



# Operational Design Domain & Road Classification

Julian Schindler

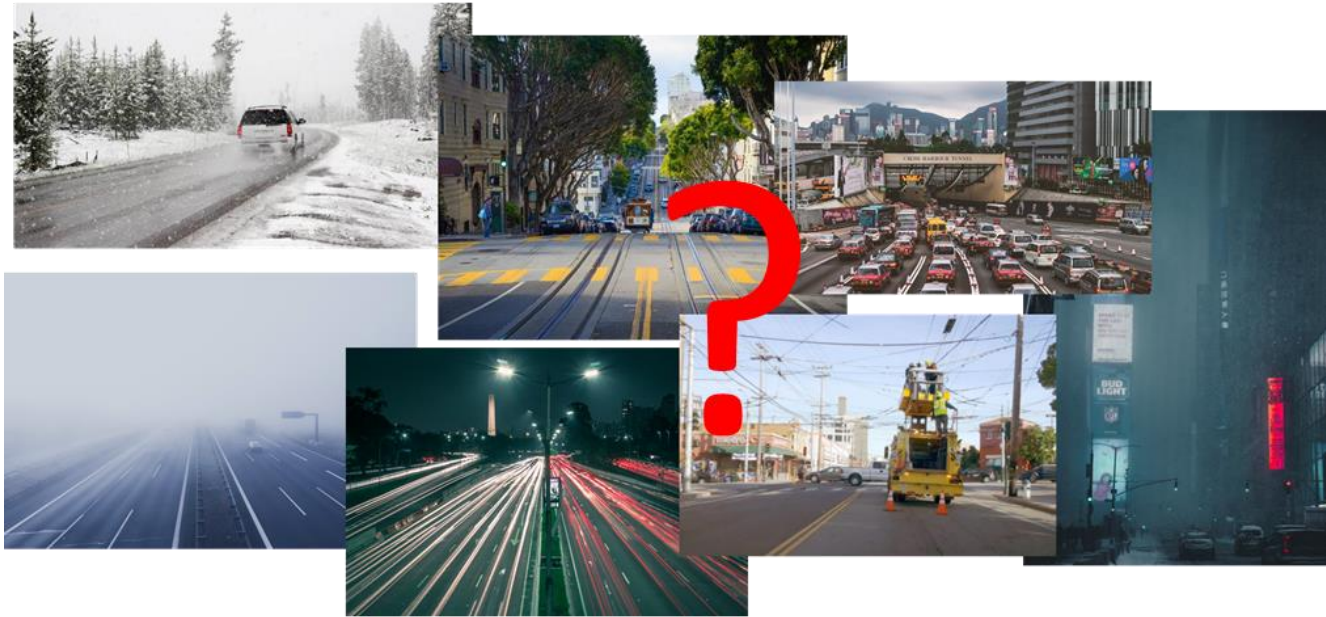


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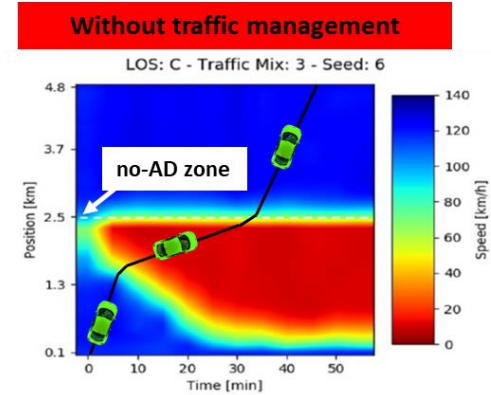
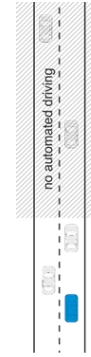
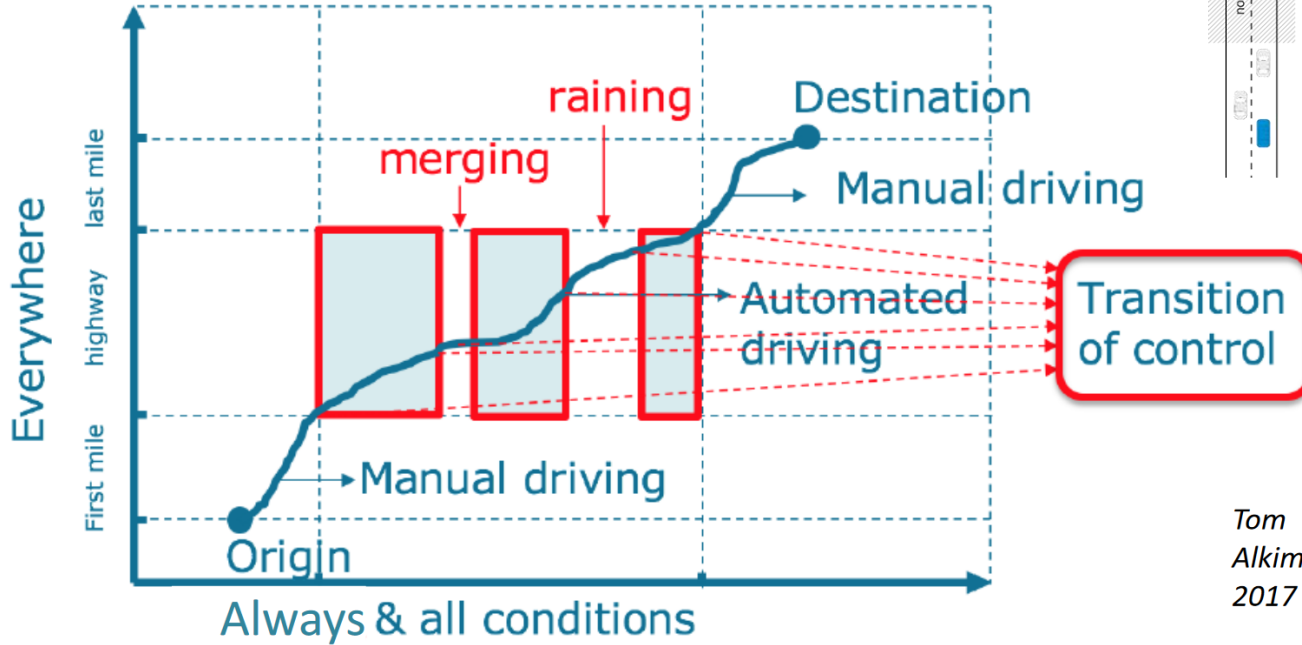
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 723390



# Topic Definition



# Topic Definition: ODD limitations and their impact



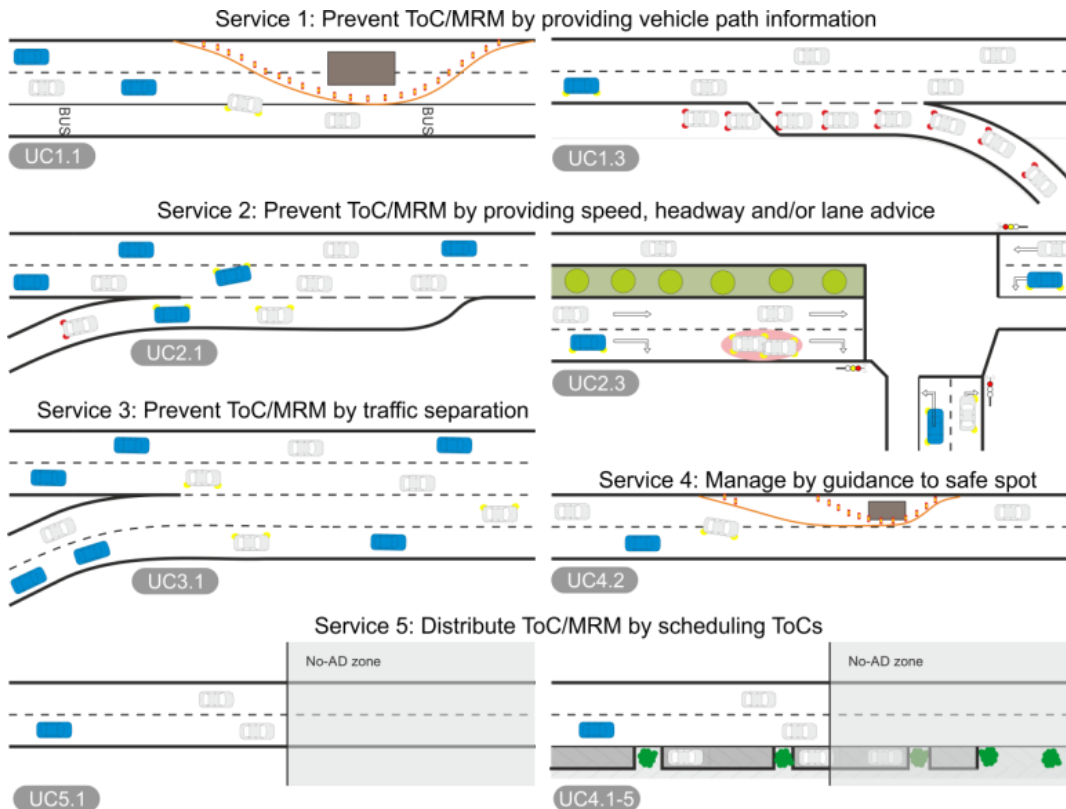
Tom  
Alkim  
2017

# Topic Definition: ISAD levels

	Level	Name	Description	Digital information provided to AVs			
				Digital map with static road signs	VMS, warnings, incidents, weather	Microscopic traffic situation	Guidance: speed, gap, lane advice
Digital infrastructure	A	Cooperative driving	Based on the real-time information on vehicle movements, the infrastructure is able to guide AVs (groups of vehicles or single vehicles) in order to optimize the overall traffic flow.	X	X	X	X
	B	Cooperative perception	Infrastructure is capable of perceiving microscopic traffic situations and providing this data to AVs in real-time	X	X	X	
	C	Dynamic digital information	All dynamic and static infrastructure information is available in digital form and can be provided to AVs.	X	X		
Conventional infrastructure	D	Static digital information / Map support	Digital map data is available with static road signs. Map data could be complemented by physical reference points (landmarks signs). Traffic lights, short term road works and VMS need to be recognized by AVs.	X			
	E	Conventional infrastructure / no AV support	Conventional infrastructure without digital information. AVs need to recognise road geometry and road signs.				



# TransAID findings



# Prospects

- ODD restrictions of vehicles must be accessible
- Creation of a catalogue of common ODDs and deduction of common required “road attributes”
- Combination of “road attributes” and ISAD levels to create stepwise AV-readiness
- Use this long-term...
  - Road building
  - Road equipment (sensors, RSUs...)
  - Identification of critical areas
- ...and online
  - in traffic management
  - Locally (e.g. by using ITS-G5)
  - Cloud-based (e.g. by using 5G)
- Well defined format required
  - e.g. ASAM OpenODD



# The panel

**Risto Kulmala**

Traficon

**Lina Konstantinopoulou**

EuroRAP

# Discussion statement (1/2)

We recommend that...

***ODDs of all automated vehicles are shared and accessible in a common and well defined format.***



## Discussion statement (2/2)

We recommend that...

***Roads are classified according to their ISAD level and ODD characteristics (e.g. classification of lane markings, quality/type of road surface).***



## Questions? Let`s stay in touch!

Contact:

julian.schindler@dlr.de (Project Coordinator)



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