Infrastructure for Automated Vehicles (Infra4AV)

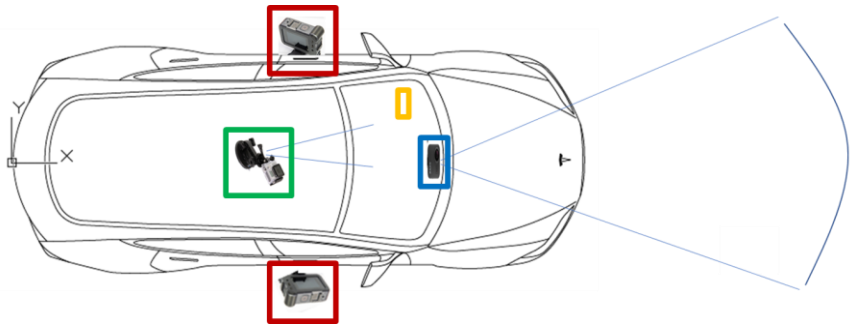
Short Summary:

Automated Vehicles (AV) are on the horizon and many ADAS systems like ISA are mandatory for new vehicles in 2022. However, the AVs have limited ODD (Operational Design Domain) in which these vehicles can operate safely. Therefore, it is important for Road Authorities (RA) to understand the current level of readiness of their infrastructure.

We developed a tool that uses the data from automated vehicles to generate different levels of maps that can be used by RAs to assess their road infrastructure for safe operation of Avs.

The tool uses Computer Vision, Machine Learning, Artificial Intelligence, and GIS analysis to generate these maps.

Data Collection/ Sources



plan b

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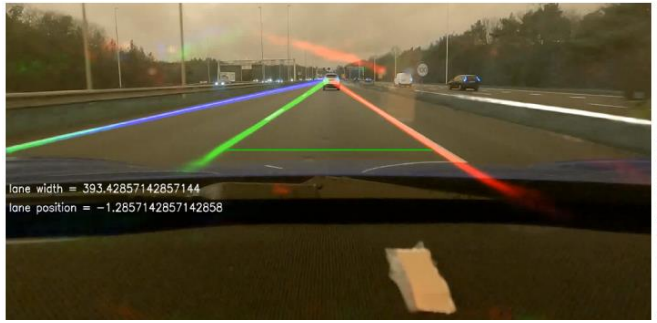
Data Processing



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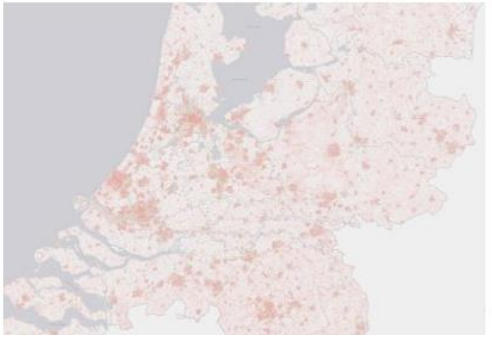
Level 1: General quick scan

Need
A first indication **hotspots** of roads that might require attention to facilitate ADAS.

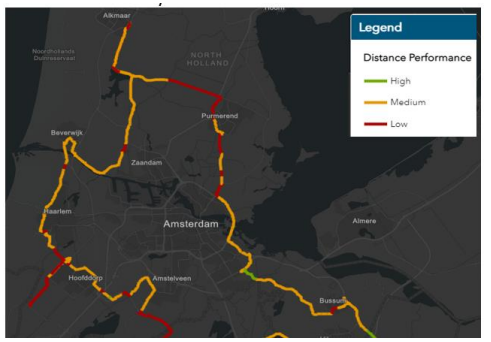
How
Use open-source data



Level 2: Hotspots and Level of Service (LoS)

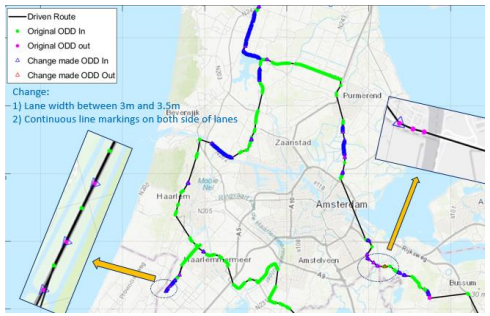
Need
Know the **hotspots** and **LoS** provided by the infrastructure to make informed decisions about **where to act first**

How
Use open-source data + external contextual data (weather, lighting), vehicle data (ADAS) & domain knowledge.



Level 3: Prediction Model

Need:
Know **how the AVs interacts with the road infrastructure**
How:
Use the **AI model** built upon the data collected during driving.



Level 4: Detailed ADAS audit

Need:
Know **what needs to happen + costs.**
Strategic planning of infrastructure improvements
How:
Use level 2 and level 3 insights + CREATE to audit the infrastructure whilst driving