Adaptive traffic lights and mobility management in Tallinn

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Objective

- Increase the mobility flows using the electronic solutions and promoting the switch towards public and greener transport

- Work out the pre-feasibility study of adaptive traffic lights in the case of one BSR city (Tallinn) with aggregated simulation

- Investigate various adaptive traffic lights market solutions

- Audit existing adaptive traffic systems

- Develop specific hot-spot to validate technologies in real traffic conditions

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Evolution of the Tallinn use case

- Market research

- Preparation of ToR

- Discussion with interested stakeholders

- Pre-feasibility study merged with mini-pilot

- Challenge:

Radical traffic behavior change

Details of the pre-feasibility study

- Benchmark study

- Analyze investment and running costs, also the socio-economic cost

- Integration with new technologies and transport modes

- Audit existing Reidi road adaptive solution

- Map needed data layers

- Map potential corridors

- Technical specification for procurements

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Reidi road audit

- Smart self-learning traffic lights

- Dynamic traffic management system

- Instructions to exit the port (VMS)

Results of the mini-pilot
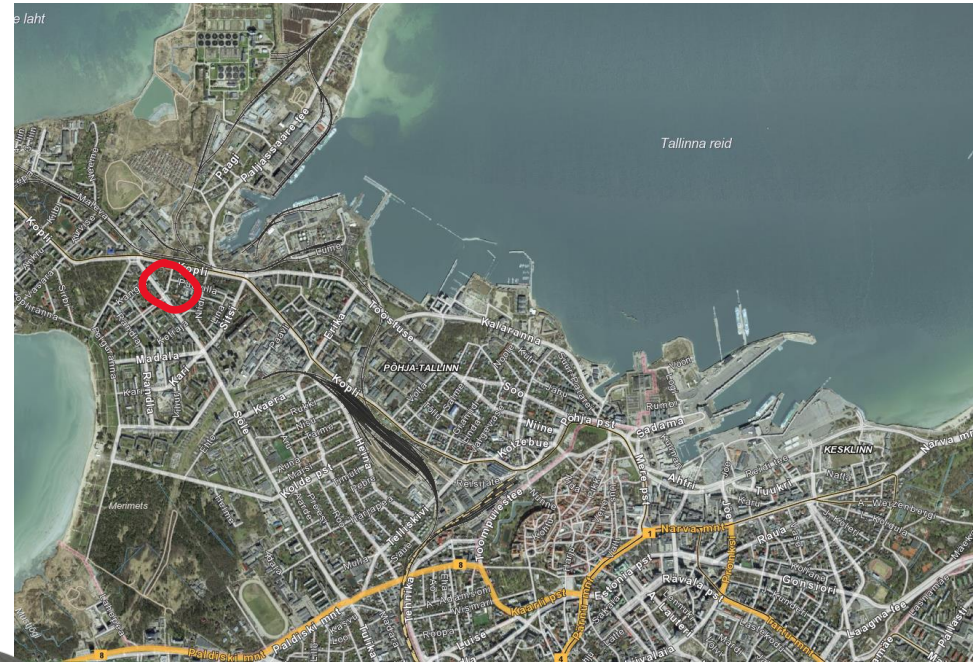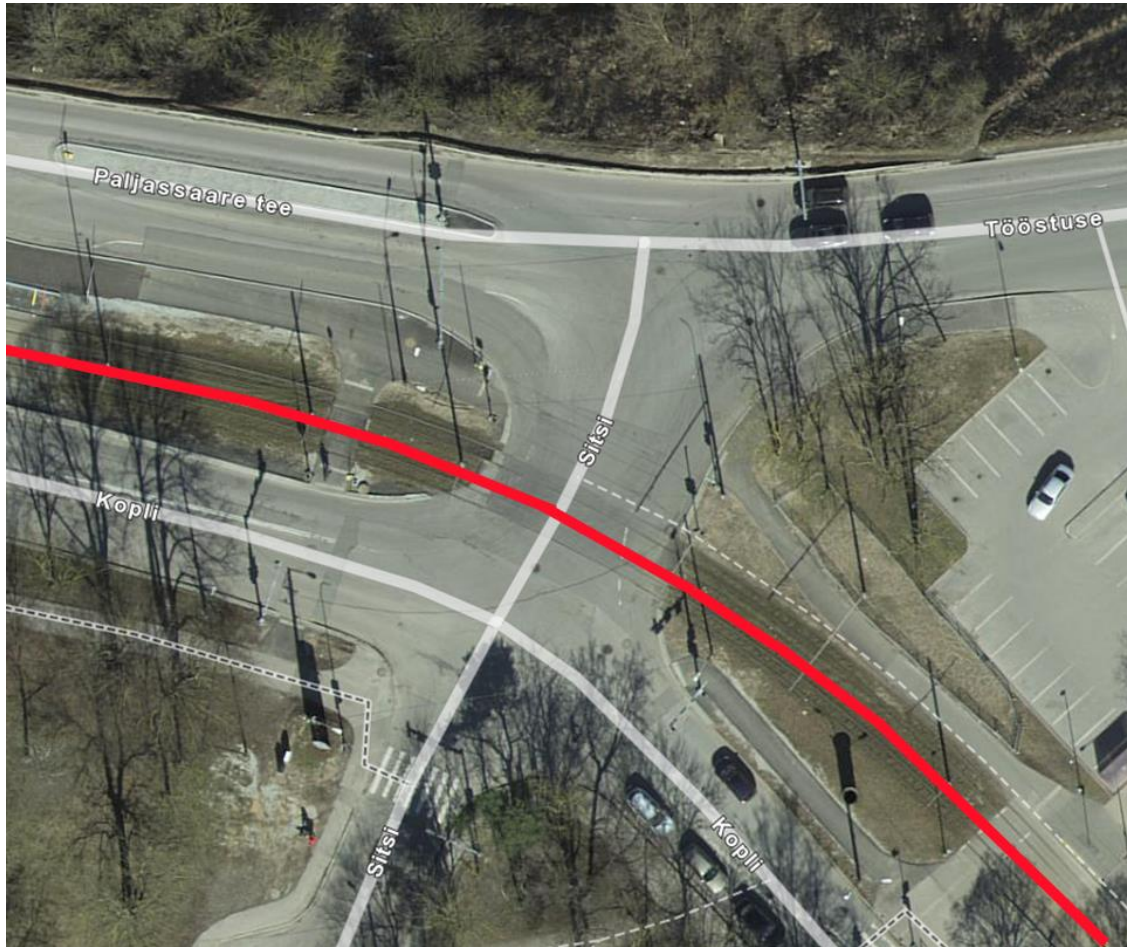
Results of the mini-pilot

Tools:

- Different detectors (video detectors, thermal detectors, buttons etc)

- Smart Intersection software

Task:

- Public transport prioritization

- Not "wasting" green time

Results of the mini-pilot

- Total waiting time for cars smaller

- Better distribution between different direction

- Pedestrian must push the button (only negative impact)

	TRAM TRAVEL TIME BETWEEN 2 STOPS (avr.)
Maleva > Sitsi	
Before	2:13
After	1:49
Difference	**00:24**
Sitsi > Maleva	
Before	2:04
After	1:51
Difference	**00:12**

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Results in a nutshell

- Benchmark cities have long-term experience – good to follow!

- There is no „end product" for all cities

- Sensor information is very crucial

- Feasible only in heavy traffic corridors

- No mayor increase of maintenance cost

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Challenges and next steps

- How to set priories to different user croups or mode of transport

- Impact of road traffic safety

- Impact of new technologies

- Improve tram connections between City Center-Airport

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