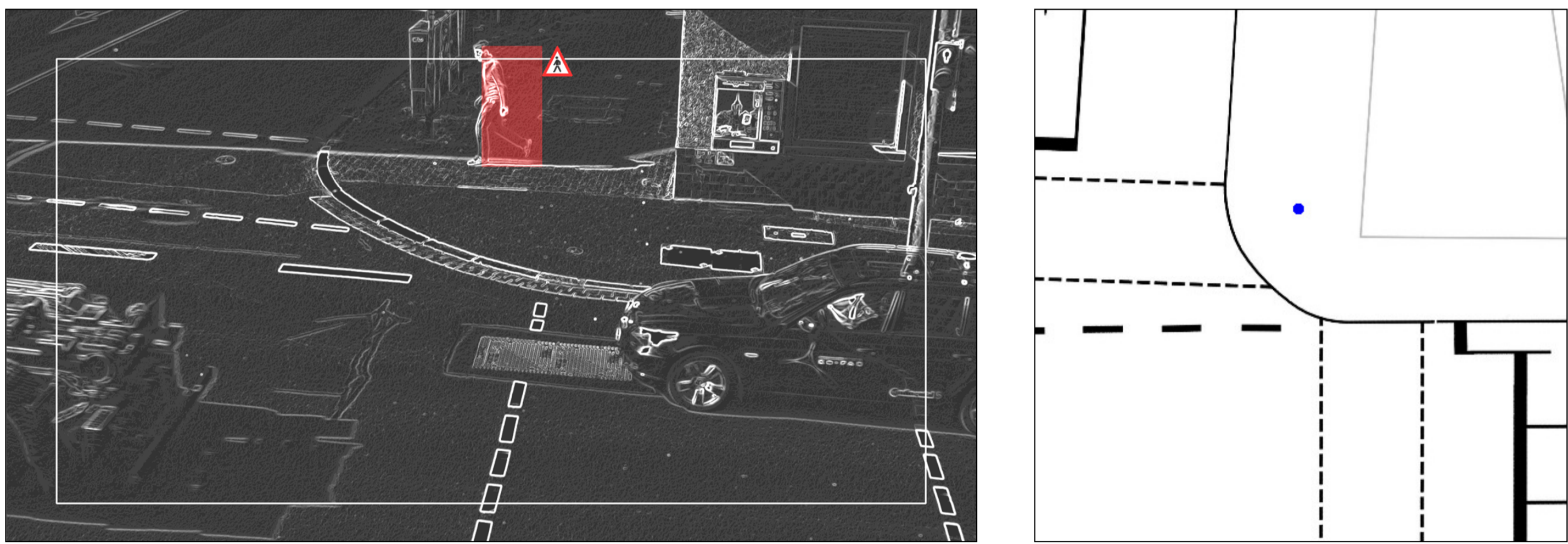


Driving Demonstration III: Turning with Foresightedness

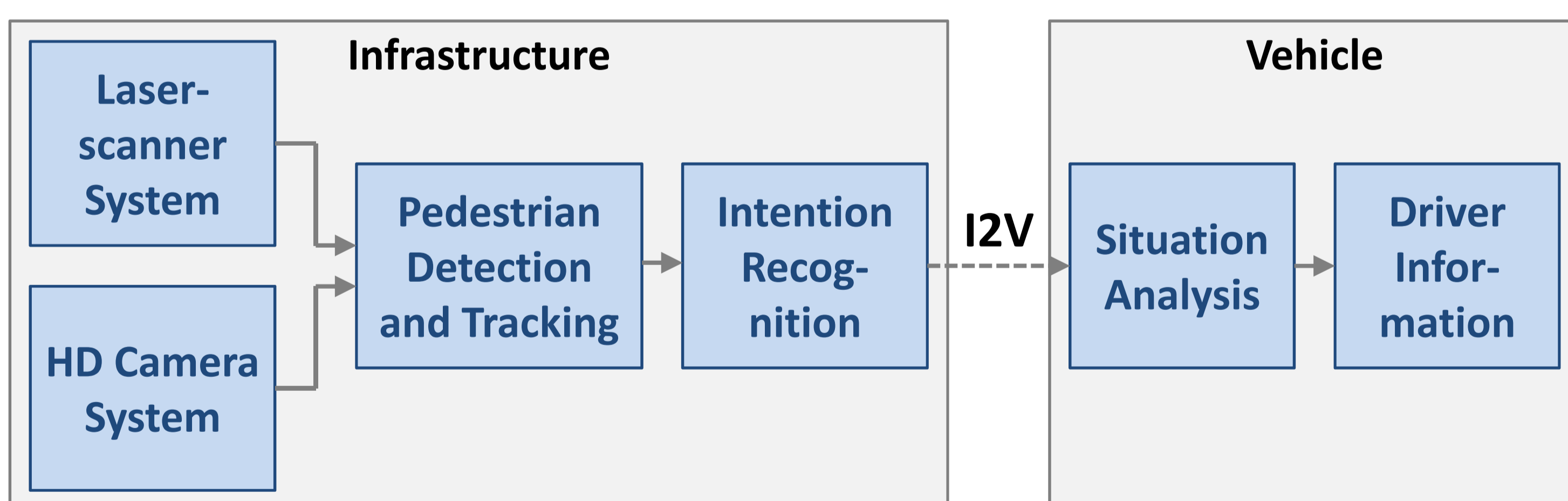
Motivation

- According to current German traffic accident statistics, 926 vulnerable road users (VRUs: pedestrians and bicyclists) were killed in 2012 corresponding to 25.7% of all fatalities [1].
- At the same time, 115,315 VRUs are hurt corresponding to 20.0% of all personal injuries.
- Pedestrians are not only completely unprotected but also particularly at risk due to their ability to suddenly change the direction.

Ko-PER Approach



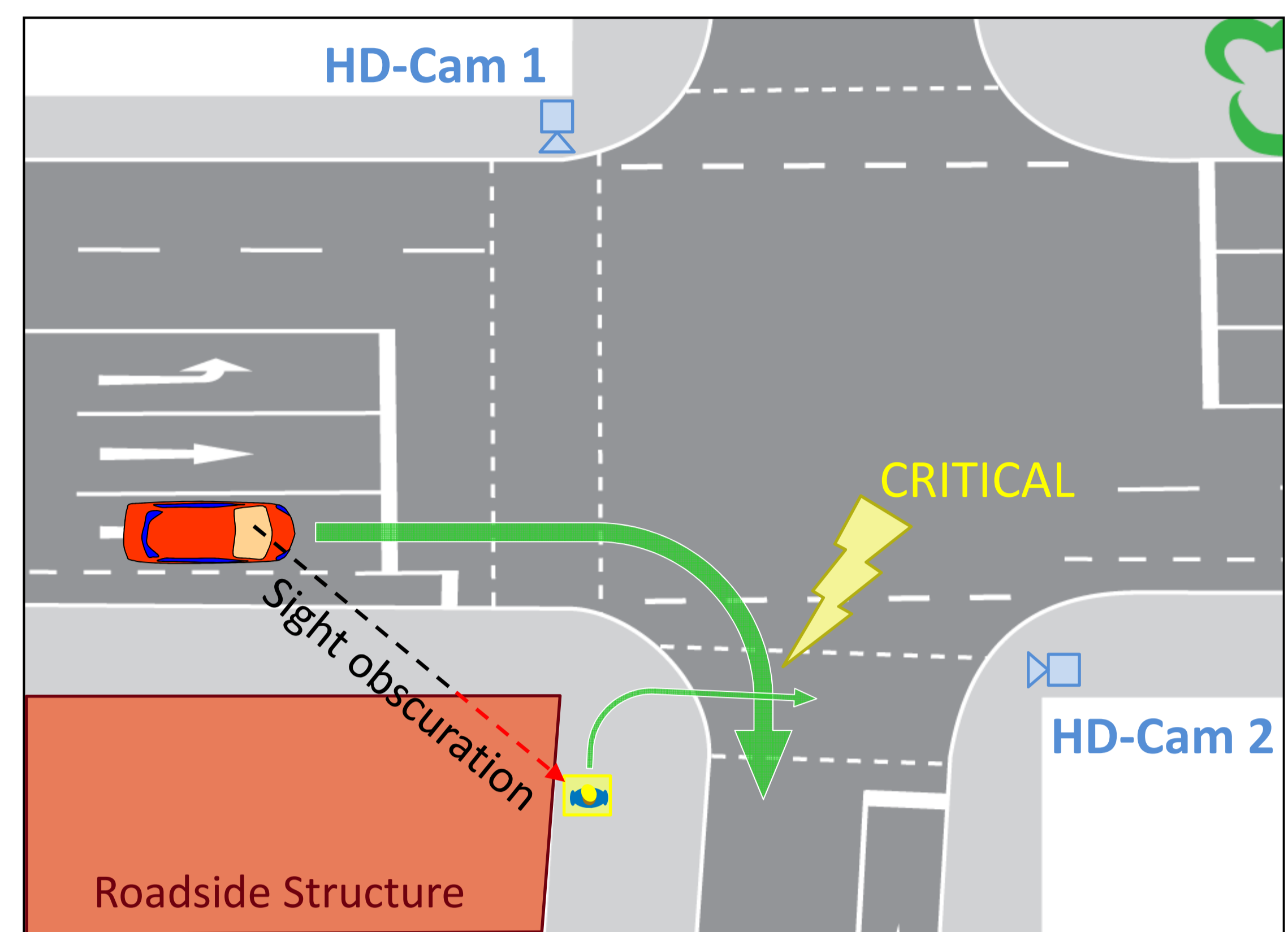
- Pedestrian detection and tracking utilizing infrastructure-based sensors
- Identification of VRUs intending to cross
- Generation and broadcast of messages (VRU attributes: type, position, orientation, velocity, predicted trajectory,...) via I2V-communication



- Significant safety improvement due to situation analysis:
 - ▶ Early information leaves more time to react.

[1] Statistisches Bundesamt, „Verkehr – Verkehrsunfälle“, Fachserie 8 Reihe 7, July 2013

Scenario



- Vehicle takes a right turn at the intersection
- Pedestrian obscured by a building intends to cross the intersection
- ▶ Critical situation in the area of encounter

Vehicle function

Driving through intersection with intention to turn right



Turning right, an early advisory information “Pedestrian crosses” is announced well before the VRU is visible



Due to the advisory information the driver decelerates and prevents a critical situation

