Part 573 Safety Recall Report 24E-013

Manufacturer Name : Waymo LLC
Submission Date : FEB 16, 2024
NHTSA Recall No. : 24E-013
Manufacturer Recall No. : NR

Manufacturer Information :

Manufacturer Name : Waymo LLC
Address : 1600 Amphitheatre Parkway
Mountain View CA 94043
Company phone : 253-0000

Population :

Number of potentially involved : 444
Estimated percentage with defect : 100 %

Equipment Information :

Brand / Trade 1 : Waymo LLC
Model : 5th Generation Automated Driving System (ADS) prior to the 12/20/2023 driverless software release
Part No. : N/A
Size : NR
Function : NR
Descriptive Information : The equipment recalled is the 5th Generation ADS capable of operation in driverless configuration and equipped with software prior to the 12/20/2023 driverless software release. The recalled products differ from products not included in the recall in that the recalled products may be capable of driverless operation and the recalled products contain the affected software. Waymo determined the scope of the affected population using information about the driverless capabilities of each vehicle and information about the software on each vehicle. This information is available to Waymo, as Waymo owns all potentially affected vehicles. The affected vehicle population all have received the updated software.
Production Dates : MAR 17, 2022 - DEC 20, 2023

Description of Defect :

Description of the Defect :	Prior to receiving the recall remedy, in the rare case that a Waymo ADS had encountered a vehicle being towed ahead of the Waymo ADS-equipped vehicle in a manner in which the rearmost axle of the towed vehicle had a significant steer angle applied, such that the towed vehicle was both at a persistent angle relative to the towing vehicle and was persistently not tracking behind the towing vehicle, the Waymo ADS may have incorrectly predicted the future motion of the towed vehicle. If the Waymo vehicle equipped with an ADS using that prior software were to encounter a combination of vehicles in such a configuration and the towed vehicle is in the path of the Waymo ADS, a collision may occur.
FMVSS 1 :	NR
FMVSS 2 :	NR
Description of the Safety Risk :	Incorrect prediction of the future motion of another vehicle may result in an increased risk of a collision.
Description of the Cause :	NR
Identification of Any Warning that can Occur :	NR

Involved Components :

Component Name :	5th Generation ADS
Component Description :	Software prior to the 12/20/2023 driverless software release
Component Part Number :	N/A

Supplier Identification :

Component Manufacturer

Name :	NR
Address :	NR
	NR
Country :	NR

Chronology :

On 12/11/2023 a Waymo AV operating in Phoenix, Arizona made contact with a pickup truck being towed backwards and at an angle relative to the towing vehicle. The towing vehicle was improperly traveling straight in the middle shared turn lane and the pickup truck being towed was partially occupying the travel lane immediately to the right of the middle shared turn lane. The Waymo AV was in the same travel lane as one portion of the towed pickup truck and approaching from behind when the front left of the Waymo AV made contact with the pickup truck. The tow truck did not pull over or stop following this contact.

Several minutes later, a second Waymo AV made contact with the same off-angle towed pickup truck, which had continued after the first contact and was still occupying multiple lanes. The two events were both same-direction contacts and had low relative speeds. Neither collision resulted in injuries.

Waymo escalated the events to Waymo's Field Safety process. Even though encountering a combination of vehicles in which this collision could occur is exceptionally rare and the resulting collisions were both low severity, Waymo developed and evaluated an expedited software update to mitigate the issue.

Waymo proactively discussed both collisions with NHTSA on 12/15/2023. Waymo continued to analyze the risk that had been posed by this issue before it was mitigated, which confirmed the low severity of the events and the exceptionally low likelihood of encountering vehicles in a configuration for which this issue would occur. Waymo further discussed the events with NHTSA on 12/20/2023, 1/17/2024, 2/5/2024, and 2/7/2024. Waymo carefully considered points raised by NHTSA in these discussions.

On 2/7/2023, Waymo's Safety Board determined, due to the unique characteristics of these collisions, that the circumstances that existed prior to the resultant software update warranted submitting this report to NHTSA to fulfill relevant notification obligations.

Description of Remedy :

Description of Remedy Program :	Between December 20, 2023 and January 12, 2024 Waymo updated the ADS in all affected vehicles.
How Remedy Component Differs from Recalled Component :	Software containing the remedy was deployed in a new software release.
Identify How/When Recall Condition was Corrected in Production :	Production ADS-equipped vehicles receive the latest software release.

Recall Schedule :

Description of Recall Schedule :	Waymo has already applied the remedy to all affected vehicles (all of which Waymo owns and has never sold or offered for sale), which occurred between December 20, 2023 and January 12, 2024. Accordingly, there is no need for notifications to owners, dealers or distributors under 49 CFR Part 577 or for a further recall schedule.
Planned Dealer Notification Date :	NR - NR
Planned Owner Notification Date :	NR - NR

Purchaser Information :

The following manufacturers purchased this defective/noncompliant equipment for possible use or installation in new motor vehicles or new items of motor vehicle equipment:

Name :	NR
Address :	NR
	NR
Country :	NR
Company Phone :	NR

* NR - Not Reported