NHTSA Autonomous Vehicle Crash Data – Automated Driving Systems, SAE Levels 3-5

Transportation Interim Committee

Katy Callon, Research Analyst

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NHTSA Standing General Order

- NHTSA = National Highway Traffic Safety Administration
- Crash = Any physical impact between a vehicle and another road user (vehicle, pedestrian, cyclist, etc.) or property that results or allegedly results in any property damage, injury, or fatality.
- Initial standing order issued August 12, 2021 & amended standing order took effect May 15, 2023.
- Requires manufacturers and operators to report certain crashes involving vehicles that occur while the ADS is engaged, or immediately after it is in use and to provide sufficient information for NHTSA to identify crashes warranting further follow-up.
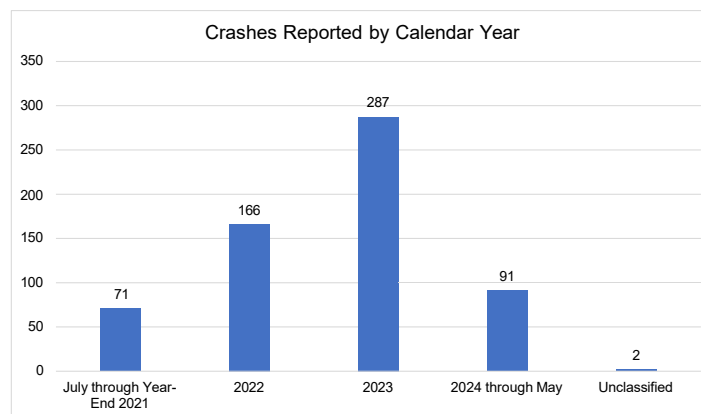
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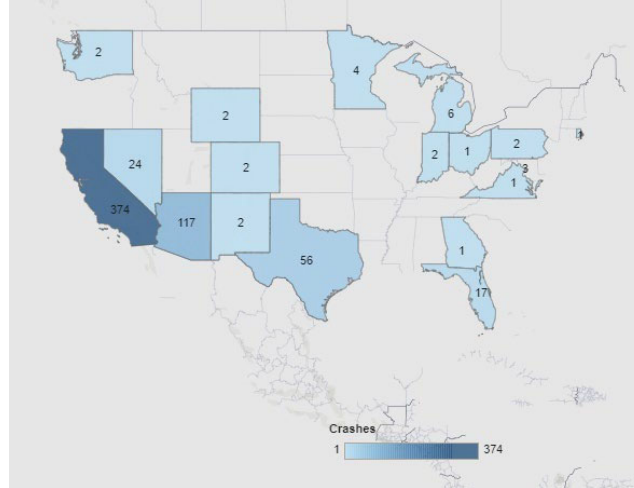
Data Considerations & Limitations

- For ADS, entities named in the General Order must report a crash if ADS was in use at any time within 30 seconds of the crash & resulted in property damage or injury
- Incident report data may be incomplete or unverified. Reporting entities must submit reports within a certain time from when it receives notice of the crash regardless of whether the entity has verified or agrees with the information. They may not be aware of all circumstances at the time of the report.
- Confidential business information and personally identifiable information is redacted in the reports.
- Lack of contextual information, such as total number of autonomous vehicles on the road.
- The same crash may have multiple reports; in the following charts, duplicates have been removed as best as possible.

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Crashes Reported by Calendar Year

Source: LSD Data Analysis

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Crashes by State

Source: NHTSA ADS-Equipped Vehicle Dashboard: https://www.nhtsa.gov/laws-regulations/standing-general-order-crash-reporting

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Crashes by Highest Injury Severity Alleged

Source: NHTSA ADS-Equipped Vehicle Dashboard: https://www.nhtsa.gov/laws-regulations/standing-general-order-crash-reporting

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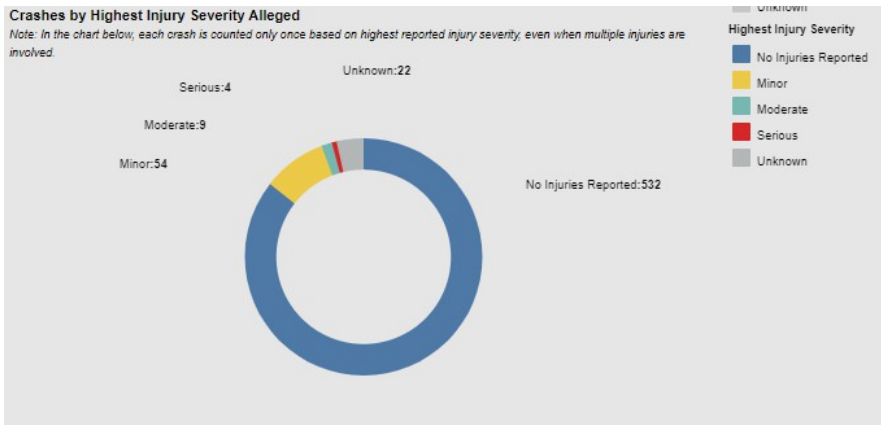
ADS Vehicle Damage

Source: NHTSA ADS-Equipped Vehicle Dashboard: https://www.nhtsa.gov/laws-regulations/standing-general-order-crash-reporting
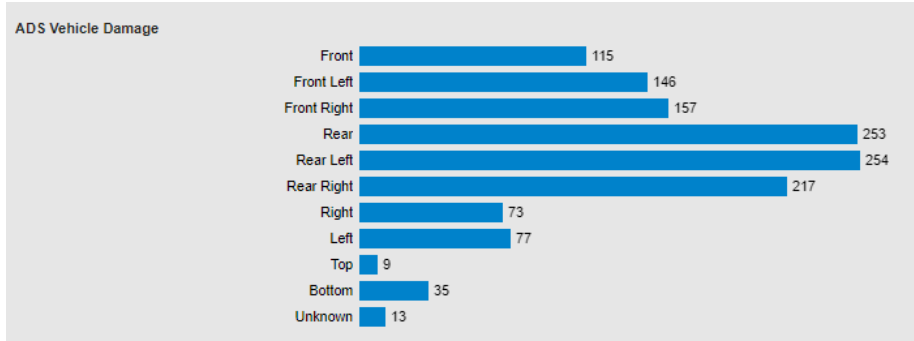
Number of Reported Crashes & Posted Speed Limit (If Known)
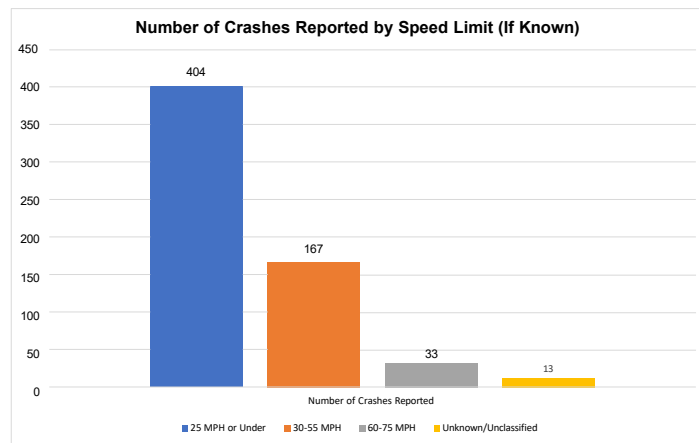
Source: LSD Data Analysis

Road Conditions of Crashes Reported
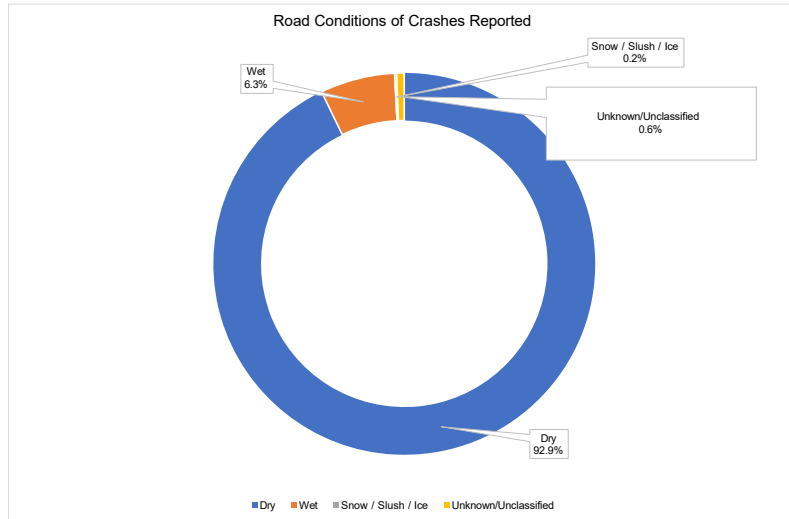
Source: LSD Data Analysis

Road Conditions of Crashes Reported - Continued

Road Condition	Number of Crashes Reported	% of Total
Dry	573	92.9%
Wet	39	6.3%
Snow / Slush / Ice	1	0.2%
Unknown/Unclassified	4	0.6%
Total	**617**	**100.0%**

Source: LSD Data Analysis

State & Road Conditions

State and Road Condition	Number of Crashes Reported
Arizona	**117**
Dry	113
Wet	4
California	**372**
Dry	343
Unknown	2
Wet	27
Colorado	**2**
Dry	2
Washington DC	**3**
Dry	3
Florida	**17**
Dry	15
Wet	2
Georgia	**1**
Dry	1
Indiana	**2**
Dry	2
Michigan	**6**
Dry	5
Snow / Slush / Ice	1
Minnesota	**4**
Dry	4
New Mexico	**2**
Dry	2
Nevada	**24**
Dry	22
Wet	2
Ohio	**1**
Dry	1
Pennsylvania	**2**
Dry	2
Rhode Island	**1**
Dry	1
Texas	**56**
Dry	52
Wet	4
Virginia	**1**
Dry	1
Washington	**2**
Dry	2
Wyoming	**2**
Dry	2
Unclassified	**2**
Total	**617**

Source: LSD Data Analysis

Lighting & Number of Crashes Reported

Lighting and Number of Crashes Reported. Daylight 367, Dark - Lighted 216, Dawn / Dusk 21, Dark - Not Lighted 8, Dark - Unknown Lighting 2, Unknown/Unclassified 3.

Source: LSD Data Analysis

Lighting & Number of Crashes Reported - Continued

Lighting	Number of Incidents Reported	Percent of Total Incidents
Daylight	367	59.5%
Dark - Lighted	216	35.0%
Dawn / Dusk	21	3.4%
Dark - Not Lighted	8	1.3%
Dark - Unknown Lighting	2	0.3%
Unknown/Unclassified	3	0.5%
Total	**617**	**100.0%**

Source: LSD Data Analysis

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Objects/Vehicles With Which Crashes Occurred

Crash Occurred With	Number of Crashes Reported	% of Total Incidents Reported
Other Vehicle[1]	488	79.1%
Other, see Narrative	58	9.4%
Non-Motorist: Cyclist	21	3.4%
Other Fixed Object	20	3.2%
Motorcycle	13	2.1%
Animal	5	0.8%
Non-Motorist: Other	5	0.8%
Non-Motorist: Pedestrian	4	0.6%
Unknown/Unclassified	3	0.5%
Total	**617**	**100.0%**

[1] Includes Passenger Car, Pickup Truck, SUV, Van, Bus, Heavy Truck, & First Responder Vehicle

Source: LSD Data Analysis

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