



**NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF HIGHWAY SAFETY
WASHINGTON, D.C.**

**HUMAN PERFORMANCE GROUP CHAIRMAN'S
FACTUAL REPORT**

A. CRASH INFORMATION

Location: Northbound US Highway 83 (US-83) near milepost 553.4 in Uvalde County, 6.5 miles north of Concan, TX

Vehicle: 2007 Dodge Ram quad-cab 3500 pickup truck

Operator: Private owner

Vehicle: 2004 Ford E350 cutaway chassis with a 13-passenger Turtle Top Vanterra medium-size bus body

Operator: First Baptist Church of New Braunfels

Date: Wednesday, March 29, 2017

Time: Approximately 12:20 p.m. CST

NTSB #: **HWY17MH011**

B. HUMAN PERFORMANCE GROUP

Rafael Marshall, Human Performance Investigator, Group Chairman
NTSB Office of Highway Safety
490 L'Enfant Plaza East, S.W., Washington, DC 20594

C. CRASH SUMMARY

For a summary of the crash, refer to the *Crash Summary Report* which can be found in the docket for this investigation.

D. DETAILS OF THE HUMAN PERFORMANCE INVESTIGATION

The Human Performance factual investigation focused on the behavioral, medical, operational, and environmental factors associated with the driver of 2007 Dodge Ram quad-cab 3500 pickup truck (truck driver). An investigation of the Turtle Top Vanterra medium-size bus driver (bus driver) was also conducted.

1. Truck Driver

1.1. Background

At the time of the crash, the truck driver was 20 years old, 6-feet tall, and weighed 200 pounds.¹ He held a Class C licensed issued in Texas, which allowed him to operate noncommercial vehicles. The truck driver's license history indicated 6 traffic-related convictions (See **Table 1**). He did not have a criminal record. In January 2015, the driver was involved in a property-damage crash in which he crossed into the opposing traffic lane and almost struck another vehicle head-on. The other vehicle made an evasive maneuver and was struck in the right back quarter. According to witnesses, the truck driver (who had been driving a 2006 Ford Mustang at the time) stated that he had been on his phone when he drifted into the opposing lane. A blood specimen was not collected from the truck driver after the crash, and no overt symptoms of intoxication were noted by the police officer. He was not cited for this crash. On January 8, 2017, the truck driver was stopped for having no/improper mud flaps and affixing an unauthorized screening device to his vehicle. He was stopped again on January 14, 2017, for the same issues and for also having no/noncompliant head lamps. He received a warning on both occasions.

Table 1. Truck driver license history.

Event	Event date	Conviction date
Improper vehicle equipment	January 14, 2017	(Received warning)
Improper vehicle equipment	January 8, 2017	(Received warning)
Expired driver license	October 3, 2015	November 16, 2015
Non-incapacitating crash	January 17, 2015	No citation issued
Violate promise to appear	April 10, 2014	January 29, 2015
Farm license violation	February 15, 2014	March 7, 2014
Speeding	January 24, 2014	January 29, 2015
No driver license	January 24, 2014	January 29, 2015

1.2. 72-Hour History

Table 2 lists the truck driver's activities on the days prior to the crash, based on phone data, surveillance video, and interviews conducted separately by the 38th Judicial District Attorney's Office (District Attorney) and the NTSB.² Based on these sources, the truck driver commuted from Leakey to Vanderpool to work on a ranch on Monday, March 27, two days prior to the crash. He returned to Leakey that night and went to bed around 10 p.m. On Tuesday, the truck driver awoke around 5:30 a.m., and again commuted to Vanderpool. He did not stay long on the ranch before leaving for San Antonio. Based on the cell tower locations associated with his phone usage, he appeared to make 2 or 3 stops east and west of the city. The truck driver then

¹ Human Performance Attachment – Truck driver license history.

² Human Performance Attachment – 72-hour history data extracted from truck driver phone; Human Performance Attachment – NTSB interview with truck driver; Human Performance Attachment – District attorney interview with truck driver.

headed west and stayed the night in Medina, located between San Antonio and Leakey. The truck driver stated in separate interviews with the District Attorney and with NTSB investigators that he went to bed around 10 p.m. According to the truck driver, he left Medina around 6:30 a.m. on Wednesday morning, although his departure might have been closer to 8 a.m. based on cell tower data. He reached Leakey around 10 a.m., then headed south to Uvalde. According to surveillance video footage, he visited a pharmacy in Uvalde around 11 a.m. The truck driver stated to NTSB investigators that after leaving the pharmacy, he stopped to get pizza before heading back to Leakey. He later stated that he collided with the bus as he glanced at his phone to see if anyone had called him.

Table 2. Truck driver’s activities prior to the crash. The cell tower locations indicate cell phone activity that may not necessarily be associated with driver manipulation of the device.

Time	Activity	Source
Monday March 27, 2017		
5:30 a.m.	awoke	NTSB interview
6:23 a.m.	First interaction with phone (outgoing text)	cell phone
6:57 a.m.	Leakey cell tower	cell phone
10:17 a.m.	Vanderpool cell tower	cell phone
	went to work clearing land at a ranch in Vanderpool	NTSB interview
3 p.m.	left work	NTSB interview
4:46 p.m.	arrived home	cell phone
9:48 p.m.	Last interaction with phone (outgoing text)	cell phone
10 p.m.	went to bed	NTSB interview
Tuesday March 28, 2017		
5:30 a.m.	awoke	NTSB interview
6:09 a.m.	Vanderpool cell tower	cell phone
12:55 p.m.	Helotes cell tower (NW San Antonio)	cell phone
1:52 p.m.	San Antonio cell tower	cell phone
4:10 p.m.	Helotes cell tower (NW San Antonio)	cell phone
5:18 p.m.	Medina cell tower	cell phone
6:34 p.m.	last interaction with phone (outgoing text)	cell phone
10 p.m.	went to bed	NTSB interview
Wednesday March 29, 2017		
6:30 a.m.	left Medina	DA interview
7:59 a.m.	Medina cell tower	cell phone
9:25 a.m.	First interaction with phone (outgoing call)	cell phone
9:40 a.m.	Cell tower near Utopia	cell phone
9:58 a.m.	Rio Frio cell tower	cell phone
10:00 a.m.	Leakey cell tower	cell phone
10:23 a.m.	outgoing call to friend #1 (one second)	cell phone
10:32 a.m.	read text	cell phone
10:55 a.m.	Observed	
11:03 a.m.	went to pharmacy	surveillance video
N/A	went to Little Caesars	NTSB interview
N/A	Driver drove around Uvalde	NTSB interview

11:22 a.m.	read text from friend #1	cell phone
11:23 a.m.	outgoing call to friend #1 (1 second)	cell phone
11:25 a.m.	read text	cell phone
12:12 a.m.	Concan cell tower	cell phone
12:19 p.m.	Concan cell tower	cell phone
12:20 p.m.	"glanced at cellphone"	NTSB interview
12:20 p.m.	Crash	

The District Attorney’s Office interviewed the driver on March 29, 2017, as he was receiving treatment (including opiates intravenously) at University Hospital in San Antonio, Texas. According to the truck driver, he was on medication when he began his trip from Uvalde back to Leakey, but he did not state which ones. He stated that the steering box on the truck was going out, and the pitman arm shook coming off the steering box, causing much play on the road. He wanted to get it fixed but stated that it would cost around \$1,000 dollars.³ He had not been in a hurry to get home, and he had been checking his phone to see if his girlfriend had texted him before the crash occurred. He did not see the oncoming vehicle until the very last second. He believed the vehicle looked like a tourist bus, such as the ones that run by Leakey for tubing. He stated that he slammed on the brakes, but that his truck does not stop on a dime.

A motorist and passenger who had been behind the truck recorded a 14:27-minute video of the truck as it traveled away from Uvalde towards Leakey, Texas.⁴ The truck was not always visible in the video due to the contour of the roadway; however, it was visible for a total of 12:48 minutes. In the video, the truck crossed the white edge line about 37 times; and was in the grass beyond the edge line on at least 5 occasions. For much of the video, the truck straddled the edge line, and it was rarely traveling within the lane markings. In addition, the truck crossed the yellow center line 19 times, and was fully in the opposing lane at least once. There are several near misses with vehicles in the opposing lane or on the right shoulder. The truck driver appeared to make slow steering corrections to avoid vehicles and obstacles. A few vehicles traveling in the opposite direction were forced to make avoidance maneuvers, such as driving on the shoulder, to avoid the truck. The video ended seconds before the collision between the truck and the bus. In its analysis of the video, the Texas Department of Public Safety (Texas DPS) concluded that during the extent of the video clip, the truck deviated from its lane 67% of the time.⁵

The NTSB interviewed the driver and passenger who recorded the video.⁶ After the crash occurred, the witnessing driver approached the truck and told the truck driver, who was conscious, what he had hit. The truck driver told the witness that he had been texting prior to the crash.

During an inspection of the truck conducted shortly after the crash, law enforcement officers from the Texas DPS took into their possession prescription medication vials and an orange metal container with burned and unburned cigarettes containing a green leafy substance. DPS

³ During his interview with NTSB investigators, the truck driver mentioned that the truck “had play in the wheel” without mentioning the Pitman arm or steering box specifically. NTSB investigators examined the steering components of the truck and did not find any issues with the steering box or Pitman arm. See the Vehicle Group Chairman factual report for additional details.

⁴ Access <https://www.youtube.com/watch?v=aRmrC0ZBFYs> to view the 14-minute video of truck prior to crash.

⁵ Human Performance Attachment – Texas Department of Public Safety analysis of 14-minute video

⁶ Human Performance Attachment – NTSB interview with witnesses who recorded 14-minute video.

testing confirmed the substance in the 2 unburned cigarettes to be 1.12 grams of marijuana (See **Figure 1**). The NTSB inspected the truck two days after the crash and found two types of prescription pills strewn about the cabin. Another plastic vial of prescription medication was also found. In addition, the NTSB found a pack of Marlboro brand tobacco cigarettes, rolling paper, and a small portable scale.



Figure 1. Texas DPS postcrash photograph of evidence found in the center console of the pickup truck. The image is of an orange metal container with 2 unburned marijuana cigarettes, the remains of 5 partially used marijuana cigarettes, and a package cigarette rolling papers.

1.3. Cell Phone Data

The truck driver's cell phone was recovered at the crash scene by the Texas DPS. The back of the phone and the battery had separated from the phone during the crash sequence. Texas DPS conducted a forensic download of the phone to analyze its content. The phone did not have a password associated with it, and it was set to time out after being idle for 5 minutes. When turned on, the first application to appear was a music application (Spotify), not a texting or phone application as would be expected if the driver had been texting or placing a call before the crash. The last driver-initiated activities recorded on the phone were the reading of a text from a friend at 11:25 a.m., and accessing Spotify at 11:53 a.m. An application on the phone passively pinged the Concan cell tower at 12:12 p.m., and again at 12:19 p.m. -- the last activities recorded on the phone before the crash.

Evidence obtained from the cell phone indicated that the driver used marijuana and other drugs recreationally, and sold his prescription medication illegally. Additionally, the phone contained several images of marijuana, as well as an image of 10 hand-rolled cigarettes in an orange metal container like the one found in the truck wreckage (See **Figure 2**).



Figure 2. Image texted by the driver on March 27, 2017, of an orange metal container with 10 hand-rolled cigarettes inside. The metal container appears to be identical to that found in the driver’s truck after the crash.

1.4. Truck Driver Health

According to the truck driver, he was physically healthy. He suffered from post-traumatic stress disorder (PTSD), depression, and sleep disorders, for which he was receiving treatment and taking prescription medications. See the Medical Factual report for additional information.

1.5. Toxicology

According to a Texas DPS trooper who had spoken to the truck driver at the crash site, the driver had stated that he had just picked up his medication prior to the crash. The trooper asked the driver if he had taken any of the medication, and the driver said, yes, he had taken two “Klonopin” about an hour ago.⁷ The driver admitted that the medication made him drowsy and that the prescription was for PTSD.

A toxicological analysis was conducted by the Texas DPS on a sample of the truck driver’s blood. His blood was found to have delta-9-tetrahydrocannabinol (THC), the psychoactive substance in marijuana, at a concentration of 7.1 nanograms per milliliter. Also found was clonazepam, at a concentration of 0.05 milligrams per liter. Clonazepam was a medication prescribed to the driver and was one of the medications that he purchased in Uvalde prior to the crash. It is a type of benzodiazepine, and is commonly prescribed to treat anxiety and insomnia. Benzodiazepines can cause addiction after chronic clinical treatment and are often abused as a recreational drug.⁸ See the Medical Factual report for additional information.

⁷ Based on a Texas DPS audio recording of this interaction. Klonopin is the brand name of clonazepam.

⁸ K. Tan, U. Rudolph, and C. Lüscher. Hooked on benzodiazepines: GABA receptor subtypes and addiction. *Trends Neuroscience*. April 2011; 34(4): 188–197.

The NTSB obtained urine and a separate sample of blood from the truck driver, and had these samples sent to the Federal Aviation Administration Bioaeronautical Sciences Research Laboratory (FAA-BSRL). This blood sample also contained 7.1 nanograms per milliliter of THC. Cocaine metabolites were also detected in the urine sample, but were not detected in the blood. The FAA-BSRL did not test for the presence of clonazepam because of the limited blood sample and the availability of the Texas DPS results.

1.6. Texas Regulations on Driving Under the Influence of Drugs

According to the crash report, the truck driver was charged with 13 counts of intoxication manslaughter and aggravated assault with a deadly weapon. According to Texas statute, this offense is committed when a person operates a motor vehicle in a public place, is intoxicated, and causes the death of another person by accident or mistake. In most cases, this offense is considered a felony of the second degree.⁹

The possession and use of marijuana is illegal in Texas. Texas statutes do not distinguish between intoxication due to alcohol or intoxication due to other drugs. Laws governing alcohol and intoxication by other means is documented in Title 10, Chapter 49, of the Texas Statutes. Intoxication is defined as “not having the normal use of mental or physical faculties by reason of the introduction of alcohol, a controlled substance, a drug, a dangerous drug, a combination of two or more of those substances, or any other substance into the body.” Driving while intoxicated is defined as committing “an offense if the person is intoxicated while operating a motor vehicle in a public place.” Texas does not grant clemency in cases where an individual has been prescribed the intoxicating substance. A driver arrested for driving under the influence (DUI) must submit to a toxicology test when a crash results in death or may result in death; or when the driver is arrested for an offense involving the operation of a motor vehicle while intoxicated or under the reasonable belief (by the officer) of intoxication; or when a driver refuses to give a specimen voluntarily.

2. Bus Driver

2.1. Background

At the time of the crash, the bus driver was 66 years old and 6-feet tall. He held a Class A commercial driver’s license that was issued in 2014 and expired in 2019. His endorsements allowed him to transport passengers, operate a school bus, and tow double and triple trailers. He was required to wear corrected lenses when driving. According to his wife, the bus driver renewed his medical certificate the month before the crash. The bus driver’s driver record showed no violations.

According to his wife, the bus driver was a relief school bus driver for the Comal Independent School District (ISD) and drove a shuttle bus on weekends for the Schlitterbahn Waterparks, in New Braunfels. In addition to driving, he worked as a substitute teacher at the Comal ISD on Mondays, Wednesdays, and Fridays, when jobs were available. He also taught at the First Baptist Church in New Braunfels on Tuesdays and Thursdays. His wife further stated that the bus driver was familiar with the bus and never mentioned experiencing mechanical issues with it. The church did not have a seatbelt policy; however, the bus driver required all passengers to

⁹ Texas Statutes Title 10, Chapter 49.08.

wear seatbelts on the bus. There was a safety checklist that all church drivers had to go through before driving the vehicles, which the bus driver followed. The church did not have a cellphone policy; however, the bus driver did not use his cellphone while operating the bus. The bus driver did not drink alcohol, and did not take illicit drugs.

According to representatives from the First Baptist Church, the bus driver had driven various church groups to Alto Frio Baptist Camp and Conference Center during the past 3-4 years and was familiar with the various routes to and from the location. The bus driver frequently volunteered to drive for the First Baptist Church and was not compensated for his time.

2.2. 72-Hour History

The following 72-hour history was compiled from phone records and interviews with the bus driver's wife, a pastor who arranged the retreat to Alto Frio Baptist Camp and Conference Center, and staff at Alto Frio (See **Table 3**). On Monday morning, March 27, 2017, the bus driver got up early and took his car to the auto shop, then took a courtesy car back home. He took his wife to work around 7:30 a.m. He then picked up keys to the bus, drove it to a filling station, checked the van to make sure it was ready for the trip, and then went home and prepared for the senior parishioners' trip to the Alto Frio encampment. He went back to the First Baptist Church around 9 a.m. and left for Alto Frio around 9:45 a.m. The bus arrived in Alto Frio by 2 p.m. The parishioners spent most of that afternoon unpacking, getting settled. They had supper at 5:30 p.m., had a worship service at 6:30 p.m., followed by free time. The bus driver made an eight-minute call to his wife at 9:24 p.m. According to his wife, he usually went to bed at 9:30 p.m. All the parishioners were in their rooms by 10 p.m.

On Tuesday, March 28, 2017, the pastor saw the bus driver preparing coffee for the group at 6 a.m.¹⁰ After having coffee, the group followed a schedule that consisted of breakfast at 8 a.m., worship at 9:15 a.m., lunch at 12 p.m., singing gospels for most of the afternoon, followed by supper at 6 p.m., worship, and free time. All the parishioners were in their rooms by 10 p.m.

On Wednesday, the pastor again saw the driver preparing coffee for the group at 6 a.m. The bus driver attempted an outgoing call at 7:35 a.m.¹¹ The group had breakfast at 8 a.m. The driver attempted another outgoing call at 9:05 a.m. The group attended a worship service at 9:15 a.m., then had an early lunch prior to departing the retreat. The parishioners began departing Alto Frio around 12 p.m.

¹⁰ His wife stated that he normally awoke at 4:30 a.m. and went to bed around 9:30 p.m. She believed he followed that pattern during the retreat. The pastor who arranged the retreat characterized the bus driver as an "early riser."

¹¹ His wife indicated that the cellular reception was poor at Alto Frio.

Table 3. Bus driver’s pre-crash activities, based on phone records, interviews with his spouse, the Pastor Barnes at First Baptist Church, and staff from the Alto Frio Baptist Camp and Conference Center.

Time	Activity	Source
Monday March 27, 2017		
4:30 a.m.	Awoke	Spouse
N/A	Went to YMCA fitness center	Spouse
N/A	Took personal vehicle to auto shop	Spouse
7:27 a.m.	Outgoing call	Phone records
7:30 a.m.	Took wife to work	Spouse
N/A	Picked up bus and filled it with fuel	Spouse
N/A	Went home and prepared for trip	Spouse
9:00 a.m.	Went to church to pick up passengers	Spouse
9:45 a.m.	Left church for Alto Frio	Pastor
1:30-2:00 p.m.	Arrived at Alto Frio	Pastor
5:30 p.m.	Supper	Alto Frio
6:30 p.m.	Worship	Alto Frio
8:00 p.m.	Free time - played games	Pastor
9:24 p.m.	Eight-minute call to his wife	Phone records
10:00 p.m.	Went to bed	Pastor
Tuesday March 28, 2017		
4:30 a.m.	Awoke (estimate by spouse and pastor)	Pastor/spouse
6:00 a.m.	Driver had coffee ready for parishioners	Pastor/spouse
8:00 a.m.	Breakfast	Alto Frio
9:15 a.m.	Worship	Alto Frio
12:00 p.m.	Lunch	Alto Frio
1:30 p.m.	Sang gospels	Pastor
5:30 p.m.	Supper	Alto Frio
6:30 p.m.	Worship	Alto Frio
8:00 p.m.	Free time - played games	Pastor
10:00 p.m.	Went to bed	Pastor
Wednesday March 29, 2017		
4:30 a.m.	Awoke (estimate by spouse and pastor)	Pastor/spouse
6:00 a.m.	Driver had coffee ready for parishioners	Pastor
7:35 a.m.	Outgoing call	Phone records
8:00 a.m.	Breakfast	Alto Frio
9:05 a.m.	Outgoing call	Phone records
9:15 a.m.	Worship	Alto Frio
11:15 a.m.	Lunch	Alto Frio
12:05 p.m.	Pastor departs (bus driver left a few minutes after)	Pastor
12:20 p.m.	Crash	

2.3. Crash Trip

According to staff at Alto Frio, approximately 15 vehicles departed the encampment for New Braunfels on Wednesday. The bus was the only vehicle on the trip that was owned by the church. According to the pastor, about 65 seniors attended the retreat. Those who wanted to return

to the First Baptist Church rode in the bus. The pastor was the second to last vehicle to leave Alto Frio, and he believed he left about 5 to 10 minutes before the departure of the bus.

The only surviving passenger on the bus was interviewed by officers from the Texas DPS, in the presence of an NTSB investigator.¹² According to the passenger, she was looking outside the window, when she heard exclamations from the passengers in the bus. She stated that as soon as she turned her head from the window, the truck “was in the van.”

Two witnesses who had been traveling directly behind the bus for more than a mile saw the crash occur. According to the driver of that vehicle, his cruise control set at about 64-65 mph and was gaining slightly on the bus, which he believed was traveling about 60-62 mph.¹³ He estimated that he was about 300 feet behind the bus before the crash occurred. The driver did not notice anything unusual about the operation of the bus and noted that it was within its lane. The driver first noticed the oncoming truck as it rounded the curve. He believed that the truck was in the northbound lane when it first appeared, but that it drifted into the southbound lane as it approached the bus. He estimated that one-half to two-thirds of the truck occupied the southbound lane when the crash occurred. The witness did not recall the illumination of brake lights or evidence of evasive action by the bus driver. The driver slammed on the brakes as soon as he witnessed the crash. He believed he stopped about 15 feet before the crash scene. The statements of the vehicle passenger were consistent with that of the driver. The passenger stated that he also observed the oncoming truck within its lane prior to drifting into the path of the bus. He noted that it happened “so fast.” He remembered saying to the driver of his vehicle that “they’re going to hit.” He believed that the truck was three-fourths into the southbound lane when the crash occurred.

2.4. Health

According to his wife, the bus driver had hypertension, for which he was being treated. The bus driver had taken part in a sleep study in the past, and it was recommended that he use a CPAP; however, the bus driver refused to use a CPAP due to discomfort. See the Medical Factual report for additional information.

2.5. Toxicology

The NTSB obtained tissue and blood specimens from the bus driver’s remains, and had these sent to the FAA-BSRL. The analysis did not detect alcohol or common drugs of abuse.¹⁴ Testing detected chlorthalidone in the blood and liver and ibuprofen in the blood. Chlorthalidone

¹² Human Performance Attachment – Interview with surviving bus passenger.

¹³ The two vehicles had recently traveled through a section of roadway with an advisory speed limit of 50 mph, and had just entered a section of roadway with a speed limit of 70 mph. See the Highway Group Chairman’s Factual Report for additional information.

¹⁴ Specimens are analyzed using immunoassay, chromatography, GC/MS, HPLC/MS, or GC/FTIR. Concentrations (ug/mL) at or above those in () can be determined for, but not limited to, the following drugs: amphetamines (0.010), opiates (0.010), marijuana (0.001), cocaine (0.020), phencyclidine (0.002), benzodiazepines (0.030), barbiturates (0.060), antidepressants (0.100), and antihistamines (0.020). Drugs and/or their metabolites, that are not impairing or abused, may be reported from the initial tests. See the CAMI Drug Information Web Site for additional information (<http://jag.cami.jcabi.gov/toxicology/>)

is a prescription diuretic that had been prescribed to the driver.¹⁵ Ibuprofen is an over-the-counter and prescription non-sedating pain and fever control medications also known as Motrin.¹⁶ Both medications are generally considered not to be impairing.

3. General Factors

3.1. Weather

The closest official National Weather Service weather station to the crash site was located at Garner Field Airport, in Uvalde, Texas. This weather station was approximately 27 miles south of the crash site. Data for the observation closest to the time of the crash is shown in **Table 4**.

Table 4. Weather Data from KUVA.

Time (EST)	12:15 p.m.
Temperature	76.5° F
Dew Point	45.9° F
Humidity	34%
Pressure	29.85 in
Wind Dir.	West
Wind Speed	8.1
Wind Gust Speed	N/A
Precipitation	N/A
Events	None
Conditions	Clear

3.2. Illumination

According to the United States Naval Observatory, for March 29, 2017, morning civil twilight (civil dawn) occurred at 7:08 a.m., and sunrise occurred at 7:31 a.m. Morning civil twilight begins when the geometric center of the sun is 6° below the horizon. According to the National Oceanic & Atmospheric Administration solar calculator, at 12:20 p.m., the sun at the crash location was at an angle 120 degrees of true north, with an elevation in the sky of 47 degrees (**Figure 3**).

¹⁵ National Institute of Health, U.S. Library of Medicine *DailyMed* 2017. CHLORTHALIDONE- chlorthalidone tablet. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=534700dd-ed21-4381-abbe-300893e0ced7> Accessed 06/23/2017

¹⁶ National Institute of Health, U.S. Library of Medicine *DailyMed* 2017. MOTRIN IB- ibuprofen tablet. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=5bca517f-94a5-428c-b716-80c6b0b86980> Accessed 06/23/2017

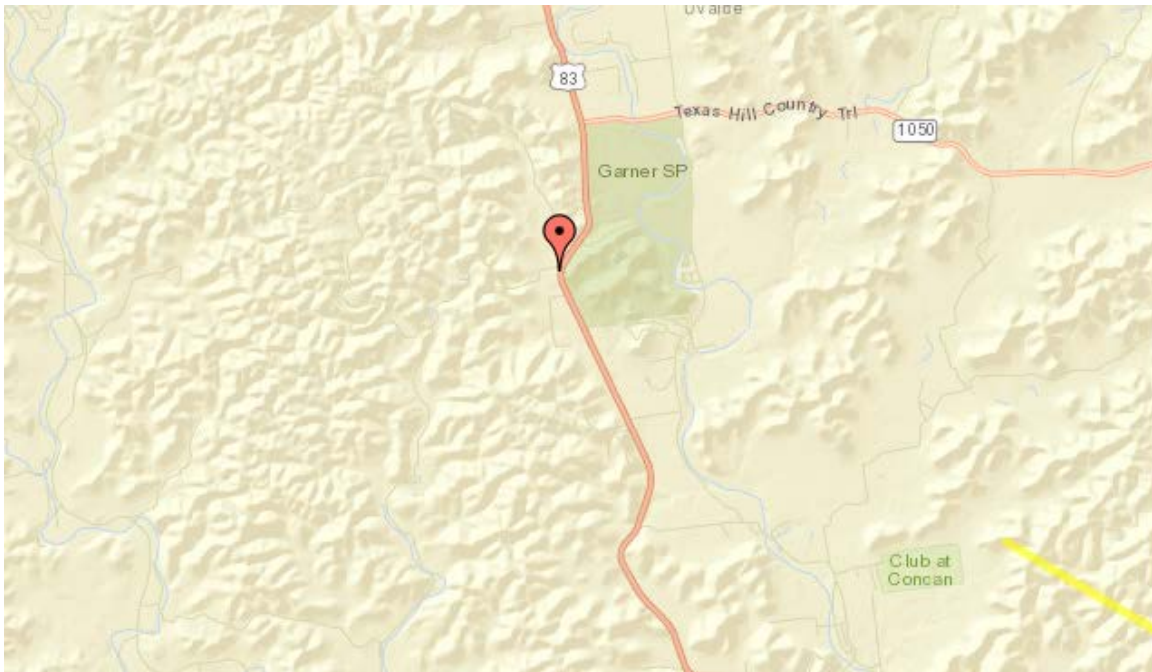


Figure 3. Depiction of the crash site and the direction of the sun (yellow line on the bottom right) at the time of the crash (Courtesy of the National Oceanic & Atmospheric Administration).

E. DOCKET MATERIAL

The following Attachments are included in the docket for this investigation:

LIST OF ATTACHMENTS

Human Performance Attachment – Truck driver license history

Human Performance Attachment – 72-hour history data extracted from truck driver phone

Human Performance Attachment – NTSB interview with truck driver

Human Performance Attachment – District attorney interview with truck driver

Human Performance Attachment – NTSB Interview with witnesses who recorded 14-minute video

Human Performance Attachment – Texas Department of Public Safety analysis of 14-minute video

Human Performance Attachment – Interview with surviving bus passenger

END OF INFORMATION

(Rafael Marshall)

(Human Performance Investigator)