



National Transportation Safety Board

Washington, DC 20594

Highway Accident Brief

Fatal Pedestrian Collision with Minivan Thief River Falls, Minnesota, October 6, 2016

Accident Number:	HWY17SH002
Accident Type:	Fatal pedestrian collision with minivan
Location:	State Highway 59, Thief River Falls, Minnesota
Date and Time:	October 6, 2016, about 7:00 a.m. central daylight time
Vehicle:	2005 Chrysler Town and Country
Driver:	69-year-old female
Pedestrian:	7-year-old male
Fatalities:	1

Crash Description

About 7:00 a.m. on Thursday, October 6, 2016, a school bus was southbound on State Highway 59 about 10 miles south of Thief River Falls, Pennington County, Minnesota. The bus was occupied by the driver and about 12 student passengers, who were on their way to Challenger Elementary School in Thief River Falls. The bus had been traveling north, but the driver missed a scheduled stop and turned around to pick up a 7-year-old boy and his two siblings (ages 13 and 11) who were waiting on the east side of the highway (ordinarily, the boarding side for their bus).

At the same time, a 69-year-old female was driving a minivan north on the highway. As the school bus was coming to a stop and activating its flashing yellow lights, the 7-year-old started across the highway toward the bus and crossed in front of the minivan, which struck him.¹ The boy rode onto the vehicle's hood and collided with the lower right windshield. He then traveled forward about 100 feet before coming to rest in a ditch on the east side of the highway. The driver of the minivan applied the brakes and came to rest on the right shoulder 229 feet north of the area of impact. Minnesota State Patrol troopers responded to the scene and mapped the final rest positions of the pedestrian and the minivan, as well as evidence on the roadway (figure 1). The Pennington County Sheriff's Office also responded and assisted at the scene. The pedestrian was fatally injured. The minivan driver and the pedestrian's two siblings were not injured.

¹ According to a video recorded on the school bus, one of the 7-year-old's siblings crossed the highway ahead of him and reached the bus without incident.

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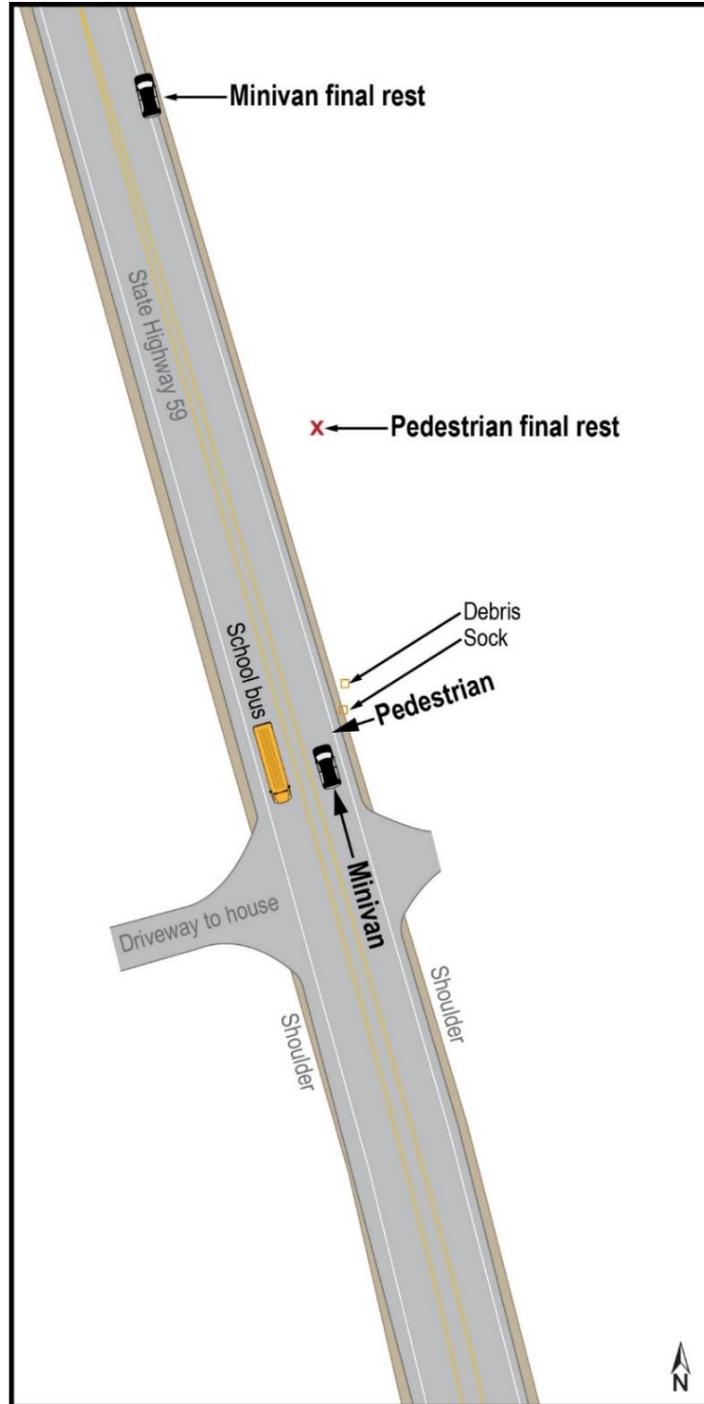


Figure 1. Diagram of crash scene showing location of school bus, path of minivan, point of impact with pedestrian, and final rest positions of pedestrian and minivan. Bus stopped across highway from where pedestrian was waiting, near driveway to his house.

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The collision occurred just before sunrise (civil twilight began at 7:01 a.m.), and skies were cloudy. The moon was a waxing crescent, 27 percent illuminated, the temperature was 36°F, and winds were from the southwest at 12 mph.²

Crash Location

The crash occurred in a rural area, where fields and farms dominate the landscape (figure 2). State Highway 59 is a north/south, two-lane asphalt road that runs northwest to southeast in the area of the crash. The highway has a single lane in each direction, with a double yellow line separating the lanes and a white line separating the northbound lane from the shoulder. The area has no crosswalks, pedestrian control signals, or overhead street lights. Ambient lighting is limited to one lamppost on private property (where the pedestrian lived) across the street from the school bus pickup site. Investigators could not determine whether the light was on at the time of the crash.³ The posted speed limit is 60 mph.



Figure 2. Aerial view of crash location. Pedestrian was waiting with siblings on east side of highway, across road from driveway to his house, shown on left. (Base photo by DigitalGlobe)

His family stated in an interview that the pedestrian and his two siblings would normally leave their residence and cross State Highway 59 to wait for the school bus at a scheduled pickup stop. They said the bus route had changed at the start of the school year. Before, the school bus

² Weather data from <https://www.wunderground.com/history>.

³ Investigators could not determine whether existing natural and artificial illumination was sufficient to allow the bus driver to see the children waiting at the stop.

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would travel south on the highway and pick the children up at their driveway. No records for previous pedestrian collisions were found for this section of the highway.

Pedestrian

The pedestrian was 4 feet 8 inches tall and weighed an estimated 130 to 140 pounds.⁴ On the morning of the crash, he was wearing a camouflage jacket, shorts, and sneakers, and he was carrying a green fluorescent backpack. He was transported to the Thief River Falls Medical Center, where he died of his injuries. His body was released to a funeral home in Thief River Falls. No autopsy was performed.

Driver

The driver of the minivan held a class D (noncommercial) driver's license issued by Minnesota. The license had a corrective lens restriction, and the driver was wearing corrective lenses at the time of the collision. During a postcrash interview, police officers found no signs of impairment. The driver's cell phone was in the back seat inside a purse, and an examination of the phone found no recent activity.

The driver was interviewed by a National Transportation Safety Board (NTSB) investigator. She stated that she was traveling to work in Thief River Falls and traveled at approximately the same time and on the same route regularly during the week. She stated that it was still dark when she was driving north on State Highway 59. She said she saw that a school bus traveling south on the highway was slowing and had activated its yellow flashing lights. She said she slowed to about 35 mph and was passing the bus when she felt she had hit something. She immediately stopped and pulled to the right shoulder.

The reconstruction report of the Minnesota State Patrol calculates the minivan's speed at the time of the crash as from 38.3 mph to 48.8 mph. The report cites the speed of the minivan as "a factor in the collision." After examining medical and ophthalmological records for the driver, the NTSB identified no medical or ophthalmological issues that could have affected the driver's ability to see the pedestrian.

Vehicle

The crash vehicle was a 2005 Chrysler Town and Country minivan. The driver reported that the minivan was in working order before the crash. Damage to the minivan included dents on the right front bumper, headlight assembly, and hood (figure 3). A swipe mark (disturbance of dust and dirt) on the hood went up toward the windshield. The windshield was cracked on the lower right side. No blood or skin was observed in the fragments of windshield glass.

⁴ Pedestrian characteristics, such as height and weight, were documented to aid crash reconstruction and evaluate pedestrian injuries.



Figure 3. Photograph of minivan showing damage to right bumper, headlight assembly, hood, and windshield.

School Bus and Driver

The school bus was a 2000 Thomas Built 83-passenger school bus. The bus had been inspected by the Minnesota State Patrol Commercial Vehicle Section and found free of violations. An official with the Thief River Falls Public Schools stated that all kindergarten to fifth grade students were given school bus safety training at the start of the school year. The official provided an outline of the training to the NTSB.

The school bus driver, a 63-year-old female, held a Minnesota class B commercial driver's license, with school bus and passenger endorsements. She also held the required medical card. Training records for the driver provided by Thief River Falls Public Schools were complete and up to date. The driver had not been involved in a reportable crash before the fatal collision.

In an interview with the NTSB, the driver stated that she had been operating school buses for 38 years, the last 20 years for Thief River Falls Public Schools. She said that she was assigned to the crash route at the beginning of the previous school year and had begun picking up the pedestrian and his siblings at the start of the current school year. She said she had left the bus lot at 6:24 a.m. the morning of the crash and turned north onto State Highway 59 about 6:50 a.m. It was dark, and the sun was just beginning to rise. She noticed that the yard light in front of the pedestrian's house was off and looked for him and his siblings in the driveway across the road from the house. She said she did not see them and continued to the next scheduled pickup about a quarter mile away. After that stop, when two female students asked why she had not picked up the pedestrian and his siblings, she said she decided to turn around and see if they were waiting.

The bus driver said she saw one of the pedestrian's siblings running along the east side of the highway and could see figures standing by the driveway where the brothers usually stood. She

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said she turned on her flashing yellow warning lights and continued south. She said she observed a northbound vehicle slow down and continue past the bus. The bus driver said she heard a loud sound and immediately stopped the bus. She said that children on the bus yelled that someone had been hit, and she instantly notified her dispatcher.

Witnesses

The pedestrian's oldest brother told a sheriff's deputy that he and his siblings were standing on the east side of the highway, waiting for the school bus at the designated bus stop. The bus drove by them and did not stop. He said he chased after the bus, but it did not stop. He said that after a time, the bus returned to their location. The bus was now southbound, and they were on the opposite side of the road. As the bus slowed near their driveway, the youngest child ran across the highway and was struck by a van traveling north. Both surviving siblings stated that the yellow lights on the bus were flashing, but they did not think the stop arm was out.

Video

The school bus was equipped with an REI BusWatch R1004 digital video recorder with inboard video and audio capability. One camera was mounted in front of the seats, facing the back of the bus, and the other camera was mounted in the rear, facing the front of the bus. Microphones were mounted near both cameras.

On the audio recording, engine noise continues at a steady rate (indicating no slowing) until 6:55 a.m., when the bus reaches its second scheduled stop on State Highway 59. The bus's yellow lights flash, a flashing red stop sign appears near the bus's left front side, and two female students enter the bus. The first asks the driver, "Why didn't you stop at the neighbors'?" The bus driver replies, "Ohh shoot, forgot about 'em." Moments later, the bus driver says that she did not see them because it was dark.

The driver starts to turn the bus around about 6:56. Thirty seconds later, headlights from an oncoming (northbound) vehicle are seen, and the bus's yellow flashers go on. A few seconds later, headlights from a second oncoming vehicle are seen. A student (presumably one of the pedestrian's older siblings) then runs across the road behind the bus. Headlights from the second oncoming vehicle reach the front of the bus. At 6:56:53, a loud thump is heard. Immediately afterward, the bus's red stop sign extends and the red flashers go on. The bus comes to a stop during those moments (the low light makes it impossible to determine the exact time). Seconds after the first loud thump, another is heard.

After the bus driver reports the crash, a male student runs into the bus and says the pedestrian "got run over." The minivan driver enters the bus. About 7:08, the bus driver notes that the police have arrived, then that emergency vehicles are there. Over the next 15 minutes, the bus driver talks to the minivan driver, calls the minivan driver's workplace, and discusses releasing the bus so the children can get to school. Both audio and video recordings end at 7:23:48.

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Applicable Traffic Laws

Section 169.21, subdivision 3, of the Minnesota statutes regulates the movement of pedestrians crossing public roadways between intersections and requires motorists to exercise “due care” to avoid colliding with bicyclists or pedestrians on roadways:

(a) Every pedestrian crossing a roadway at any point other than within a marked crosswalk or at an intersection with no marked crosswalk shall yield the right-of-way to all vehicles upon the roadway.

(d) Notwithstanding the other provisions of this section every driver of a vehicle shall (1) exercise due care to avoid colliding with any bicycle or pedestrian upon any roadway and (2) give an audible signal when necessary and exercise proper precaution upon observing any child or any obviously confused or incapacitated person upon a roadway.

The Minnesota statutes prescribe a school bus driver’s duties regarding the use of warning signals to protect the safety of school children (section 169.443):

A driver of a school bus shall activate the prewarning flashing amber signals of the bus before stopping to load or unload school children. The driver shall activate and continuously operate the amber signals for a distance of at least 100 feet before stopping in a speed zone of 35 miles per hour or less and at least 300 feet before stopping in a speed zone of more than 35 miles per hour. On stopping for this purpose, the driver shall extend the stop-signal arm system and activate the flashing red signals. The driver shall not retract the stop-signal arm system nor extinguish the flashing red signals until loading or unloading is completed, students are seated, and children who must cross the roadway are safely across.

Minnesota law requires drivers to stop at least 20 feet from a school bus that is displaying its flashing red lights and stop arm (section 169.444). The law applies to drivers behind the bus or approaching from the opposite direction on an undivided road:

When a school bus is stopped on a street or highway, or other location where signs have been erected under section 169.443, subdivision 2, paragraph (b), and is displaying an extended stop-signal arm and flashing red lights, the driver of a vehicle approaching the bus shall stop the vehicle at least 20 feet away from the bus. The vehicle driver shall not allow the vehicle to move until the school bus stop-signal arm is retracted and the red lights are no longer flashing.

The Minnesota statutes do not require a driver to slow for a school bus flashing its yellow warning lights.⁵ However, the state patrol’s crash reconstruction report states: “The average motorist associates the presence of a school bus with the presence of school age children. Therefore the exercising of due care as identified in statute [sic] is not simply to obey the stop signal when activated/extended by the bus driver, but avoid a pedestrian collision.”⁶

⁵ Iowa law requires traffic to slow to 20 mph upon approaching amber flashing lights on a school bus (Code of Iowa, section 321.372[3a]).

⁶ The reconstruction report refers to statute 169.21, subsection3(d).

Recommendation

Based on the Board Member statement reproduced below, the National Transportation Board recommends that the National Highway Traffic Safety Administration assess, and if necessary, update the guidelines on pupil transportation safety to specifically address pedestrian issues related to conspicuity and route selection. (H-18-50).

Probable Cause

The National Transportation Safety Board determines that the probable cause of the crash in Thief River Falls, Minnesota, was a combination of the pedestrian running across the highway travel lane in the path of the oncoming minivan; the minivan driver's speed; and the low-light conditions, which would have limited the minivan driver's ability to see the pedestrian. Further contributing to the crash was the bus driver's failure to pick the students up at their designated stop.

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

ROBERT L. SUMWALT, III
Chairman

EARL F. WEENER
Member

BRUCE LANDSBERG
Vice Chairman

T. BELLA DINH-ZARR
Member

JENNIFER HOMENDY
Member

Adopted: October 17, 2018

Board Member Statement

Member Earl F. Weener filed the following concurring and dissenting statement on October 4, 2018. Vice Chairman Bruce Landsberg and Member T. Bella Dinh-Zarr joined in the statement.

I concur with the findings of this investigation and believe the probable cause statement is essentially accurate. However, I am very concerned that we offer no recommendations based on this investigation. In the subsequent pedestrian safety report, based partially on this event, we do make recommendations, but they are long-term strategies to an immediate problem. In the pedestrian study we emphasize the importance of improving headlight functionality and implementing pedestrian detection systems to help drivers recognize imminent collisions and avoid them. This is particularly important when dealing with child pedestrians who, especially when very young, will predictably behave unpredictably. Young children making their way to

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school are among the most vulnerable roadway users. I do not believe it is necessary to wait for advancements in headlight design to saturate the market to improve the conspicuity of child pedestrians or the overall safety of their commutes to school.

The NTSB has worked hard to improve the safety of children transported by bus or other school vehicles. We have addressed seat belts and driver fitness. These recommendations are meant to save lives and are necessary because between 2006 and 2015, according to traffic safety data published by NHTSA, 54 student occupants of school transportation vehicles died in crashes. However almost twice that many child pedestrians, 103, were killed during the same period of time. I view this investigation as an opportunity to take action on behalf of the child that died in this collision and the other children killed each year in similar events.

In addition to investigating the direct cause of a fatality, the NTSB also examines the facts and circumstances surrounding the incident and often addresses broader safety issues. In this investigation, a child seven years of age had to cross a rural highway—with a posted limit of 60 mph in darkness and without the benefit of a marked or lighted crosswalk—in order to arrive at the stop location designated by the school district. Different nations have addressed safe pupil transport in a variety of ways. One method has been the adoption of school bus route risk assessment programs. NHTSA's Highway Safety Program Guideline No. 17 on Pupil Transportation Safety addressed a broad spectrum of topics, including helmet use by children who ride bicycles to school, but did not address conspicuity aids such as retroreflective garments or route risk assessment strategies.

I believe that it is important to provide guidance to school districts on best practices. Organizations such as the National Association of State Directors of Pupil Transportation Services (NASDPTS), the National Association for Pupil Transportation (NAPT), and the National School Transportation Association (NSTA) are valuable school transportation stakeholders able to work with federal partners on improving student pedestrian safety. We could have asked these groups to work to inform their members of these events and to cooperate in the creation of safety solutions. At a minimum, we should have issued a recommendation to NHTSA asking them to assess, update, and promulgate guidelines on pupil transportation safety to specifically address pedestrian issues related to conspicuity and route selection.

* * *

For more details about this accident, visit the [NTSB public docket](#) and search for NTSB accident ID HWY17SH002. The accident dockets include such information as police reports, photographs, driver and witness statements, data on previous crashes, highway engineering reports, and timing of traffic signals.

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.” 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

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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. 49 *United States Code*, Section 1154(b).
