



2021 GGEDC Mobility Economic Roundtable

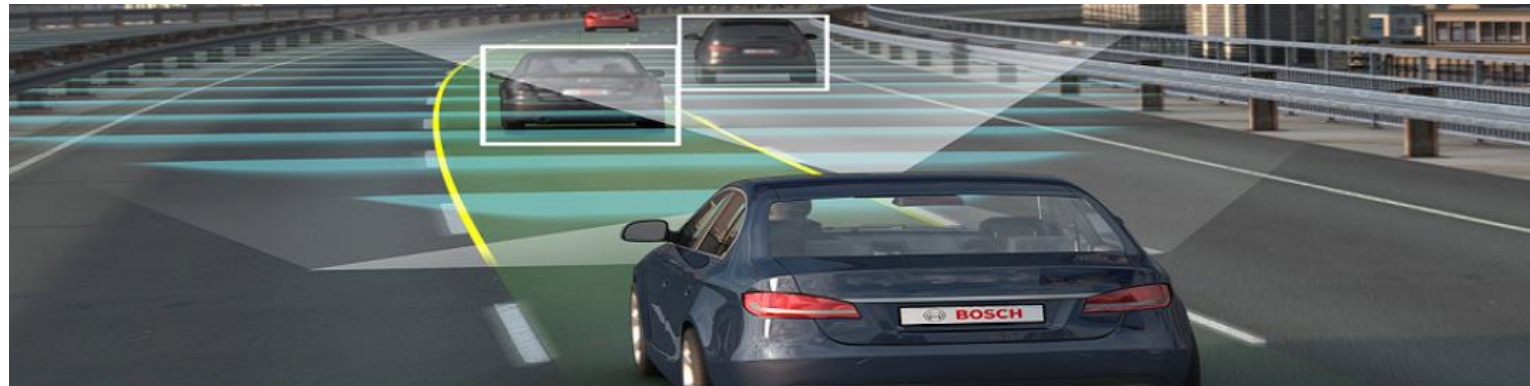
Charles Remkes, P.E.
NMDOT - ITS Operations

February 11, 2021

What is an Autonomous Vehicles?

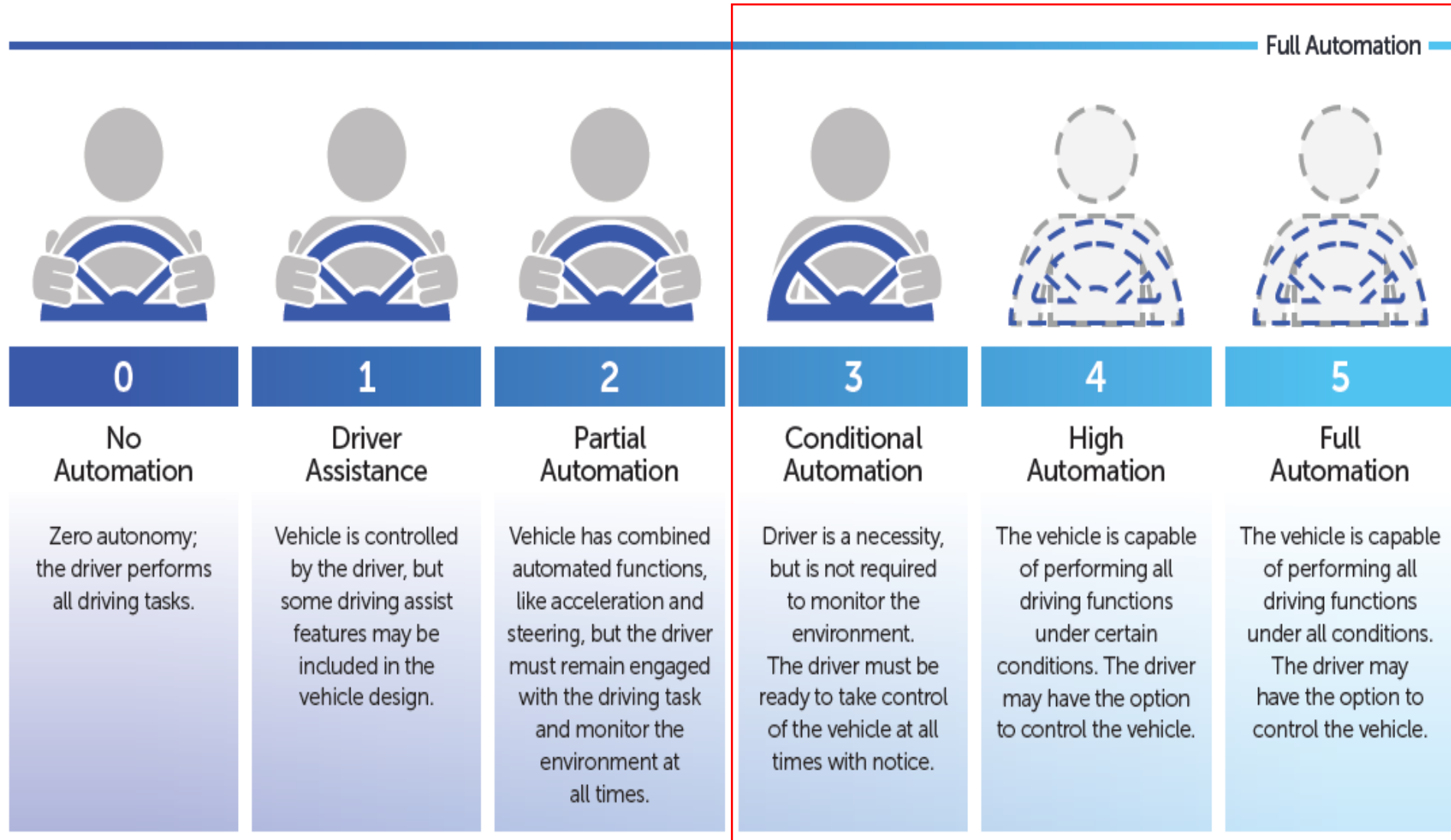
At its most basic description, an autonomous vehicle (AV) is one that can guide itself without human interaction

AVs



Society of Automotive Engineers (SAE) doesn't refer to AVs, its taxonomy refers to automated driving systems (ADSs) which they define to be the hardware and software that are collectively capable of performing the dynamic driving task (DDT) on a sustained basis, regardless of whether it is limited to a specific operational design domain (ODD). It goes on to categorize the different levels of automation and reserves ADSs to Levels 3, 4 or 5

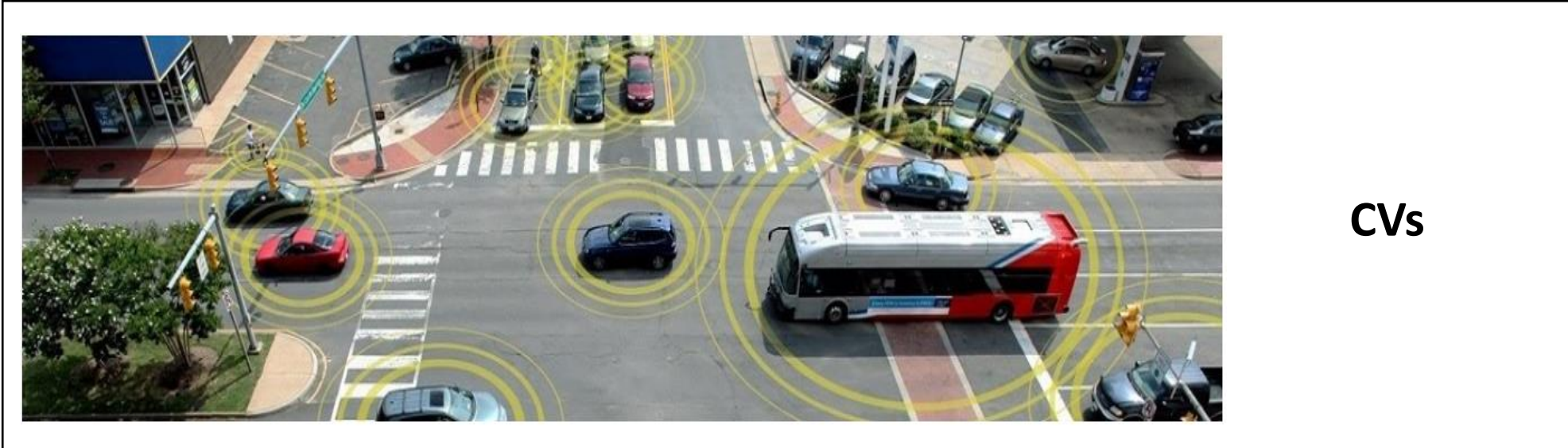
SAE AUTOMATION LEVELS



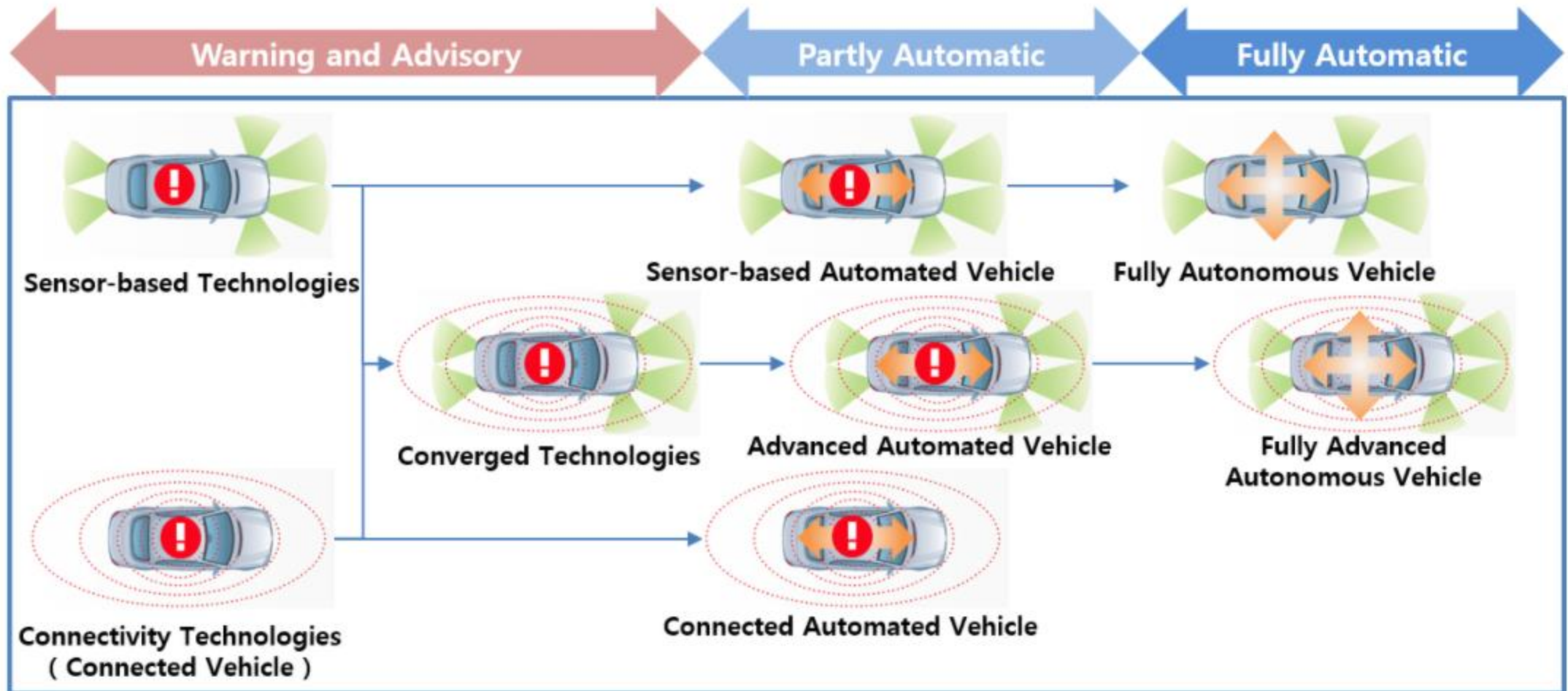
Not to be Confused with Connected Vehicles

Connected vehicles (CVs) are those that can communicate with each other (V2V) or the transportation infrastructure (called V2I). AVs have all the sensors on board that are needed to perform the DDT.

The difference between AVs and CVs can best be illustrated by -



Bridging Levels of Autonomy with Connectivity



Transportation Agencies' Roles and Responsibilities

Autonomous Vehicles:

- There are no federal mandates
- Other than infrastructure maintenance the industry has not identified any specific requirements outside of what is already do for human drivers – they encourage continued physical infrastructure maintenance

Connected Vehicles:

- There are no federal mandates
- Because V2I is only one aspect of connectivity (V2V and V2E being the others), the industry has not indicated a reliance on agency development of their respective infrastructure for technology deployment
- Some agencies are exploring new technologies of sharing infrastructure information (i.e., signal timing plans) to drivers
 - Bluetooth
 - WiFi
 - 5G
 - DSRC

NMDOT Activities

Recognizing that mobility, economic development, education, public safety, and health and social services are all heavily influenced by having an effective and robust communications infrastructure in place we're currently looking at how we can best leverage our ROW to better capitalize on opportunities that might avail themselves.

Currently in New Mexico

Daimler-Benz (Torc) - Based out of Albuquerque is running daily test routes for Level 3 technology along I-40 up to Texas state line

TUSimple – UPS and USExpress – Based out of Tuscon is running multiple daily test routes for Level 3 technology along I-10 to El Paso Texas.

As of Now

Current law:

**Doesn't expressively forbid the operations of autonomous vehicles.
Requires vehicles to be operated in a fashion to comply with established restrictions.**

Potential Issues arise when:

**AVs or ADSs are involved in a crash
AVs or ADSs don't adhere to those restrictions (comply with the law)**

Legislative Activities:

Senate Joint Memorial 3 (2018)

Senate Bill 332 (2019)

SENATE JOINT MEMORIAL 3

53RD LEGISLATURE - STATE OF NEW MEXICO - SECOND SESSION, 2018

INTRODUCED BY

James P. White

NOW, THEREFORE, BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF NEW MEXICO that **the department of transportation be requested to create and lead an autonomous vehicle committee** to review the current and developing technology for autonomous vehicle operation and existing state policy and statutes that may be relevant to autonomous vehicle operations; and

BE IT FURTHER RESOLVED that, in addition to other individuals or organizations the department of transportation may include, the autonomous vehicle committee include at least **one member representing each of the department of transportation, the department of public safety, the taxation and revenue department, the department of information technology, the economic development department and the public regulation commission;** and

BE IT FURTHER RESOLVED that the autonomous vehicle committee further **solicit comments from a wide spectrum of public and private stakeholders;** and

BE IT FURTHER RESOLVED that the **autonomous vehicle committee present a report** to the appropriate legislative interim committee prior to that committee's final meeting in 2018; and

BE IT FURTHER RESOLVED that the **report include recommendations for statutory changes and administrative policies and programs that may be needed to allow the sale and operation of autonomous vehicles in New Mexico while ensuring public safety;**

Proposed for 2021 Legislature

Make Changes to New Mexico Statutes – Chapter 66 – Motor Vehicle Code

- Include definitions that would be specific to autonomous vehicles
- Include a mechanism by which incident responders could access information for crash scene investigations
- Include a mechanism that allows commercial vehicles to platoon when equipped with specific technology that supports it
- Include a mechanism that allows the state be made aware of ADS testing and operations occurring in the state
- Anything more would be outside the allowed state's responsibilities

Federal and State Roles

NHTSA'S RESPONSIBILITIES	STATES' RESPONSIBILITIES
<ul style="list-style-type: none">• Setting Federal Motor Vehicle Safety Standards (FMVSSs) for new motor vehicles and motor vehicle equipment (with which manufacturers must certify compliance before they sell their vehicles)³³• Enforcing compliance with FMVSSs• Investigating and managing the recall and remedy of noncompliances and safety-related motor vehicle defects nationwide• Communicating with and educating the public about motor vehicle safety issues	<ul style="list-style-type: none">• Licensing human drivers and registering motor vehicles in their jurisdictions• Enacting and enforcing traffic laws and regulations• Conducting safety inspections, where States choose to do so• Regulating motor vehicle insurance and liability



Contact Information

**Charles Remkes, P.E., Chief
NMDOT-ITS Operations
809 Copper NW
Albuquerque, NM 87102**



**505-490-3308
charles.remkes@state.nm.us**

