Denver

Smart City Initiatives
Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD)
01 **Leverage Connected Vehicle (CV) Technology**
Connected infrastructure benefits for congestion & safety outcomes

02 **Open by Default**
Use open source code projects & contribute back to them

03 **Build Public Sector Expertise**
Leverage city staff expertise & build on it
Connected Pedestrian
Connected Freight
Connected TMC
Start Small

Collaborate with the Community

Be Ready to Test (a lot)

Look at internal use cases first
CDOT

Connected Vehicle Initiative
I-70 V2X Connected Vehicle Ecosystem
I-70 Mountain Corridor
RSU Optimization

MileMarker: 2568
Annual Cost: $718,180
AADT: 72,000
Crash Road Condition: DRY
Crash Weather: NONE
Contour: CURVE ON-GRADE
Pole: No Coverage
Signal Level: No Coverage
Poles Covering: 0

Optimal Benefit to Cost

Initial Coverage on Existing Poles
Limited Benefit Below Critical Density
New Poles
Incremental Units Contribute Little

Challenging Locations

100% RSU Coverage
90 Miles
I-70 from Golden to Vail

100 Roadside Units
Dual DSRC and C-V2X

93 Vehicles Equipped
Scaling from here
RSUs Deployed
RSU Coverage
RSE & OBE
Connected Vehicle Platform

Panasonic
Today's cars have a lot to say...

- Lane departure system
- Night vision
- Front object CCD camera
- ASCD
- Pedestrian warning
- Airbag sensors
- INFOTAINMENT SYSTEM
- Front object laser radar
- Nighttime pedestrian warning IR sensor
- Active park assist
- Tire pressure sensor
- Rear object monitor CCD camera
- Side curtain sensor
- Rear camera
- Blind spot detection
- Cross traffic alert
- Rear object laser radar
- Wheel speed sensor
- Central computer
- Collision sensor
- Side airbag SRS
- Steering angle sensor
- Adaptive cruise control
- Automatic brake actuator
- Wheel speed sensor
V2X Data Use Case: Vehicle Queue Visualization