European Space Solution Congress 2014

Robust localisation in practice

13rd June 2014

Czech Technical University in Prague

Faculty of Transportation Sciences

Department of Transport Telematics

The Future of Traffic Signs in the World of Accurated GNSS

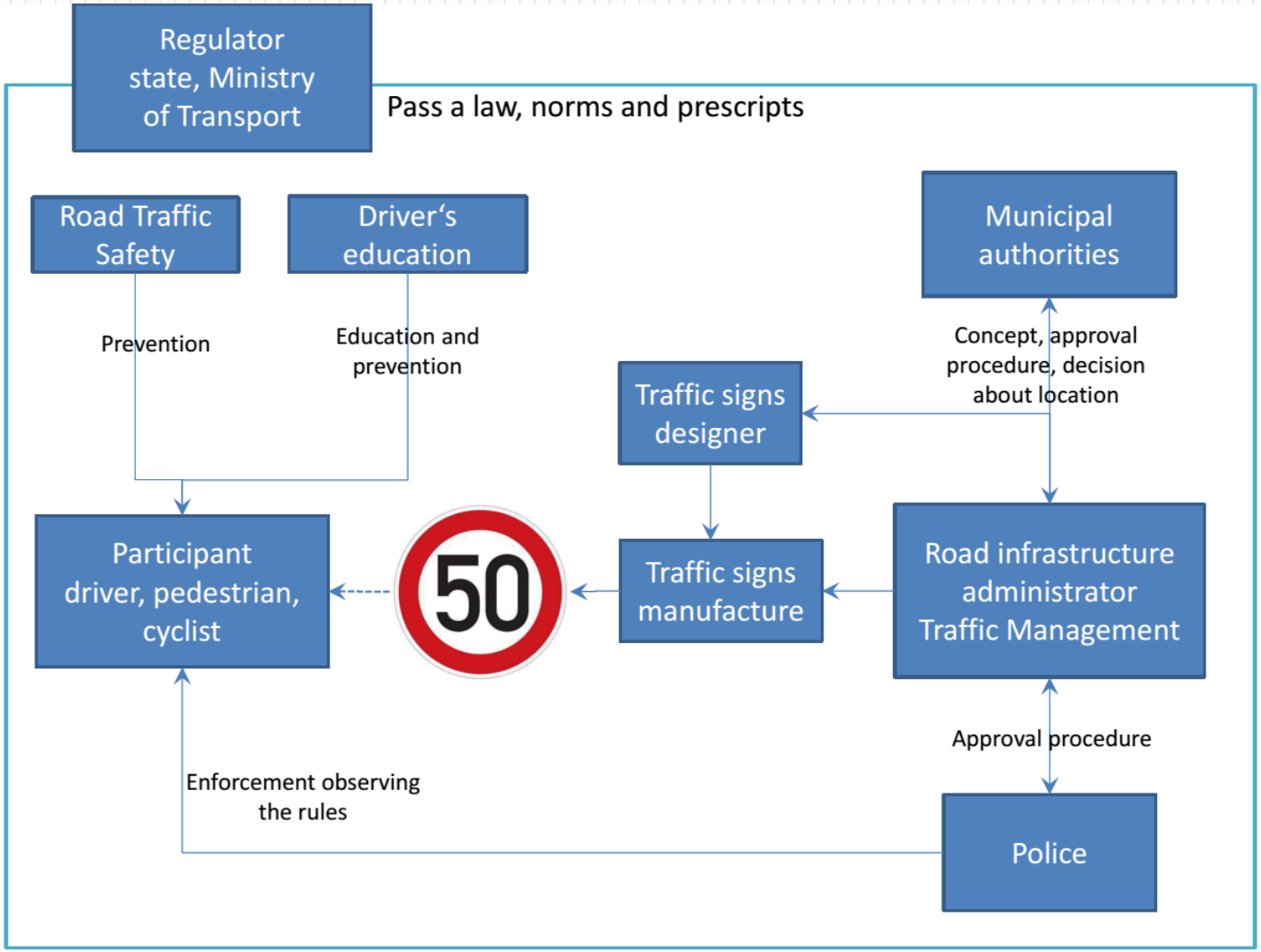
Pavel Hrubeš

13.6.2014

Current Situation

- Existing static and dynamic traffic signs
  - Located along roads on portals and mechanical constructions
  - Light or reflexive elements
- Disadvantages – decreased:
  - Road safety (installed fixed obstacles)
  - Visibility of traffic signs
  - Predicative information ability (limited size of boards or classes)
- Cost of maintenance and renewal of equipment

System's Users



Source (TRASICO project documentation)

VRTS - Virtual Reality Traffic Signs

- Research on
  - User acceptance!
  - Legal issues
  - Guaranteed VRTS processes in creation, storing, transmission and presentation to all road traffic participants
  - Technical aspect of HMI and precise localization
  - Insufficient „best effort" services
  - Introduction procedure (2020, ? ,2050)
- Advantages:
  - Dynamic ability
  - User‘s personalized form
  - No physical traffic signs along roads (some classes)
  - Principles of cooperative systems

VRTS - Use of Satellite Navigation E-GNSS

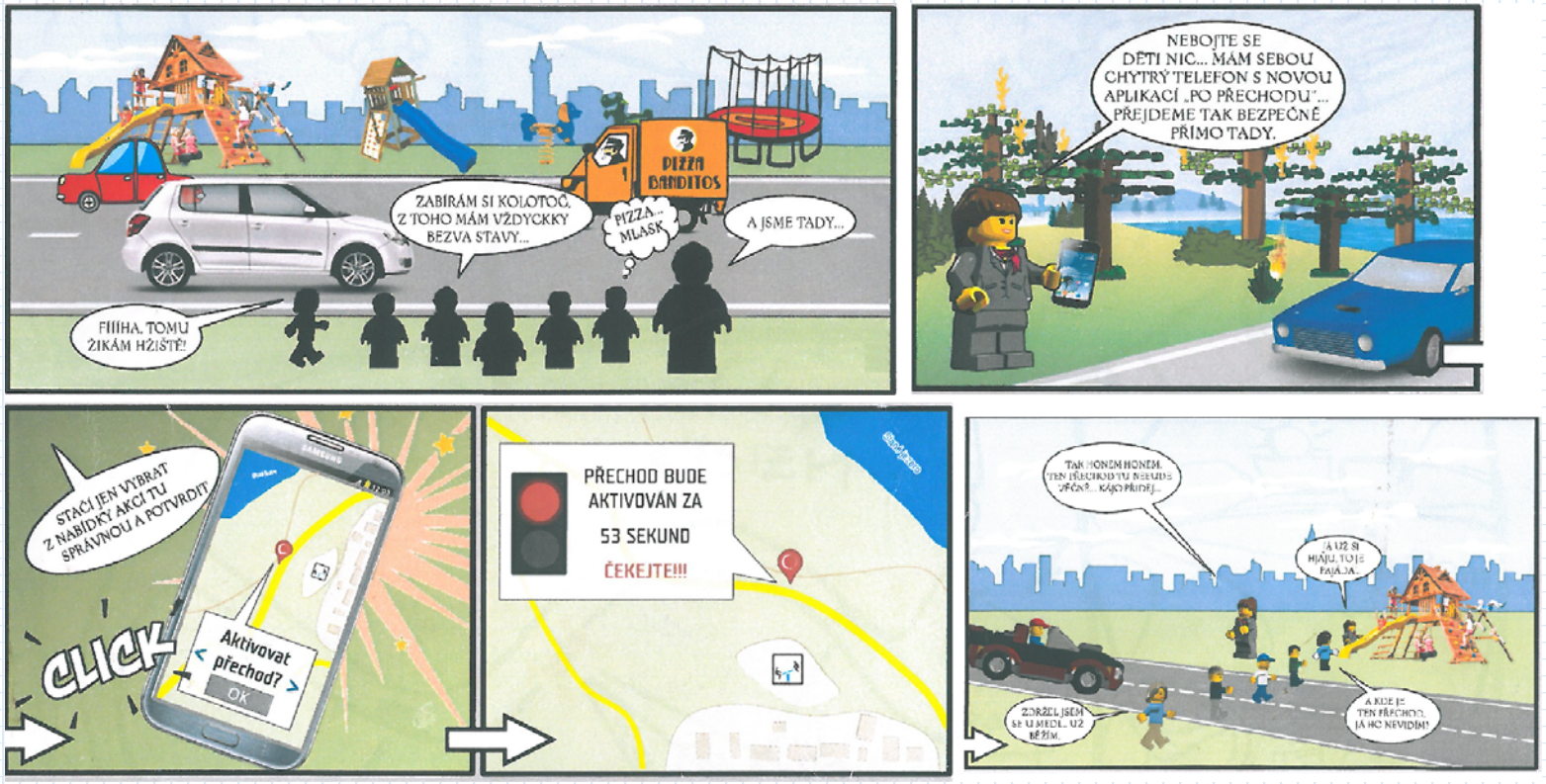
- Real-time positioning
  - Minimum quality of location data
- Quality of base map

- Speed limit m-accuracy
- Parking cm-accuracy

Geometry related accuracy	2006	2008	2010	2012	2014	2016
Vehicle position	+-3 m	+-2 m	+-1.5 m	+-1 m	+-1 m	+-1 m
Speed limits	5 m	5 m	3-5 m	3-5 m	1-5 m	1-5 m
Dynamic information	n/a	n/a	Inc.	Inc.	Inc.	Inc.

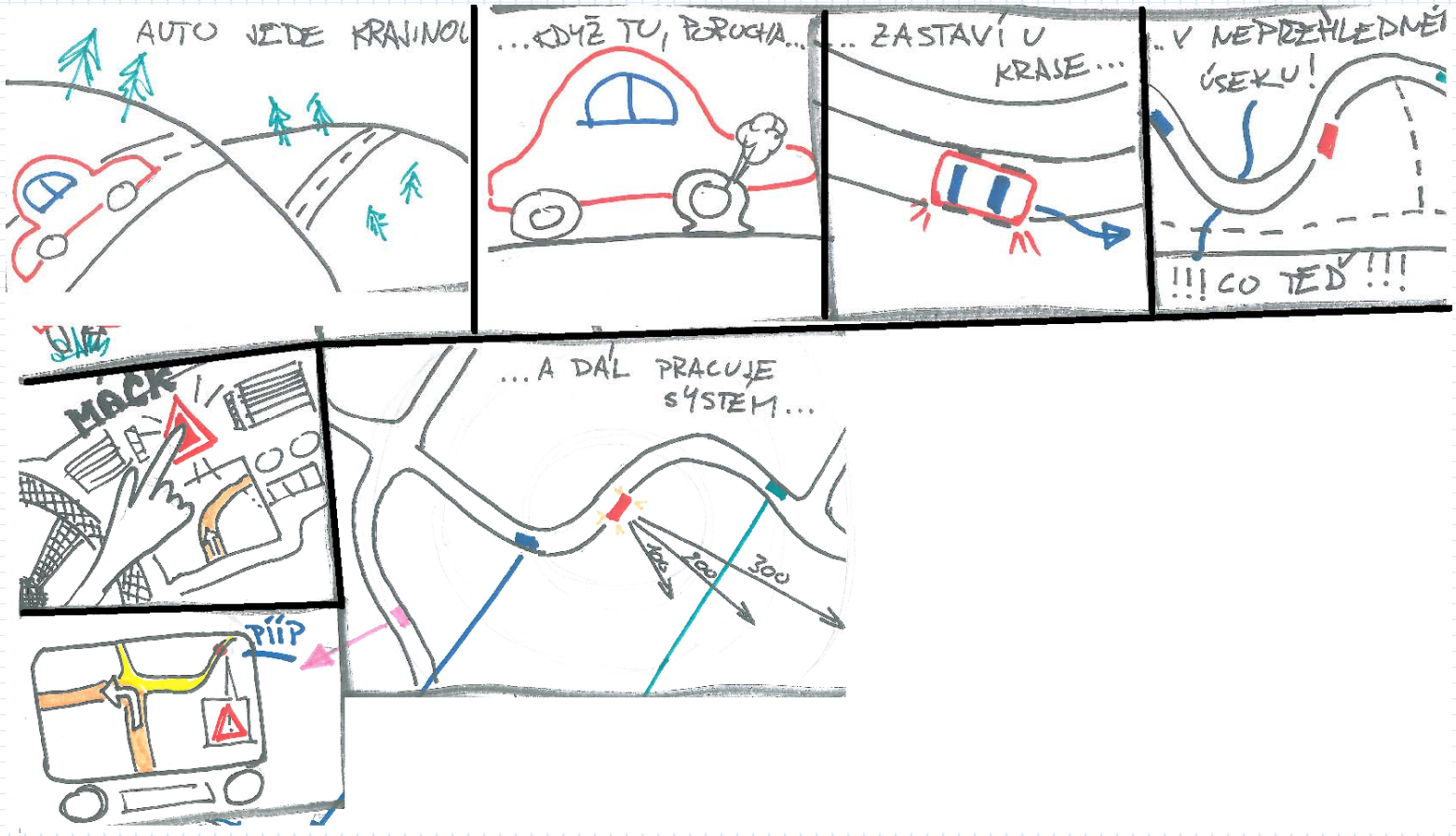
Source FP6 project

Virtual Pedestrian Crossing



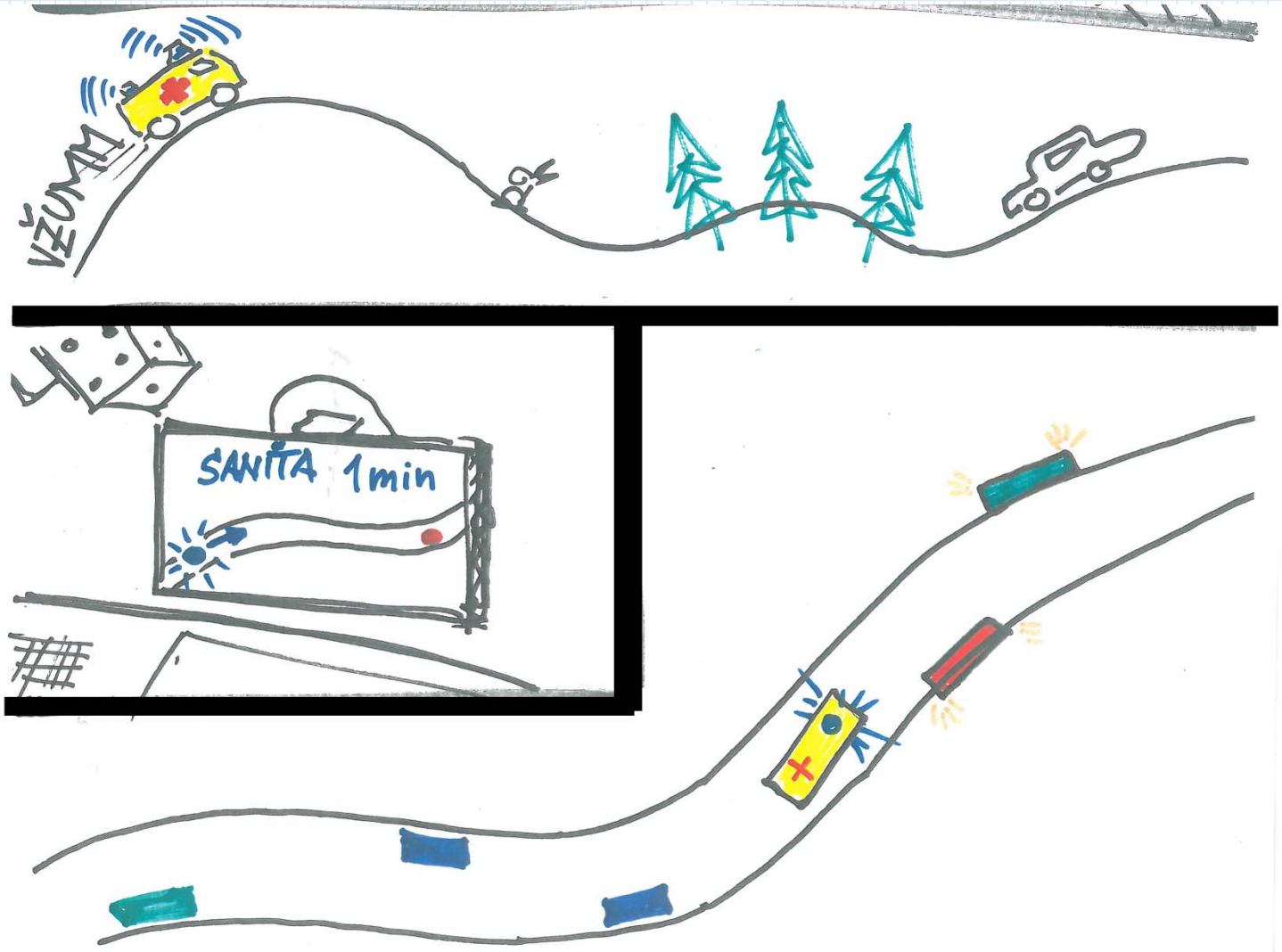
Source (TRASICO project documentation)

Obstacle for the Traffic Flow



Source (TRASICO project documentation)

Emergency Vehicles



Source (TRASICO project documentation)

Thank you for your attention.