



Dopravní modelování v prostředí webového prohlížeče

představení technologie Spark Traffic Modeler

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O projektu

■ www.polivisu.eu

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Logos of member organizations including: Flanders State of the Art, INFORMATIE VLAANDEREN, iS-practice, edip, issymedia, HS-RS, GEOSPARC, InnoConnect, Cityzen Data, 21c consultancy, ATC Athens Technology Center, Správa informačních technologií Plzeň, Macq traffic & automation, Plan4all, POLITECNICO MILANO 1863, and ghent: so much city.

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Visualize | Discuss | Decide

We help cities use Big Data to engage people, collaborate on policy ideas and make better decisions

[OUR VISION](#)

OUR VISION

PoliVisu enhances public involvement and support in urban policy making, by equipping decision makers with the skills and tools - from open (geo) data processing to advanced visualisations - to use big data for collaborative policy experimentation. As a result the city makes better sustainable policy decisions and manages operations more effectively.

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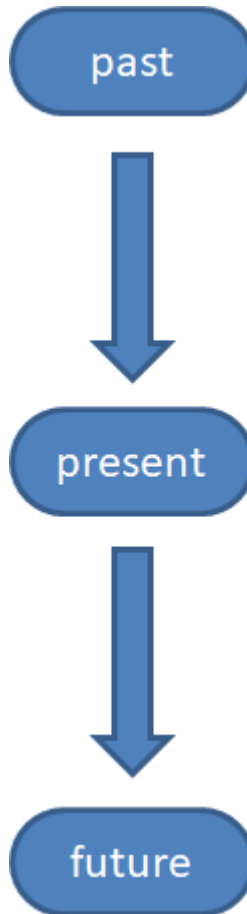
ACCELERATING IDEAS AND INNOVATION



STM: Traffic management

Tool for effective traffic management being able to:

- Explore and analyse the *past traffic*
- Get real-time information about the *current traffic*
- Be able to model "*what-if*" analysis of city traffic
 - ◆ *tactical level* ~ planned cultural or sport events
 - ◆ *strategic level* ~ planned roadworks

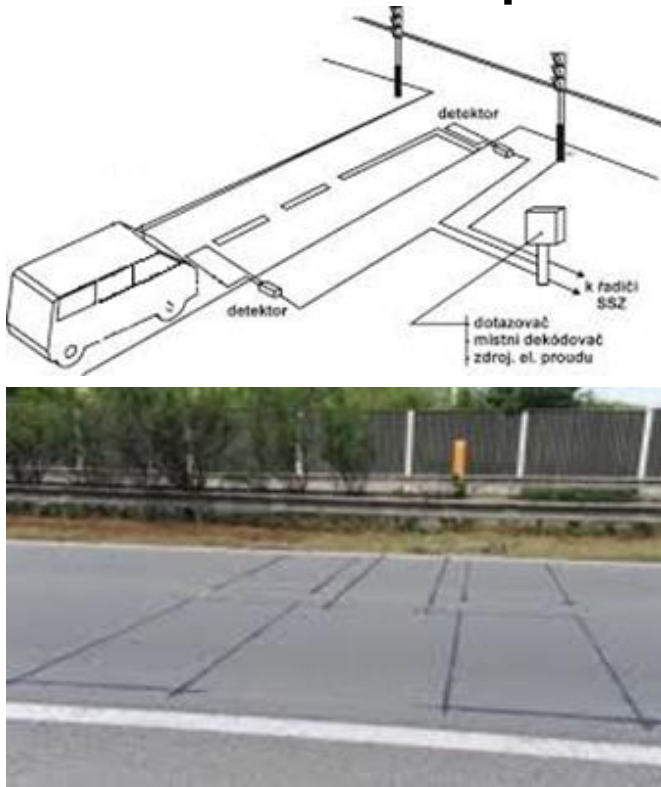


STM: Traffic management

Explore and analyse the past traffic

past

- Traffic loops sensors -> Traffic profiles dataset





STM: Traffic management

Traffic profiles dataset

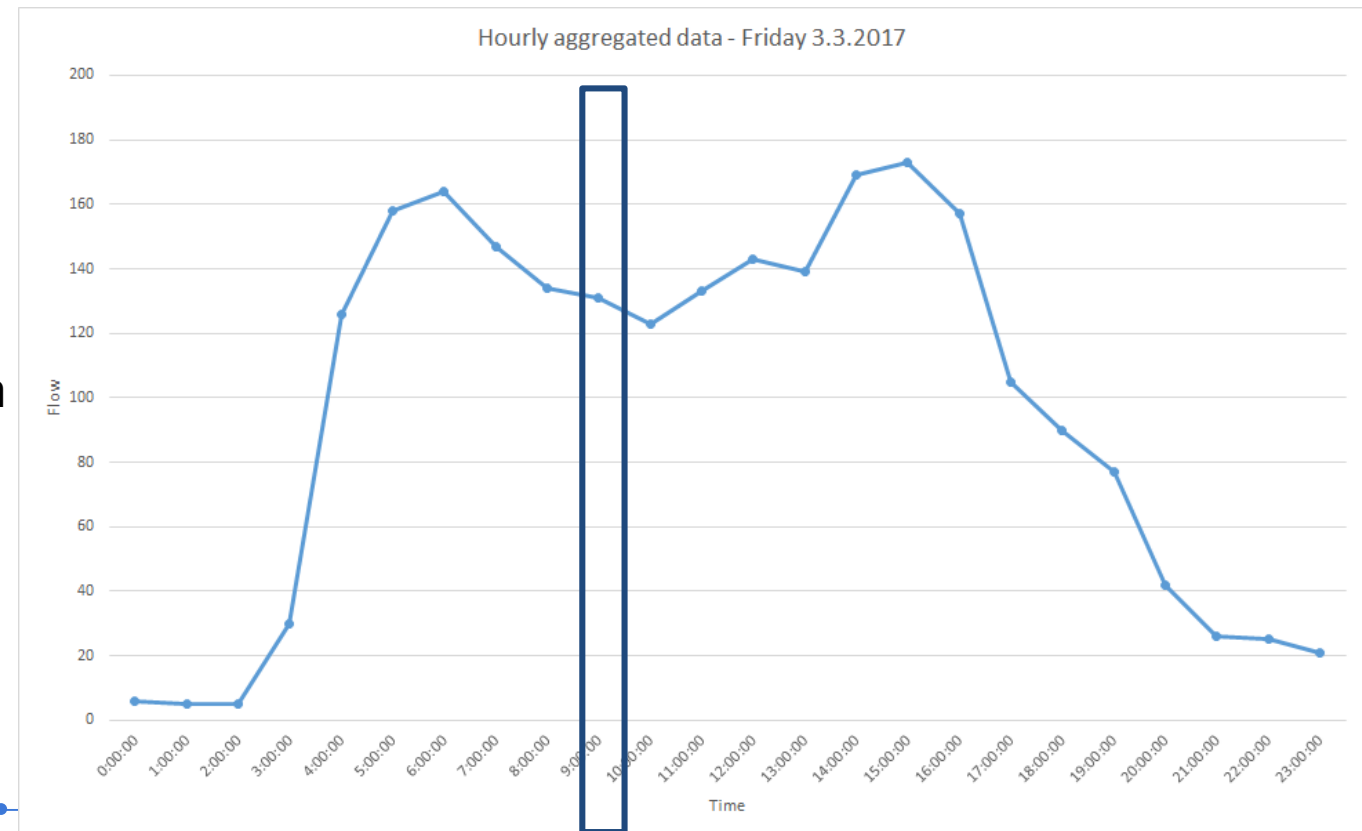
past

◆ Initial data

- Time range: 2017/03/01 - 2018/02/28
- 627 sensors in 307 profiles
- Frequency: 90 seconds
- Observations: 220 millions

◆ Data processing

- Filtering of non-valid values
- Interpolation of missing data
- Aggregation by hour (2,7 millions of processed records.)





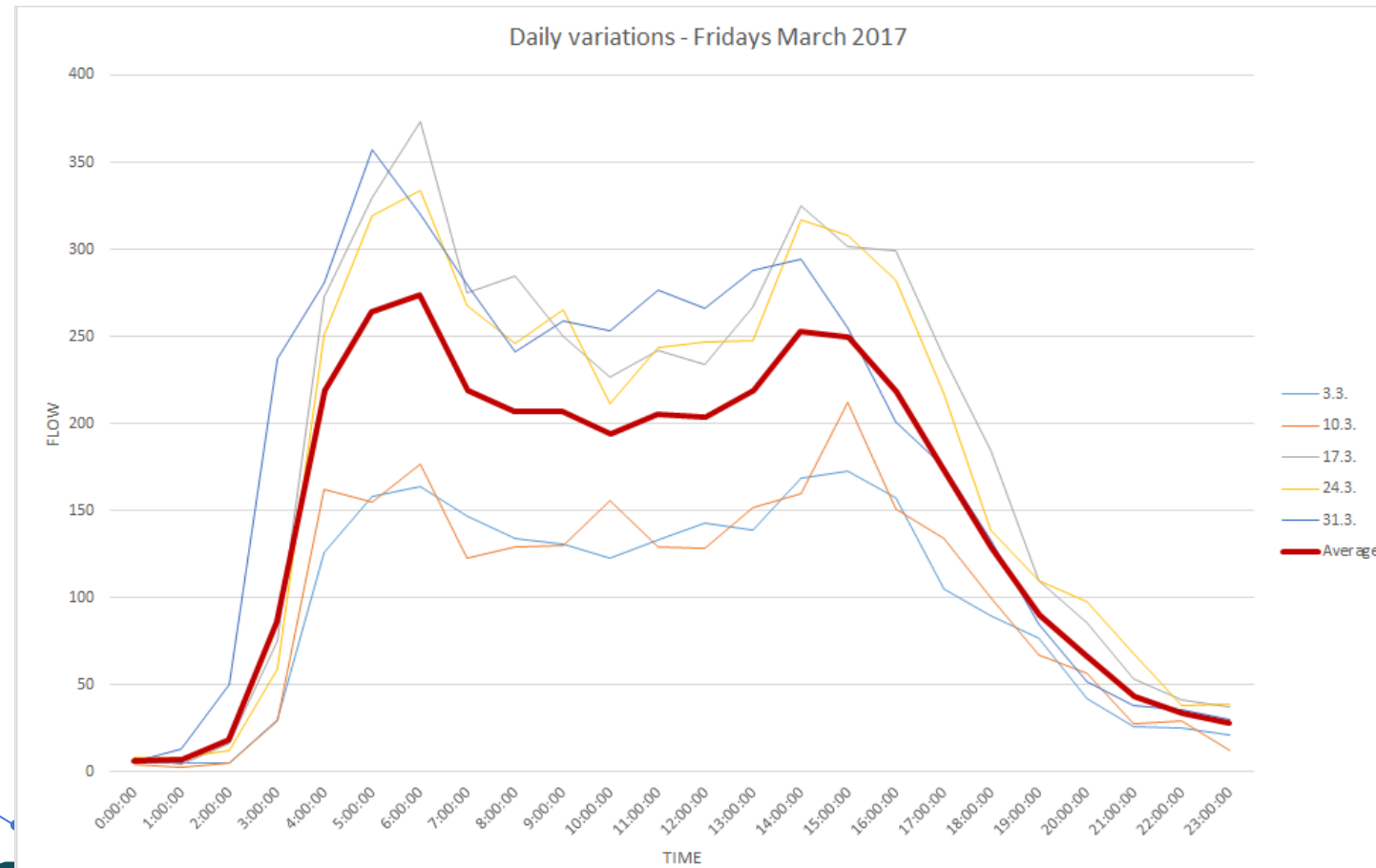
STM: Traffic management

Traffic profiles dataset

past

■ Curves for different days of the week (Monday - Friday, weekend)

- ◆ Can be averaged for
 - each month of a year
 - spring, summer, fall, winter
- ◆ Can be created for different segment types (tangential, radial, radial, ...)



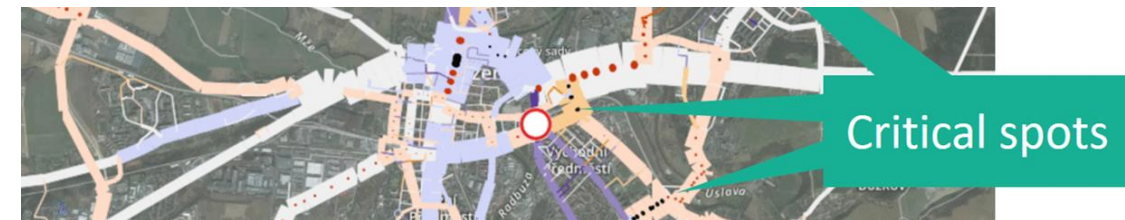
STM: Traffic management

Explore and analyse the past traffic

past

■ Usage of the traffic profiles dataset:

- ◆ Basic traffic model calibration
- ◆ Exploratory analysis in WebGlayer
- ◆ Visualisation of past traffic & comparison of traffic at different days

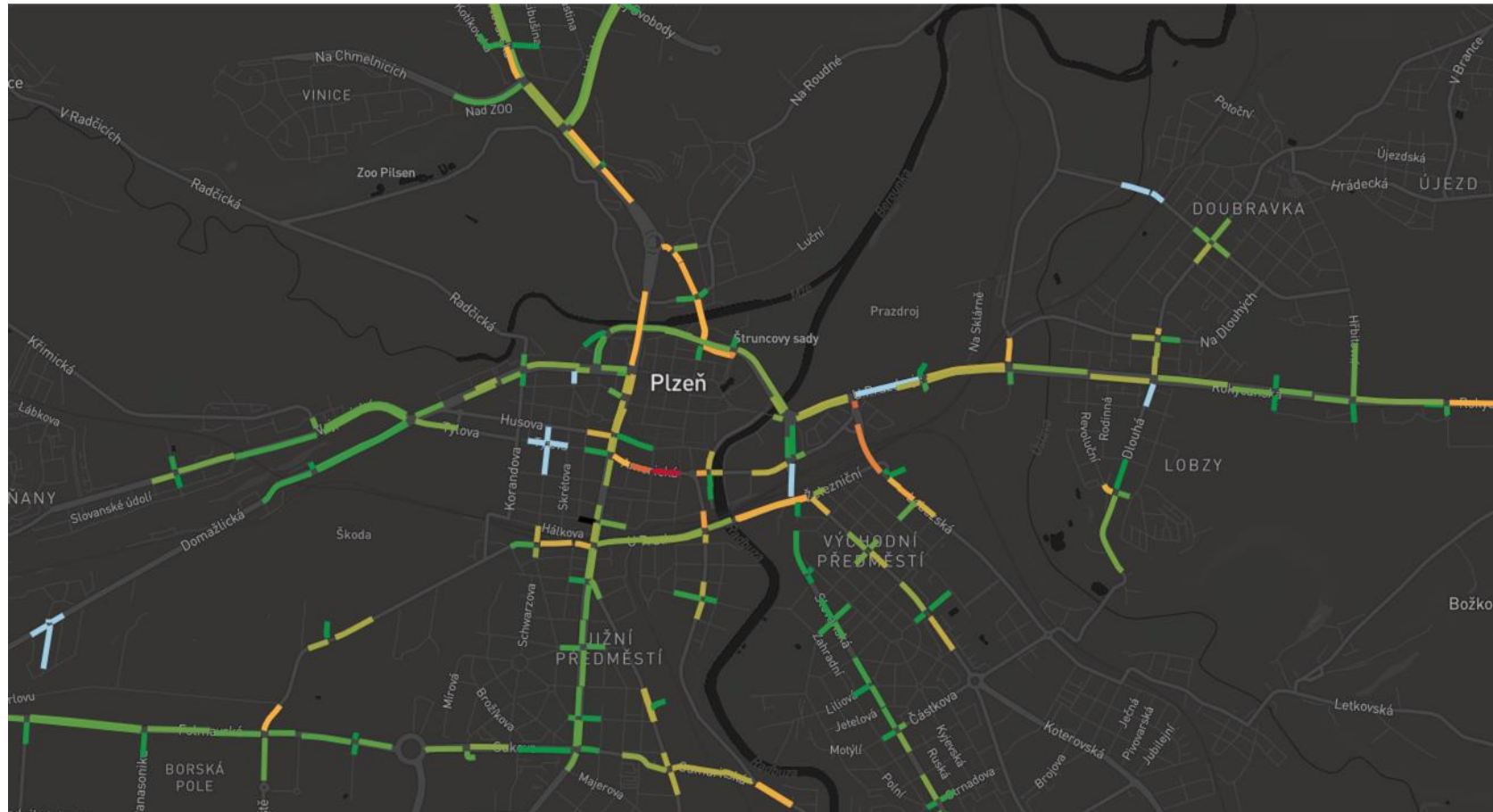


STM: Traffic management

Get real-time information about the current traffic

present

■ + 90s

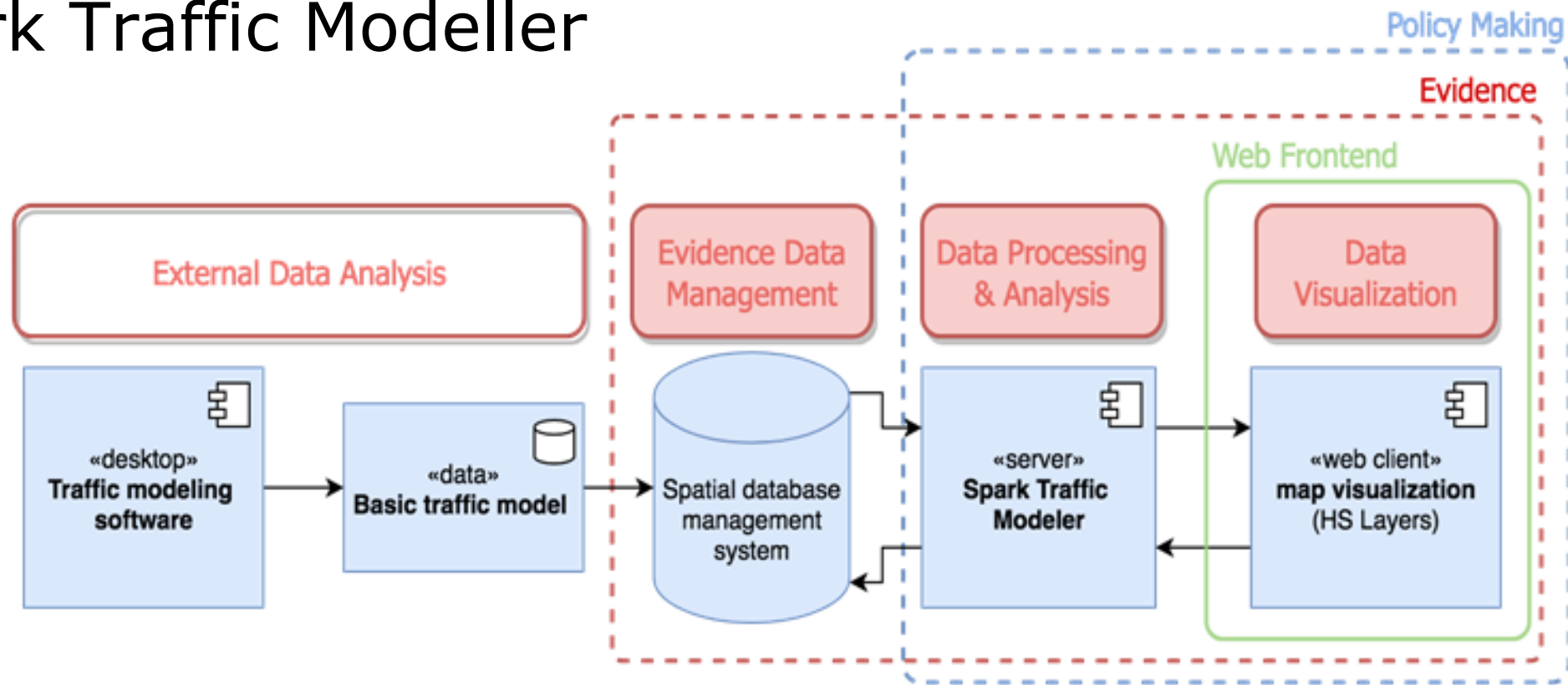


STM: Traffic management

Be able to model “what-if” analysis of city traffic

future

■ Spark Traffic Modeller

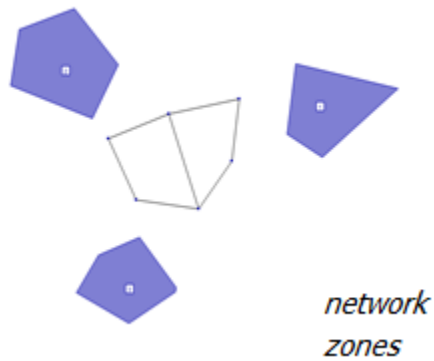


STM: Traffic modelling

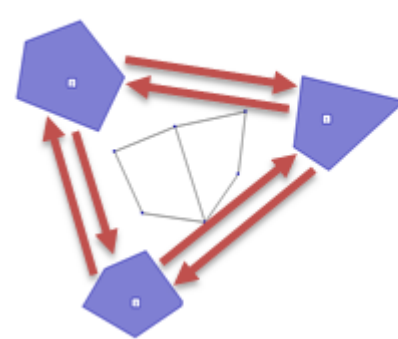
Steps of traffic modelling

future

1. Traffic Source / Target



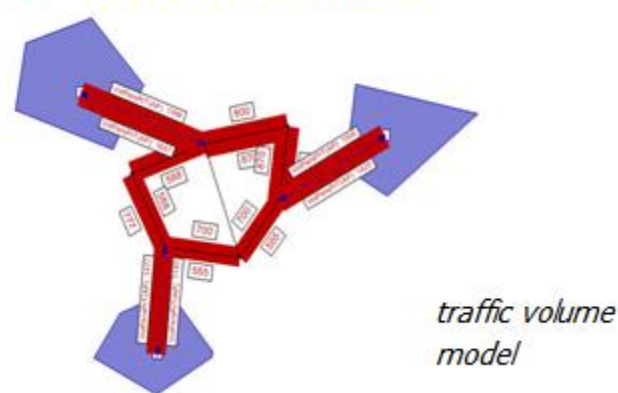
2. OD matrix



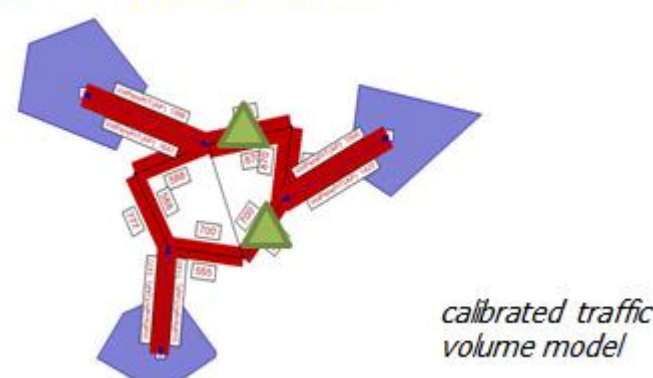
3. Modal split

- Individual:
 - car
 - cyclist
 - pedestrian
- Public:
 - bus
 - train
 - city public ...

4. OD Matrix to network



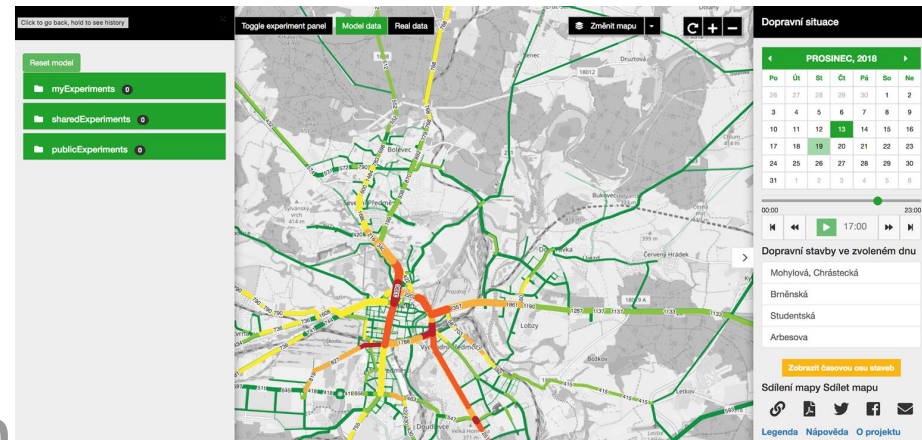
5. Network calibration



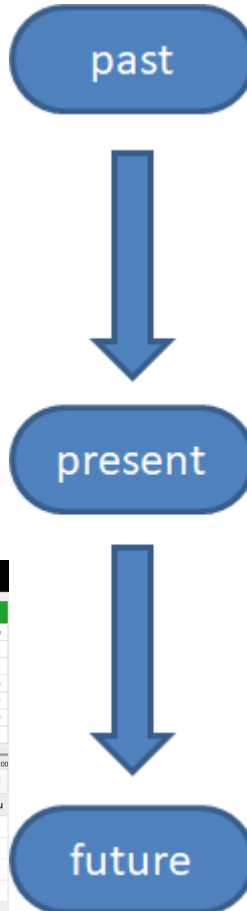
STM: Traffic modelling

Integrated application able to

- explore and analyse the past traffic
- get information about the current traffic
- be able to model “what-if” analysis of city traffic
 - ◆ Editing attributes of existing road network
 - ◆ Adding new road segments
 - ◆ Changing attributes of traffic generators



- Deployed in Pilsen, Mechelen, ...



Traffic is dynamic,
your decision making should be too!

Questions?

