

# The Case For, and Future of, Autonomous Vehicles



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# Overview

- Why AVs?
  - Use Cases
    - Ride hailing
    - Trucking
    - Purpose Built
  - Safety
  - Efficiency and Sustainability
- Economic Growth and New Jobs
- Policy and Planning Considerations
  - Scale
  - Equity
  - Reimagining the Urban Landscape



# Why Autonomous Vehicles?



## Safety Considerations

- Per NHTSA, there were over **40,000 roadway deaths** in 2024, mostly from human error.
  - Nearly 30% are due to drunk driving, entirely preventable with AVs.
- For the duration of this meeting (one hour), **5 people will die** in motor-vehicle crashes in the U.S.

# Safety Considerations

Overall crash  
reduction



91%

Fewer serious injury or  
worse crashes

↓ 20 FEWER



79%

Fewer airbag  
deployment crashes

↓ 125 FEWER



80%

Fewer injury-causing  
crashes

↓ 304 FEWER

Crash  
reductions  
involving  
injuries to  
Vulnerable  
Road Users



92%

Fewer pedestrian  
crashes with injuries

↓ 35 FEWER



78%

Fewer cyclist crashes  
with injuries

↓ 22 FEWER



89%

Fewer motorcycle  
crashes with injuries

↓ 16 FEWER

As of June  
2025 with over  
**96 million**  
miles driven.

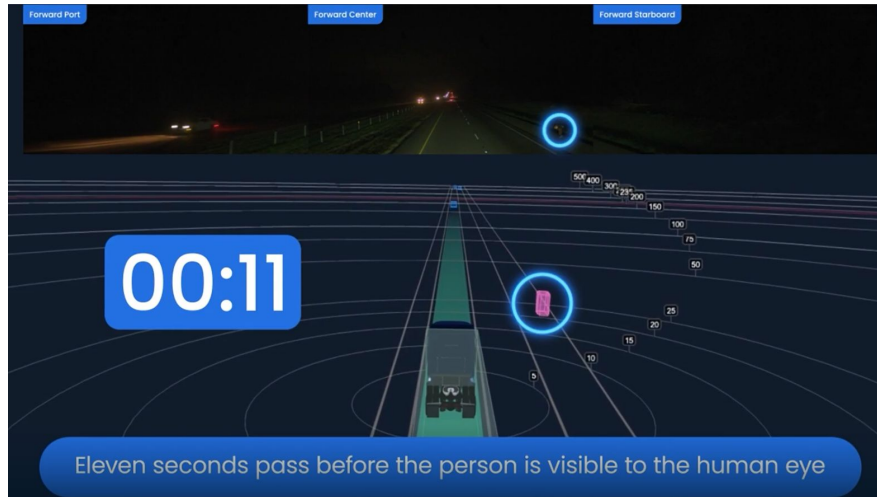
# Safety Considerations

The reaction time of an AV can range from **milliseconds to a second**, significantly faster than a human's average of 2.3 seconds.

Of only 45 NHTSA-reported Waymo crashes between mid-February and mid-August, an independent analysis found **41 (90%) due to human fault.**

# Safety Considerations

AV trucks can detect a pedestrian running across a highway and recognize one over 300 meters away at night, **11 seconds before visible to the naked eye.**



# Economic Impact and New Jobs



Motor-vehicle crashes cost the U.S. **over \$340 billion annually** in direct economic losses each year, with over **\$1.8+ trillion in total societal harm** when you factor in medical care, lost productivity, and quality-of-life impacts.

That's nearly **2% of U.S. GDP** tied up in preventable crashes.

From 2019 NHTSA data with fewer fatalities than in 2024.



# Economic Impact and New Jobs

- For every 1,000 AVs produced and deployed annually, approximately **190 workers** will be needed for manufacturing and servicing these vehicles.
- In a moderate economic model, deployment of 9 million autonomous vehicles over the next 15 years will create **114,000 jobs**.
- In an optimistic model, deployment of 36 million AVs deployed over the next 15 years will create **455,000 jobs**.
- AV industry jobs typically **pay above U.S. median wage**. Analysis shows that **82%** of AV workers make more than the US median wage.
- AVs can support the resiliency of the US auto industry where it is strong today and create new centers for AV-related jobs in places with strong tech sectors.



# Economic Impact and New Jobs

## CORE AV INDUSTRIES

### DESIGN

Understand Human Experience | Experience Design

### ENGINEERING

Software | Vehicle | Systems | Safety | Sensors | Security | Computer | Machine Learning

### TESTING

Public Roads | Simulation | Closed Course



### HI-RES MAPPING

Development | Maintenance

### MANUFACTURING

Base Vehicles | Sensors | Specialized Components | Completed Self-Driving Vehicles | Retrofitting Cars

### DISTRIBUTION

Fleet Uses | Leasing | Sales | Renting | Fleetwide Models

### MAINTENANCE, UPGRADES & REPAIRS

Vehicles | Sensors (LIDAR, Radar, Cameras, Ultrasonic) | Inspection | Cleaning & Care

## EVERY 1,000 AVS IS ESTIMATED TO REQUIRE:

**95**

### IN DEVELOPMENT AND PRODUCTION

Potential future AV Workforce: 23,000 - 227,000

**65**

### IN MAINTENANCE, UPGRADES, & REPAIR

Potential future AV Workforce: 16,000 - 157,000

**30**

### IN DISTRIBUTION

Potential future AV Workforce: 7,000 - 71,000

**190**

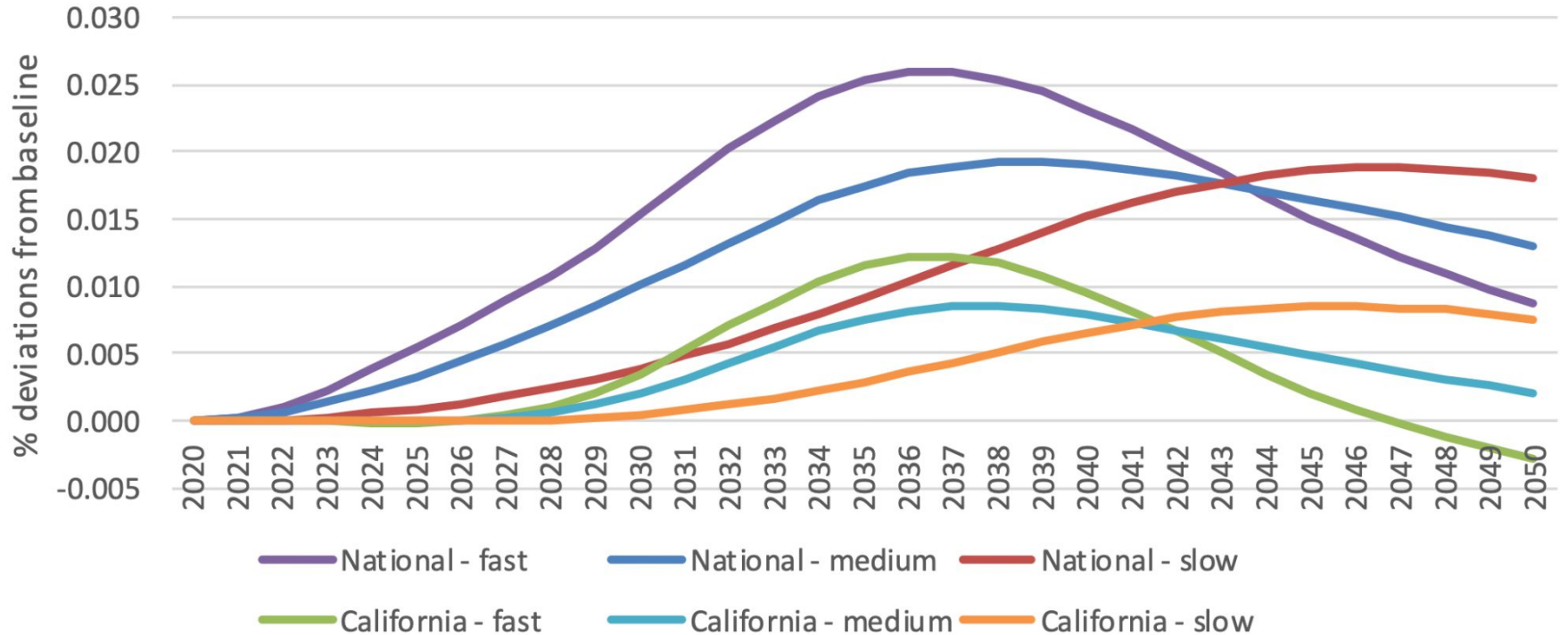
### TOTAL WORKERS

Potential future AV Workforce: 46,000 - 455,000



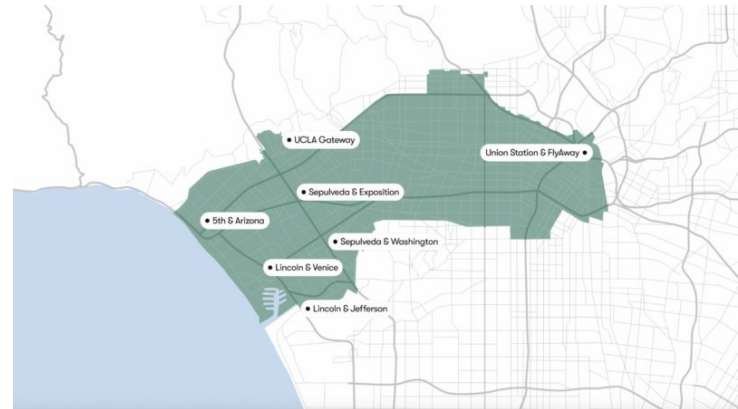
# Economic Impact and New Jobs

Chart 3.5: Employment effects: National and California



# Hubs and Spokes - Physical and Political Infrastructure

- **Phoenix, AZ (Waymo × City/Sky Harbor)**
  - 24/7 curbside robotaxi pickups at PHX airport (Terminals 3 & 4).
  - **First major airport with round-the-clock AV service.**
- **Los Angeles, CA (Waymo × Transit Partners)**
  - \$3 transit **credits for AV trips to/from select rail & bus stops** (incl. LAX feeders).
  - Promotes first/last-mile connections instead of competing with transit.
- **Chandler, AZ (Waymo × Via/Chandler Flex)**
  - Launched on September 18
  - Waymo AVs join Chandler Flex microtransit.
  - Riders may be matched with a Waymo during peak demand and book via the Waymo app.
  - **First direct integration of Waymo AVs into a U.S. public transit network.**



# Reimagining Urban Spaces

## MUNICIPAL TRAFFIC MONITORING

### TRAFFIC VOLUME



### AVERAGE SPEED

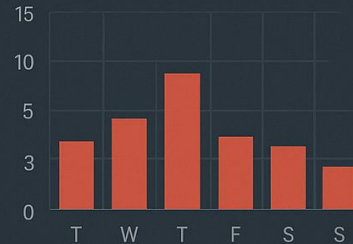


### TRAFFIC CAMERAS

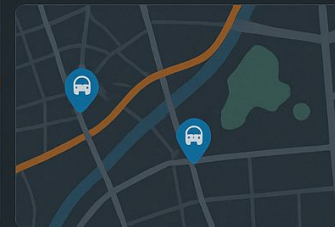
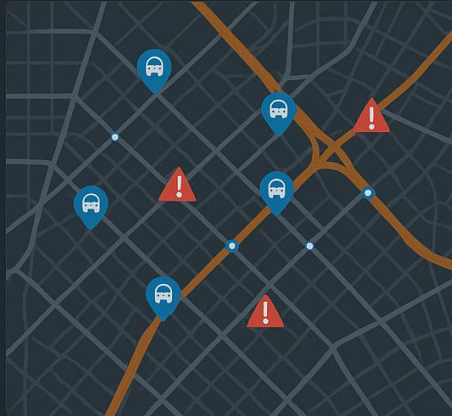
Washington St	Online
Elm St	Online
Central Ave	Online
Broadway	Online
5th Ave	Online
Maple St	Online
Oak St	Online
River Rd	Online

### INCIDENTS

Total 5



Today



# Thank You!

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