

# National Transportation Safety Board

Office of Highway Safety

Washington, DC 20594



HWY24FH004

## **HUMAN PERFORMANCE FACTORS**

Group Chair's Factual Report

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**A. CRASH**

Location: Millstone, Calhoun County, West Virginia  
Date: March 4, 2024  
Time: 5:50 p.m. Eastern Standard Time

**B. HUMAN PERFORMANCE FACTORS GROUP**

Group Chair / IIC	Dennis Collins National Transportation Safety Board Washington, D.C.
Group Member	Michael LaPonte National Transportation Safety Board Washington, D.C.
Group Member	Trooper Brian Young West Virginia State Police Grantsville, West Virginia
Group Member	Superintendent Michael Fitzwater Calhoun County Schools Mount Zion, West Virginia

**C. CRASH SUMMARY**

For a summary of the crash, refer to the *Crash Information and Summary* in the docket for this investigation.

**D. DETAILS OF THE INVESTIGATION**

The Human Performance Factors Factual Report is a collection of information on the behavioral, medical, operational, and environmental factors associated with the driver of the 2022 IC school bus, hereafter referred to as the bus driver. Factors which potentially affected his performance prior to and during this crash are examined in the sections below. Information sources used include interviews, toxicological testing, cell phone records, and the reports of the investigating police agencies.

Factual reports prepared by other NTSB investigative groups should be consulted for information related to other aspects of the investigation, including information referenced within this report.

## **E. DRIVER OF THE 2022 IC SCHOOL BUS**

The driver of the school bus was a 54-year-old male with a valid class "A" West Virginia Commercial Driver's License (CDL) issued in July of 2017 and expiring in September of 2024. He held the passenger (P), school bus (S), and doubles/triple trailer (T) endorsements. His commercial license was restricted to Class B or C buses<sup>1</sup> only.<sup>2</sup> He also held a valid medical certificate, issued in June of 2023 and good for one year.<sup>3</sup> For additional information on the driver, including his driving record and training, please see the *Motor Carrier Factors Group Chairman's Factual Report*.

The driver declined to be interviewed by the NTSB.

### **1.0 The Crash Trip**

At the time of the crash, the bus driver was operating one of two after-school activity routes offered the Calhoun County School District. The activity routes take students from the middle/high school<sup>4</sup> to pre-determined drop points located along Route 16. The bus driver drove this route Monday through Thursday each week. He was operating his usual bus and was familiar with it. The bus was scheduled to depart the middle/high school at 5:45 p.m. At the time of the crash, the bus was approximately 1.1 miles from the middle/high school.

For more information on the route and the Calhoun County School District, please see the *Motor Carrier Factors Group Chairman's Factual Report*.

### **2.0 Activities Prior to the Crash**

Information on the bus driver's activities leading up to the crash was limited. His activities on the day of the crash, as obtained from a bus video system, are summarized in Table 1.

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<sup>1</sup> A Class B vehicle has a GVWR of 26,001 pounds or more. A Class C vehicle has a GVWR or GCWR less than 26,001 pounds and is designed to transport 16 or more passengers including the driver. Such restrictions are common and occur when the driving test is taken in a Class B bus.

<sup>2</sup> See *Motor Carrier Attachment - Calhoun Bus Driver's State of West Virginia Driver Record dated March 13, 2024*.

<sup>3</sup> Human Performance Attachment: Medical Examiner's Certificate for Commercial Driver Medical Certification. No reason for the driver being certified for only one year was provided.

<sup>4</sup> Both levels of school are located in the same physical building.

**Table 1.** Bus Driver Activities Prior to the Crash

<b>Saturday, March 2, 2024</b>		
<b>Driver activities unknown; driver off duty</b>		
<b>Sunday, March 3, 2024</b>		
<b>Driver activities unknown; driver off duty</b>		
<b>Monday, March 4, 2024</b>		
<b>unknown</b>	Driver awakes	
<b>5:47 a.m.</b>	Bus video begins	Bus Video
<b>5:56 a.m.</b>	Bus departs bus lot	Bus Video
<b>6:05 a.m.</b>	Driver pulls bus over	Bus Video
<b>6:07 a.m.</b>	Driver resumes driving	Bus Video
<b>6:22 a.m.</b>	Driver pulls bus over; driver sweeps & interacts with his phone	Bus Video
<b>6:42 a.m.</b>	Driver resumes driving	Bus Video
<b>6:46 a.m.</b>	Bus stops and first students board	Bus Video
<b>7:09 a.m.</b>	Bus stops and last students board	Bus Video
<b>7:30 a.m.</b>	Bus stops at elementary school & students disembark	Bus Video
<b>7:31 a.m.</b>	Bus departs elementary school	Bus Video
<b>7:42 a.m.</b>	Bus stops at middle/high school & students disembark	Bus Video
<b>7:45 a.m.</b>	Bus parked in bus lot	Bus Video
<b>7:51 a.m.</b>	Video ends	Bus Video
<b>Driver activities unknown</b>		
<b>3:00 p.m.</b>	Video starts; driver in driver's seat	Bus Video
<b>3:18 p.m.</b>	Bus departs lot	Bus Video
<b>3:20 p.m.</b>	Bus arrives at middle/high school	Bus Video
<b>3:32 p.m.</b>	Bus departs middle/high school	Bus Video
<b>3:43 p.m.</b>	Bus arrives at elementary school	Bus Video
<b>3:53 p.m.</b>	Bus departs elementary school	Bus Video
<b>3:58 p.m.</b>	Bus stops and first students disembark	Bus Video
<b>4:03 p.m.</b>	Bus doors separate slightly	Bus Video
<b>4:03 p.m.</b>	Driver looks to the right, at doors	Bus Video
<b>4:07 p.m.</b>	Driver pulls over; student examines loading door	Bus Video
<b>4:43 p.m.</b>	Last student disembarks	Bus Video
<b>4:48 p.m.</b>	Bus pulls over and driver examines loading doors	Bus Video
<b>5:17 p.m.</b>	Bus is parked in bus lot	Bus Video
<b>5:24 p.m.</b>	Video ends	Bus Video
<b>Driver activities unknown</b>		
<b>5:44 p.m.</b>	Video begins	Bus Video
<b>5:45 p.m.</b>	Bus arrives at school and students board	Bus Video
<b>5:47 p.m.</b>	Bus departs school	Bus Video
<b>5:50 p.m.</b>	<b>CRASH OCCURS</b>	Bus Video

### 3.0 Driver Health

Due to the driver declining to be interviewed, all information on his health had to be obtained from his commercial driver medical exam forms and was limited as a result.

#### 3.1 Commercial Driver Medical Certifications

West Virginia school bus drivers, including the driver involved in this crash are subject to yearly medical examinations under West Virginia Code Title 126-92-19.<sup>5</sup> NTSB investigators reviewed forms for the examinations performed from 2017 through 2023.<sup>6</sup> All reviewed examinations except the 2018 exam were performed by medical professionals listed on the Federal Motor Carrier Safety Administration (FMCSA) national medical registry. The examiner who performed the 2018 exam was not certified with the registry.<sup>7</sup>

February 2017. The bus driver reported taking no medications. He indicated a history of hospitalization and tobacco use. The bus driver's blood pressure, vision, and hearing all met regulatory requirements. The examiner did not note any abnormalities in any of the driver's body systems. Urinalysis was normal. He was qualified for two years. No requirement for corrective lenses was specified.

September 2018. The bus driver reported taking no medications. He indicated he also had a history of high cholesterol, hospitalization, tobacco use, and alcohol use. The bus driver's blood pressure, vision, and hearing all met regulatory requirements. The examiner did not note any abnormalities in any of the driver's body systems. Urinalysis results were not recorded. He was qualified for 6 months without a medical reason specified. No requirement for corrective lenses was specified.

April 2019.<sup>8</sup> The bus driver reported no medications. He indicated he had a history of high cholesterol and tobacco use. The bus driver's vision, and hearing met regulatory requirements. The examiner did not note any abnormalities in any of the driver's body systems. Urinalysis was normal. He was qualified for 3 months due to hypertension and advised to seek treatment for the condition. He was required to wear his corrective lenses when driving.

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<sup>5</sup> West Virginia requires the use of the Federal Motor Carrier Safety Administration form and examiners for this exam. For additional details, including the specific physical requirements for school bus drivers, see [WV SOS - Administrative Law - Code of State Rules - Online Data Services](#), accessed August 19, 2024.

<sup>6</sup> Per NTSB policy, the medical exam forms are not placed in the docket.

<sup>7</sup> Information from the national registry indicates the medical professional registered to become certified in December of 2013 but never completed the certification process.

<sup>8</sup> It is unknown why this exam occurred after his previous medical certification had expired (the April 2019 exam was more than six months after the September 2018 exam which only certified him for six months).

July 2019. The bus driver reported one medication for hypertension. He indicated a history of hypertension, high cholesterol, hospitalization, tobacco use, and alcohol use. The bus driver's vision and hearing met regulatory requirements. The examiner did not note any abnormalities in any of the driver's body systems. Urinalysis was normal. He was qualified for one year due to hypertension. He was required to wear his corrective lenses when driving.

July 2020. The bus driver reported no medications. He indicated a history of hypertension, high cholesterol, hospitalization, tobacco use, and alcohol use. The bus driver's blood pressure, vision, and hearing all met regulatory requirements. The examiner did not note any abnormalities in any of the driver's body systems. Urinalysis was normal. He was qualified for 2 years. He was required to wear his corrective lenses when driving.

June 2021. The bus driver reported one medication for hypertension. He indicated a history of hypertension, high cholesterol, hospitalization, tobacco use, and alcohol use. The bus driver's blood pressure, vision, and hearing all met regulatory requirements. The examiner did not note any abnormalities in any of the driver's body systems. Urinalysis was normal. He was qualified for 2 years. He was required to wear his corrective lenses when driving.

June 2022. The bus driver reported one medication for hypertension. He indicated a history of hypertension, high cholesterol, hospitalization, tobacco use, and alcohol use. The bus driver's vision and hearing met regulatory requirements. The examiner did not note any abnormalities in any of the driver's body systems. Urinalysis was normal. He was qualified for 1 year due to hypertension. He was required to wear his corrective lenses when driving.

June 2023. For details on the June 2023 exam, please see the *Medical Specialist's Factual Report* in the docket for this crash.

#### **4.0 Medications and Supplements**

No additional information on medications or supplements taken by the driver was available due to the driver declining to be interviewed by NTSB investigators.

#### **5.0 Alcohol and Drugs**

Law enforcement personnel detected an odor of alcohol when they approached the bus driver while at the scene of the crash. The bus driver stated that he had consumed alcohol when asked.<sup>9</sup>

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<sup>9</sup> Human Performance Factors Attachment: Warrant for Arrest.

The bus driver declined to be interviewed by NTSB investigators; no additional information on the driver's use of alcohol or drugs was obtained.

## **5.1 Post-Crash Toxicology**

After an odor of alcohol was detected and the bus driver admitted consuming alcohol that day, law enforcement personnel administered a preliminary breath test at 6:40 p.m. which registered a reading of 0.161%. The bus driver was arrested and transported to the West Virginia State Police detachment in Grantsville, West Virginia, where he was given a second breath test using a desktop breath tester at 7:28 p.m. This test registered a reading of 0.127% blood alcohol level.<sup>10</sup>

A blood sample was taken from the driver at 8:20 p.m.<sup>11</sup> Toxicological testing performed by the West Virginia State Police Forensic Laboratory was negative for major drugs of abuse.<sup>12</sup>

## **6.0 Psychological Factors**

NTSB investigators interviewed<sup>13</sup> the school system superintendent, the transportation director, and four school bus drivers who had contact with or observed the accident driver on the day of the crash.

None of the interviewed individuals had any knowledge of the bus driver's drinking habits. None had seen the driver in an impaired or intoxicated state prior to the day of the crash.

One driver observed the driver back into and bump a trailer at the bus parking lot between the afternoon and after-school runs. He spoke with the bus driver and did not notice anything out of the ordinary.

A second driver encountered the bus driver on the road at about 3:00 p.m. on the day of the crash. The bus driver was in his privately-owned vehicle and, according to the interviewee, was tailgating and driving aggressively. When the interviewee reached the bus lot, he went to the driver's lounge and encountered the driver again. The interviewee noted the driver seemed slower than normal. When asked, the interviewee stated he did not detect an odor of alcohol on the driver. The interviewee

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<sup>10</sup> See *State of West Virginia Uniform Traffic Crash Report*, available in the docket for this investigation.

<sup>11</sup> Human Performance Factors Attachment: Email on Key Times.

<sup>12</sup> Per NTSB policy, toxicology results for surviving operators are not available in the public docket. For a complete list of substances in the testing panel, see [Microsoft Word - AGILENT WVSP TOX BLOOD DRUG PANEL Effective.docx](#), accessed June 26, 2024.

<sup>13</sup> Human Performance Attachment: Interview Summaries.

followed the driver's bus out of the bus lot and observed it cross the yellow centerline on a curve.

A third driver also described the driver as aggravated. He stated that upon first encountering the bus driver that afternoon, he detected an odor which he stated was either alcohol or a nearby dumpster.

A fourth driver stated the bus driver's eyes were red on the day of the crash and offered the possibility that the driver may have been drinking before the afternoon route.<sup>14</sup>

The bus driver declined to be interviewed by NTSB investigators; no additional information on the driver's psychological state at the time of the crash was obtained.

## **7.0 Training and Experience**

For information on the bus driver's training and experience operating school buses, please see the *Motor Carrier Factors Group Chairman's Factual Report*.

## **8.0 Distraction**

### **8.1 Observations from On-Board Video**

The school bus was equipped with an AngelTrax V12 Vulcan series mobile digital video recorder (DVR) system. The system consisted of 7 cameras, two of which showed the driver (for additional details on the camera system, see the *Factual Report of Investigation*).

A review of the bus video<sup>15</sup> revealed that on the afternoon run earlier that day there was an issue with the loading doors. The doors experienced a mechanical/pneumatic issue and stopped being held closed which resulted in the doors flapping open and closed as the bus was moving. The driver paid significant attention to the loading door, stopping twice to manipulate the door himself or have a student do so. No evidence was found that the driver reported the issue or otherwise attempted to address it between the afternoon and after-school runs. Video shows the issue with the loading doors was still present during the activity run.

Investigators reviewed video from the interior-looking cameras showing the bus driver and did not observe any personal electronic device use or distraction from the passengers. During the after-school activity run, video shows the driver steering with his right hand while supporting his head with his left, a behavior more frequent and

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<sup>14</sup> See *Interview Summaries*.

<sup>15</sup> Per NTSB policy, video showing the occupants is not released to the public.

prolonged in the after-school activity run. At the time the bus departed the roadway, its speed was recorded by the camera system as 39 mph.

## **8.2 Cellular Telephone Records**

Records from the bus driver's cellular service provider were obtained;<sup>16</sup> the last activity prior to the crash was a received text at approximately 2:26 p.m., more than three hours before the crash.

## **8.3 External Environment**

NTSB investigators examined the area of the crash and found nothing unusual or distracting in the environment.

## **9.0 Sleep and Fatigue**

The bus driver declined to be interviewed by NTSB investigators, so no information on the driver's sleep schedule or habits could be gathered directly. Attempts to gather information through secondary sources, such as cell phone records, were also unsuccessful.<sup>17</sup>

## **10.0 Driver Interviews and Statements**

As noted in section 5.0 of this report, the driver told law enforcement that he had consumed alcohol on the day of the crash. No additional documentation of statements made by the driver were located. The bus driver declined to be interviewed by or otherwise provide a statement to NTSB investigators.

## **F. ADDITIONAL INFORMATION**

At 8:24 p.m. on the day of the crash, a woman called 9-1-1 to report she was driving behind bus number 5 around 5:00 p.m. and observed the bus swerving. She noted the loading door was open and thought the bus was having a mechanical issue or that the driver was ill. She observed the bus cross the center or edge line at least three times. As the bus navigated one curve, she observed it almost strike the guard rail. She stated she considered calling the school board but knew the office had closed at 5:00 p.m. She observed the bus turn into the middle/high school.<sup>18</sup>

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<sup>16</sup> Human Performance Attachment: Bus Driver Cell Phone Records.

<sup>17</sup> No voice calls occurred in the 72-hour period prior to the crash. All SMS activity in the same period occurred after 10:30 a.m. and before 6:00 p.m., making it unsuitable for estimating the driver's opportunity for rest.

<sup>18</sup> See *Interview Summaries*.

## G. WEATHER

Data from personal weather station<sup>19</sup> KWVSPENC7,<sup>20</sup> located approximately 11.6 miles west of the crash location, is shown in Table 2.

**Table 2.** Data for March 4, 2024, from KWVSPENC7.

Time	5:49 p.m.	5:54 p.m.
Temperature	72.5° F	72.5° F
Dew Point	52.1° F	51.7° F
Humidity	49%	48%
Wind	South	South
Speed	0.0 mph	0.0 mph
Gust	0.0 mph	0.0 mph
Pressure	30.3 in	30.3 in
Precipitation Rate	0.0 mph	0.0 mph
Precipitation Accumulation	0.0 mph	0.0 mph
Ultraviolet (UV)	0	0
Solar Energy	23.9 w/m2	22.5 w/m2

## H. SUN POSITION

Sun positioning information for the date, time, and location of the crash was obtained using the National Oceanic and Atmospheric Administration (NOAA) Solar Calculator.<sup>21</sup> This information is presented in Table 3 and in Figure 1.

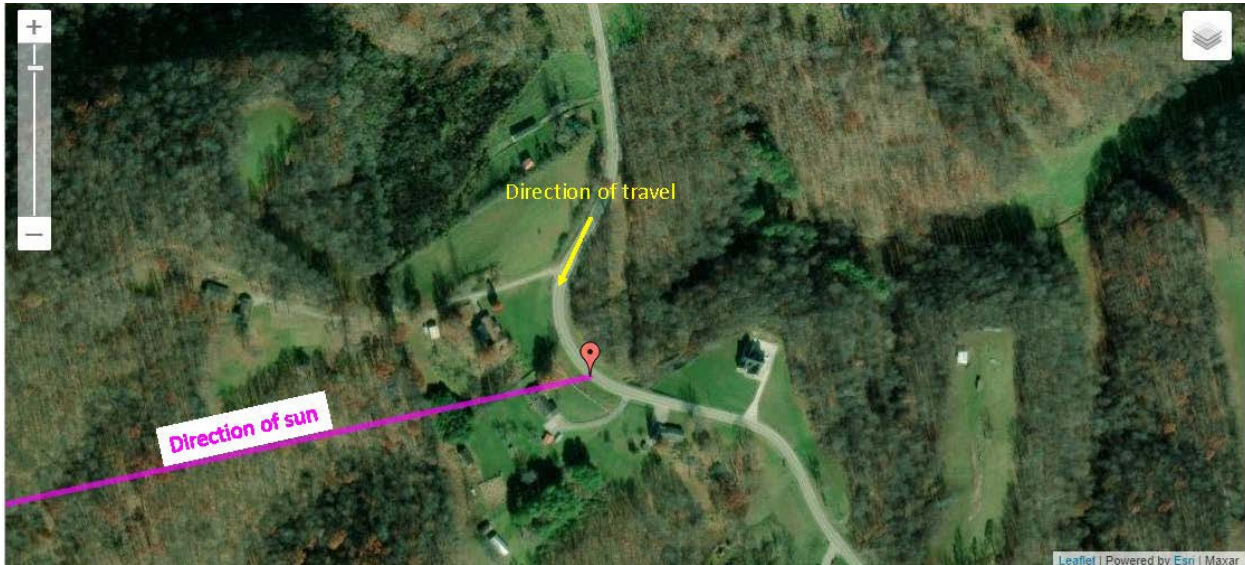
**Table 3.** NOAA Solar Calculator Data.

Latitude:	38.82415
Longitude:	-81.10322
UTC Offset:	-5:00
Azimuth:	258.12°
Elevation:	5.26°
Apparent Sunset:	6:21 p.m.

<sup>19</sup> A personal weather station is a collection of weather measuring instruments operated by an individual at a home or business.

<sup>20</sup> See [Personal Weather Station Dashboard | Weather Underground \(wunderground.com\)](https://wunderground.com), accessed April 18, 2024.

<sup>21</sup> [ESRL Global Monitoring Laboratory - Global Radiation and Aerosols \(noaa.gov\)](https://noaa.gov), accessed March 27, 2024.



**Figure 1.** Graphic Depiction of Sun Position.

**I. ATTACHMENTS**

- Human Performance Attachment: Medical Examiner’s Certificate for Commercial Driver Medical Certification.
- Human Performance Attachment: Warrant for Arrest.
- Human Performance Attachment: Email on Key Times.
- Human Performance Attachment: West Virginia Uniform Traffic Crash Report.
- Human Performance Attachment: Interview Summaries.
- Human Performance Attachment: Bus Driver Cell Phone Records.

Submitted by:

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