



Independence drives us.

The Case for Vehicle Safety Inspections

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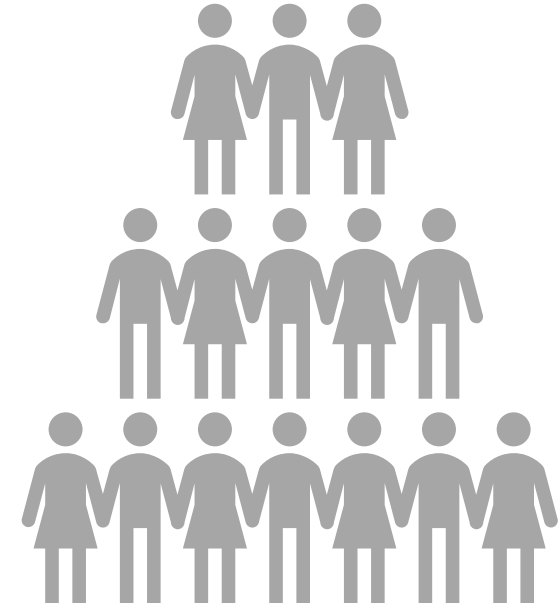
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Why Case for Vehicle Safety Inspections

- **Do vehicle safety inspections save lives?**
 - How do we know?
 - **The data...**
 - Other factors
 - NHTSA – fatality accident reporting systems (FARS)
 - State accidents/non-fatalities

California By the Numbers: Population

- 2014 – 38.8 million
- 2015 – 39.07 million
- 2016 – 39.25 million
- 2017 – 39.582 million
- 2018 – 39.9153 million
- **2019 – 40.1383 million (estimated)**



- Total driver licenses currently issued: **27,136,792**

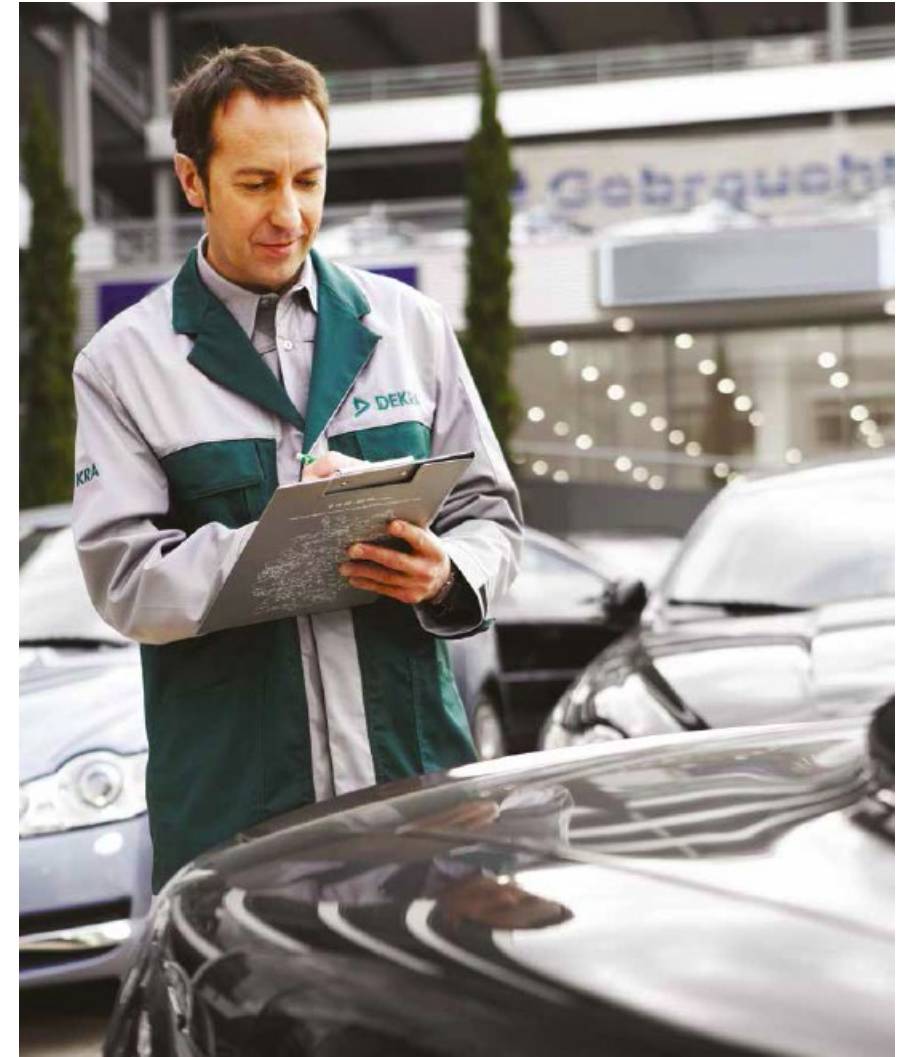
California DMV: Registered Vehicle Statistics

■ Automobiles	25,646,228
■ Motorcycles	857,677
■ CVRA trucks	511,792 (commercial vehicle registration act)
■ Non-CVRA trucks	5,286,647
■ PTI trailers	2,122,794 (permanent trailer identification)
■ Trailer coach/CCH	434,671
■ CA based IRP trucks	92,036 (international registration plan)
■ Misc. vehicles	149,595 (includes historical, spec/farm equip etc.)
■ Fee-paid registered	35,101,440
■ Exempt registered	606,381
■ Total registered:	35,707,821

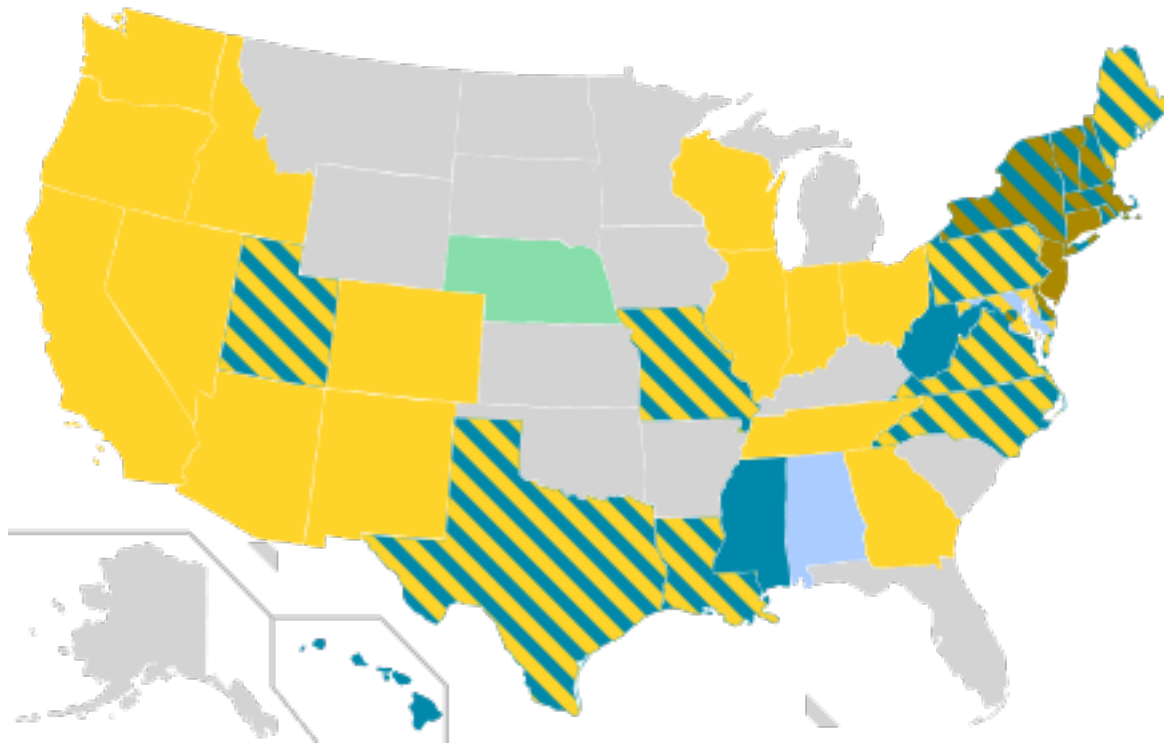
Safety Inspections

Safety inspections ensure that all cars on the roads adhere to a “minimum safety standard.”







My car affects your safety and your car affects my safety.



Safety Inspections in the United States



Vehicle inspection laws by state:

-  Periodic safety inspection required
-  Safety inspection required upon sale or transfer
-  Safety inspection required when registering a vehicle from another jurisdiction
-  Emissions testing required in some areas
-  Emissions testing required in all areas
-  No inspection required
- Striped: Both safety and emissions testing required

Source: Dekra International

States with Inspection Programs

- District of Columbia
- Hawaii
- Louisiana
- Maine
- Massachusetts
- Maryland
- Missouri
- Nebraska
- New Hampshire
- North Carolina
- New York
- Pennsylvania
- Rhode Island
- Texas
- Virginia
- Vermont
- West Virginia

Safety Inspections



- **23** safety inspections bills introduced in 2019.
- **Hawaii (8)**
 - Hawaii SR 14 - mandated to conduct a study on the necessity of safety inspection programs in Hawaii
- **Maine (5), Texas (5), Missouri H451, Louisiana H 546**
 - **New Jersey AR 40** opposes the elimination of motor safety inspections
- **Virginia and Maine** have bills in 2020 – **WHY?**

Safety Inspections Save Lives



- **Virginia:** All registered vehicles undergo:
 - Annual safety inspection
 - Technicians confirm operating standards for 21 vehicle systems or elements, including brakes, tires, and safety equipment such as turn signals.
- **8,209,716** vehicles inspected
- **1,634,740** vehicles failed due to critical safety defect(s)

Source: Virginia State Police (2018)

Safety Inspections Save Lives

- **South Carolina** and **Mississippi** eliminated their safety inspection program in 1995 and 2015 respectively. The result?
 - The two states had the *highest traffic deaths* per 100,000 in population in America at 20.4 and 22.2 fatalities.
- **South Carolina:** In the 11 years after eliminating the program, the state experienced a 29.04% increase in traffic fatalities.
- **Mississippi:** The year before eliminating the safety program, there were 607 traffic fatalities. The year after, there were 677 traffic-related fatalities.

Safety Inspections Save Lives

- **Florida:** Since eliminating its program in 2000, has experienced a 63.4% increase in its total traffic crashes.
 - In 2000, Florida had 2920 traffic related accidents, the year after the program was eliminated, that number increased 21% to 3,533.
- **Texas:** A study conducted by the University of Texas in 2018 concluded that vehicle defects are twice as likely to result in a fatality as crashes without defects.

Safety Inspections Save Lives

- Vehicle Components Key to Safety
 - According to the National Highway Safety Administration, 35% of all motor vehicle crashes can be attributed to a vehicle component's failure are related to tires or wheels. Another 22% are related to brakes.
- Top Reasons for Inspection Failure
 - Steering and suspension issues
 - Brakes
 - Tires
 - Component failure

Vehicle Failure Rate by Vehicle Age



- As vehicles age, their failure rates increase.
- Vehicles manufactured in 2009 or earlier – fails **29%** of the time.
- Average age of vehicles is **11.8 years**.

Safety on the Road, at Home and at Work

Having an annual safety inspection performed on your vehicle is the same as going to the doctor for an annual check up.

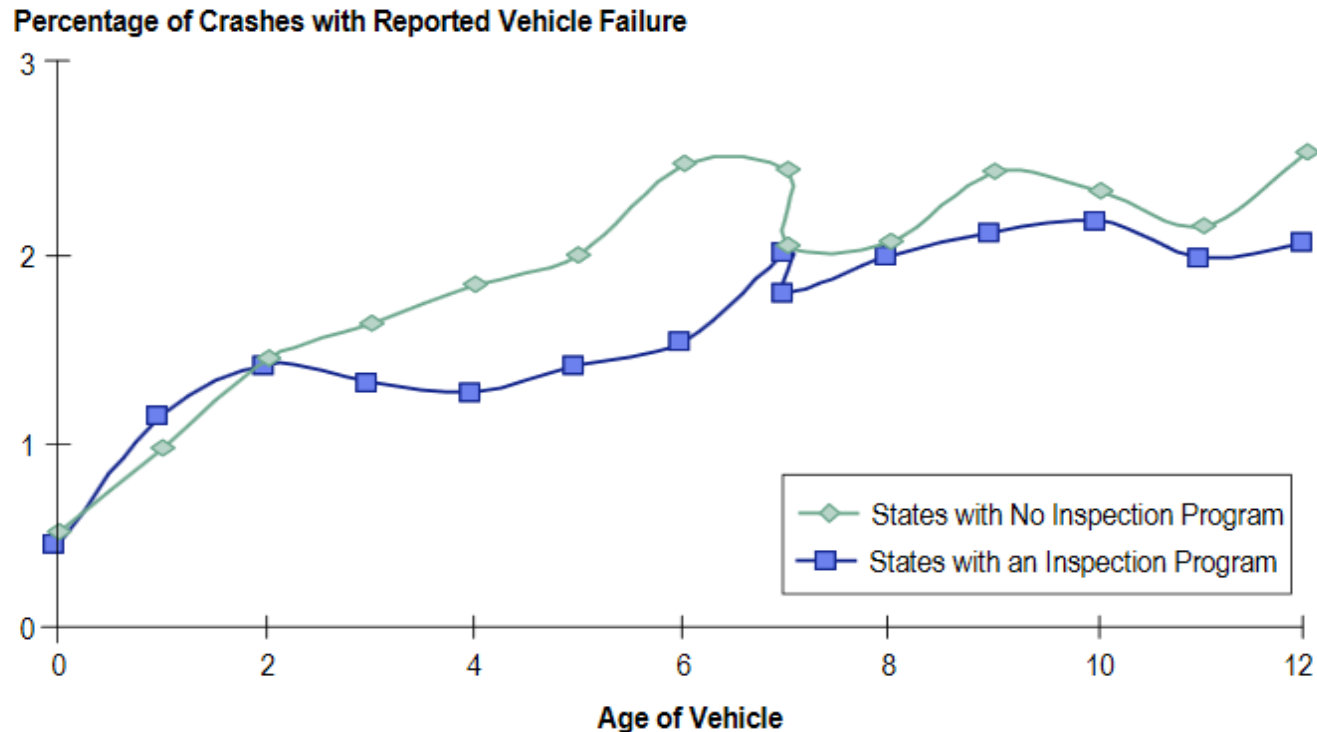
If a car is deemed unsafe, it is removed from the road until it is “healthy” enough.



Safety on the Road, at Home and at Work

Pennsylvania's Vehicle Safety Inspection Program Effectiveness Study Department of Transportation, March 2009

Figure 4.2 Comparison of Fatal Crashes with Reported Vehicle Failures
By Age Proxy and Program Presence



- Based on the model results, **Pennsylvania can be expected to have between 115 and 169 fewer fatal crashes each year**, corresponding to between 127 and 187 fewer fatalities each year, than it would if it did not have a vehicle safety inspection program.
- The largest difference in reported vehicle failures at the scene of fatal crashes is for vehicles of three years of age or more.
- The combination of state-level and county-level analysis of fatality data provide consistent and complementary results. **The results of the research clearly demonstrate that the Vehicle Safety Inspection program in Pennsylvania is effective and saves lives.**

The results indicate that vehicle inspection has the highest impact in lowering vehicle-failure-related crashes among vehicles aged three to nine.

Safety on the Road, at Home and at Work

Real World Examples



Technological Advances

- **Automotive Technology been advancing rapidly since 2005.**

ABS = Anti-lock Braking System

TCS = Traction Control System

LDW = Lane Departure Warning

EBA = Emergency Brake Assist

ESP = Electronic Stability Program

SBC = Sensotronic Brake Control

ACC = Adaptive Cruise Control

ESPlus = ESP with steering impact

EHB = Electro-Hydraulic Brake

LKA = Lane Keep Assist

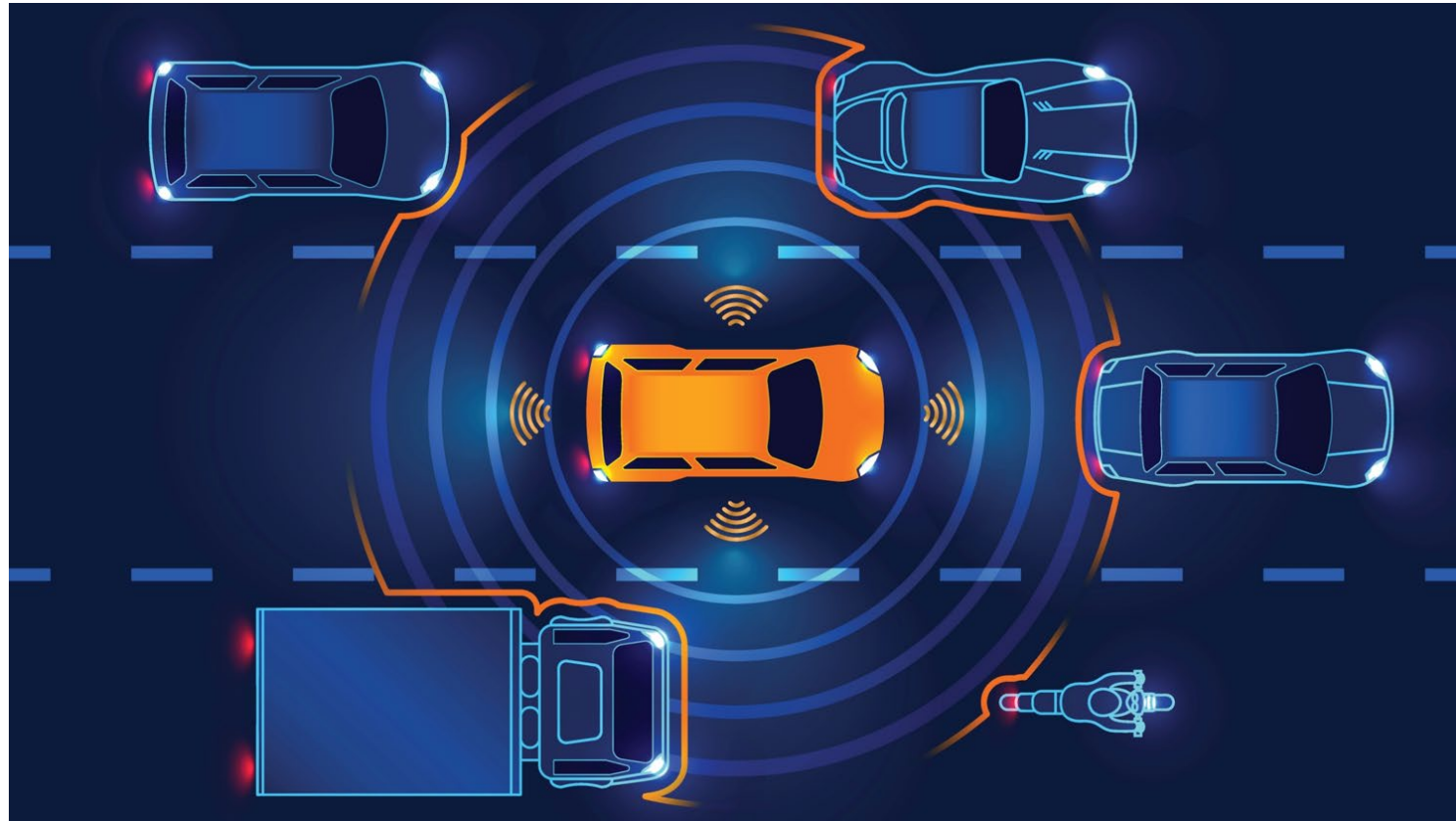
- **Who is checking these systems?**

2008 NHTSA Study

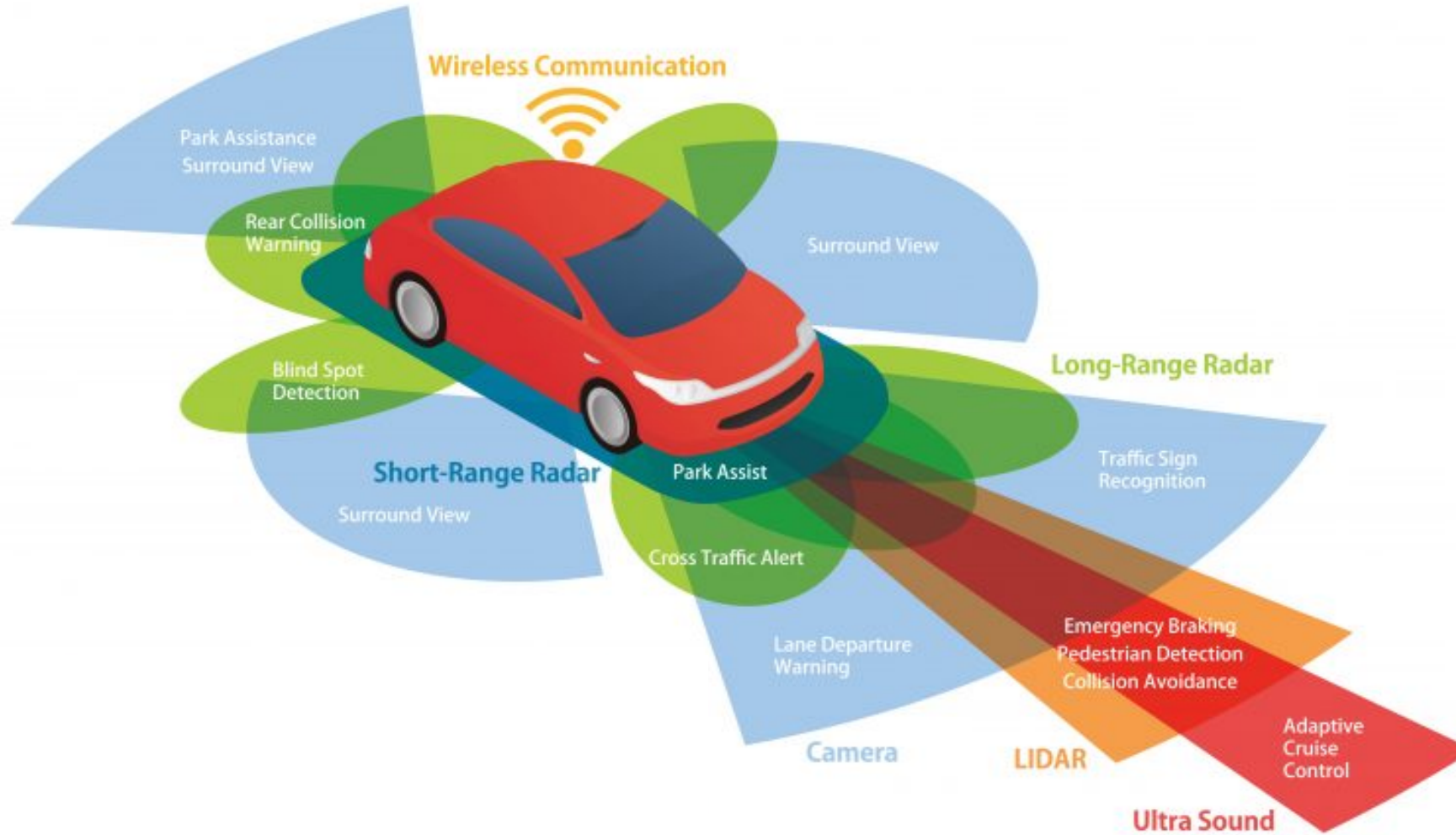
- Thorough investigations of more than 5,000 crashes over a two-year period (2005-2007).
- Determine factors that contributed to the crashes.
- Vehicle component failures were found to be present in 6.8 % of crashes.



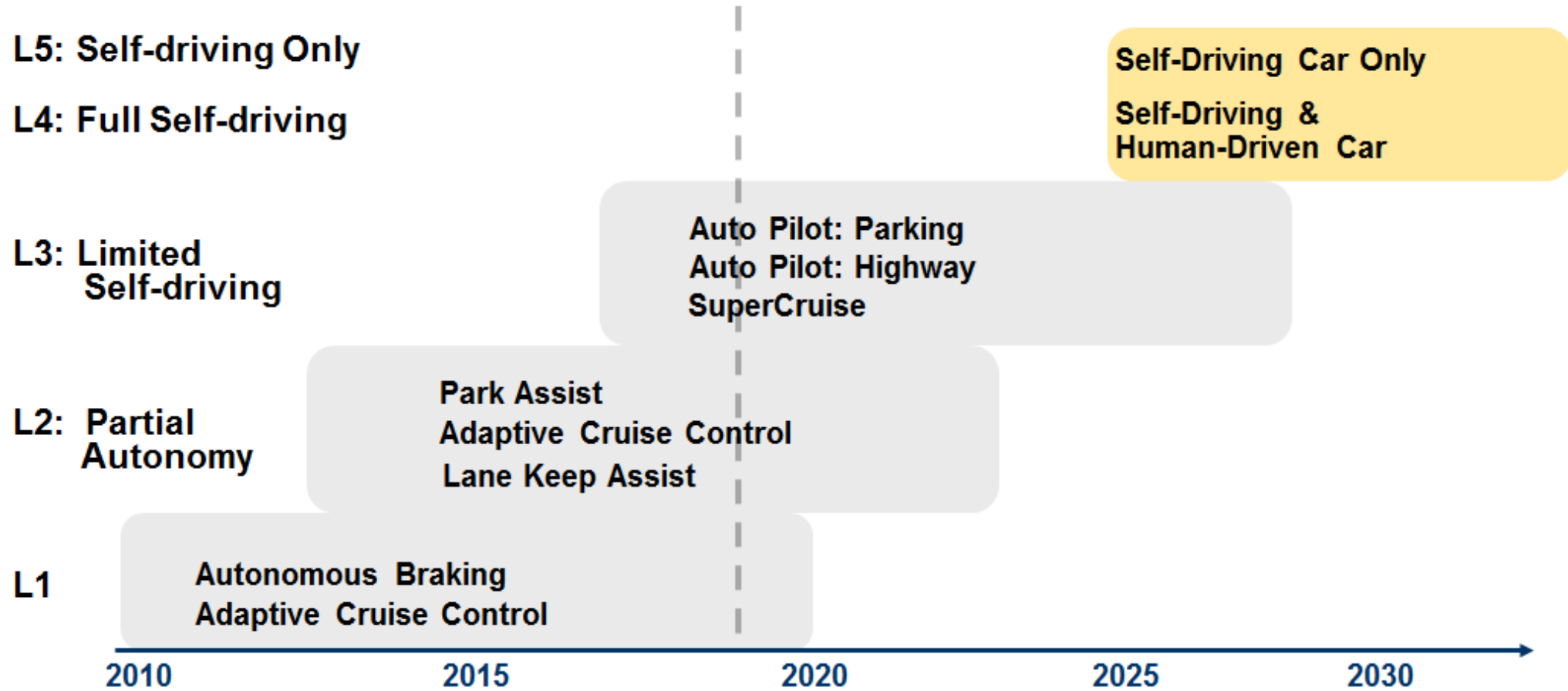
Automated Driver Assistance Systems



Autonomous Car Remote Sensing System

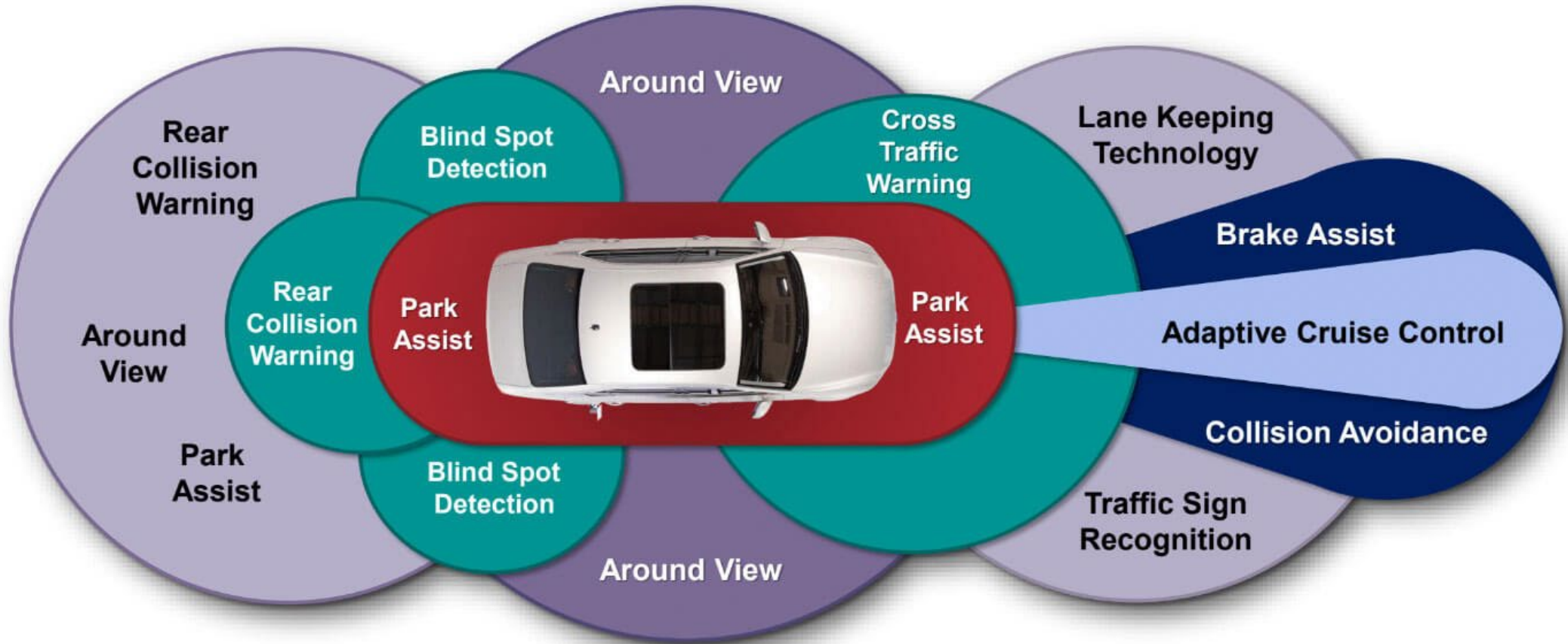


ADAS Systems Enable an Autonomous Future



Full Driver Control → *Driver Assisted* → *Fully Autonomous Car*

ADAS Calibration is Essential



Repairs Don't End with the Parts Installed



The Big Picture: What Does it Mean?

- The Connected Car requires regular inspection, review and calibration to ensure systems are properly aligned and functioning properly.

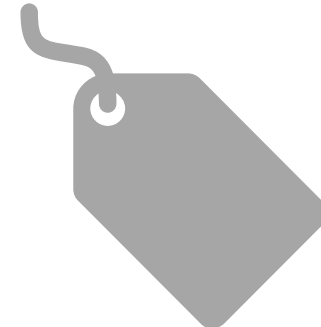
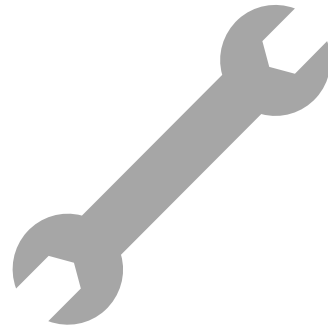


Impacts and Benefits

- **Safer roadways for all motorists.**
 - Older vehicles inspected to meet same standard of safety as newer vehicles.
 - Deferred maintenance issues resolved.
- **Technology** – Calibration of ADAS sensors protects drivers.
- **Inspections** will identify vehicle component issues thus preventing accidents/fatalities.
- **Training** – Training technicians to professionally maintain and provides another career path for California residents in the auto trades.

Impact on Motorists

- The part needed is only part of the equation.
- Shortage of shops able to complete repair with needed calibrations.
- Minimum costs... but it is a cost.



Barriers and Challenges

- Legislative efforts to repeal programs.
- Vehicle defects is a major contributor to accidents/fatalities.
- Average age of vehicles is increasing (11.8%).
- Deferred maintenance is another contributor factor to vehicle component failure.
- ADAS
 - The part needed is only part of the equation.
 - Shortage of shops able to complete repair with needed calibrations.

Your Role... What Can You Do?

- Review the studies on the safety and economic benefits of safety inspections.
- The data tells a compelling story.
- Advisory Opinion of your Statutory Authority to implement a vehicle safety inspection program.
- Support the funding request to conduct a state study on the safety and economic benefits of a program in California.

Because *your* car affects *my* safety!





Independence drives us.

Thank you

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