report

Recruitment in all four cities

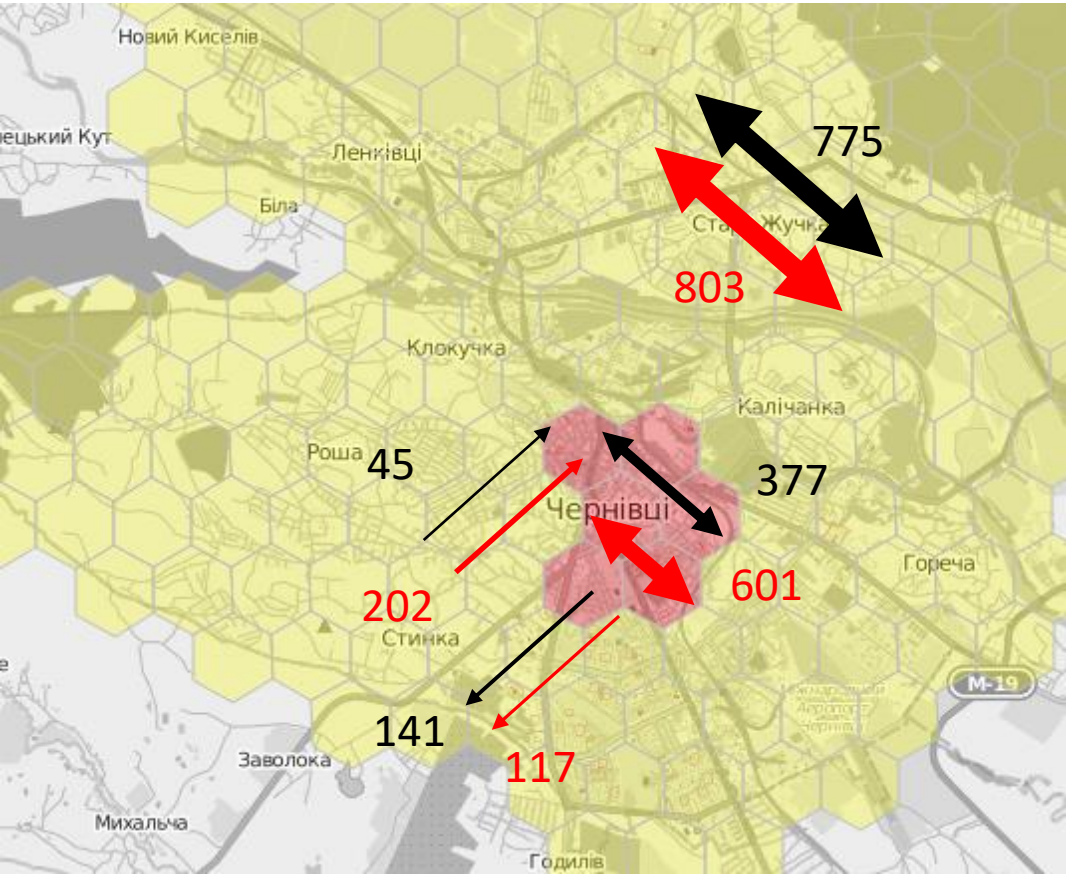


Temporal distribution of all transport modes in Zhytomyr



Public transport: average speed in Vinnytsia

Spatial perspective on morning and evening rush hour in Chernivtsi



Number of trips inside and outside the city center

Legend

Evening rush hour

446

374

Morning Rush hour

FAQ-styled summary

Do we partner with local authorities?

YES! Substantial when it comes to recruitment, incentives and focussing the analysis

How does the back-end work?

Database servers in Europe; in-house development; automatic mode recognition based on algorithm

Main benefits in comparison to traditional research

Less manpower needed, cheaper, very deep insights on mobility characteristics (exact route, travel speed etc.)

Main advantage for policy makers/transport authorities

Full service package from field experts; we can give customized recommendations based on big data sets.

Advantages

Fast, cheap for the customer, free of charge for the app user,
no restriction on user numbers and most important: very detailed data

Challenges

Representativity and smartphone ownership, path-dependency

Lessons learned

Incentives matter a lot, local partners important for recruitment,
best impact on policy planning if questions arise before the analysis

21 We are happy to help!

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