



AVOIDING TRAM DELAYS: Detection and Prevention of Blockages of Public Transport Corridors by Parked Vehicles

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Problem

- 3600 Incidents (Vienna 2010)
- 5-40 Min Break of Ride
- Delay for many passengers
- Interruption of Interval (stuff, rolling stock)
- Towing service





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Typical Hotspots

- Narrow streets, curved road
- High interest in parking space (shopping, ...)



Währinger Hauptstraße



Keuzgasse



Gentzgasse



Döblinger Hautstraße



Technology

- POI in Navigation system
- C-ITS (I2C)

Awareness

- Awareness-raising
- Tougher penalties

Current Solutions

Infrastructure

- Optic marking
- Tactile marking

Policy

- Consideration during the **assignment of the street space**
- Rededicate hotspots from **short-term parking zones**
- **Rearrange street space**



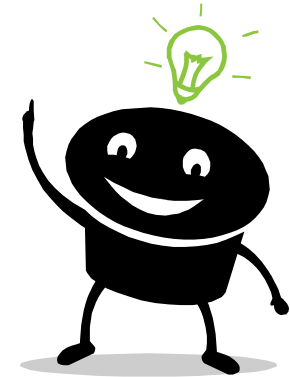
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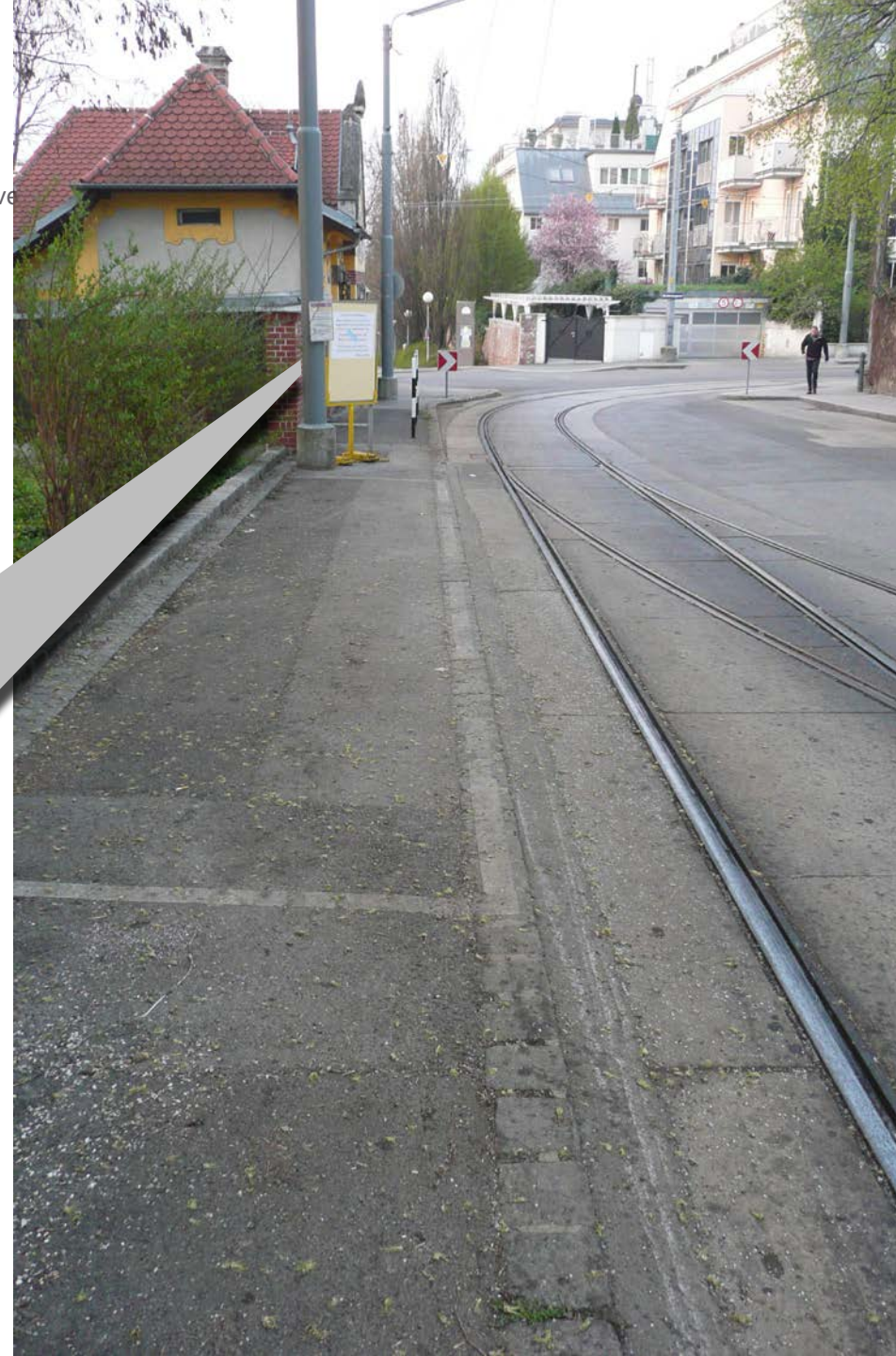
Idea

- **The driver solves the problem immediately**
- **Notification of the driver** right after the parking event



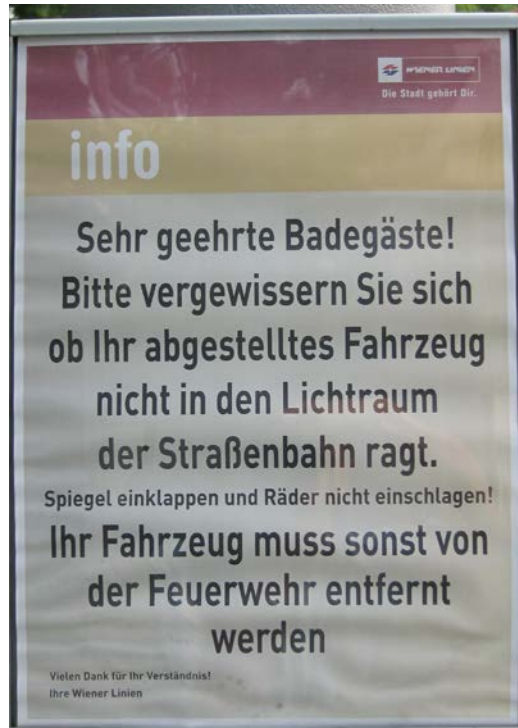


Detection and Preve



Just Information ...

is not enough



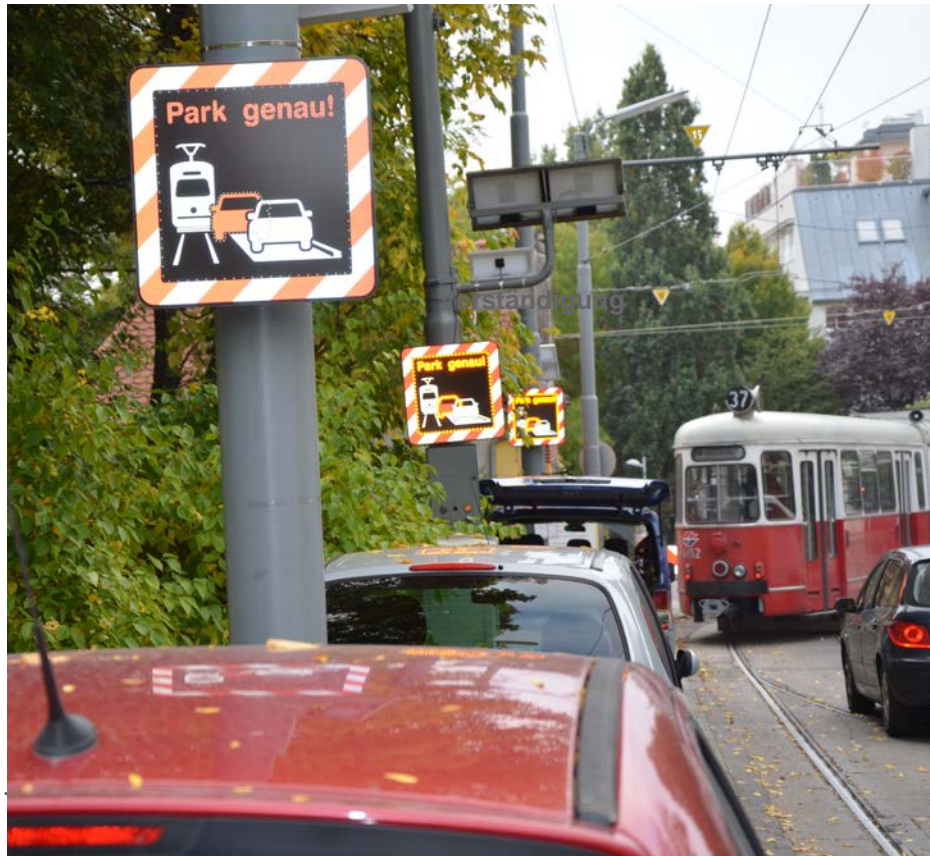


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TramInTakt System







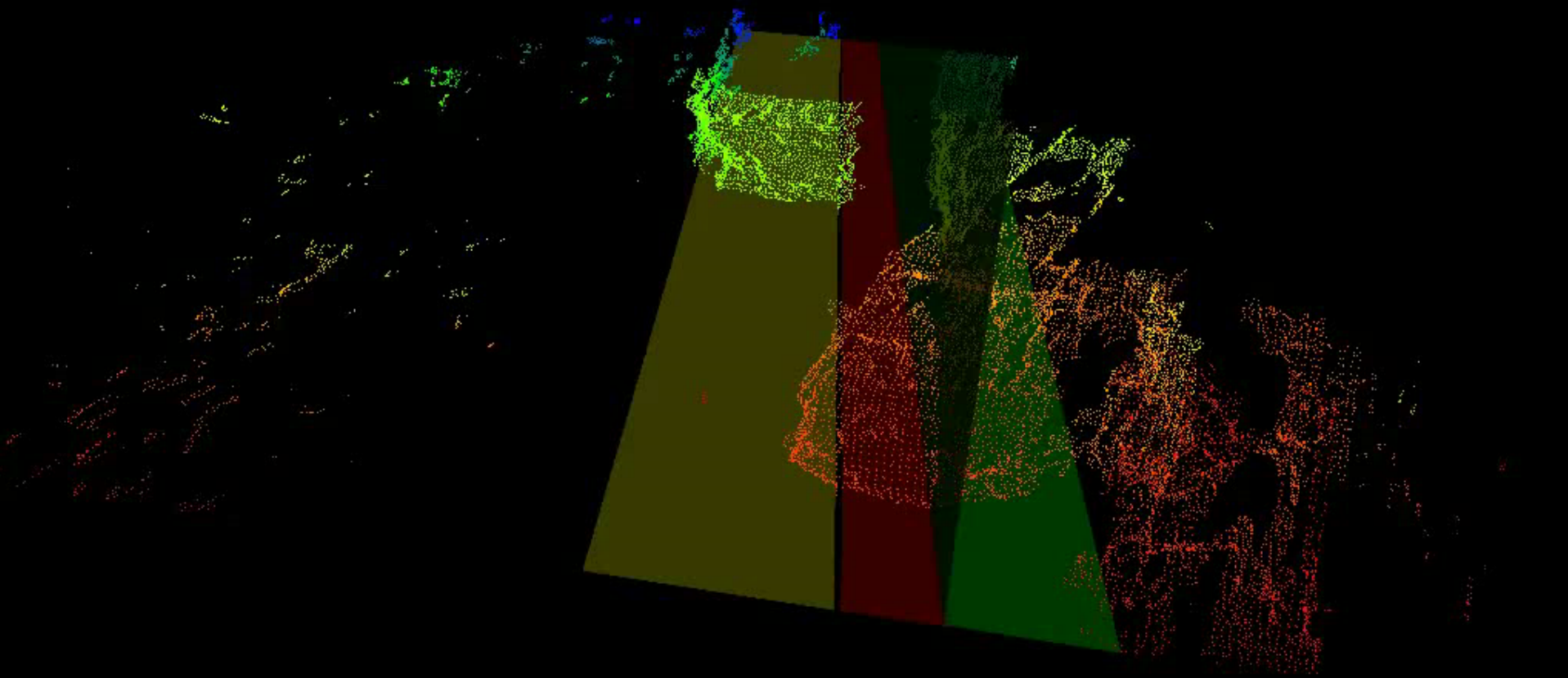
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TramInTakt Key Enabling Technology (3D Image Processing)







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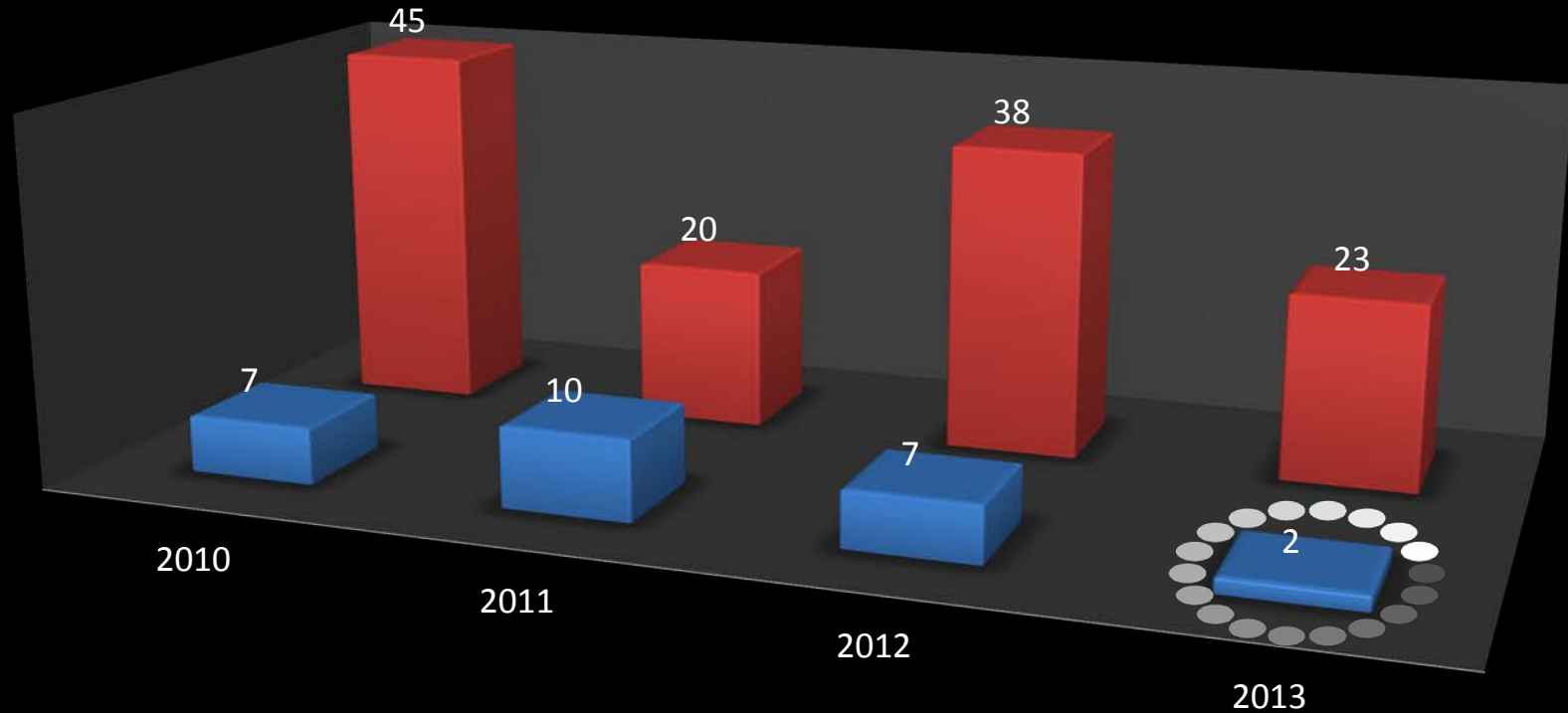
Evaluation – Real Conflicts



Evaluation – Real Conflicts

Number of Conflicts

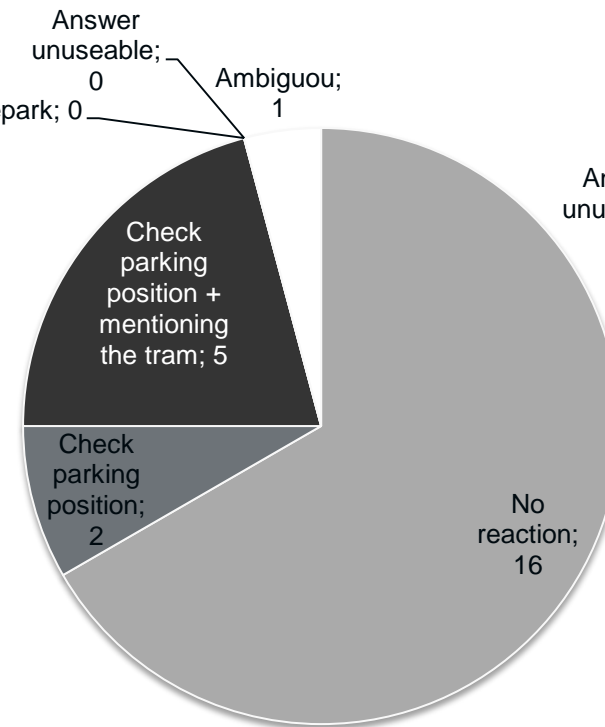
■ Test periode (20.8. - 30.11.) ■ Entire Year



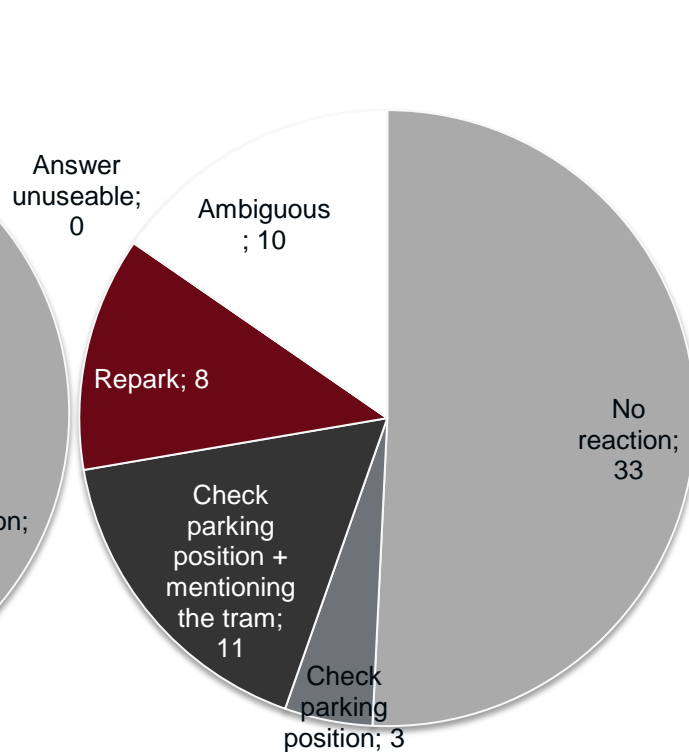


Evaluation – reaction at test-videos ...

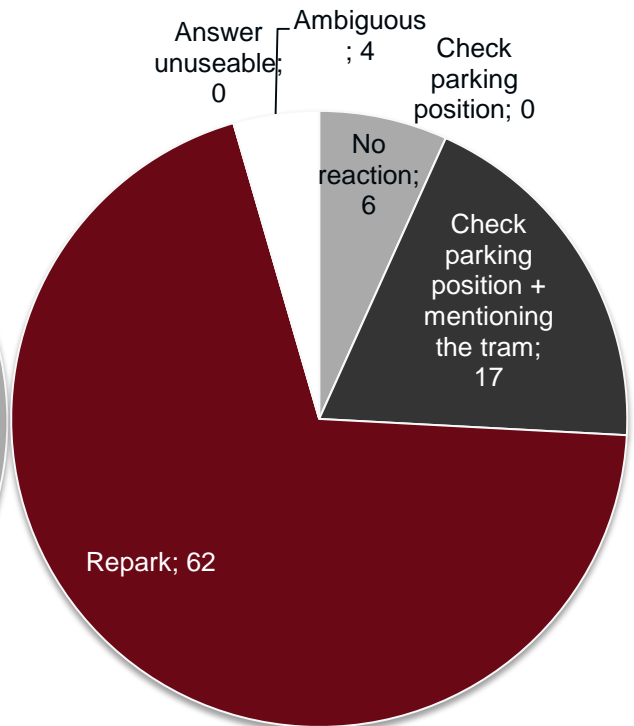
Reaction to video without sign



Reaction to video with sign without light



Reaction to video with flashing sign





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Thank you for your attention

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