

Automated Vehicle Project in Iowa

- Just beginning.....
- Project Purpose – partnership to develop strategies that further the research, development, testing, operation, and implementation of automated vehicles in the State of Iowa.
- Partners:
 - Iowa DOT
 - HERE of North America
 - University of Iowa
 - Iowa State University



Automated Vehicle Project in Iowa

- Why do this?

Improve Iowa's transportation system to increase:

Safety

Capacity

Mobility

Efficiency

Economic vitality

Intermodal freight efficiency



Traffic Fatalities

- 35,200 in U.S. for 2015
- 320 in Iowa for 2015
- 260 to date in Iowa for 2016



How technology can help...

- 95% of crashes at least partially driver error
- 80% estimated decrease in fatalities with deployment of Automated Vehicle Technologies

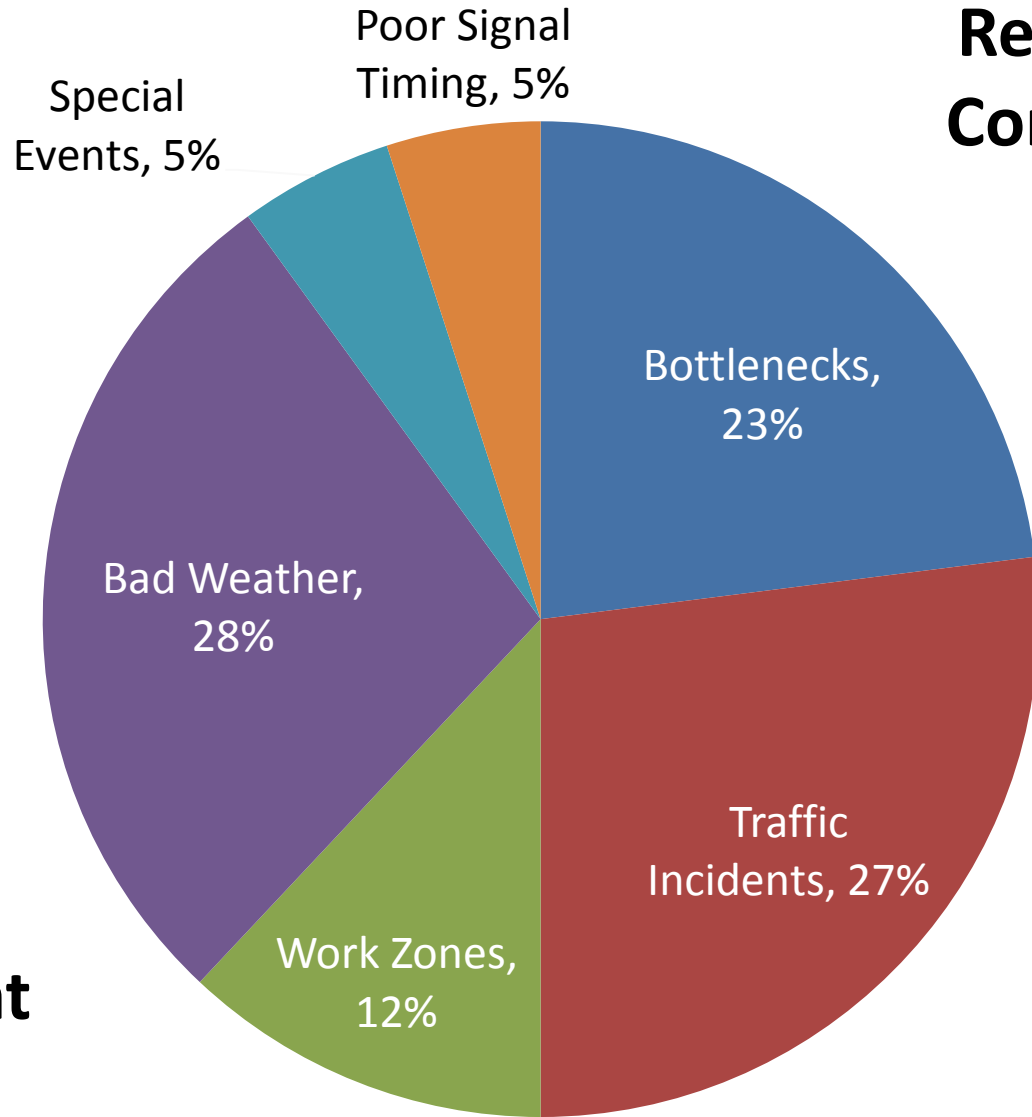


Congestion in Iowa

- 2015 – 1400 traffic incidents per month (state system only)
- Average lane clearance time is 56 minutes
- 1500 Highway Helper services per month
 - Des Moines, Iowa City/Cedar Rapids, Council Bluffs
- 2.8% likelihood of a secondary crash per minute of lane blockage



Recurrent Congestion



Non-recurrent Congestion



Automated Vehicles

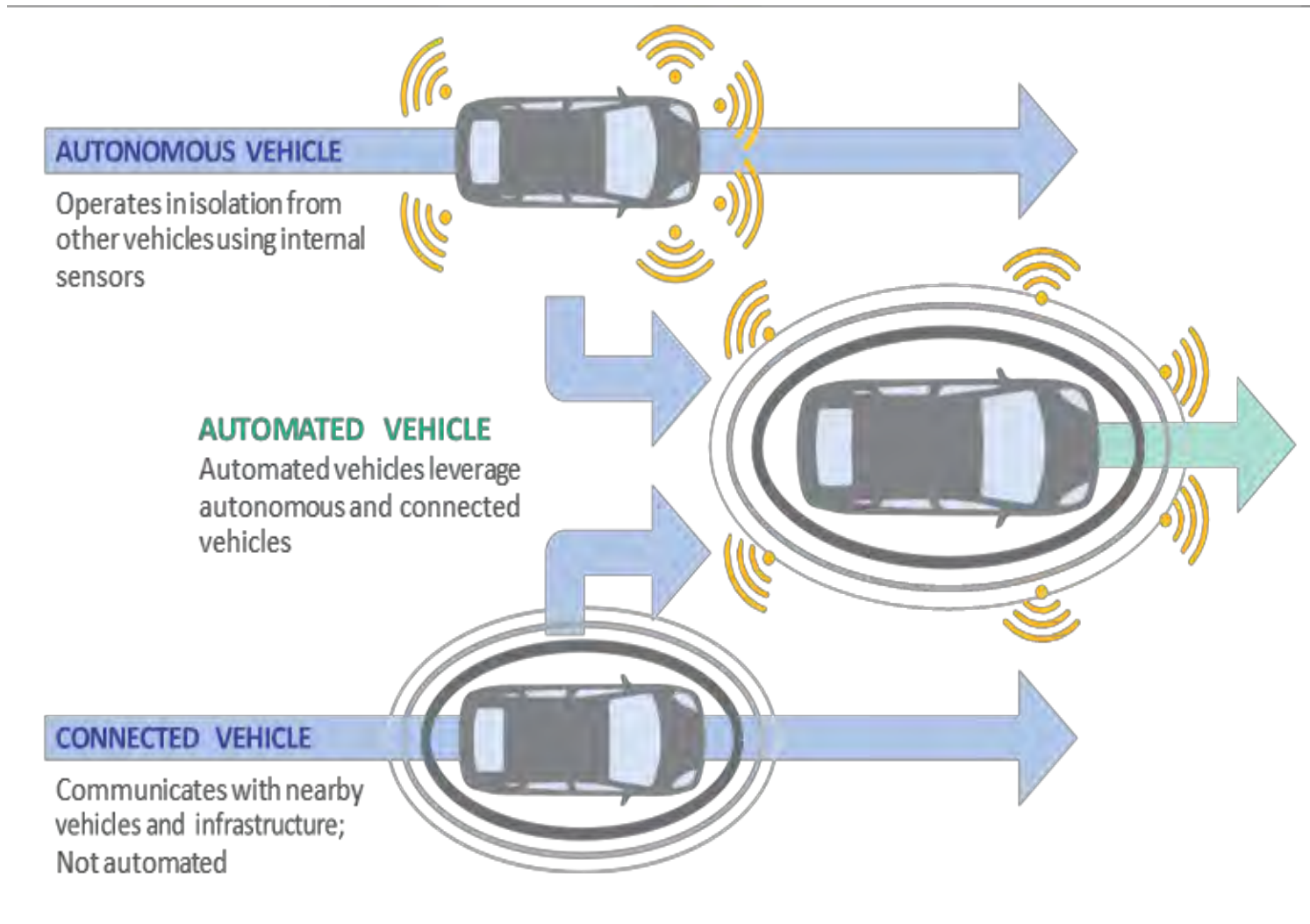


Automated Vehicle Technologies

Automated Vehicles – include **connected** (V2X) technologies and **autonomous** (vehicle sensors) technologies. CV, AV, CAV



Automated Vehicle



Automated Vehicle Project

Two Main Key Components:

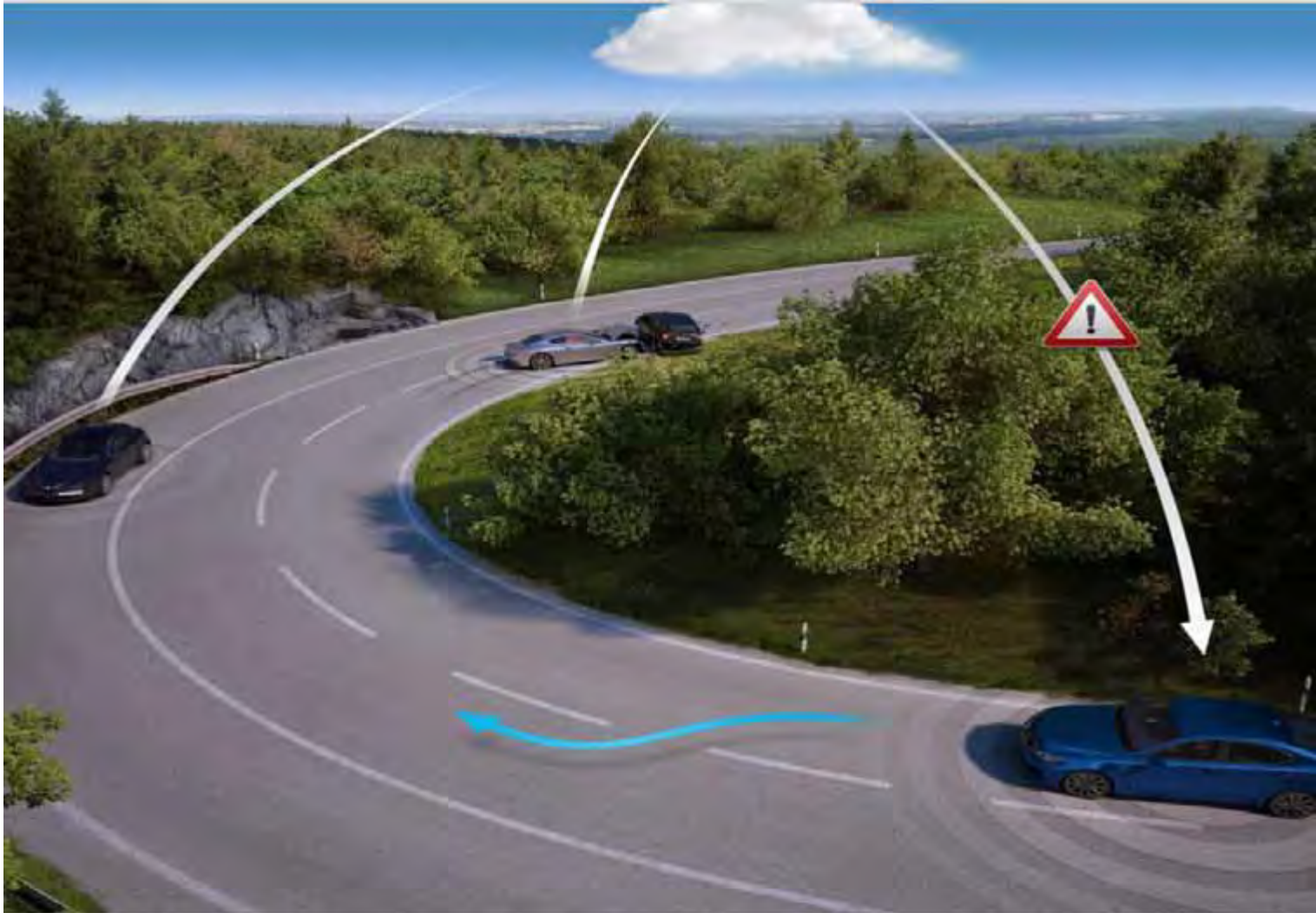
- High definition/3D digital mapping (cloud based) of paved roads, centimeter level accuracy – ingested by the vehicle
State, city, county, bike trails in Iowa
City/Cedar Rapids area
- Predictive Travel modeling and validation – ingested by the vehicle



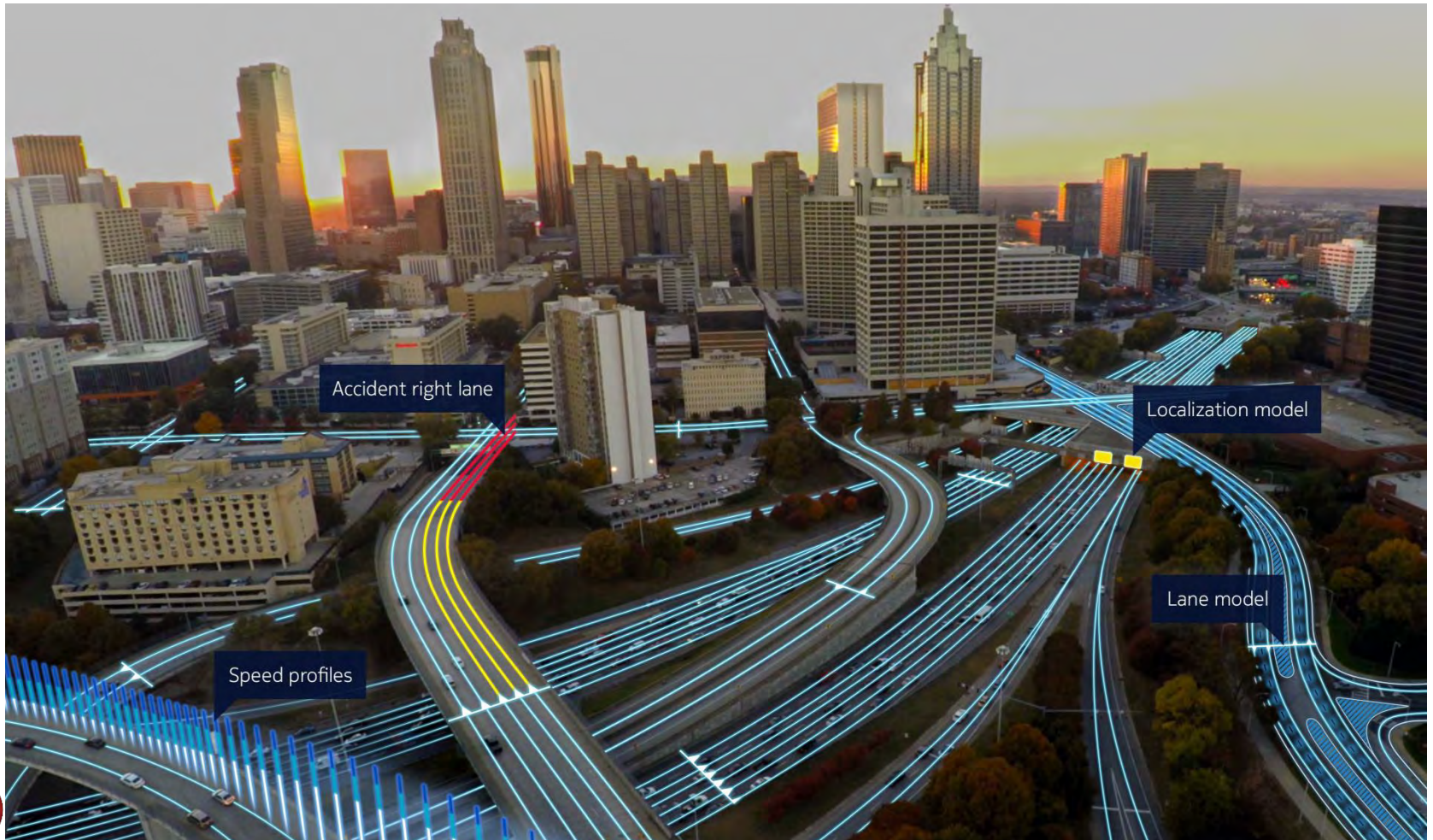
Vehicle Awareness



HERE HD Live Map Cloud Communication

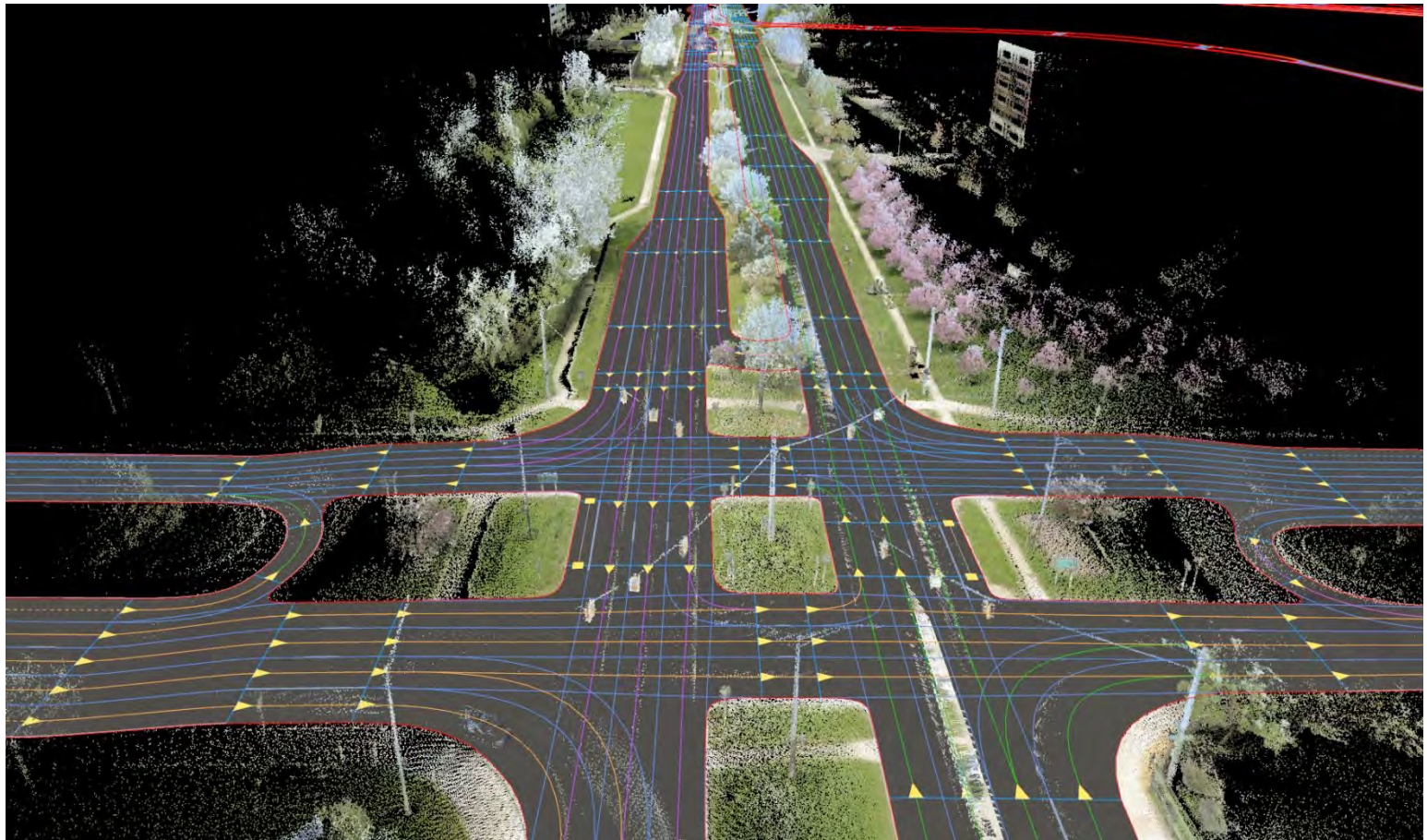


HERE HD Live Map



HERE HD Live Map

- What this is – cloud computing of HD Live mapping, Intermodal freight efficiency, Live **integrated** CV/AV Corridor



Automated Vehicle Technology must.....

- **Work in all weather conditions**
- **Predict anticipated traffic and roadway conditions**
- **Communicate seamlessly with other automated vehicles**
- **Use HD mapping for precise vehicle location**



Automated Vehicle Project

- Build this bridge as we are crossing it, learning and growing as the project develops
- Continue to increase technology awareness

