

Definition and Test of Ko-PER Perception Messages



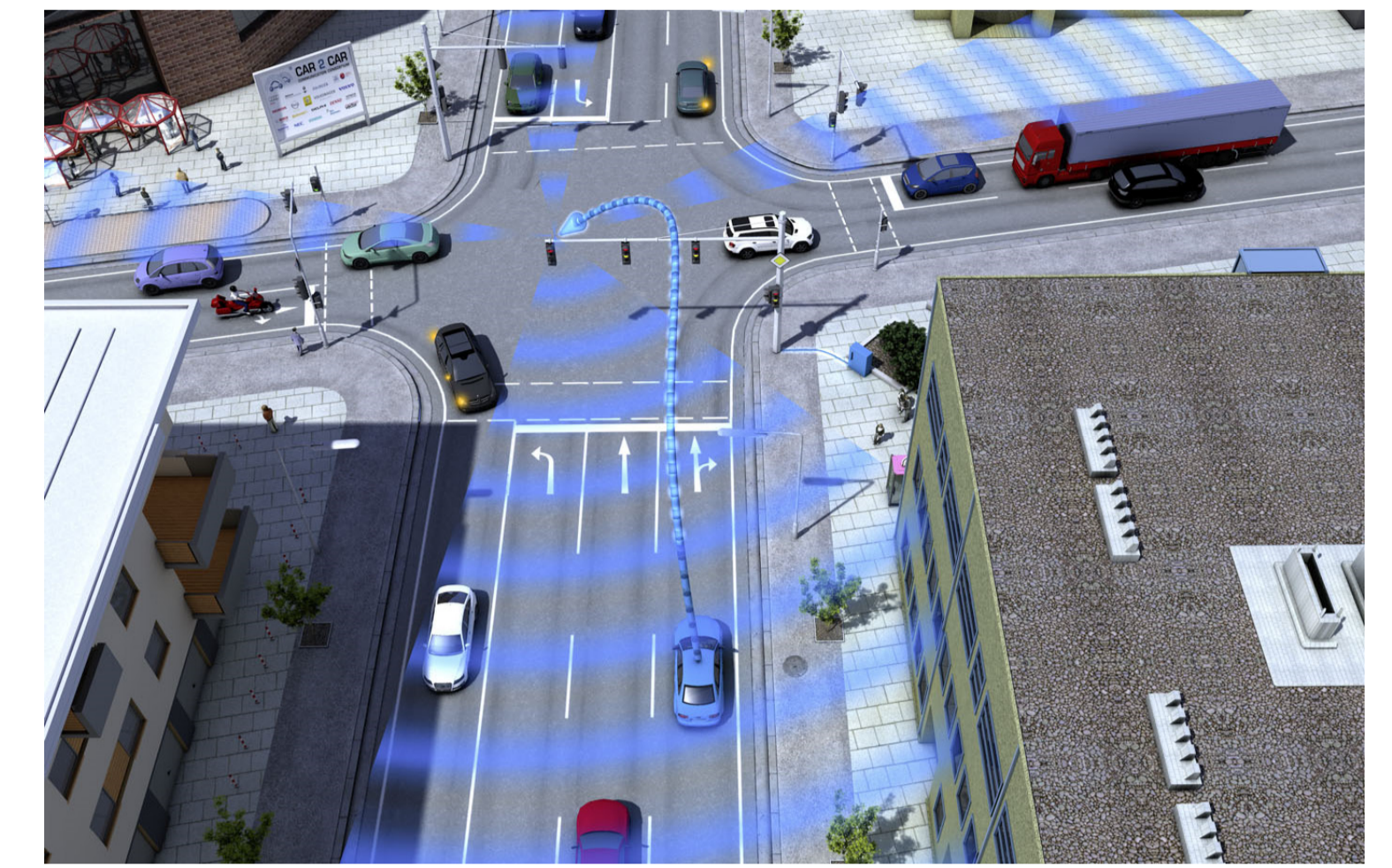
Technology Transfer from sim^{TD}

Intersection

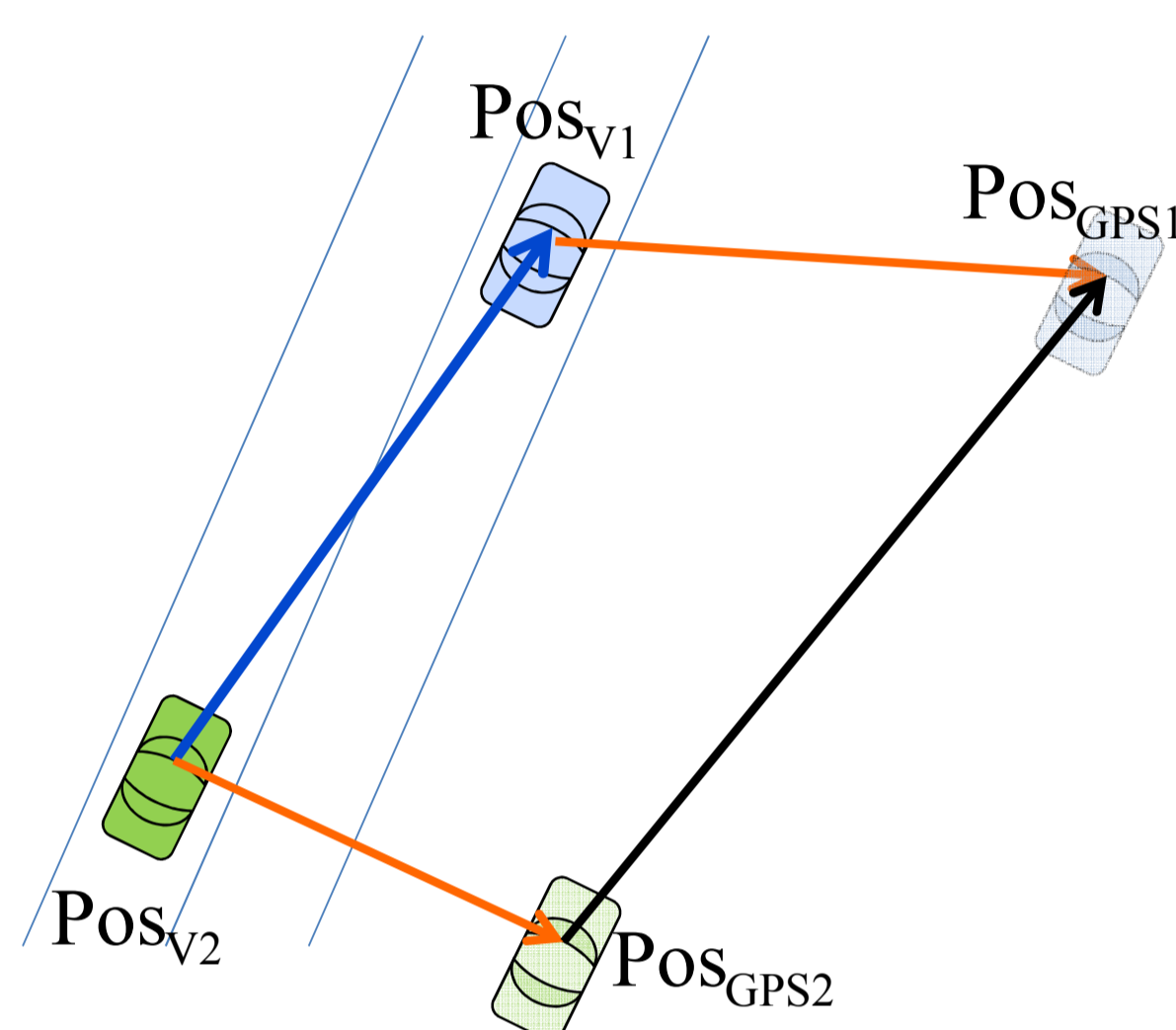
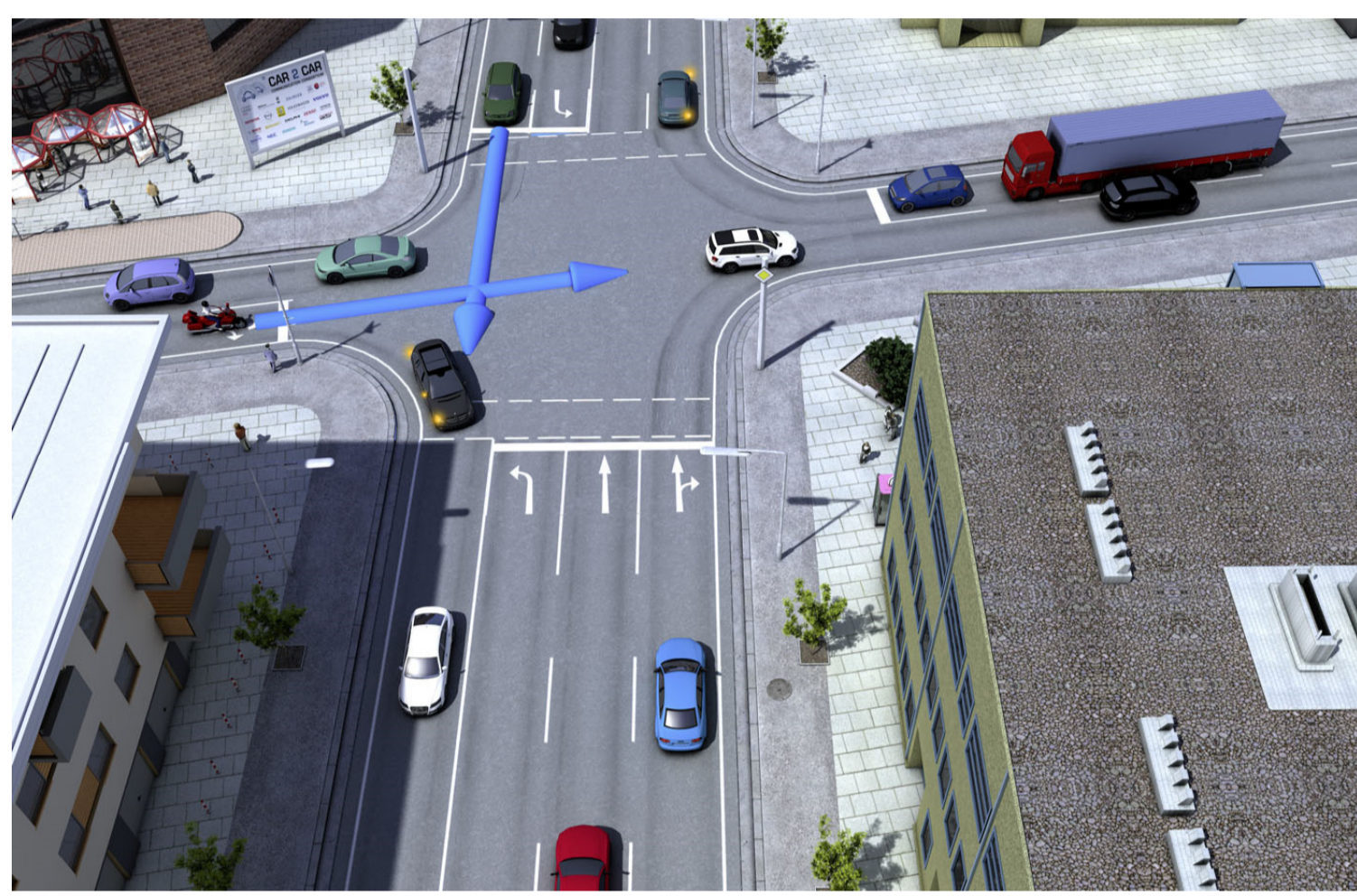
- Intersection Geometry and Topology (MAP)
- Traffic Light Information (SPaT – Signal Phase and Timing)

Vehicle

- Vehicle State Information (CAM – Cooperative Awareness Message)



Advanced Ko-PER Messages for Cooperative Applications

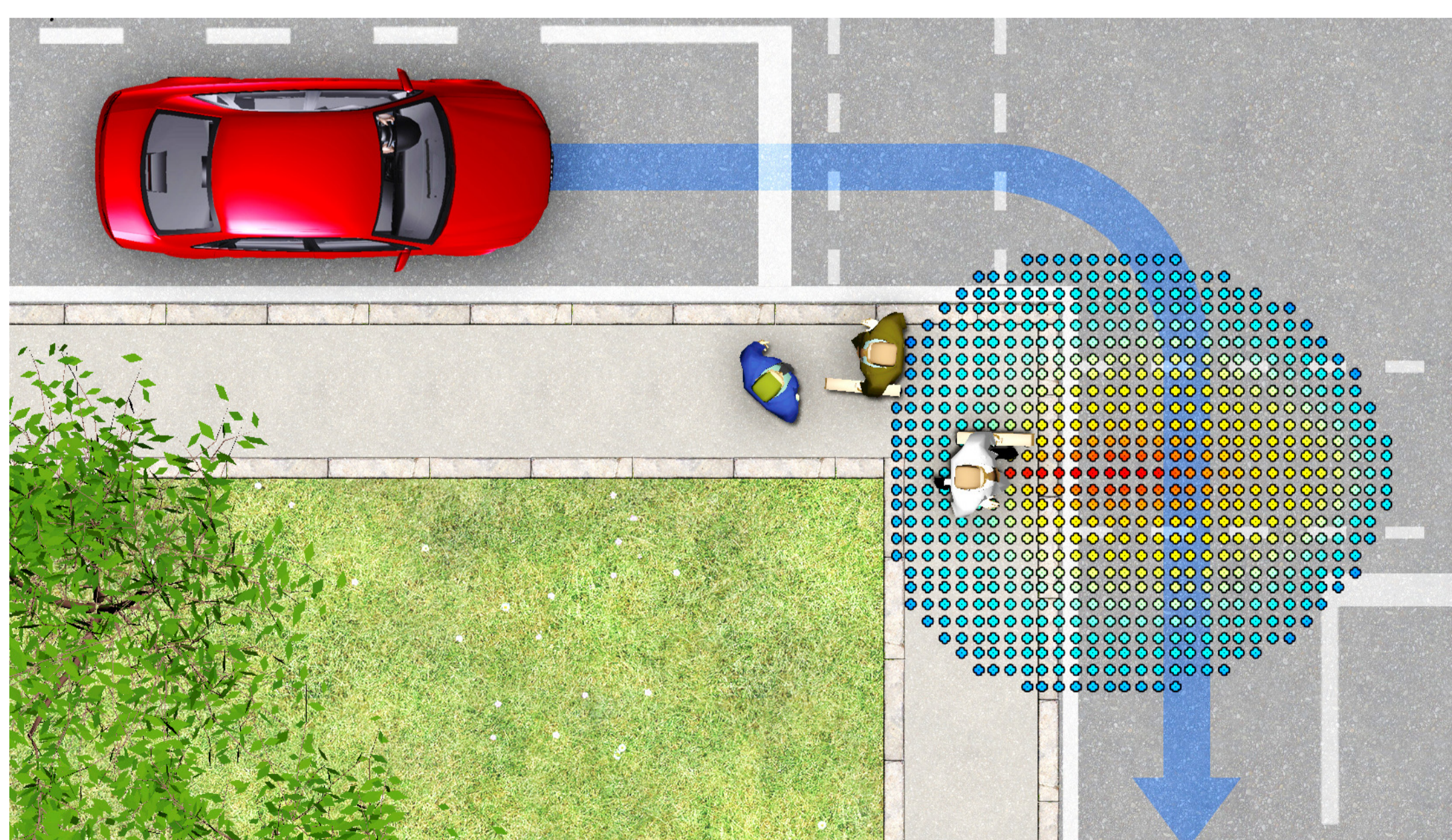
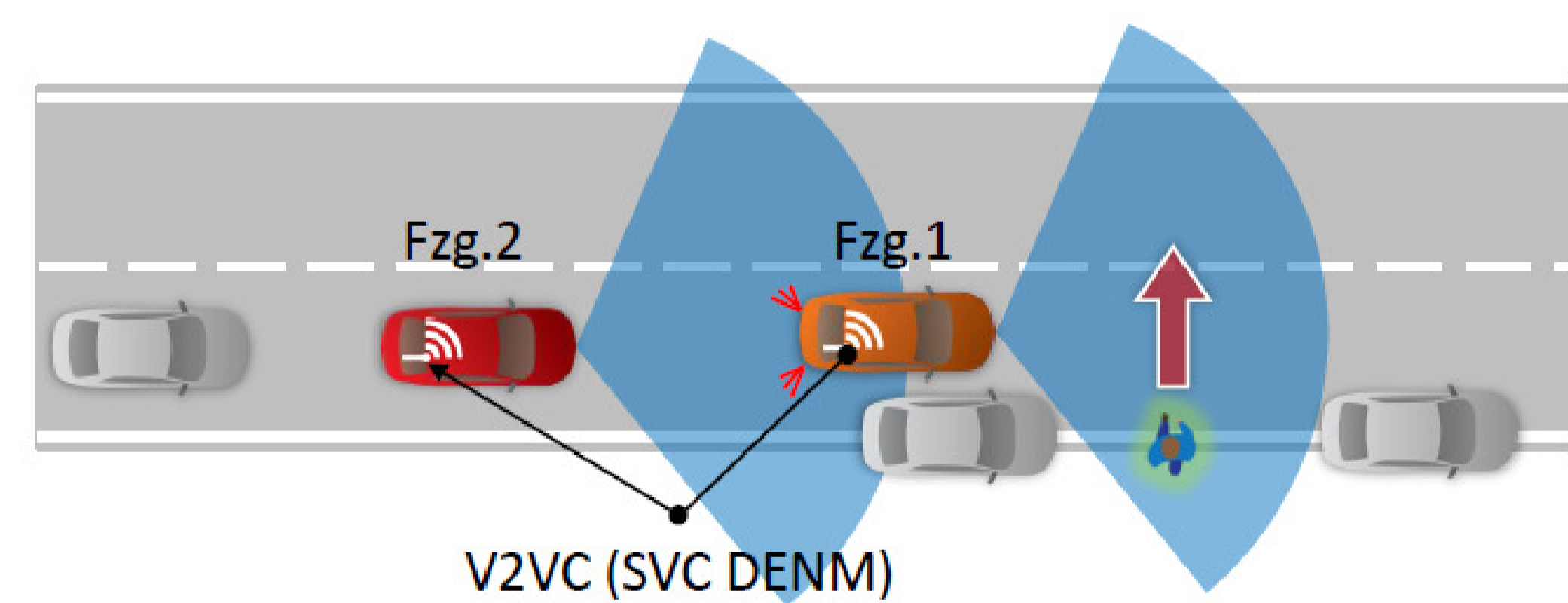
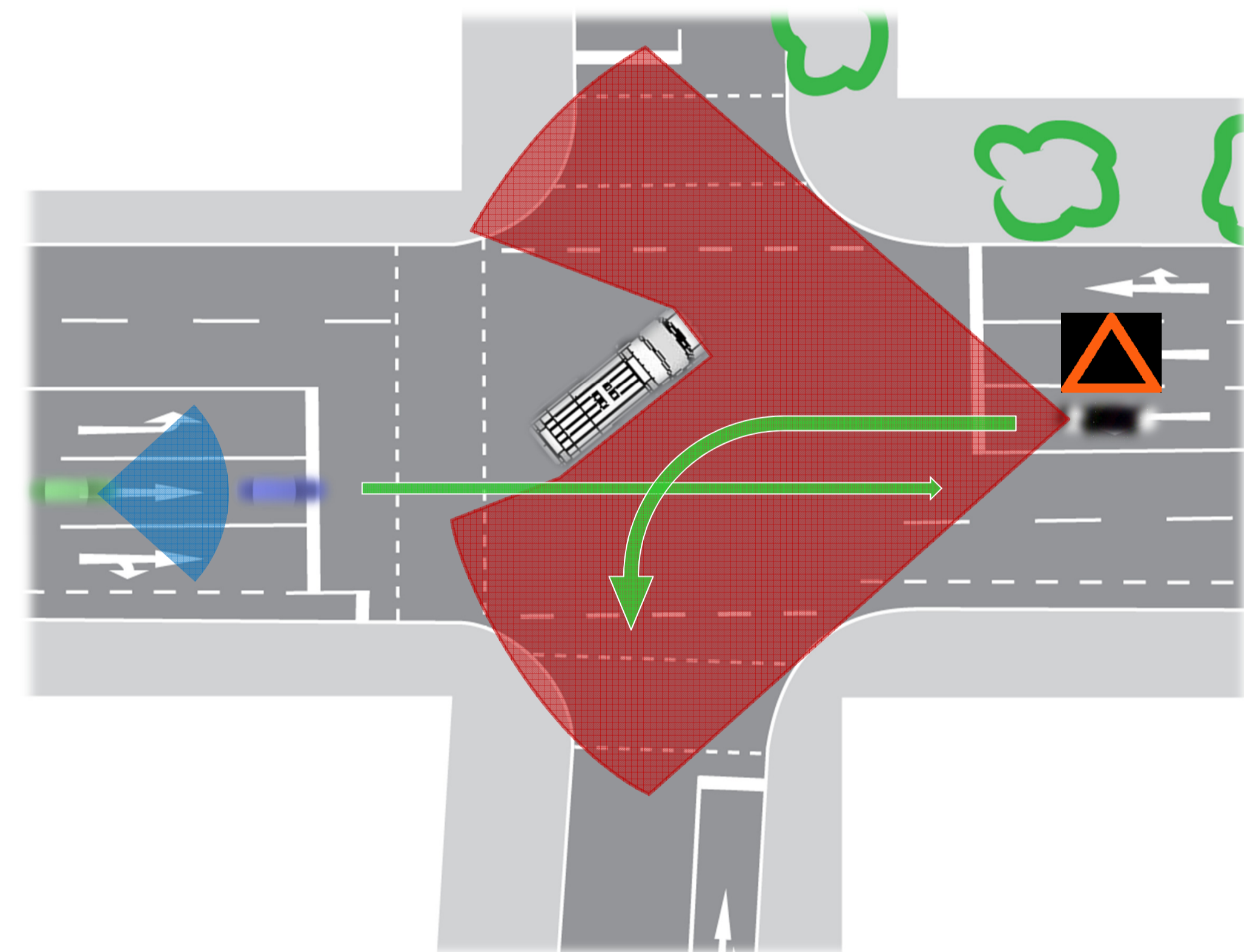


Cooperative Positioning

- Localization Message (CLM)
 - GPS-Raw Data
 - Vehicle Dynamics
 - Level Arms

Inter-Vehicle Perception

- Cooperative Perception Message (CPM) featuring:
 - Ego Information (EIS)
 - Global Position
 - 3D-Orientation
 - Vehicle Dynamics & Covariance
 - Field of View (FoV)
 - Perceived Dynamic Objects (PDO)
 - Object Class & Dimension
 - Object Dynamics & Covariance



Several Novel Types of DEN Messages to

- Support Safety in Longitudinal Traffic &
- Cooperatively Protect Vulnerable Road Users
- Sudden Velocity Change (SVC)
- Sudden Lateral Displacement (SLD)
- Surprise Behavior of Pedestrians & Two-Wheelers (PED&BIC&CYC)