CITY COUNCIL
B SESSION
MAY 16, 2018

AUTONOMOUS VEHICLES

Art Reinhardt, PE, CFM
Assistant Director

AUTONOMOUS VEHICLES

Fully automated, autonomous, or “self-driving” vehicles are defined as those in which operation of the vehicle occurs without direct driver input to control the steering, acceleration, and braking and are designed so that the driver is not expected to constantly monitor the roadway while operating in self-driving mode.

Source: National Highway Traffic Safety Administration

FUTURISTIC VISIONS

LEVELS OF AUTOMATION

Source: Society of Automotive Engineers (SAE)

No Automation

Zero Autonomy

Level 1

Driver Assistance

Driver Controls Vehicle

Some Driver Assist Features

Level 2

Partial Automation

Driver Must Engage

Combined Automated Functions

Level 3

Conditional Automation

Driver Ready to Take Control as Needed

Level 4

High Automation

Vehicle Can Perform All Functions for Certain Conditions

Driver may have option to control vehicle

Level 5

Full Automation

Vehicle Can Perform All Functions for All Conditions

Driver may have option to control vehicle

LEVELS OF AUTOMATION

Level 3

Conditional Automation

Driver Ready to Take Control as Needed

Audi 8 Autonomous Vehicle Video

POTENTIAL BENEFITS
AUTONOMOUS VEHICLE TECHNOLOGY

- Reduce Driver Error & Safety
- Congestion & Emissions
- Mobility as a Service
- First/Last Mile

SA TOMORROW multimodal transportation plan

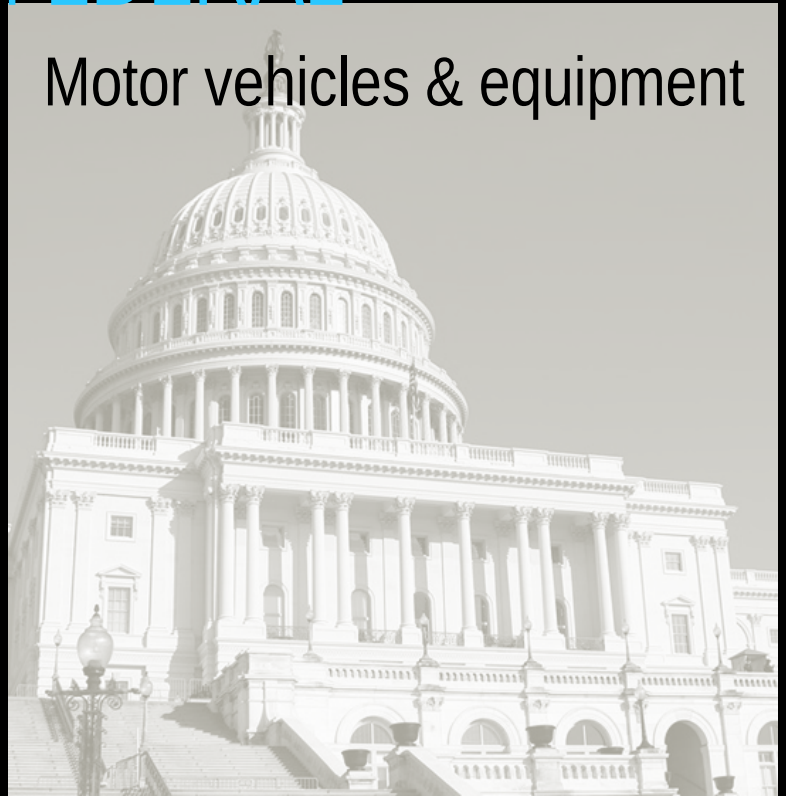
VISION ZERO SAN ANTONIO

POTENTIAL CONCERNS
AUTONOMOUS VEHICLE TECHNOLOGY

- Uncertain Regulations
- Cost & Time of Adopting
- Liability of AV Systems
- Sprawl & Congestion

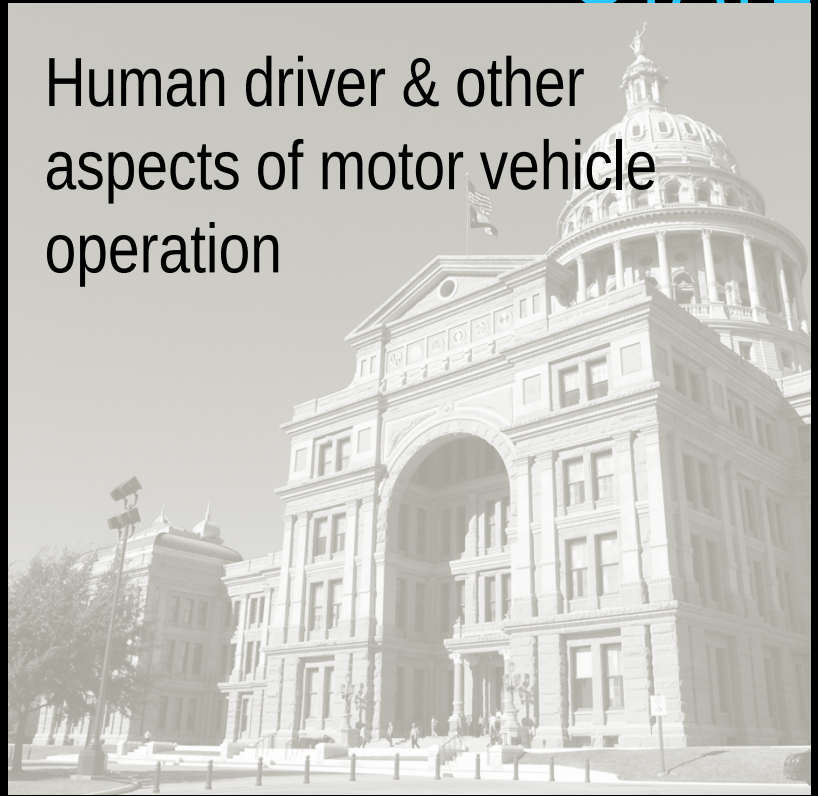
GOVERNMENT REGULATION

FEDERAL



Motor vehicles & equipment

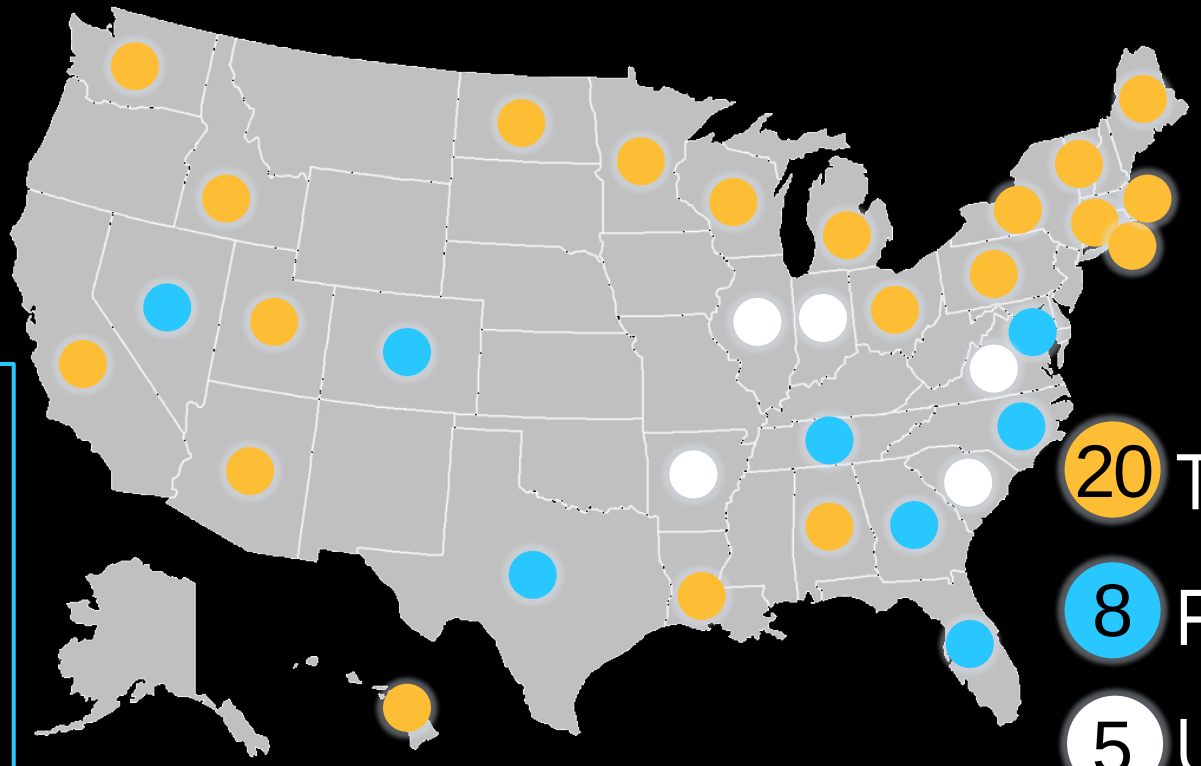
STATE



Human driver & other aspects of motor vehicle operation

VOLUNTARY GUIDANCE

STATE LEGISLATION & EXECUTIVE ORDERS



20 Testing / Pilot

8 Full Operation

5 Unspecified Operation

Source: National Conference of State Legislatures, May 2018

THE STATE OF TEXAS
Senate Bill 2205 | Sep 2017

AUTOMATED VEHICLE OPERATION

- Comply with Traffic & Motor Vehicle Laws
- Manufacturer-Installed Recording Device
- Automated Driving System complies with federal law
- Registered & Titled
- Insured for Motor Vehicle Liability
- Preemption of local regulations

COMPARATIVE CITIES ANALYSIS

CITY STRATEGY & IMPLEMENTATION

- Commercial Testing Programs
- Request For Information to Explore Impacts & Needs
- Fixed Route Shuttle Pilots

CITY OF
SAN ANTONIO
EST. 1718

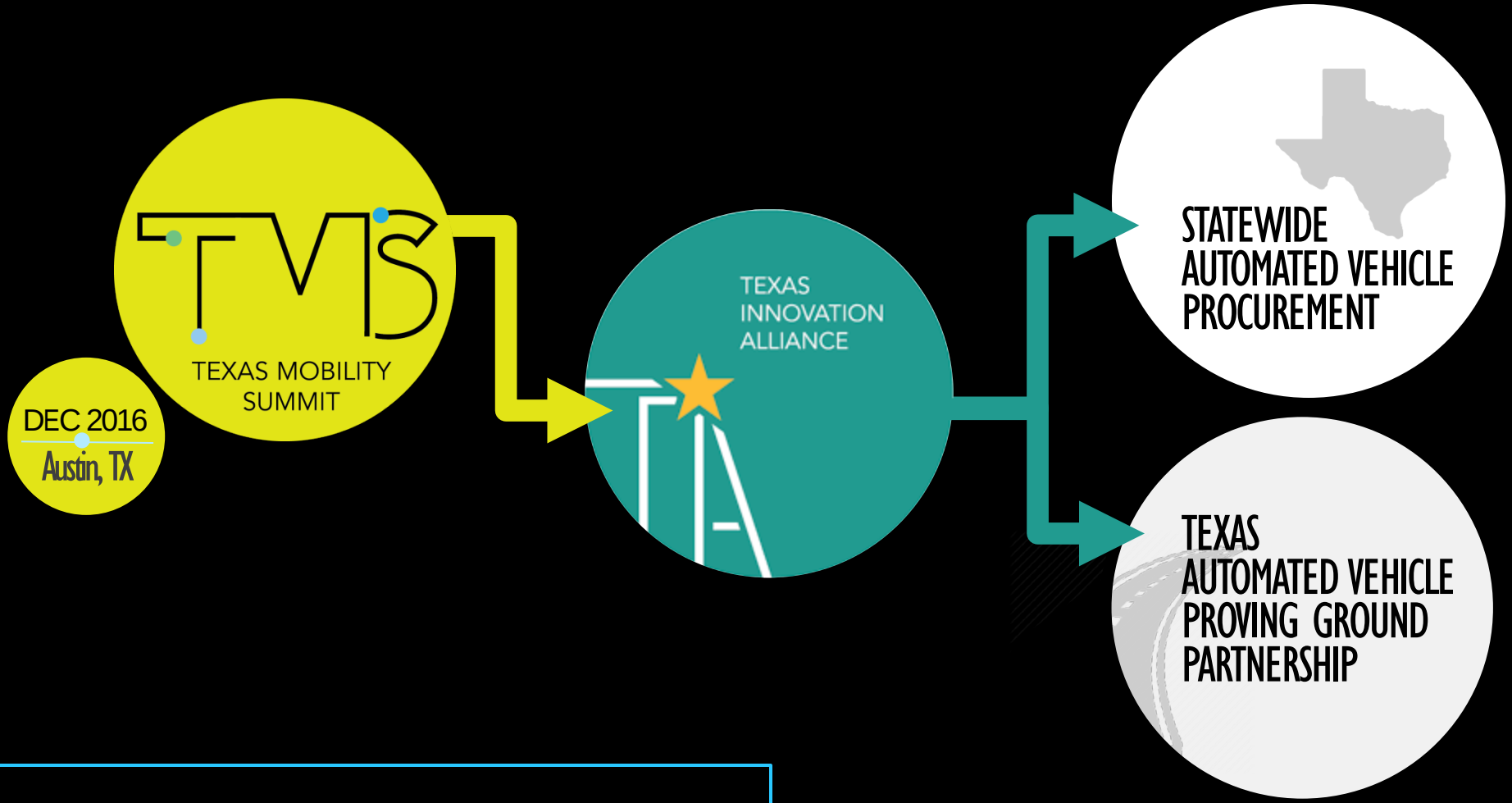
VISION

TEXAS INNOVATION ALLIANCE

Leverage Resources

Co-create Solutions

Share results for improving delivery of government services


TMS
TEXAS MOBILITY SUMMIT
DEC 2016
Austin, TX
TEXAS INNOVATION ALLIANCE
STATEWIDE AUTOMATED VEHICLE PROCUREMENT
TEXAS AUTOMATED VEHICLE PROVING GROUND PARTNERSHIP

SAN ANTONIO
TEST-BED SITE

VISION ZERO
SAN ANTONIO
Drive safe. Bike safe. Walk safe.

- Medical Center
- Fredericksburg Road
- Downtown

AUTONOMOUS VEHICLES NEXT STEPS

REACTIVE

Partner with interested Autonomous Vehicle Developers

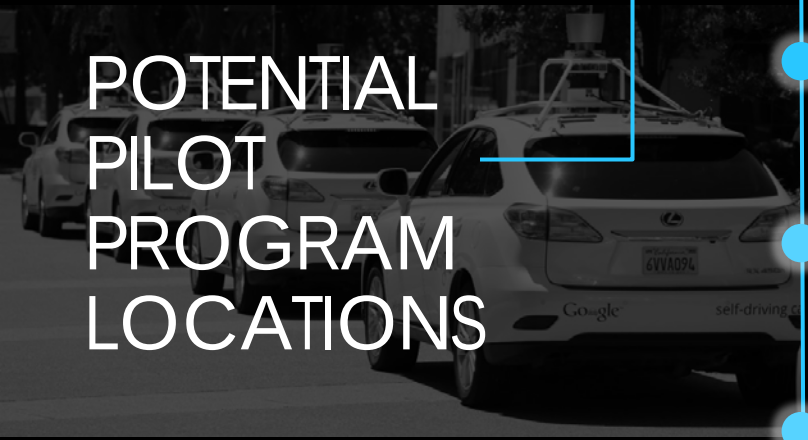
PROACTIVE

Initiate a competitive Request for Information

CITY OF SAN ANTONIO EST. 1718

RECOMMENDATION

POTENTIAL REQUEST FOR INFORMATION

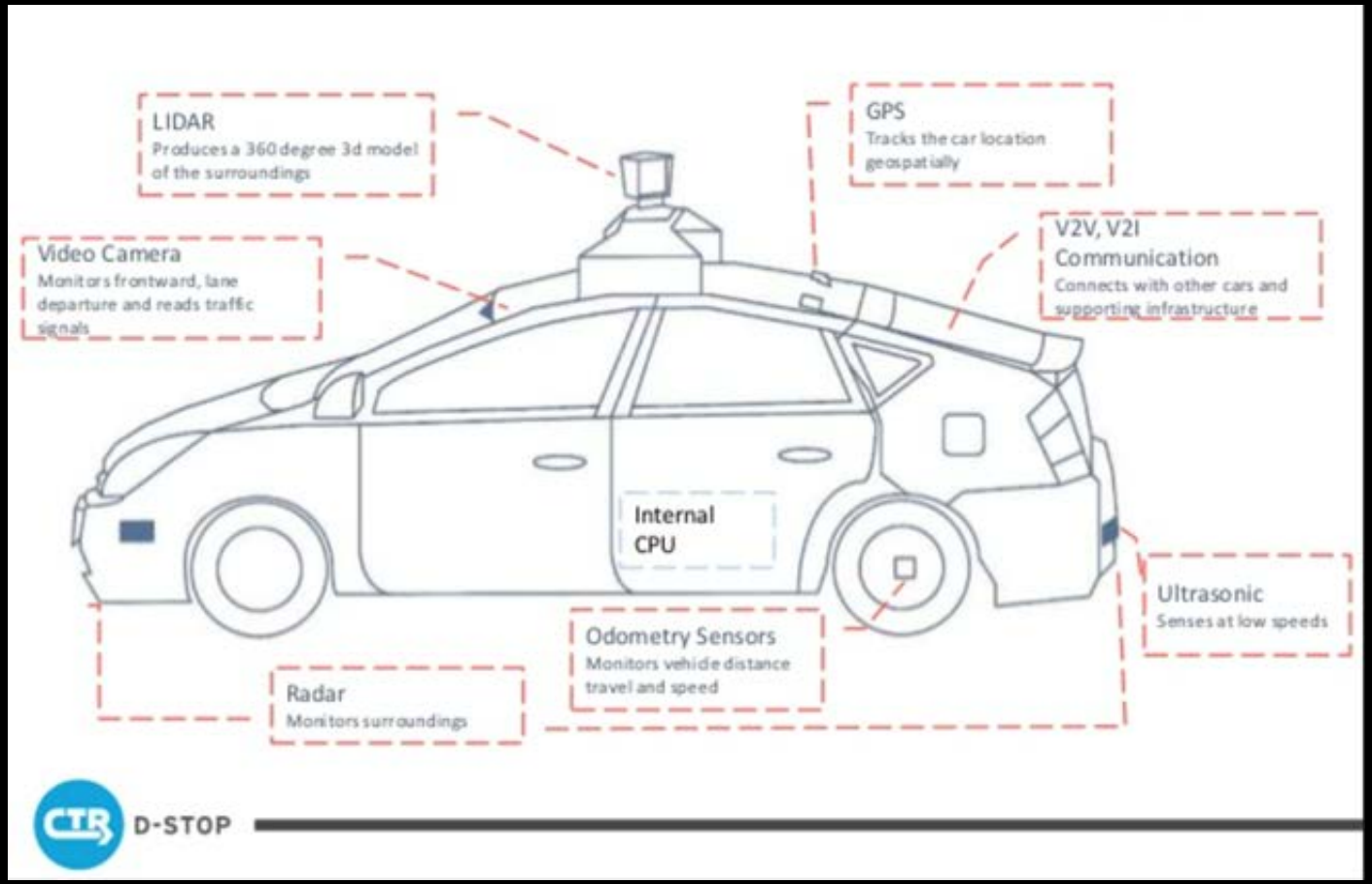


POTENTIAL PILOT PROGRAM LOCATIONS

- Innovation Zones
- City Employment Shuttle
- City Fleet Integration
- JBSA Point-to-Point Shuttle
- USDOT Designated Proving Ground (Fredericksburg Road)

CITY COUNCIL
B SESSION
MAY 16, 2018

AUTONOMOUS VEHICLES

Art Reinhardt, PE, CFM
Assistant Director

AUTONOMOUS VEHICLE TECHNOLOGY