



U.S. Department
of Transportation
**National
Highway
Traffic Safety
Administration**

ODI RESUME

OFFICE OF DEFECTS INVESTIGATION

Investigation: PE24016

Prompted By: Incident reports

Date Opened: 05/13/2024

Date 07/22/2025

Closed:

Investigator: Neil Dold

Reviewer: Scott Simmons

Approver: Tanya Topka

Subject: Unexpected ADS behavior

MANUFACTURER & PRODUCT INFORMATION

Manufacturer: Waymo LLC

Products: Waymo 5th Generation automated driving system (ADS)

Population: 1,212

Problem Description: ADS behavior causing single-party crashes and potential traffic safety law violations

FAILURE REPORT SUMMARY

	ODI	Manufacturer	EWR D&I	Other	Total	EWR Field Reports
All Incidents:	0	367	0	112	367*	0
Crashes/Fires:	0	109	0	102	109*	0
Injury Incidents:	0	1	0	1	1*	0
Number of Injuries:	0	1	0	1	1*	0
Fatality Incidents:	0	0	0	0	0	0
Number of Fatalities:	0	0	0	0	0	0

Description of Other:

Reports of crashes submitted under SGO 2021-01 and non-crash incidents from public sources.

*Total eliminates duplicates received by the manufacturer

ACTION/SUMMARY INFORMATION

Action: This (PE) Preliminary Evaluation is closed with recalls 24E049 and 25E034.

Summary:

On May 13, 2024, the Office of Defects Investigation (ODI) opened a Preliminary Evaluation (PE24016) to investigate the Waymo 5th Generation automated driving system's (ADS) performance based on 22 reports of unexpected driving behaviors identified through Standing General Order 2021-01 (SGO) and other publicly available sources. The initial reports and additional reports received during the investigation included incidents in which a Waymo ADS-equipped vehicle was the sole vehicle operated during a collision or in which the ADS-equipped vehicle exhibited driving behavior that potentially violated traffic safety laws.

ODI identified 367 total incidents during the investigation with 109 crashes, of which 102 met SGO reporting criteria and were reported by Waymo under the SGO. Incidents involving potential traffic safety law violations included both non-crash and crash incidents and involved behaviors such as unexpected responses to traffic control devices and entering construction zones. One crash incident involved an injury. Crashes and non-crash incidents that involved traffic safety law concerns had no injuries reported.

Within the set of identified incidents, ODI focused its review on a pattern of crashes where Waymo vehicles struck stationary or semi-stationary objects such as gates, barriers, chains, and other objects with similar physical characteristics. Waymo conducted two recalls during the investigation to improve perception and response to objects. Recall 24E049 was filed on June 10, 2024, regarding software updates made following a May 2024 crash in which an unoccupied Waymo vehicle struck a utility pole. Waymo also updated the ADS system to improve the detection and avoidance of roadway barriers, such as chains strung across the path of travel, gates, and other gate-like roadway barriers and filed Recall 25E034 on May 12, 2025.

In view of the recall actions taken by Waymo and ODI's analysis of the available data, ODI is closing this Preliminary Evaluation. NHTSA will continue to monitor crash reports and other sources of data and will take additional action if warranted.

The SGO reports cited in the Opening Resume and additional SGO reports involving crashes with stationary or semi-stationary objects, can be found at [NHTSA.gov/SGOCrashReporting](https://www.nhtsa.gov/SGOCrashReporting) under the following SGO 2021-01 report IDs:

30270-1160
30270-1220 (Duplicate of 30270-1160)
30270-1494
30270-4363
30270-5081
30270-5318
30270-5758
30270-6133
30270-6548
30270-6561
30270-6838
30270-6981
30270-7048
30270-7054
30270-7058

30270-7308
30270-7312
30270-7534
30270-7729
30270-7794
30270-7936
30270-7947
30270-7969
30270-8145
30270-8146
30270-8152
30270-8156
30270-8219
30270-8344
30270-8356
30270-8357
30270-8397
30270-8443
30270-8483
30270-8513
30270-8602
30270-8624
30270-8661
30270-8809
30270-9082
30270-9126
30270-9169
30270-9177
30270-9192
30270-9287
30270-9355
30270-9372
30270-9410
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30270-9437
30270-9442
30270-9517
30270-9606
30270-9763
30270-9764
30270-9823
30270-9828
30270-9855
30270-9873
30270-9883
30270-9886
30270-9893
30270-9907

30270-10006
30270-10042
30270-10076
30270-10087
30270-10274
30270-10288
30270-10361
30270-10421
30270-10471
30270-10497
30270-10558
30270-10561
30270-10563
30270-10602
30270-10631
30270-10727
30270-10863
30270-10865
30270-10891
30270-10909
30270-10912
30270-11001
30270-11007
30270-11010
30270-11062
30270-11088