AVIATION HIGHWAY MARINE RAILROAD PIPELINE

December 27, 2023 HIR-23-11

Pickup Truck Centerline Crossover Collision with Transit Van and Postcrash Fire

Andrews, Texas
March 15, 2022

About 8:17 p.m. central daylight time on March 15, 2022, a crash occurred between a pickup truck and a van towing a trailer on Farm to Market (FM) Road 1788 in Andrews, Andrews Country, Texas.[1] A 2007 Dodge Ram 2500 pickup truck, traveling southbound, crossed the centerline and collided nearly head-on with a northbound 2017 Ford Transit 350 van towing a 2019 Salvation trailer. The impact initiated a postcrash fire that consumed the van and the pickup truck. Seven occupants of the van and two occupants of the pickup truck died, and two van passengers were seriously injured.

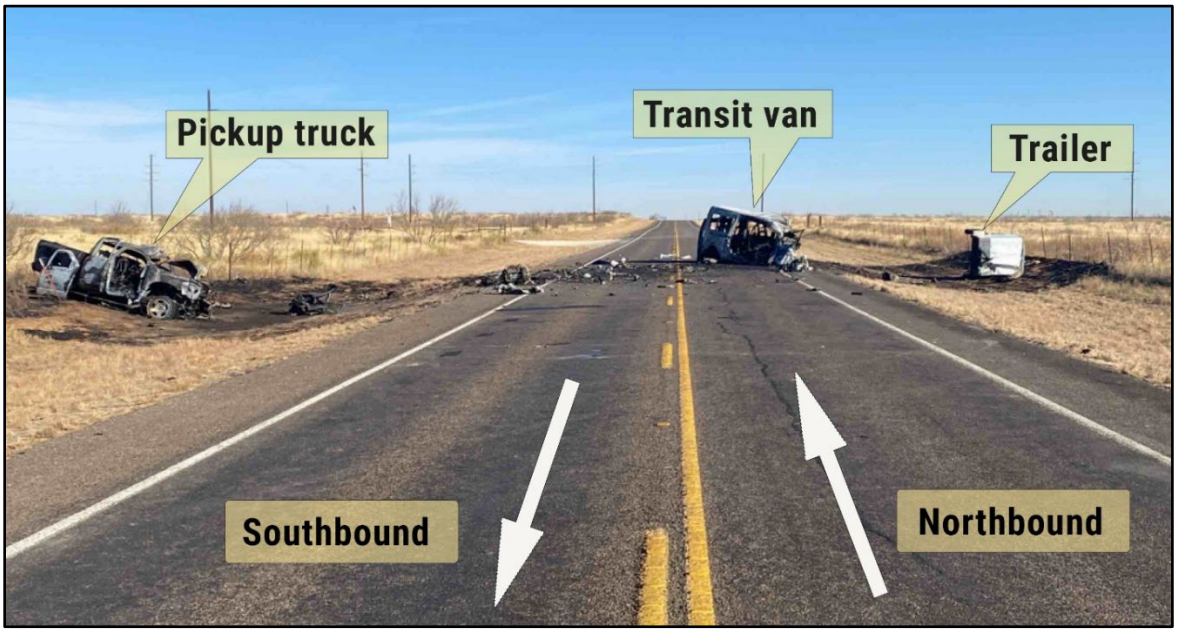

Figure 1. The north view of FM 1788, showing the final rest positions of the involved vehicles. (Source: Texas Department of Transportation, annotations added by NTSB)

[1] (a) In this report, all times are central daylight time. (b) Visit ntsb.gov to find additional information in the public docket for this NTSB investigation (case no. HWY22MH006). Use the CAROL Query to search safety recommendations and investigations.

Location	Farm to Market Road 1788, near mile marker 10.547, Andrews, Texas (see figure 2)
Date	March 15, 2022
Time	8:17 p.m. central daylight time
Involved vehicles	2
Involved people	11
Injuries	9 fatal (pickup truck driver, pickup truck passenger, van driver, 6 van passengers), 2 serious (2 van passengers)
Weather	Dry, clear, and near nighttime (sunset was at 7:35 p.m.)
Roadway information	Rural, two-lane undivided highway; 1 northbound and 1 southbound travel lane; straight, concrete pavement; no roadway lighting at crash location

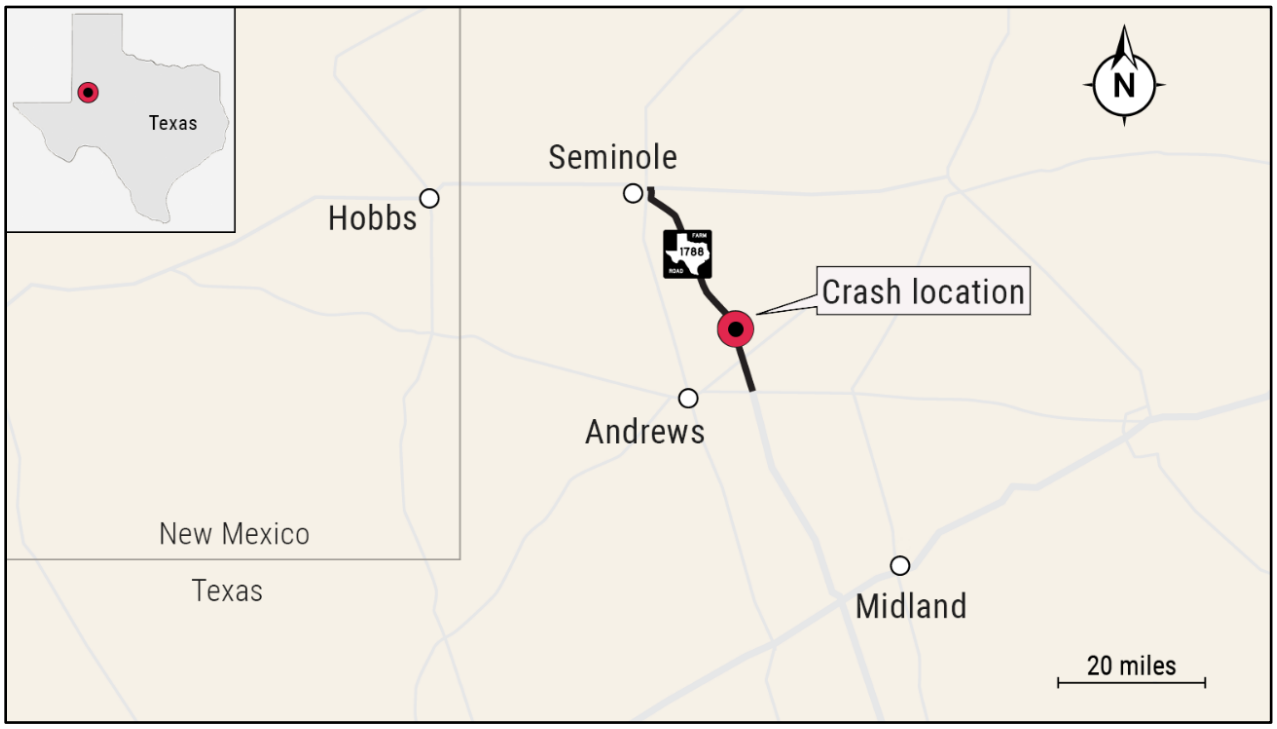

Figure 2. Map showing location of the crash.

1. Factual Information

1.1 Background

On March 15, 2022, about 8:17 p.m., a 2007 Dodge Ram pickup truck crossed the centerline of FM 1788 and struck nearly head-on a 2017 Ford Transit 350, 12-passenger van towing a 2019 Salvation trailer. The van was operated by the University of the Southwest, located in Hobbs, New Mexico, and was occupied by a 26-year-old driver and 8 passengers. The van occupants were members of the university's golf team who had participated in a tournament in Midland, Texas, earlier that day; the driver was the team's coach. The pickup truck was occupied by a 38-year-old driver and his son who was seated in the front passenger seat.

At the crash location, FM 1788 consists of a single travel lane in each direction, separated by a dashed and a solid yellow line for southbound and northbound travel lanes, respectively. The posted speed limit is 75 mph. At the time of the crash, the roadway was dry and there were no environmental obstructions to the line of sight in the area.

1.2 Event Sequence

NTSB investigators examined roadway documentation as well as vehicle damage and interviewed witnesses to ascertain the crash sequence and the reason for the pickup truck driver's centerline crossover. The crash occurred in the northbound travel lane. The roadway evidence at this location showed a large area of burnt asphalt encompassing the northbound lane and its shoulder. The roadway evidence included road gouge marks, metal scrapes, fluid stains, and dirt furrows.

Investigators identified the first precrash roadway evidence, the onset of a tire friction mark determined to be from the left front tire of the pickup truck, about 73 feet north of the location of impact. The friction mark started in the northbound lane about 1.8 feet from the white edge line (shoulder line) and continued in a shallow rightward arc to the point of impact, 6.6 feet from the shoulder line. The friction mark indicates that the pickup truck was traveling south in the northbound travel lane but was moving back toward the southbound travel lane at the time of impact with the transit van.

The nearly head-on impact caused both vehicles to rotate counterclockwise. The van came to rest in the northbound lane—at the impact location but rotated—while the pickup truck came to rest off the roadway, southwest of the impact location. The trailer separated from the van at impact and came to rest off the roadway, east of the location of the van. Both the van and the pickup truck sustained catastrophic intrusion damage

and were consumed by postcrash fire (see figure 3). The trailer sustained impact damage to the left-front corner and limited thermal damage on the left side.

Figure 3. Left, damage to the pickup truck (right front view); right, damage to the van (left rear view).

The Cummins engine control module and the airbag control module (ACM) from the pickup truck were destroyed in the postcrash fire. The ACM from the van was recovered, but the device was extensively fire-damaged. As a result, no usable data could be retrieved from the recording modules on either of the vehicles. The limited postcrash inspection identified no precrash mechanical deficiencies for either vehicle.[2]

The NTSB interviewed the driver of a vehicle that traveled immediately behind the van for about 10 miles. The witness did not observe anything unusual about the movement of the van and he also reported traveling at speeds of 70–75 mph. The investigation did not identify any witnesses that had observed the pickup truck earlier in the trip or leading up to its centerline crossover.

Considering the limited information obtained from the witness and that the postcrash fire destroyed all recording modules, the NTSB conducted a simulation of the crash to determine an approximate speed of the two vehicles. The simulation was based on the available roadway evidence, including the tire friction mark that indicated the preimpact path of the pickup truck, location of impact, weight of the vehicles (including the trailer), measured friction of the roadway, contact damage on the vehicles, and final rest positions of the pickup truck, the van, and the trailer.

Injuries, Occupant Protection, and Emergency Response. As a result of the crash and the postcrash fire, both occupants of the pickup truck died. The van driver and

[2] The extent of the postcrash inspection of the vehicles was limited due to the extensive fire damage.

six of the van passengers also died, while the remaining two van passengers sustained serious injuries. According to autopsy reports for the two occupants of the pickup truck and the van driver, all three died from blunt force and thermal injuries.[3]

Two van passengers were ejected during the crash; one of them—seated in the front passenger seat—died, while the other ejected passenger—originally seated in the third row on the right—sustained serious injuries. The second seriously injured passenger self-extricated.[4]

All seating positions in both vehicles were equipped with lap/shoulder belts. Based on a buckled latch plate located next to the front passenger seat of the pickup truck, the pickup truck passenger likely wore the available lap/shoulder belt at the time of the crash. NTSB investigators found an unbuckled latch plate at the crash scene next to the at-rest location of the pickup truck, suggesting that the pickup truck driver was likely unbelted. Based on the interview with one of the surviving van passengers, the van driver wore the available lap/shoulder belt, but none of the passengers were belted.

The Andrews County Sheriff's Department (ACSD) dispatcher was notified of the crash at 8:18 p.m. through a 911 call and immediately dispatched ACSD patrol units, the first of which arrived on scene at 8:25 p.m. The dispatcher notified the Texas Department of Public Safety, Andrews County Volunteer Fire Department, Andrews County Fire Marshall, and Andrews County Emergency Medical Services, whose first units arrived on scene 2–3 minutes after the first ACSD patrol unit.[5] The incident commander requested the first medical evacuation (medevac) helicopter immediately upon arrival at 8:27 p.m., and the second 10 minutes later; they arrived at a landing zone by 9:24 p.m. The two medevac helicopters transported the two van occupants with serious injuries to local hospitals, the last of which arrived at 11:16 p.m.

[3] The autopsies were external examinations only; no internal autopsy examinations were performed, limiting evaluation for natural disease. Furthermore, DNA tests were conducted on the occupants of the pickup truck for the purpose of identification.

[4] When interviewed by NTSB investigators, this passenger stated that he had to break a window to evacuate from the van as the postcrash fire spread through the vehicle. He sustained thermal injuries.

[5] Four other agencies responded to the crash: The Texas Department of Transportation, the Andrews Police Department, the Andrews County Constable, and AeroCare Medevac.

1.3 Additional Information

1.3.1 Roadway and Traffic Characteristics

The crash occurred on a straight section of FM 1788, with a crest vertical curve approximately 1,369 feet north of the crash location.[6] In that area, FM 1788 consists of a single travel lane in each direction—the northbound lane is 11 feet 9 inches wide and the southbound lane is 12 feet wide. The northbound and southbound travel lanes are adjoined by 5- and 6-foot-wide paved shoulders, respectively. At the location of the crash, the two directions of travel are separated by a dashed yellow line for the southbound travel lane and a solid yellow line for the northbound lane. The crash location was in a 1,680-foot-long passing zone for the southbound direction of travel; the passing zone continued for another 680 feet past the crash location. The centerline was additionally delineated by raised bi-directional retroreflective pavement markers pointed to motorists in both directions of travel. The centerline had no rumble strips.

As measured in 2020, the average annual daily traffic on FM 1788 in the area of the crash was 2,369 vehicles. At the request of NTSB investigators, the Texas Department of Transportation conducted a speed and vehicle classification study about a week after the crash; the top speed of 85% of all vehicles in the southbound lane was 76–80 mph, and of the observed southbound vehicles 15% were passenger vehicles and 72% were single-unit vehicles.[7] Examination of the 10-year crash history—from 2012 to 2022—within a 5-mile radius of the crash location revealed 31 crashes, 1 of which was fatal.[8] Nine of these crashes involved a vehicle crossing the centerline, one of which involved unsafe speed in inclement weather conditions.

1.3.2 Driver Information

Pickup Truck Driver. The 38-year-old driver held a Texas class C driver's license with no endorsements or restrictions. According to his wife, the driver worked as a mechanic and owned a trucking company. He obtained his first driver's license in 2011. His driving history shows numerous traffic violations, some of which occurred before he obtained his driver's license. In the 10-year period before the crash, the pickup truck driver had 23 traffic violations, 10 of which related to driving without a license or with a suspended license, and 9 of which were for speeding; one of the speeding violations

[6] A crest vertical curve connects an ascending grade to a descending grade.

[7] (a) 15% of the vehicles in the southbound lane were traveling at speeds above 80 mph. (b) The Texas Department of Transportation classifies single-unit vehicles as being between 13 and 35 feet long. These vehicles include both commercial and noncommercial vehicles.

[8] The fatal crash involved a vehicle crossing the centerline and striking an oncoming vehicle in a head-on collision. The police report did not attribute speeding as a factor in this crash.

(from 2016) involved traveling 105 mph in a 75-mph zone. The pickup truck driver had one driving-while-intoxicated violation that occurred in 2006. His most recent license suspension occurred in May 2018; the license remained suspended until May 2019. The driver was involved in one other crash, which occurred in 2012.

In the interview with NTSB investigators, the wife of the pickup truck driver stated that, on the day of the crash, her husband woke up sometime in the afternoon because he worked late the previous day. She also stated that he, along with their son, had left their home in Seminole, Texas, about 20 minutes before the crash. Examination of the pickup truck driver's cell phone records showed that he was not using his cell phone at the time of the crash.

Postmortem toxicology testing of the pickup truck driver's femoral blood, performed by NMS Labs, identified methamphetamine at a concentration of 1,900 nanograms per milliliter (ng/mL) and amphetamine, a methamphetamine metabolite, at a concentration of 250 ng/mL. At the NTSB's request, the Federal Aviation Administration Forensic Sciences Laboratory also tested the pickup truck driver's femoral blood for methamphetamine and amphetamine, identifying them at 1,949 ng/mL and at 185 ng/mL, respectively.

Van Driver. The 26-year-old driver held a Texas class C driver's license. His driving history shows a single, unidentified traffic violation and no crashes. About 5:30 a.m. on the day of the crash, the van had left Hobbs for Midland, some 100 miles away.[9] According to a statement from one of the surviving van passengers, the van driver was performing his coaching duties during the day. After finishing the golf tournament, the team had dinner in Midland after which it departed for Hobbs around 7:30 p.m., about 45 minutes before the crash. The van driver had made the same trip a day earlier, when the team traveled to Midland for a practice before the tournament; the driver and the team returned to Hobbs by the end of the day.

Examination of the van driver's cell phone records showed that he was not using his cell phone at the time of the crash. The postmortem toxicological testing of the van driver identified 193 ng/mL of cetirizine, an over-the-counter antihistamine.

1.3.3 University of the Southwest

University of the Southwest, located in Hobbs, New Mexico, is a private university that obtained authorization from the US Department of Transportation (USDOT) in 2004

[9] Because Hobbs is located in the mountain time zone, the team had departed Hobbs at 4:30 a.m. local time. For clarity of discussion, all times in this report are referenced in central daylight time, as stated previously.

to transport passengers for non-business purposes.[10] At the time of the crash, the university owned four vehicles and employed three drivers with commercial driver's licenses (CDL). Two of the four vehicles required a CDL for operation, and two were transit vans with a gross vehicle weight rating (GVWR) of less than 10,001 pounds, the threshold for defining a commercial motor vehicle.[11] However, the combined GVWR of the van and the trailer involved in this crash was 12,500 pounds, which classified it as a commercial motor vehicle. Although the van driver was not required to have (and did not have) a CDL to operate the van with the trailer, he was required to have a USDOT medical certification to operate a commercial motor vehicle; he did not have this certification.[12]

The university's *Vehicle Use and Transportation Policy* included minimum hiring requirements for drivers and a prohibition for using cell phones while driving. However, this policy did not contain any training requirements for coaches or other university employees and did not include any requirements for pretrip safety briefings or mandatory seat belt use for all occupants.

The postcrash compliance review of the university by the Federal Motor Carrier Safety Administration identified 12 safety violations, 3 of which were critical.[13] The review resulted in a *conditional* safety rating for the university.[14] The university had no roadside inspections.

1.4 Postcrash Actions

After the crash, University of the Southwest informed NTSB investigators that it had outsourced most of its student transportation and had signed a provider contract with a bus company. The university also stated that any future transportation of students

[10] Postcrash, the Federal Motor Carrier Safety Administration (FMCSA) determined that the university should be characterized as a private motor carrier of passengers for business purposes.

[11] Two of the vehicles were buses that exceeded a *gross vehicle weight rating* (GVWR) of 26,001 pounds, which require a CDL for operation. See Title 49 *Code of Federal Regulations* (*CFR*) 383.5 for all the vehicle and cargo types as well as weight limits that require a CDL to operate, and 49 *CFR* 390.5 on how a motor vehicle is defined. Any vehicle above 10,001 pounds GVWR that operates in interstate commerce (or is designed to transport eight or more passengers or to transport hazardous material) is considered to be a commercial vehicle.

[12] Title 49 *CFR* 391.41 and 391.43 specify the medical certification requirements for CDLs.

[13] Critical and acute violations are defined in 49 *CFR* Part 385 Appendix B. The three critical violations that the FMCSA identified were: (1) failing to maintain driver qualifications file on each driver employed, (2) failing to preserve driver's records of duty status supporting document for 6 months, and (3) using a commercial motor vehicle not periodically inspected.

[14] A conditional safety rating indicates that a carrier has failed some safety regulations but can continue to operate. Safety ratings are defined in 49 *CFR* Part 385.5.

that may be conducted by the university would be carried out in a passenger vehicle or a van without a trailer, which would not require the university to adhere to regulations pertaining to commercial motor vehicles. The university also reported that it no longer owned the two buses that required a CDL to operate and that it had amended its *Vehicle Use and Transportation Policy* to include a pretrip seat belt use statement.

2. Analysis

2.1 Exclusionary Factors and Pickup Truck Driver Actions

Weather and visibility were not factors in this crash. Additionally, because the collision occurred on a long, straight section of the roadway, no environmental obstructions reduced the sight distance.

Due to the postcrash fire, control modules capable of recording preimpact vehicle information were destroyed on both the pickup truck and the van. The NTSB's simulation of the crash identified ranges of the preimpact speed of the two vehicles, showing that the pickup truck was traveling between 85 mph and 110 mph, and that the van was traveling 55–70 mph just before impact. The examination of the vehicles did not identify any preexisting mechanical conditions that could have contributed to the crash. Further, the severity of the nearly head-on impact at these speeds precluded any reasonable expectation that the vehicles could have retained structural integrity.

Furthermore, the investigation determined that licensing, driving experience of either driver, and distraction due to cell phone use were not factors in this crash. Finally, the emergency response to the crash was timely and appropriate.

The postmortem toxicological test showed that the van driver had used cetirizine, an antihistamine medication—detected at therapeutic levels—that has potential to be sedating.[15] However, the investigation found no evidence that the van driver was experiencing sedating cetirizine effects or that such potential effects affected his driving performance.

Postmortem analysis of the pickup truck driver's blood showed that he had used methamphetamine, identified at 1,900 ng/mL. In living people, methamphetamine blood levels above 200 ng/mL generally represent abuse, whereas typical levels seen with medicinal use are between 20 ng/mL and 50 ng/mL (NHTSA 2014). Levels in recreational users typically do not exceed 2,500 ng/mL, above which severe toxicity is likely. The effects of methamphetamine on driving-related aspects, such as attentiveness,

[15] Cetirizine has substantially lower potential drowsiness effects compared to first-generation antihistamines such as diphenhydramine (NHTSA 2004).

awareness, perception and decision-making are substantial, and vary depending on the stage of the effects progression, which follows a typical pattern. Early methamphetamine effects include possibly feeling alert, euphoric, experiencing hallucinations, and having poor impulse control with a tendency to make high-risk decisions, while late effects ("coming down") include possibly feeling restless, uncoordinated, tired, and experiencing paranoia and anxiety.[16]

Although measuring the drug amount in blood does not help determine whether the person is experiencing early versus late effects (NHTSA 2014), both sets of effects have considerable detrimental impact on skills necessary for safe driving. Drivers impaired by effects of methamphetamine have been observed leaving their lane of travel, speeding, pulling into oncoming traffic, driving erratically, departing the roadway, and crashing with other vehicles (NHTSA 2014, Logan 1996). Even accounting for possible differences between methamphetamine blood levels before and after death, the very high methamphetamine level in the pickup truck driver's blood indicates impairment.

The investigation shows that the pickup truck driver was driving in the oncoming lane of travel and at an excessive speed at the time of impact. However, other than the pickup truck driver's impairment, the investigation could not obtain any evidence that would indicate the reason for the pickup truck driver being in the opposite lane of travel—such as loss of control or passing of a slower moving vehicle—or for how long he was driving in the opposite travel lane.

2.2 Drug-Impaired Driving

The NTSB has a long history of issuing and advocating for safety recommendations—nearly 150 to date—pertaining to impaired driving. Much of this advocacy has addressed impaired driving of noncommercial drivers. One such example is the NTSB's recent investigation of a crash in Avenal, California, in which an alcohol-impaired driver, while excessively speeding, crossed a centerline and struck another vehicle in a head-on collision (NTSB 2022a). Last year, the NTSB also published a safety research report examining the use of alcohol and other drugs among drivers (NTSB 2022b). In these two reports, the NTSB examined crash-specific and broader causes of impaired driving and explored potential countermeasures for their prevention. As a result, the NTSB issued a series of recommendations, including those to federal and state agencies to improve toxicological testing and tracking of drug use in crashes, and equip vehicles with impairment detection technologies and driver monitoring systems.

[16] See the National Institutes of Health National Library of Medicine for information regarding methamphetamine and for amphetamine.

In 2017, we investigated another crash in Texas that shares similarities with the current crash. As a result of the investigation of the crash in Concan, Texas, in which an impaired driver operating a pickup truck crossed a centerline and collided nearly head-on with a medium-size bus, the NTSB issued a safety recommendation to the state of Texas to conduct an executive-level review of the state's impaired driving program (NTSB 2018).[17] Unlike the impaired driver in the Concan crash who had an established history of drug use while driving, the pickup truck driver in the Andrews crash did not have any impaired-driving-related contacts with law enforcement in the previous 15 years. As such, law enforcement did not have an opportunity to identify the pickup truck driver's potential future risk of impaired driving.

In 2022, as part of addressing the increased number of impairment-related crashes in the state, the Texas Impaired Driving Task Force, supported by the Texas Department of Transportation, published an updated state Impaired Driving Plan, which was submitted to the National Highway Traffic Safety Administration (NHTSA) in fulfilment of Fixing America's Surface Transportation (FAST) Act obligations.[18]

2.3 Excessive Speed

Speeding represents one of the most common factors associated with fatal crashes in the United States (NCSA 2022), and one that the NTSB frequently encounters in our investigations. The NTSB has recently investigated several other fatal crashes in which speeding was the primary causal factor. The breadth of the safety recommendations that we have issued as a result of these investigations highlights the broad approach required to address the frequently fatal consequences of speeding.

In recent crash investigations—Fort Worth, Texas, and Mt. Pleasant Township, Pennsylvania—involving vehicles traveling too fast for conditions, the NTSB issued several safety recommendations to the states, NHTSA, and the Federal Highway Administration regarding enforcement, setting of speed limits, and infrastructure- and vehicle-based technologies, such as intelligent speed adaptation/assistance (ISA), that could reduce the instances of speeding (NTSB 2023a; NTSB 2022c).[19] In another recent crash investigation—North Las Vegas, Nevada, which involved a passenger vehicle traveling at

[17] See Safety Recommendation H-18-60.

[18] (a) The Texas Impaired Driving Task Force reported a 12% increase in alcohol-impaired driving fatalities in 2020 compared to the previous year. See Texas Strategic Highway Safety Plan. (b) Fixing America's Surface Transportation Act, Pub. L. 114–94.

[19] See Safety Recommendations H-12-20 and -21 regarding implementing ISA in heavy vehicles. In 2017, the NTSB published a safety study titled *Reducing Speeding-Related Crashes Involving Passenger Vehicles* (NTSB/SS-17/01), in which Safety Recommendation H-17-24 was issued to NHTSA to incentivize passenger vehicle manufacturers and consumers to adopt ISA systems.

extreme speeds—the NTSB issued safety recommendations to NHTSA and the states regarding countermeasures to identify and track repeat speeding offenders and to reduce speeding recidivism, as well as to increase awareness and implementation of ISA systems (NTSB 2023b).

ISA can (a) alert a driver who is exceeding the speed limit, (b) implement an overridable/easily counteracted deceleration mechanism, or (c) completely prevent a driver from driving above the speed limit. Several passenger vehicle manufacturers in the United States have started equipping some of their models with warning-only ISA systems in recent years, while new model passenger vehicles in the European Union have been mandated to be equipped with ISA since 2022.[20] A warning-only ISA, which relies on the driver to react appropriately to vehicle alerts, may be ineffective when the driver's perception or decision-making is impaired by drugs; however, an ISA system that can intervene independently of the driver could more effectively slow the car and protect the vehicle occupants and other road users.

As a result of the North Las Vegas, Nevada, investigation, the NTSB has recommended that NHTSA require ISA systems in all new vehicles and educate the public about the benefits of ISA systems.[21] The NTSB has further recommended that passenger vehicle manufacturers install ISA systems as standard equipment in all new vehicles.[22]

3. Conclusions

3.1 Probable Cause

The National Transportation Safety Board determines that the probable cause of the Andrews, Texas, crash was the pickup truck driver's excessive speed and his crossing into the oncoming lane of travel, likely because of impairment from methamphetamine use.

[20] According to General Safety Regulation 661/2009/ED, the European Union has required since July 2022 that all new models of light vehicles be equipped with ISA. This mandate extends to all new light vehicles by 2024.

[21] See Safety Recommendations H-23-14 and H-23-15.

[22] See Safety Recommendation H-23-20.

3.2 Lessons Learned: Impaired Driving and Excessive Speed

Driving above the speed limit or too fast for conditions is dangerous on its own, but as this crash has exemplified, speeding is particularly dangerous when combined with impairment. In 2021, about 60% of roadway fatalities in the United States were attributed to speeding and/or alcohol impairment (NHTSA 2023). The NTSB has adopted a multi-faceted approach in addressing these risks, including issuing safety recommendations related to vehicle technologies—impairment detection systems, advanced driver monitoring systems, and intelligent speed assistance—as well as improving toxicological testing and enforcing speeding violations.

References

Logan, B. 1996. "Methamphetamine and driving impairment." *Journal of Forensic Sciences* 41 (3), 457–464.

NCSA (National Center for Statistics and Analysis). 2022. "Speeding: 2020 data," *Traffic Safety Facts*. (Report No. DOT HS 813 320) Washington, DC: NHTSA.

NHTSA (National Highway Traffic Safety Administration). 2023. Stewart, T. *Overview of Motor Vehicle Traffic Crashes in 2021*. (Report No. DOT HS 813 435) Washington, DC: NHTSA.

_____. 2014. Couper, F. and B. Logan. *Drugs and Human Performance Fact Sheets*. (Report No. DOT HS 809 725) Washington, DC: NHTSA.

_____. 2004. Moskowitz, H. and C. Wilkinson. *Antihistamines and Driving-Related Behavior: A Review of the Evidence for Impairment*. (Report No. DOT HS 809 714) Washington, DC: NHTSA.

NTSB (National Transportation Safety Board). 2023a. *Multivehicle Crash in Icy Conditions on Interstate 35 West, Fort Worth, Texas, February 11, 2021*. NTSB/HIR-23-01 (Washington, DC: National Transportation Safety Board, 2023).

_____. 2023b. *Multivehicle Crash at Signalized Intersection, North Las Vegas, Nevada, January 29, 2022*. NTSB/HIR-23-09 (Washington, DC: National Transportation Safety Board, 2023).

_____. 2022a. *Sport Utility Vehicle Centerline Crossover Collision with Pickup Truck on State Route 33, Avenal, California, January 1, 2021*. NTSB/HIR-22/05 (Washington, DC: National Transportation Safety Board, 2022).

_____. 2022b. *Alcohol, Other Drug, and Multiple Drug Use Among Drivers*. NTSB/SRR-22/02 (Washington, DC: National Transportation Safety Board, 2022).

_____. 2022c. *Multivehicle Crash Near Mt. Pleasant Township, Pennsylvania, January 5, 2020*. NTSB/HIR-22/01 (Washington, DC: National Transportation Safety Board, 2022).

_____. 2018. *Pickup Truck Centerline Crossover Collision with Medium-Size Bus on US Highway 83, Concan, Texas, March 29, 2017*. NTSB/HAR-18/02 (Washington, DC: National Transportation Safety Board, 2018).

_____. 2017. *Reducing Speeding-Related Crashes Involving Passenger Vehicles*. NTSB/SS-17/01 (Washington, DC: National Transportation Safety Board, 2017).

NTSB investigators worked with the **Federal Motor Carrier Safety Administration**, the **Texas Department of Transportation**, and the **Texas Department of Public Safety** throughout this investigation.

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable cause of the accidents and events we investigate and issue safety recommendations aimed at preventing future occurrences. We also conduct safety research studies and offer information and other assistance to family members and survivors for any accident investigated by the agency. Additionally, we serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, "accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties … and are not conducted for the purpose of determining the rights or liabilities of any person" (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB's statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154[b]).

For more detailed background information on this report, visit the NTSB investigations website and search for NTSB accident ID HWY22MH006. Recent publications are available in their entirety on the NTSB website. Other information about available publications also may be obtained from the website or by contacting—

National Transportation Safety Board
Records Management Division, CIO-40
490 L'Enfant Plaza, SW
Washington, DC 20594
(800) 877-6799 or (202) 314-6551