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CASE STUDY · MARLUC SYNOPSIS

Ford BlueCruise: NTSB findings and NHTSA investigation

IMPLEMENTED 2024–2026 · MANUFACTURING AND INDUSTRIAL · UNITED STATES · BAND F · PROVED

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Two Ford Mustang Mach-E vehicles using the BlueCruise hands-free system struck stationary vehicles at night in 2024, killing three people. The NTSB found driver distraction and impairment were the main causes, with the system's limits contributing. NHTSA's engineering analysis of about 129,000 vehicles remains open.

ABOUT THIS SYNOPSIS

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NOTICE WORDING LAST UPDATED 16 NOVEMBER 2026

AT A GLANCE

What went wrong: AI output or malfunction; Weak oversight or controls.

AI and automation used: Hands-free partial driving automation using camera and radar perception and camera-based driver monitoring.

Implemented: 2024–2026. Grade: band F, Failure, Proved.

Headline result, as reported: NTSB found BlueCruise's limits contributed to two fatal 2024 crashes and issued recommendations to Ford, March 2026

1 · The case

The facts, as reported by the 5 sources listed at the end. Where a source is silent, the field says "Not reported".

Organisation

Ford Motor Company. US carmaker. BlueCruise is its hands-free partial driving automation system, introduced in model year 2021 and offered on certain Ford and Lincoln vehicles. A separate deployment from the Ford case already in the library. Canvas block: 8. Governance and risk. Also 3. Customers and proposition, 6. Data and technology.

Business challenge

The challenge. Not reported in Ford's own terms. BlueCruise controls speed, steering and braking hands-free on about 130,000 miles of designated divided highways in North America, per WardsAuto.

How it was addressed. BlueCruise combines adaptive cruise control and lane centring, using camera and radar to detect and classify objects, and allows hands-free driving on geofenced highways with a camera-based driver monitoring system. NHTSA found Ford designed the adaptive cruise control to ignore reported stationary objects at approach speeds of 62 mph or more, to avoid false detections at long range. In two night-time crashes in 2024, Mach-E vehicles at over 70 mph with BlueCruise engaged struck stationary vehicles with no braking or steering by driver or system. NHTSA opened an investigation in April 2024 and upgraded it to an engineering analysis in January 2025. The NTSB reported its findings in March 2026. [1] [2] [3] [4] [5]

Who implemented it

In-house (In-house): Ford designed and sells BlueCruise.

Technology (SEAM pillar E)

SEAM types: T9 AI in physical systems. Deployment: Not reported. Vendors and products: BlueCruise (Co-Pilot360 Active 2.0).

Where it was built in: Built into Ford and Lincoln vehicles; combines adaptive cruise control, lane centring and pre-collision assist using camera and radar, with hands-free use geofenced to designated highways by GPS.

What changed

Before: BlueCruise sold as hands-free highway driving. After: the NTSB found the driver monitoring system ineffective and recommended that Ford revise it, require automatic emergency braking to be on with BlueCruise and limit speed tolerances. Ford said it will take the recommendations under serious consideration. Changes made: Not reported. [1] [2] [3] [4] [5]

Cost of failure

Cost of failure: three people killed in two crashes. Fines, recalls or damages: Not reported; NHTSA's engineering analysis remains open.

What it saved

Not reported [1] [2] [3] [4] [5]

Governance and control

The NTSB found the driver monitoring system let brief glances to the road reset the distraction timer and could not tell attention to the road from a phone in the line of sight. It also found drivers could switch off automatic emergency braking during BlueCruise and set cruise speeds up to 20 mph above the limit, and that Ford's telematics did not transmit crash data. NHTSA's defect investigation is open. Ford says the NTSB found no quality defects or equipment failures.

S2 · Accountable owner · Not reported
Not reported.

A1 · Safe use · Evidenced
Hands-free use is geofenced to designated highways, per NHTSA; the NTSB found it was still permitted in work zones with reduced speed limits. [1] [2]

A2 · Human in the loop · Missing (independent source shows it was absent)
The NTSB found the driver monitoring system did not effectively mitigate visual distraction or disengagement. [2] [3]

A3 · Monitoring and assurance · Missing (independent source shows it was absent)
The NTSB found Ford's telematics did not transmit direct crash parameters, delaying its awareness of crashes involving partial automation. [2]

A4 · Vendor AI · Not reported
Not reported.

A5 · Agent controls · Not reported
No agents described.

A6 · Standards and regulation · Outside scrutiny (a regulator, court, auditor or similar body acted)
NHTSA opened a defect investigation and upgraded it to an engineering analysis; the NTSB issued findings and recommendations to Ford, NHTSA and the Department of Transportation. [1] [2] [3]

What worked, what did not, what is unproven

WORKED

– Not reported

DID NOT

– Detection: the system did not detect or respond to stationary vehicles at highway speed at night, which the NTSB found contributed to the San Antonio crash.

– Driver monitoring: did not keep distracted drivers engaged, per the NTSB.

– Speed management: Ford's inadequate integration of speed management with BlueCruise contributed to the Philadelphia crash, per the NTSB.

– Crash data: Ford's telematics design limited its awareness of crashes, per the NTSB.

UNPROVEN

– Whether NHTSA will find a safety defect or seek a recall.

– What changes Ford has made to BlueCruise since the NTSB findings.

Timeline

Feb 2024 San Antonio crash: a Mach-E on BlueCruise strikes a stationary vehicle; one person killed [2]

Mar 2024 Philadelphia crash: a Mach-E on BlueCruise strikes two stationary vehicles; two people killed [2]

Apr 2024 NHTSA opens a preliminary evaluation of BlueCruise [1]

Jan 2025 NHTSA upgrades the probe to an engineering analysis of about 129,000 vehicles [1]

Mar 2026 NTSB determines probable causes and issues recommendations to Ford, NHTSA and the Department of Transportation [3]

2 · Grade and SEAM assessment

MarLuc's opinion, made on the evidence above. How cases are graded: marluc.co.uk/case-studies/how-we-rate

Level of change and impact

Claimed: Not applicable. Grade: F, Failure. Proof: Proved. Level of change: Not graded.

No level assessed: band F, fatal crashes in which a regulator-level safety board found the system's limits and design contributed.

Graded F: the NTSB found the system's inability to detect stationary vehicles and Ford's design choices contributed to fatal crashes, though the probable causes centre on the drivers. Marked proved on the NTSB's findings; NHTSA's defect investigation is still open and no recall is reported.

The SEAM view and lessons learnt

The failure sat at the hand-over between automation and the person meant to supervise it: the system had known limits with stationary vehicles, and the driver monitoring did not keep drivers attentive enough to cover them. The system's part can be separated in the NTSB findings: the drivers' distraction and impairment were the probable causes and the system's limits contributed. Before deploying automation that relies on human supervision, a leadership team should ask how it will know people are actually supervising, and what happens at the edges of what the system can do.

1. Design supervision controls for how people really behave, not how they are told to behave.
2. Disclose and design around known limits of an automated system.
3. Collect the data needed to learn quickly from every serious incident.

Evidence

Score 3 of 4. Independent: NTSB findings and probable causes, and NHTSA's investigation record.

Evaluation method. Safety board and regulator findings: NTSB investigation with board-adopted findings, probable causes and recommendations; NHTSA defect investigation record.

Sources disagree. Ford says the NTSB found no quality defects or equipment failures in BlueCruise and points to alcohol impairment; the NTSB found the system's inability to detect the stationary vehicle contributed to the San Antonio crash and Ford's speed management integration contributed to the Philadelphia crash.

Status. Open: NTSB findings issued March 2026; NHTSA engineering analysis pending.

3 · Original sources

Read these in full. To challenge a fact or a grade, use the contact form at marluc.co.uk or the link on https://marluc.co.uk/case-studies/ford-bluecruise-ntsb-nhtsa

[1] NHTSA Office of Defects Investigation: EA25001 open resume, Collisions Involving Ford BlueCruise
https://static.nhtsa.gov/odi/inv/2025/INOA-EA25001-10004.pdf

[2] NTSB: Board meeting summary, fatal crashes in hands-free partial automation mode, San Antonio and Philadelphia (HWY24FH006, HWY24FH008)
https://www.ntsb.gov/investigations/Documents/Ford%20BlueCruise%20Board%20Meeting%20Summary.pdf

[3] NTSB: NTSB Finds Automation Overreliance Contributed to Two Fatal Ford BlueCruise Crashes
https://www.ntsb.gov/news/press-releases/Pages/NR20260331.aspx

[4] WardsAuto: NTSB says Ford BlueCruise led to fatal accidents in 2024
https://www.wardsauto.com/news/NTSB-ford-bluecruise-led-fatal-accidents-2024-failed-to-intervene-apply-brakes/816480

[5] CBT News: NTSB faults Ford BlueCruise after two fatal crashes, calls for stricter oversight
https://www.cbtnews.com/ntsb-faults-ford-bluecruise/

Ford Motor Company website: https://www.ford.com

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