U.S. Department of Transportation

National Highway Traffic Safety Administration

OFFICE OF DEFECTS INVESTIGATION

ODI RESUME

Investigation:	PE22002		
Prompted By:	L2 VOQ review		
Date Opened:	02/16/2022	**Date Closed:**	06/29/2026
Investigator:	Timothy Igbawua	**Reviewer:**	Gregory Magno
Approver:	Tanya Topka		
Subject:	Unexpected Brake Activation		

MANUFACTURER & PRODUCT INFORMATION

Manufacturer:	Tesla, Inc.
Products:	2021-2022 Tesla Model 3, 2021-2022 Tesla Model Y
Population:	695,000
Problem Description:	Unexpected activation of braking system may cause rapid deceleration

FAILURE REPORT SUMMARY

	ODI	Manufacturer	EWR D&I	Other	Total	EWR Field Reports
All Incidents:	1,182	25,731	0	3,547	25,900*	0
Crashes/Fires:	0	0	0	0	0	0
Injury Incidents:	0	0	0	0	0	0
Number of Injuries:	0	0	0	0	0	0
Fatality Incidents:	0	0	0	0	0	0
Number of Fatalities:	0	0	0	0	0	0

Description of Other:
Count of unique VIN's

*Total eliminates duplicates received by the manufacturer

ACTION/SUMMARY INFORMATION

Action: This (PE) Preliminary Evaluation is closed without a manufacturer action.

Summary:

On February 16, 2022, the Office of Defects Investigation (ODI) opened a Preliminary Evaluation (PE22002) to investigate reports of unexpected deceleration while driving with the adaptive cruise control system engaged in

Model Year (MY) 2021 – 2022 Model 3 and Model Y vehicles manufactured by Tesla. The subject systems include Autopilot (all versions), Full Self-Driving (FSD) and Traffic Aware Cruise Control (TACC). These complaints have been colloquially referred to as “phantom braking”. ODI opened PE22002 to determine the scope and severity of the potential problem and to assess any resulting safety issues in the subject vehicles.

The alleged defect is an unexpected and unrequested vehicle deceleration triggered by the subject system during subject system engagement. The alleged defect does not occur when the subject system is not in use and is separate and distinct from Automated Emergency Braking (AEB). During vehicle operation, AEB is actively monitoring in the subject vehicles regardless of subject system and its intervention is accompanied by audible and visual collision warnings.

A Vehicle Owners Questionnaire (VOQ) trend originating in November 2021 prompted ODI to open PE22002. VOQ narratives reported unexpected brake activation while using TACC, Autopilot or FSD. The trend grew from 99 by the end of 2021 to 314 by February 16, 2022, when PE22002 was opened.

ODI sent Information Request (IR) Letters to Tesla on May 4, 2022, and July 11, 2024, to request salient data to quantify vehicle production, field incidents, and the physical parameters of the phantom braking reports. ODI also requested information pertaining to Tesla’s internal assessments, problem resolutions, and their assessment of the alleged defect.

Typically, the complaints to ODI and Tesla allege a 10-20 mph speed reduction at highway speeds over a 1-3 second time period. No collisions were identified. Drivers reported seeing no vehicles ahead in the travel lane that would have triggered the deceleration. Many complaints reported the conditions taking place on higher speed roadways in sunny conditions with shadows on the roadway. Complainants typically applied the accelerator to override the unexpected deceleration, and subject vehicles did not come to a complete stop or steer out of their travel lane.

ODI analyzed data provided by Tesla in addition to consumer complaints submitted to ODI. Tesla’s complaint and field data exhibited some behavior that aligned with the transition from a radar-vision fusion system to vision-only in mid-2021.

VOQ traffic coincided with public events such as Recall 21V846, the opening of PE22002, and several related media publications. In February and March of 2022, Tesla released firmware updates 2022.4.5.1 and 2022.4.5.17 respectively to target aspects of the subject system programming that affect unexpected deceleration. Incident traffic has dissipated substantially in the past years, with 45 incidents reported in 2024, 19 in 2025, and 3 since the beginning of 2026.

The conditions reported, while concerning to the drivers, did not alter the vehicle’s lateral positioning in their lanes and did not cause significant loss in distance between the subject and following vehicle to lead to a collision. Complaint traffic to both NHTSA and Tesla reported the same conditions- vehicles traveling with the subject system engaged at higher speeds decelerating suddenly with no commensurate vehicle or obstacle ahead in the same lane.

In view of these points, and a low demonstrated hazard to drivers, this Preliminary Evaluation (PE) is closed.

The closing of this investigation does not constitute a finding by NHTSA that a safety-related defect does not exist. The Agency reserves the right to take additional action if warranted by future circumstances. To review the ODI reports cited in the Closing Resume ODI Report Identification Number document, go to NHTSA.gov.