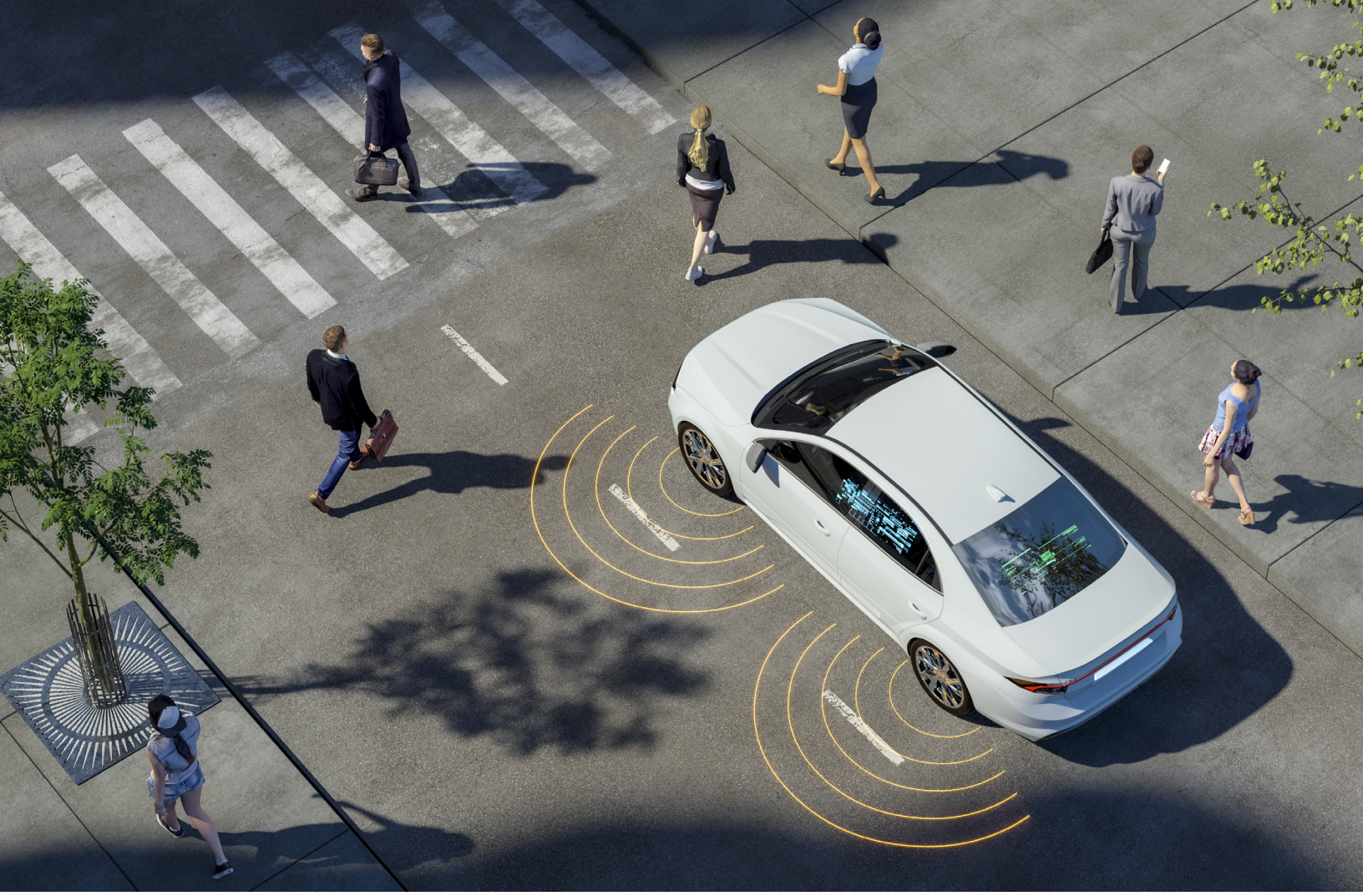


PARTS: Market Penetration of Advanced Driver Assistance Systems (ADAS)

November 2026

PARTS
PARTNERSHIP FOR ANALYTICS RESEARCH IN TRAFFIC SAFETY



ADAS Penetration Rates

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I. Overview

The Partnership for Analytics Research in Traffic Safety (PARTS) brings automobile manufacturers and the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) together to voluntarily share applicable safety-related data for collaborative safety analysis.

The goal of this government-industry initiative, which is operated by an independent third party, is to improve traffic safety in an enduring data-sharing partnership by generating novel insights into the effectiveness and safety benefits of advanced driver assistance systems (ADAS) features.

As of September 2026, participating automobile manufacturers have submitted vehicle-equipment data for 139.2 million passenger vehicles sold in the United States, representing 251 models from model years 2015 to 2025 and covering ten vehicle segments. Twelve participating automobile manufacturers have provided vehicle data: Ford, General Motors, Honda, Hyundai, Kia, Mazda, Mitsubishi, Stellantis, Subaru, Tesla, Toyota, and Volkswagen Group of America. A full list of makes and models included in the study set may be found at the end of this report.

Vehicle equipment data allows for the identification of various standard or optional ADAS features present on each specific vehicle at the time of manufacture. Because the PARTS dataset accounts for over 80% of the U.S. automobile market, PARTS vehicle data can provide an improved understanding of how quickly ADAS features are penetrating the U.S. car market and when there is sufficient exposure to conduct meaningful safety analyses of specific technologies.



Penetration rates are reported for the following 24 ADAS features:

Collision Warning & Automatic Emergency Braking Systems	SAE Level[1,2]
Forward Collision Warning. Detects potential collisions with a vehicle ahead and alerts the driver. Some systems also provide alerts for pedestrians or other objects.	0
Automatic Emergency Braking. Detects potential collisions with a vehicle ahead, provides Forward Collision Warning, and automatically brakes to help avoid a collision or lessen the severity of impact.	0
Pedestrian Detection Warning. Detects potential collisions with pedestrians or other objects ahead and alerts the driver.	0
Pedestrian Automatic Emergency Braking. Detects potential collisions with pedestrians and other non-motorists ahead and automatically brakes to help avoid a collision or lessen the severity of impact.	0
Intersection Automatic Emergency Braking – Left Turn Across Path. Detects potential collisions at intersections where the host vehicle turns left across the path of oncoming traffic. Provides alerts and automatically brakes to help avoid a collision or lessen the severity of impact.	0
Intersection Automatic Emergency Braking – Straight Crossing Paths. Detects potential collisions at intersections where vehicles are approaching from perpendicular directions. Provides alerts and automatically brakes to help avoid a collision or lessen the severity of impact.	0
Head-on Automatic Emergency Braking – Straight. Detects potential collisions with an oncoming vehicle ahead that is travelling straight, provides warnings, and automatically brakes to help avoid a collision or lessen the severity of impact.	0
Head-on Automatic Emergency Braking – Lane Change. Detects potential collisions with an oncoming vehicle ahead that has changed lanes into the host vehicle lane (i.e., to pass), provides warnings, and automatically brakes to help avoid a collision or lessen the severity of impact.	0
Rear Cross Traffic Alert. Detects and notifies the driver of vehicles approaching laterally while the vehicle is in reverse gear.	0
Rear Automatic Emergency Braking. Detects potential collisions while in reverse gear with a vehicle or other object behind, provides warnings, and automatically brakes to help avoid a collision or lessen the severity of impact.	0

[1] SAE International Surface Vehicle Information Report, "Active Safety Systems Terms and Definitions," SAE Standard J3063, Rev. Mar. 2021.

[2] SAE International Surface Vehicle Recommended Practice, "Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles," SAE Standard J3016, Rev. Apr. 2021.



Other Control Warning & Intervention Systems	SAE Level
Blind Spot Warning. Detects and notifies the driver of vehicles in the blind spot. Some systems provide an additional warning if the driver activates the turn signal.	0
Blind Spot Intervention. Applies braking or momentary steering assistance if a driver attempts changing lanes when its blind spot is detected to be occupied.	0
Lane Departure Warning. Monitors the vehicle's position within the driving lane and alerts the driver as the vehicle approaches or crosses lane markers.	0
Lane Keeping Assistance. Provides momentary steering support to help keep the vehicle in the lane when the vehicle approaches or crosses a lane line or road edge.	0

Driving Control Assistance Systems	SAE Level
Lane Centering Assistance. Provides sustained steering support to assist the driver in continuously maintaining the vehicle at or near the center of the lane.	1
Adaptive Cruise Control. Cruise control that also assists with acceleration and/or braking to maintain a driver-selected gap to the vehicle in front. Some systems can come to a stop while others cannot.	1
Active Driving Assistance. Provides sustained steering, acceleration and braking assistance under certain circumstances. The driver must constantly supervise this support feature and maintain responsibility for driving. It may or may not require driver hands on the wheel.	2
Curve Speed Correction. Detects curves in the road and adjusts vehicle speed accordingly under certain circumstances.	1

Advanced Lighting Systems	SAE Level
Automatic High Beam. Switches the high beams on and off automatically based on detected lighting conditions.	0
Curve Adaptive Headlights. Pivots the headlight illumination location based on steering inputs and under certain circumstances the vehicle speed.	0

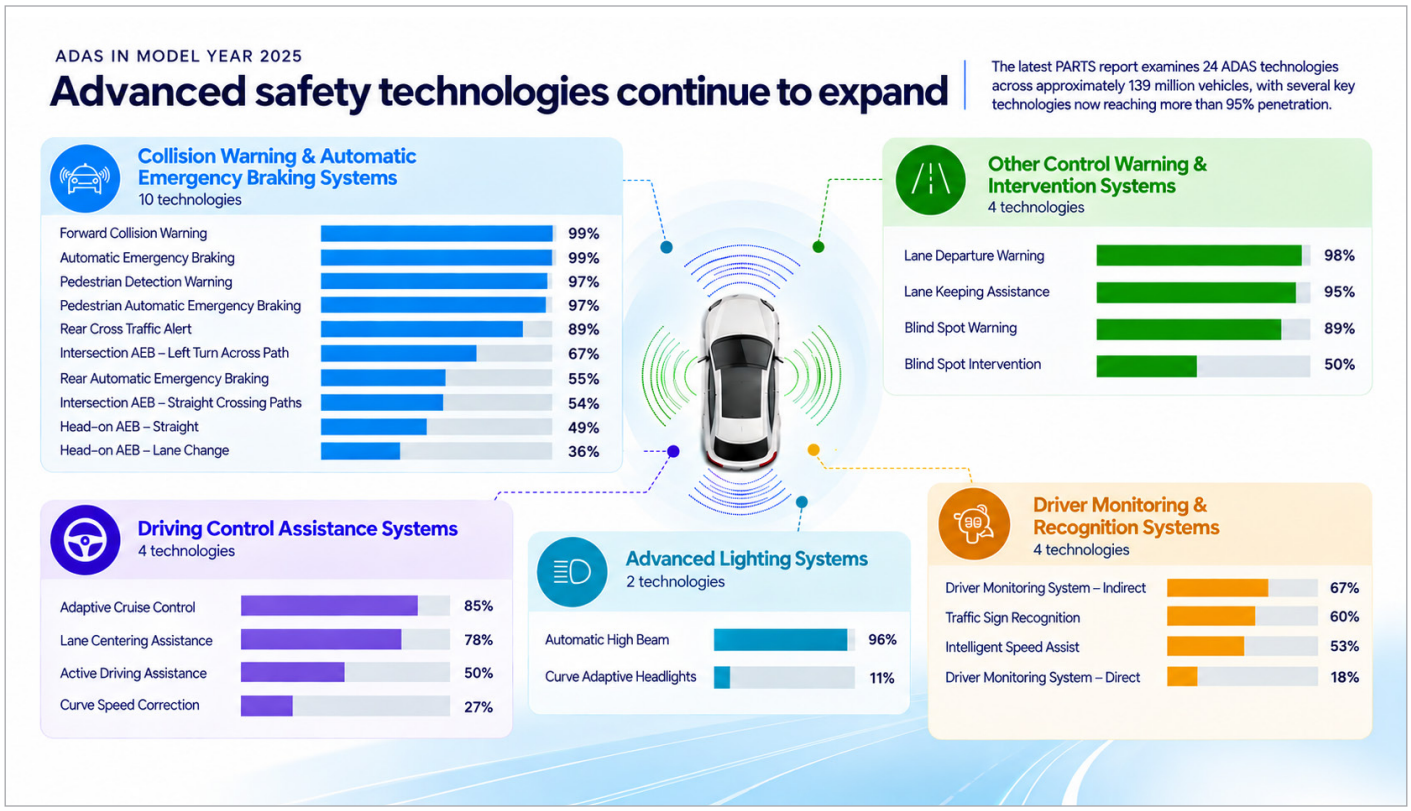


Advanced Driver Alerts and Notifications	SAE Level
Driver Monitoring System – Indirect. Observes vehicle states, motions and/or driver performance indicators to estimate driver distraction, drowsiness, inattention, or misuse. Assesses the driver's alertness and provides a warning to the driver and/or limits the use of other features.	0
Driver Monitoring System – Direct. Detects the driver's eye and/or head movement to estimate where the driver is looking. Assesses the driver's alertness and provides a warning to the driver and/or limits the use of other features.	0
Traffic Sign Recognition. Detects and interprets various traffic signs and provides critical information to the driver or the vehicles automated systems.	0
Intelligent Speed Assist. Provides warnings to the driver when they are approaching or exceeding the speed limit.	0



II. Key Findings

The growing presence of ADAS in new vehicles is reflected in the 24 features tracked in the PARTS study set, spanning model years 2015 through 2025. This report documents the continued growth in market penetration for the 14 features included in the previous report[3] and provides a first look at ten additional features. As of model year 2025, penetration rates range from 11% to 99%, with 18 of 24 features surpassing 50% market penetration. These substantial increases reflect the industry's proactive and voluntary commitment to integrating driver assistance technologies into vehicles. These rates describe equipment present at manufacture on vehicles in the study set and do not estimate prevalence across the entire U.S. vehicle market.



[3] PARTS, "Market Penetration of Advanced Driver Assistance Systems (ADAS)," September 2024. [Online]. Available: https://www.mitre.org/sites/default/files/2024-09/PR-24-2614-PARTS-Market-PenetrationAdvanced-Driver-Assistance-Systems-0917.pdf. [Accessed October 2026]



III. Collision Warning & Automatic Emergency Braking Systems

Forward Collision Warning

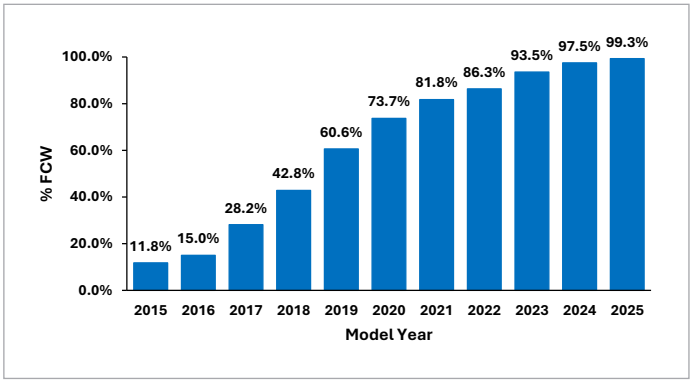
Forward Collision Warning (FCW) penetration increased from 11.8% in model year 2015 to 99.3% in model year 2025. Warning-only collision avoidance systems were among the first to enter the market, but these systems have since been integrated into frontal emergency braking systems.

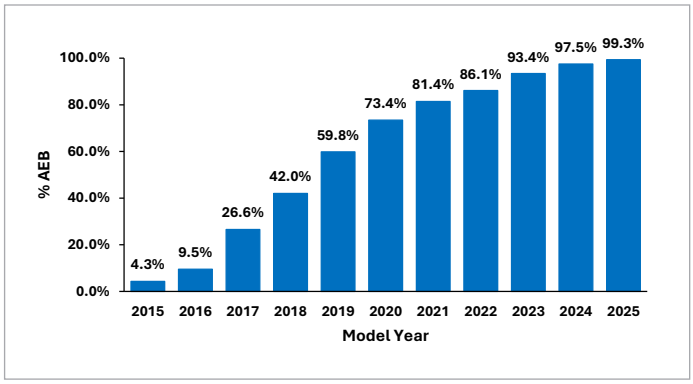
Automatic Emergency Braking

Automatic Emergency Braking (AEB) penetration increased from 4.3% in model year 2015 to nearly 100% in model year 2025. The 2016 voluntary agreement, spearheaded by NHTSA, the Insurance Institute for Highway Safety, and automobile manufacturers, was instrumental in the quick rise of AEB and associated technologies.

Model Year	Vehicle Count (k)	FCW Count (k)	Percentage
2015	12,635	1,490	11.8%
2016	12,736	1,912	15.0%
2017	13,407	3,776	28.2%
2018	13,211	5,661	42.8%
2019	13,572	8,229	60.6%
2020	11,820	8,712	73.7%
2021	11,980	9,795	81.8%
2022	11,539	9,962	86.3%
2023	12,288	11,495	93.5%
2024	13,293	12,962	97.5%
2025	12,746	12,659	99.3%

Model Year	Vehicle Count (k)	AEB Count (k)	Percentage
2015	12,635	544	4.3%
2016	12,736	1,212	9.5%
2017	13,407	3,561	26.6%
2018	13,211	5,549	42.0%
2019	13,572	8,118	59.8%
2020	11,820	8,680	73.4%
2021	11,980	9,757	81.4%
2022	11,539	9,938	86.1%
2023	12,288	11,481	93.4%
2024	13,293	12,962	97.5%
2025	12,746	12,659	99.3%







Pedestrian Detection Warning

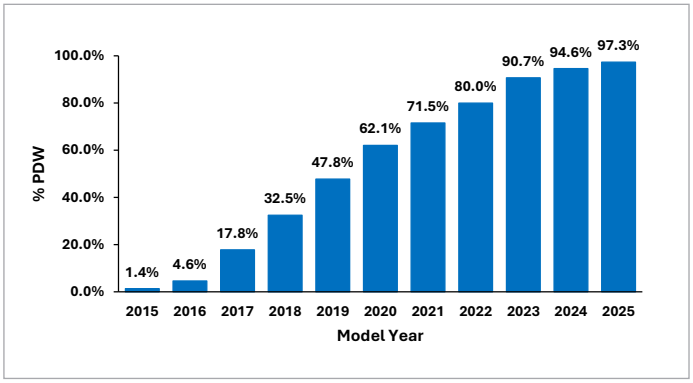
Pedestrian Detection Warning (PDW) penetration increased from 1.4% in model year 2015 to 97.3% in model year 2025. Like FCW systems, PDW was first to enter the market and has since been integrated into the frontal emergency braking systems.

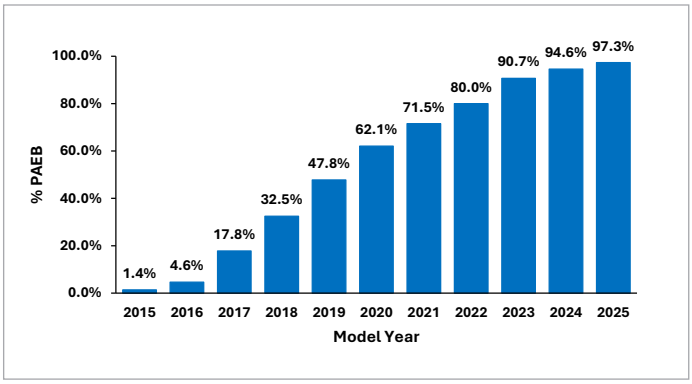
Pedestrian AEB

Pedestrian AEB (PAEB) penetration increased from 1.4% in model year 2015 to 97.3% in model year 2025, highlighting a clear trend toward the widespread deployment of pedestrian detection and emergency braking technology in the automotive industry.

Model Year	Vehicle Count (k)	PDW Count (k)	Percentage
2015	12,640	171	1.4%
2016	12,736	587	4.6%
2017	13,407	2,387	17.8%
2018	13,211	4,290	32.5%
2019	13,572	6,485	47.8%
2020	11,820	7,335	62.1%
2021	11,980	8,569	71.5%
2022	11,539	9,229	80.0%
2023	12,288	11,143	90.7%
2024	13,293	12,575	94.6%
2025	12,746	12,406	97.3%

Model Year	Vehicle Count (k)	PAEB Count (k)	Percentage
2015	12,640	171	1.4%
2016	12,736	587	4.6%
2017	13,407	2,387	17.8%
2018	13,211	4,290	32.5%
2019	13,572	6,485	47.8%
2020	11,820	7,335	62.1%
2021	11,980	8,569	71.5%
2022	11,539	9,229	80.0%
2023	12,288	11,143	90.7%
2024	13,293	12,575	94.6%
2025	12,746	12,406	97.3%



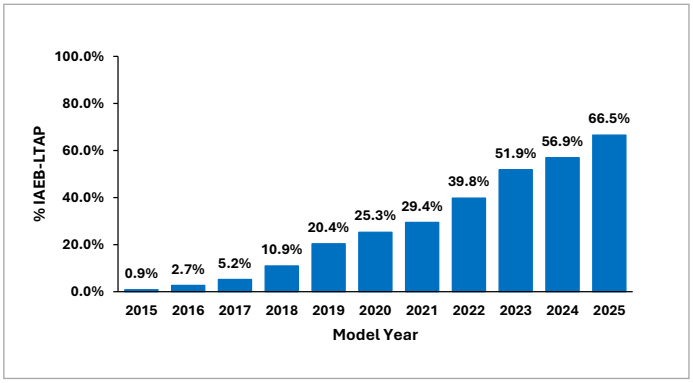




Intersection AEB – Left Turn Across Path

Intersection AEB with Left Turn Across Path capability (IAEB-LTAP) penetration increased from 0.9% in model year 2015 to 66.5% in model year 2025. Newer and more advanced emergency braking systems continue to evolve and are on pace with other maturing ADAS features.

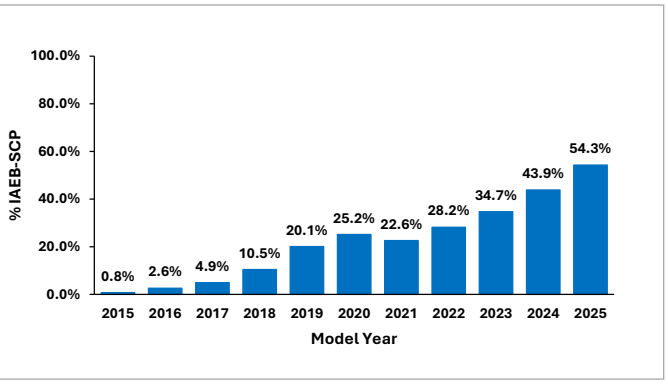
Model Year	Vehicle Count (k)	IAEB-LTAP Count (k)	Percentage
2015	12,640	109	0.9%
2016	12,742	342	2.7%
2017	13,407	698	5.2%
2018	13,211	1,444	10.9%
2019	13,572	2,763	20.4%
2020	11,820	2,986	25.3%
2021	11,980	3,527	29.4%
2022	11,539	4,590	39.8%
2023	12,288	6,372	51.9%
2024	13,293	7,569	56.9%
2025	12,746	8,482	66.5%



Intersection AEB – Straight Crossing Paths

Intersection AEB with Straight Crossing Paths capability (IAEB-SCP) penetration increased from 0.8% in model year 2015 to 54.3% in model year 2025. Newer and more advanced emergency braking systems continue to evolve and are on pace with other maturing ADAS features.

Model Year	Vehicle Count (k)	IAEB-SCP Count (k)	Percentage
2015	12,640	99	0.8%
2016	12,742	329	2.6%
2017	13,407	661	4.9%
2018	13,211	1,382	10.5%
2019	13,572	2,725	20.1%
2020	11,820	2,973	25.2%
2021	11,980	2,709	22.6%
2022	11,539	3,254	28.2%
2023	12,288	4,267	34.7%
2024	13,293	5,830	43.9%
2025	12,746	6,917	54.3%

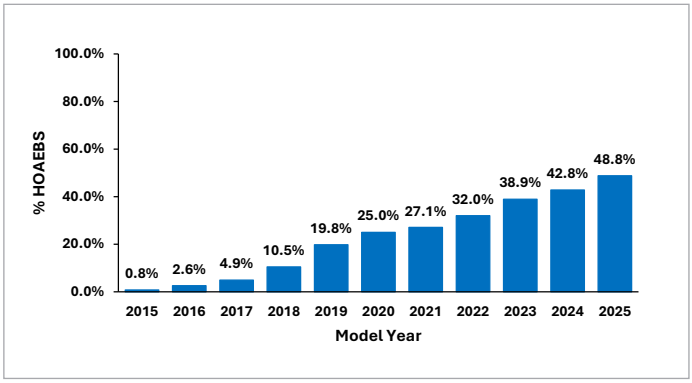




Head-on AEB – Straight

Head-on Automatic Emergency Braking with oncoming traffic (HoAEBS) capability penetration increased from 0.8% in model year 2015 to 48.8% in model year 2025. Newer and more advanced emergency braking systems continue to evolve and proliferate across the industry.

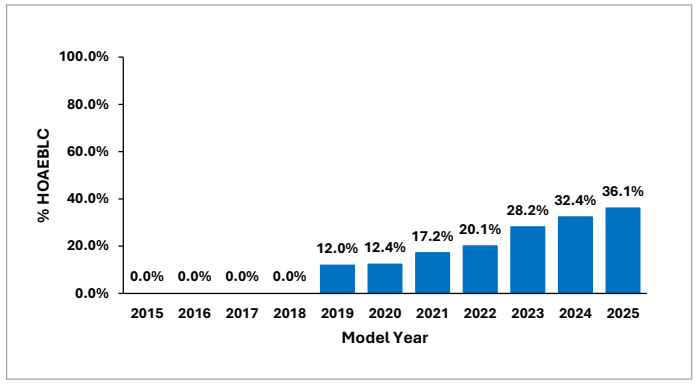
Model Year	Vehicle Count (k)	HoAEBS Count (k)	Percentage
2015	12,640	99	0.8%
2016	12,742	329	2.6%
2017	13,407	661	4.9%
2018	13,211	1,382	10.5%
2019	13,572	2,688	19.8%
2020	11,820	2,956	25.0%
2021	11,980	3,244	27.1%
2022	11,539	3,693	32.0%
2023	12,288	4,783	38.9%
2024	13,293	5,690	42.8%
2025	12,746	6,218	48.8%



Head-on AEB – Lane Change

Head-on Automatic Emergency Braking with lane change (HoAEBLC) capability penetration increased from 0% in model years 2015 through 2018 to 36.1% in model year 2025. Newer and more advanced emergency braking systems continue to evolve and provide expanded functionality.

Model Year	Vehicle Count (k)	HoAEBLC Count (k)	Percentage
2015	12,640	0	0.0%
2016	12,742	0	0.0%
2017	13,407	0	0.0%
2018	13,211	0	0.0%
2019	13,572	1,625	12.0%
2020	11,820	1,460	12.4%
2021	11,980	2,061	17.2%
2022	11,539	2,321	20.1%
2023	12,288	3,459	28.2%
2024	13,293	4,304	32.4%
2025	12,746	4,607	36.1%





Rear Cross Traffic Alert

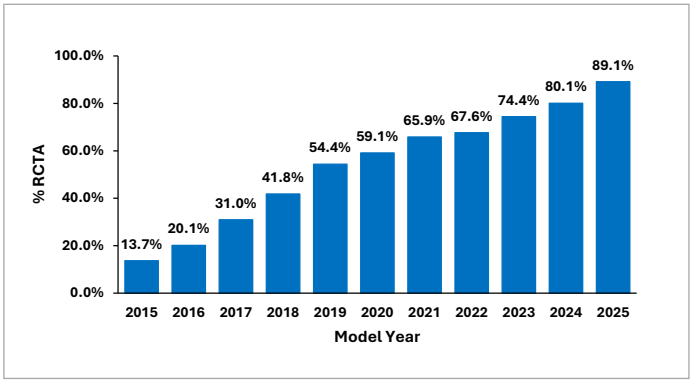
Rear Cross Traffic Alert (RCTA) penetration increased from 13.7% in model year 2015 to 89.1% in model year 2025. Rear Cross Traffic Alert penetration continues to steadily increase with nearly 90% of 2025 model year vehicles having this content.

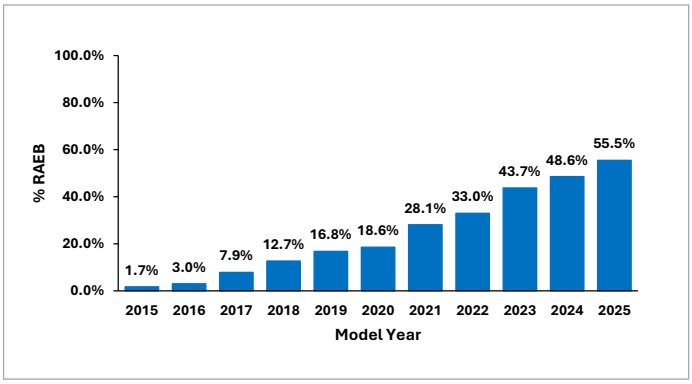
Rear Automatic Emergency Braking

Rear Automatic Emergency Braking (RAEB) penetration increased from 1.7% in model year 2015 to 55.5% in model year 2025, exceeding 50% penetration for the first time in model year 2025.

Model Year	Vehicle Count (k)	RCTA Count (k)	Percentage
2015	12,635	1,730	13.7%
2016	12,735	2,565	20.1%
2017	13,404	4,150	31.0%
2018	13,209	5,524	41.8%
2019	13,567	7,375	54.4%
2020	11,801	6,978	59.1%
2021	11,972	7,885	65.9%
2022	11,533	7,802	67.6%
2023	12,283	9,138	74.4%
2024	13,292	10,640	80.1%
2025	12,745	11,360	89.1%

Model Year	Vehicle Count (k)	RAEB Count (k)	Percentage
2015	12,640	220	1.7%
2016	12,742	386	3.0%
2017	13,407	1,054	7.9%
2018	13,211	1,676	12.7%
2019	13,568	2,277	16.8%
2020	11,816	2,194	18.6%
2021	11,974	3,364	28.1%
2022	11,535	3,805	33.0%
2023	12,286	5,372	43.7%
2024	13,289	6,453	48.6%
2025	12,742	7,071	55.5%







IV. Other Collision Warning & Intervention Systems

Blind Spot Warning

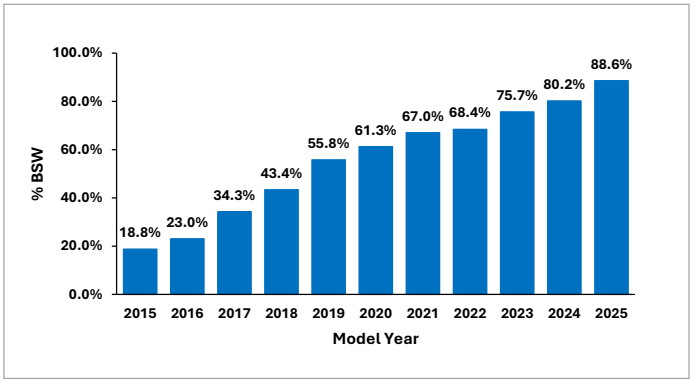
Blind Spot Warning (BSW) penetration increased from 18.8% in model year 2015 to 88.6% in model year 2025. Blind Spot Warning content continues its steady growth approaching 90% in model year 2025.

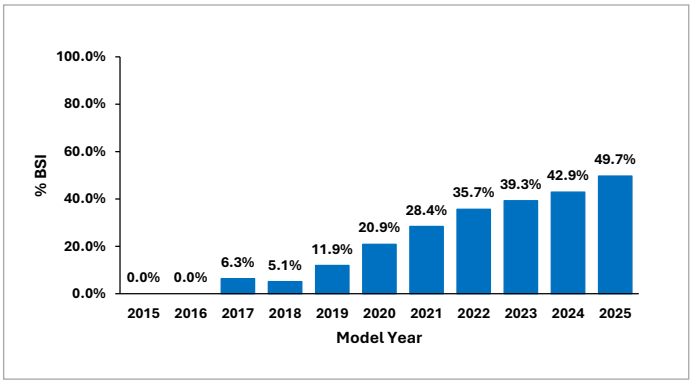
Blind Spot Intervention

Blind Spot Intervention (BSI) penetration increased from 0% in model years 2015-2016 to 49.7% in model year 2025. Blind spot functionality with steering intervention is newer and on the rise.

Model Year	Vehicle Count (k)	BSW Count (k)	Percentage
2015	12,635	2,372	18.8%
2016	12,735	2,934	23.0%
2017	13,404	4,596	34.3%
2018	13,209	5,732	43.4%
2019	13,567	7,566	55.8%
2020	11,801	7,229	61.3%
2021	11,972	8,022	67.0%
2022	11,533	7,889	68.4%
2023	12,283	9,293	75.7%
2024	13,292	10,664	80.2%
2025	12,745	11,290	88.6%

Model Year	Vehicle Count (k)	BSI Count (k)	Percentage
2015	12,640	0	0.0%
2016	12,742	0	0.0%
2017	13,407	851	6.3%
2018	13,211	674	5.1%
2019	13,568	1,620	11.9%
2020	11,816	2,467	20.9%
2021	11,976	3,400	28.4%
2022	11,537	4,116	35.7%
2023	12,287	4,823	39.3%
2024	13,292	5,704	42.9%
2025	12,745	6,333	49.7%







Lane Departure Warning

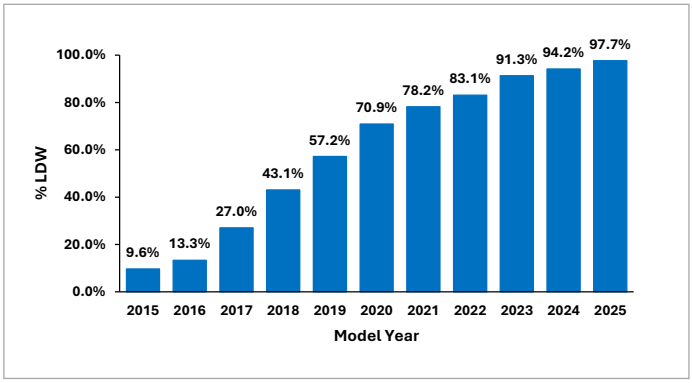
Lane Departure Warning (LDW) penetration increased from 9.6% in model year 2015 to 97.7% in model year 2025. As with FCW and PDW, the deployment of warning-only lane departure systems had an earlier start and have now mostly been incorporated into lane keeping systems, although a few warning-only systems still exist.

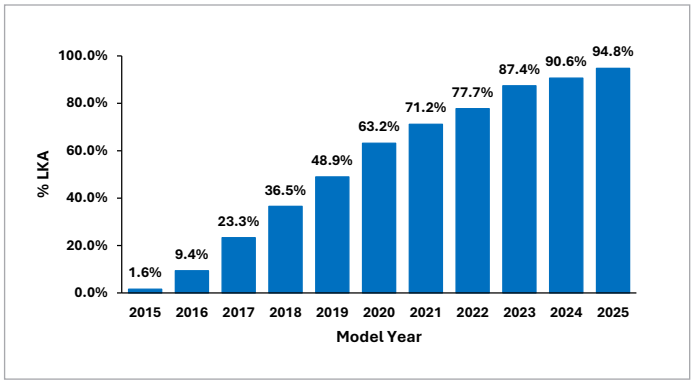
Lane Keeping Assistance

Lane Keeping Assistance (LKA) penetration increased from 1.6% in model year 2015 to 94.8% in model year 2025. The deployment of LKA has been steadily increasing, though it remains slightly less prevalent than frontal collision avoidance systems like AEB.

Model Year	Vehicle Count (k)	LDW Count (k)	Percentage
2015	12,635	1,219	9.6%
2016	12,736	1,699	13.3%
2017	13,407	3,624	27.0%
2018	13,211	5,689	43.1%
2019	13,572	7,760	57.2%
2020	11,820	8,382	70.9%
2021	11,980	9,368	78.2%
2022	11,539	9,586	83.1%
2023	12,288	11,220	91.3%
2024	13,293	12,520	94.2%
2025	12,746	12,449	97.7%

Model Year	Vehicle Count (k)	LKA Count (k)	Percentage
2015	12,640	200	1.6%
2016	12,736	1,196	9.4%
2017	13,407	3,129	23.3%
2018	13,211	4,828	36.5%
2019	13,572	6,643	48.9%
2020	11,820	7,467	63.2%
2021	11,980	8,526	71.2%
2022	11,539	8,971	77.7%
2023	12,288	10,744	87.4%
2024	13,293	12,047	90.6%
2025	12,746	12,080	94.8%







V. Driving Control Assistance Systems

Lane Centering Assistance

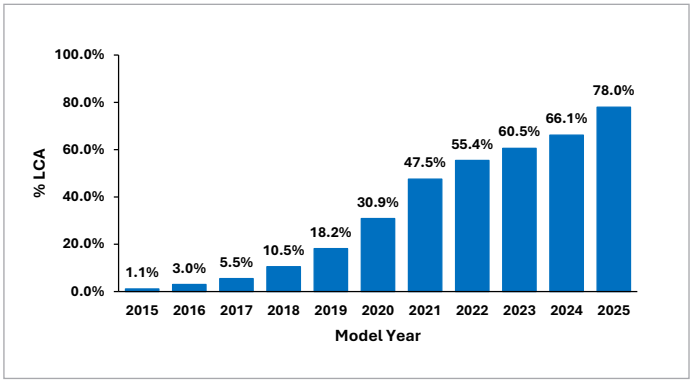
Lane Centering Assistance (LCA) penetration increased from 1.1% in model year 2015 to 78.0% in model year 2025. As a relatively new technology within driving control assistance systems, LCA is now available in over three quarters of new vehicle models.

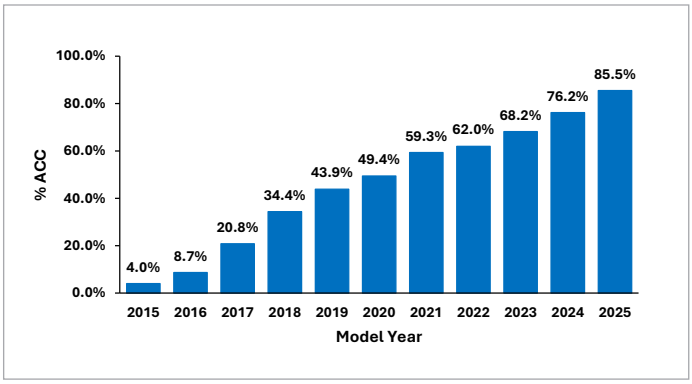
Adaptive Cruise Control

Adaptive Cruise Control (ACC) penetration increased from 4.0% in model year 2015 to 85.5% in model year 2025. ACC was the first driving control assistance system deployed and remains slightly more prevalent than LCA in new vehicle models.

Model Year	Vehicle Count (k)	LCA Count (k)	Percentage
2015	12,640	138	1.1%
2016	12,742	383	3.0%
2017	13,407	735	5.5%
2018	13,211	1,388	10.5%
2019	13,572	2,464	18.2%
2020	11,820	3,650	30.9%
2021	11,980	5,696	47.5%
2022	11,539	6,398	55.4%
2023	12,288	7,440	60.5%
2024	13,293	8,793	66.1%
2025	12,746	9,935	78.0%

Model Year	Vehicle Count (k)	ACC Count (k)	Percentage
2015	12,635	507	4.0%
2016	12,736	1,102	8.7%
2017	13,407	2,791	20.8%
2018	13,211	4,538	34.4%
2019	13,572	5,952	43.9%
2020	11,820	5,841	49.4%
2021	11,980	7,107	59.3%
2022	11,539	7,149	62.0%
2023	12,288	8,377	68.2%
2024	13,293	10,127	76.2%
2025	12,746	10,897	85.5%







Active Driving Assistance

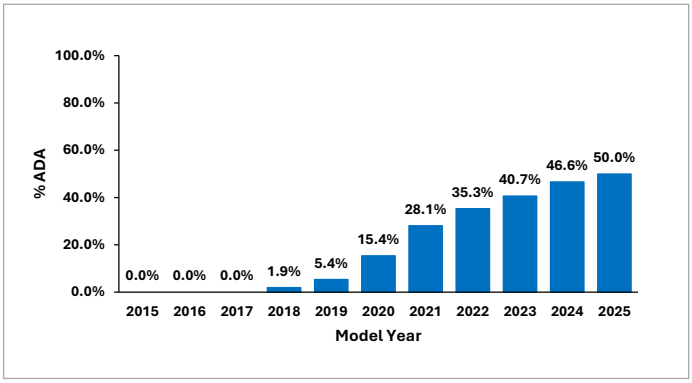
Active Driving Assistance (ADA) penetration increased from 0% in model years 2015- 2017 to 50.0% in model year 2025. ADA, which combines the functionalities of LCA and ACC, represents a new level of driver assistance technology. The system is now available in half of all new vehicle sales.

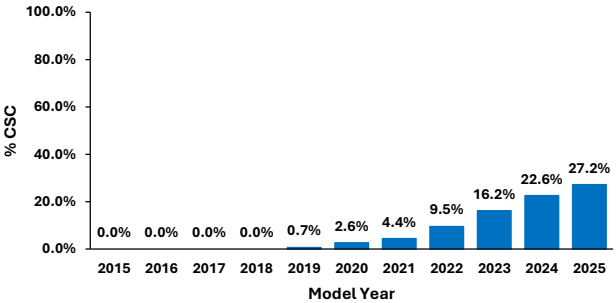
Curve Speed Correction

Curve Speed Correction (CSC) penetration increased from 0% in model years 2015- 2018 to 27.2% in model year 2025. CSC, introduced to the market in 2019, is on the rise.

Model Year	Vehicle Count (k)	ADA Count (k)	Percentage
2015	12,640	0	0.0%
2016	12,742	0	0.0%
2017	13,407	0	0.0%
2018	13,211	258	1.9%
2019	13,572	728	5.4%
2020	11,820	1,817	15.4%
2021	11,980	3,368	28.1%
2022	11,539	4,072	35.3%
2023	12,288	4,996	40.7%
2024	13,293	6,193	46.6%
2025	12,746	6,369	50.0%

Model Year	Vehicle Count (k)	CSC Count (k)	Percentage
2015	12,640	0	0.0%
2016	12,742	0	0.0%
2017	13,407	0	0.0%
2018	13,211	0	0.0%
2019	13,572	92	0.7%
2020	11,820	313	2.6%
2021	11,980	530	4.4%
2022	11,539	1,101	9.5%
2023	12,288	1,989	16.2%
2024	13,293	3,006	22.6%
2025	12,746	3,467	27.2%







VI. Advanced Lighting Systems

Automatic High Beam

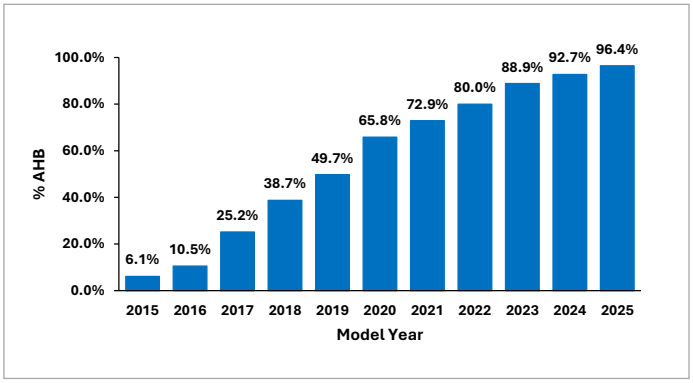
Automatic High Beam (AHB) penetration increased from 6.1% in model year 2015 to 96.4% in model year 2025. This growth in advanced lighting technology reflects its importance in enhancing nighttime driving safety.

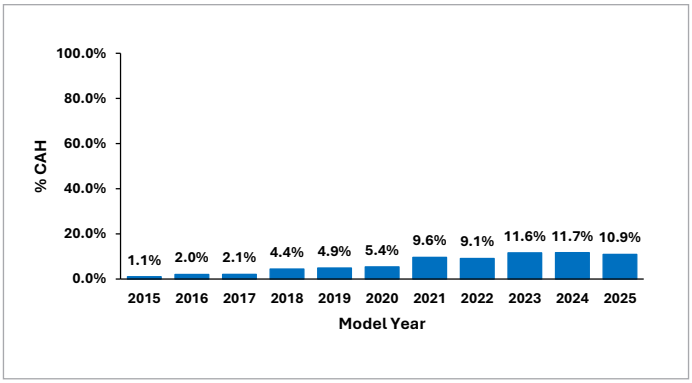
Curve Adaptive Headlights

Curve Adaptive Headlight (CAH) penetration increased from 1.1% in model year 2015 to 10.9% in model year 2025. Adoption of this technology has remained stable for the past several model years.

Model Year	Vehicle Count (k)	AHB Count (k)	Percentage
2015	12,635	770	6.1%
2016	12,736	1,339	10.5%
2017	13,407	3,372	25.2%
2018	13,211	5,119	38.7%
2019	13,572	6,751	49.7%
2020	11,820	7,779	65.8%
2021	11,980	8,733	72.9%
2022	11,539	9,229	80.0%
2023	12,288	10,920	88.9%
2024	13,293	12,327	92.7%
2025	12,746	12,291	96.4%

Model Year	Vehicle Count (k)	CAH Count (k)	Percentage
2015	12,640	133	1.1%
2016	12,742	261	2.0%
2017	13,407	280	2.1%
2018	13,211	584	4.4%
2019	13,567	663	4.9%
2020	11,806	636	5.4%
2021	11,976	1,152	9.6%
2022	11,536	1,053	9.1%
2023	12,288	1,428	11.6%
2024	13,291	1,558	11.7%
2025	12,746	1,395	10.9%







VII. Advanced Driver Alerts and Notifications

Driver Monitoring System – Indirect

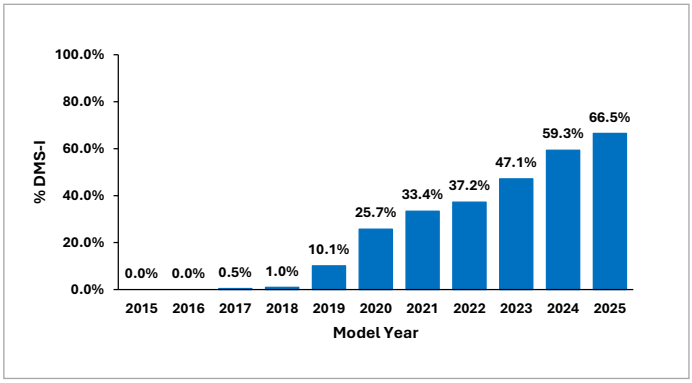
Driver Monitoring Systems – Indirect (DMS-I) penetration increased from 0% in model years 2015-2016 to 66.5% in model year 2025. This growth in driver attention and drowsiness alerts reflects the importance of preventing driver distraction and fatigue.

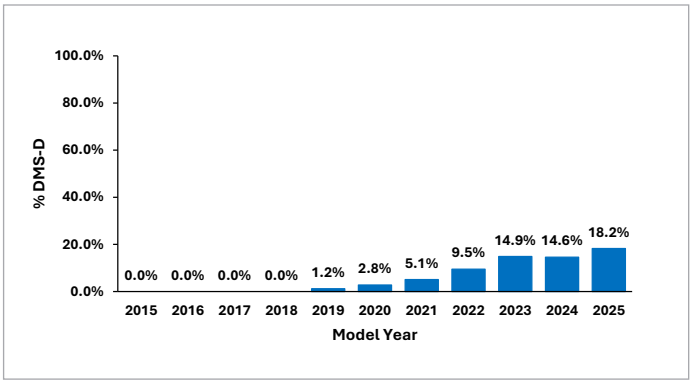
Driver Monitoring System – Direct

Driver Monitoring Systems – Direct (DMS-D) penetration increased from 0% in model years 2015-2018 to 18.2% in model year 2025. The expansion of these advanced systems, which are often tied to partial hands-free driving capabilities, reflects the importance of driver engagement and attention throughout the driving experience.

Model Year	Vehicle Count (k)	DMS-I Count (k)	Percentage
2015	12,640	0	0.0%
2016	12,742	0	0.0%
2017	13,407	62	0.5%
2018	13,211	126	1.0%
2019	13,572	1,373	10.1%
2020	11,820	3,039	25.7%
2021	11,980	3,996	33.4%
2022	11,539	4,296	37.2%
2023	12,288	5,794	47.1%
2024	13,293	7,886	59.3%
2025	12,746	8,478	66.5%

Model Year	Vehicle Count (k)	DMS-D Count (k)	Percentage
2015	12,640	0	0.0%
2016	12,742	0	0.0%
2017	13,407	0	0.0%
2018	13,211	0	0.0%
2019	13,572	161	1.2%
2020	11,820	329	2.8%
2021	11,980	610	5.1%
2022	11,539	1,097	9.5%
2023	12,288	1,829	14.9%
2024	13,285	1,937	14.6%
2025	12,745	2,326	18.2%







Traffic Sign Recognition

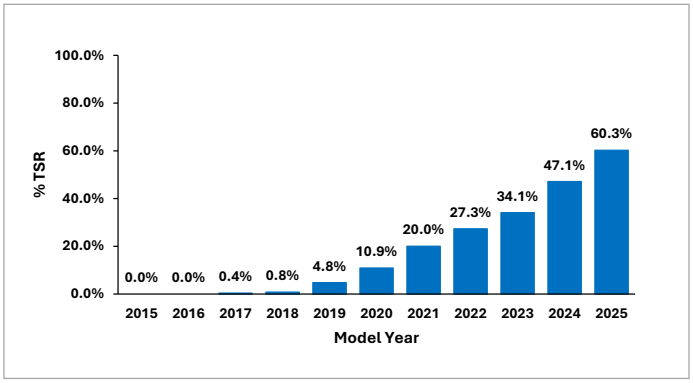
Traffic Sign Recognition (TSR) penetration increased from 0% in model years 2015-2016 to 60.3% in model year 2025. New and advancing vision systems coupled with advanced processing capabilities continue to offer new features and opportunities.

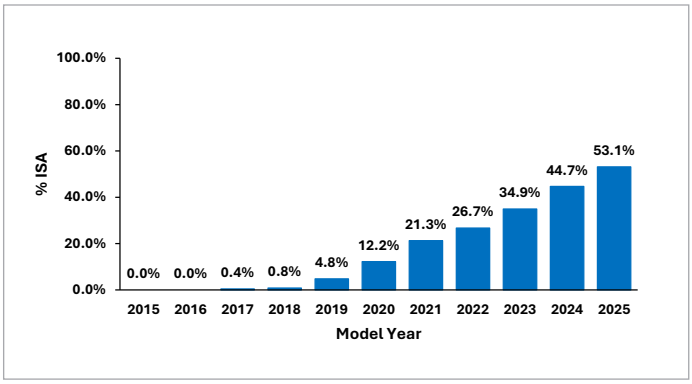
Intelligent Speed Assist

Intelligent Speed Assist (ISA) penetration increased from 0% in model years 2015-2016 to 53.1% in model year 2025. New capabilities are proliferating as technology advances offer opportunities for expanded integration of features.

Model Year	Vehicle Count (k)	TSR Count (k)	Percentage
2015	12,640	0	0.0%
2016	12,742	0	0.0%
2017	13,407	55	0.4%
2018	13,211	107	0.8%
2019	13,572	650	4.8%
2020	11,820	1,288	10.9%
2021	11,980	2,398	20.0%
2022	11,539	3,154	27.3%
2023	12,288	4,190	34.1%
2024	13,293	6,267	47.1%
2025	12,746	7,679	60.3%

Model Year	Vehicle Count (k)	ISA Count (k)	Percentage
2015	12,640	0	0.0%
2016	12,742	0	0.0%
2017	13,407	56	0.4%
2018	13,211	107	0.8%
2019	13,572	651	4.8%
2020	11,820	1,444	12.2%
2021	11,980	2,547	21.3%
2022	11,539	3,083	26.7%
2023	12,288	4,292	34.9%
2024	13,293	5,938	44.7%
2025	12,746	6,771	53.1%







Notes

- Reported ADAS penetration rates represent the participating original equipment manufacturers (OEMs) and mapped models available in the current PARTS standardized dataset. They do not represent the entire U.S. automobile market, however, the PARTS mapped dataset includes over 80% of new vehicle sales over the model years studied.
- Model year 2025 includes vehicles built through 12/31/2025.
- Some model variants were combined into common groups to achieve minimum volume thresholds or to combine common design executions (i.e. Kia Soul and Kia Soul EV) at the manufacturers direction. This resulted in the 239 unique models noted below.
- Not all models are available in every model year.
- Manufacturers identified the vehicles that met the ADAS definitions; specific performance criteria were not applied.
- For each feature and model year, penetration is the number of equipped vehicles divided by the number of study vehicles with known status for that feature. Vehicles with unknown status are excluded from that feature's calculation.
- Vehicles include passenger vehicles in the following ten segments: small cars, midsize cars, large cars, small SUVs, midsize SUVs, large SUVs, medium pickups, light duty pickups, heavy duty pickups, and minivans.
- Counts and percentages are rounded independently; percentages are calculated from unrounded counts.
- Makes and models included in the study set include:

Ford: Aviator, Bronco, Bronco Sport, Continental, Corsair, EcoSport, Edge, Escape, Expedition, Explorer, F-150, F-150 Lightning, F-250, Fiesta, Focus, Fusion, MKC, MKS, MKZ, Maverick, Mustang, Mustang Mach-E, Nautilus, Navigator, Ranger, Taurus

General Motors: ATS, Acadia, Blazer, Blazer EV, Bolt, CT4, CT5, CT6, CTS, Canyon, Colorado, Cruze, Enclave, Encore, Encore GX, Envision, Envista, Equinox, Equinox EV, Escalade, Hummer, Impala, LaCrosse, Lyriq, Malibu, Optiq, Regal, SRX, Sierra HD, Sierra LD, Silverado HD, Silverado LD, Sonic, Spark, Suburban, TRAX, Tahoe, Terrain, Trailblazer, Traverse, Verano, Volt, XT4, XT5, XT6, XTS, Yukon, Yukon XL

Honda: ADX, Accord, CRV, Civic, Fit, HRV, Insight, ILX, Integra, MDX, Odyssey, Passport, Pilot, RDX, Ridgeline, TLX

Hyundai: Accent, Elantra, G70, G80, G90, GV60, GV70, GV80, Ioniq, Ioniq 5, Ioniq 6, Kona, Kona EV, Palisade, Santa Cruz, Santa Fe, Sonata, Tucson, Veloster, Venue

Kia: Cadenza, Carnival, EV6, EV9, Forte, K4, K5, K900, Niro, Optima, Rio, Sedona, Seltos, Sorento, Soul, Sportage, Stinger, Telluride

Mazda: CX-30, CX-50, CX-70, CX-90, CX-3, CX-5, CX-9, MX-30, Mazda 3 HB, Mazda 3 4DR, Mazda 6

Mitsubishi: Eclipse Cross, Mirage, Mirage G4, Outlander, Outlander PHEV, Outlander Sport

Stellantis: 200, 300, Challenger, Charger, Cherokee, Compass, Durango, Giulia, Gladiator, Grand Cherokee, Hornet, Pacifica, Ram 1500, Ram 2500, Renegade, Stelvio, Tonale, Wagoneer, Wrangler 2DR, Wrangler 4DR

Subaru: Ascent, BRZ/GT86, Crosstrek, Forester, Impreza, Legacy, Outback, WRX

Tesla: Cybertruck, Model 3, Model S, Model X, Model Y

Toyota: 4Runner, Avalon, C-HR, Camry, Corolla 4DR, Corolla Cross, Corolla HB, Crown, Crown Signia, ES, GX, Grand Highlander, Highlander, IS, LS, LX, Land Cruiser, NX, Prius, RAV4, RX, RZ, Sequoia, Sienna, Solterra/bZ4X, TX, Tacoma, Tundra, UX, Venza

Volkswagen Group of America: A3, A4, A5, A6, A6 e-tron, A7, A8, Arteon, Atlas, Beetle, CC, Eos, Golf, ID.4, ID. Buzz, Jetta, Passat, Q3, Q4 e-tron, Q5, Q6 e-tron, Q7, Q8, Q8 e-tron, R8, TT, Taos, Tiguan, Touareg, e-tron GT



See the table below for the SAE International Surface Vehicle Recommended Practice, Taxonomy and Definitions for Driving Automation Systems levels corresponding to the ADAS features included in this report.

SAE Level	Definition	Narrative Definition	Sustained Lateral & Longitudinal Vehicle Motion Control	Object and Event Detection and Response (OEDR)	Dynamic Driving Task (DDT) Fallback	Operational Design Domain (ODD)
Driver Performs Part or All of the Dynamic Driving Task (DDT)						
0	No Driving Automation	The performance of the driver in carrying out the driving task, even when enhanced by active safety systems.	Driver	Driver	Driver	n/a
1	Driver Assistance	The sustained execution by a driving automation system of either lateral or longitudinal vehicle motion control (but not simultaneously) with the expectation that the driver performs other driving tasks.	Driver & System	Driver	Driver	Limited
2	Partial Driving Automation	The sustained execution by a driving automation system of both lateral and longitudinal vehicle motion control with the expectation that the driver continues monitoring and responding to conflicts and supervises the driving automation system.	System	Driver	Driver	Limited

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