Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2009-12

Southwestern Railroad (SWRR)
Rosswell, NM
March 30, 2009

Note that 49 U.S.C. §20903 provides that no part of an accident or incident report made by the Secretary of Transportation/Federal Railroad Administration under 49 U.S.C. §20902 may be used in a civil action for damages resulting from a matter mentioned in the report.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2009-12

1.Name of Railroad Operating Train #1: Southwestern RR Co., Inc. [SW]	1a. Alphabetic Code: SW	1b. Railroad Accident/Incident No.: SW-02
2.Name of Railroad Operating Train #2: N/A	2a. Alphabetic Code: N/A	2b. Railroad Accident/Incident No.: N/A
3.Name of Railroad Operating Train #3: N/A	3a. Alphabetic Code: N/A	3b. Railroad Accident/Incident No.: N/A
4.Name of Railroad Responsible for Track Maintenance: Southwestern RR Co., Inc. [SW]	4a. Alphabetic Code: SW	4b. Railroad Accident/Incident No.: SW-02
5. U.S. DOT_AAR Grade Crossing Identification Number: 019918J	6. Date of Accident/Incident: Month 03 Day 30 Year 2009	7. Time of Accident/Incident: 05:47: ☐ AM ☑ PM

8. Type of Accident/Indicent *(single entry in code box)*: 1. Derailment; 2. Head on collision; 3. Rear end collision; 4. Side collision; 5. Raking collision; 6. Broken Train collision; 7. Hwy-rail crossing; 8. RR grade crossing; 9. Obstruction; 10. Explosion-detonation; 11. Fire/violent rupture; 12. Other impacts; 13. Other *(describe in narrative)* — Code: 07

9. Cars Carrying HAZMAT	10. HAZMAT Cars Damaged/Derailed	11. Cars Releasing HAZMAT	12. People Evacuated	13. Division
0	N/A	N/A	0	System

14. Nearest City/Town	15. Milepost *(to nearest tenth)*	16. State Abbr	16. State Code	17. County
Dexter	117.1	N/A	NM	CHAVES

18. Temperature (F) *(specify if minus)*	19. Visibility *(single entry)* 1. Dawn 2. Day 3.Dusk 4.Dark — Code	20. Weather (single entry) 1. Clear 2. Cloudy 3. Rain 4. Fog 5.Sleet 6.Snow — Code	21. Type of Track 1. Main 2. Yard 3. Siding 4. Industry — Code
61 F	2	1	1

22. Track Name/Number	23. FRA Track Class (1-9, X) — Code	24. Annual Track Density *(gross tons in millions)*	25. Time Table Direction 1. North 2. South 3. East 4. West — Code
Single main track	4	5.6	3

OPERATING TRAIN #1

26. Type of Equipment Consist *(single entry)* 1. Freight train 2. Passenger train 3. Commuter train 4. Work train 5. Single car 6. Cut of cars 7. Yard/switching 8. Light loco(s). 9. Maint./inspect.car — A. Spec. MoW Equip. Code	27. Was Equipment Attended? 1. Yes 2. No — Code	28. Train Number/Symbol
1	1	CRLBNT429A

29. Speed *(recorded speed, if available)* R - Recorded E - Estimated — Code	30. Trailing Tons *(gross tonnage, excluding power units)*
38 MPH R	11368

31. Method(s) of Operation *(enter code(s) that apply)*: a. ATCS; b. Auto train control; c. Auto train stop; d. Cab; e. Traffic; f. Interlocking; g. Automatic block; h. Current of traffic; i. Time table/train orders; j.Track warrant control; k. Direct traffic control; l.Yard limits; m.Special instructions; n. Other than main track; o. Positive train control; p. Other *(Specify in narrative)*

Code(s): j | N/A | N/A | N/A | N/A

31a. Remotely Controlled Locomotive? 0 = Not a remotely controlled; 1 = Remote control portable; 2 = Remote control tower; 3 = Remote control transmitter - more than one remote control transmitter: 0

32. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded *(yes/no)*
(1) First involved *(derailed, struck, etc)*	BNSF 7571	1	N/A
(2) Causing *(if mechanical cause reported)*	0	0	N/A

33. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.

Alcohol	Drugs
N/A	N/A

34. Was this consist transporting passengers? (Y/N): N

35. Locomotive Units	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End c. Remote
(1) Total in Train	3	0	0	0	0
(2) Total Derailed	0	0	0	0	0

36. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	84	0	0	0	0
(2) Total Derailed	0	0	0	0	0

37. Equipment Damage This Consist	38. Track, Signal, Way, & Structure Damage	39. Primary Cause Code	40. Contributing Cause Code
$2,500.00	$0.00	M302	M304

Number of Crew Members

41. Engineer/ Operators	42. Firemen	43. Conductors	44. Brakemen
1	0	1	0

Length of Time on Duty

45. Engineer/Operator	46. Conductor
Hrs 5 Mi 20	Hrs 5 Mi 20

Casualties to:	47. Railroad Employees	48. Train Passengers	49. Other
Fatal	0	0	0
Nonfatal	0	0	0

50. EOT Device? 1. Yes 2. No	51. Was EOT Device Properly Armed? 1. Yes 2. No
1	1

52. Caboose Occupied by Crew? 1. Yes 2. No: 2

OPERATING TRAIN #2

53. Type of Equipment Consist *(single entry)* 1. Freight train 2. Passenger train 3. Commuter train 4. Work train 5. Single car 6. Cut of cars 7. Yard/switching 8. Light loco(s). 9. Maint./inspect.car — A. Spec. MoW Equip. Code	54. Was Equipment Attended? 1. Yes 2. No — Code	55. Train Number/Symbol
N/A	N/A	N/A

56. Speed *(recorded speed, if available)* R - Recorded E - Estimated — Code	58. Method(s) of Operation *(enter code(s) that apply)*	58a. Remotely Controlled Locomotive?
0 MPH N/A	a. ATCS; b. Auto train control; g. Automatic block; h. Current of traffic; m.Special instructions; n. Other than main track	0 = Not a remotely controlled; 1 = Remote control portable

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2009-12

57. Trailing Tons *(gross tonnage, excluding power units)* N/A

c. Auto train stop
d. Cab
e. Traffic
f. Interlocking
i. Time table/train orders
j.Track warrant control
k. Direct traffic control
l.Yard limits
o. Positive train control
p. Other *(Specify in narrative)*
Code(s) N/A N/A N/A N/A N/A

2 = Remote control tower
3 = Remote control transmitter - more than one remote control transmitter N/A

59. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded *(yes/no)*
(1) First involved *(derailed, struck, etc)*	0	0	N/A
(2) Causing *(if mechanical cause reported)*	0	0	N/A

60. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.

Alcohol	Drugs
N/A	N/A

61. Was this consist transporting passengers? (Y/N) N/A

62. Locomotive Units	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End c. Remote
(1) Total in Train	0	0	0	0	0
(2) Total Derailed	0	0	0	0	0

63. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	0	0	0	0	0
(2) Total Derailed	0	0	0	0	0

64. Equipment Damage This Consist $0.00

65. Track, Signal, Way, & Structure Damage $0.00

66. Primary Cause Code N/A

67. Contributing Cause Code N/A

Number of Crew Members

68. Engineer/ Operators	69. Firemen	70. Conductors	71. Brakemen
0	0	0	0

Length of Time on Duty

72. Engineer/Operator Hrs 0 Mi 0

73. Conductor Hrs 0 Mi 0

Casualties to:	74. Railroad Employees	75. Train Passengers	76. Other
Fatal	0	0	0
Nonfatal	0	0	0

77. EOT Device? 1. Yes 2. No N/A

78. Was EOT Device Properly Armed? 1. Yes 2. No N/A

79. Caboose Occupied by Crew? 1. Yes 2. No N/A

OPERATING TRAIN #3

80. Type of Equipment Consist *(single entry)*
1. Freight train
2. Passenger train
3. Commuter train
4. Work train
5. Single car
6. Cut of cars
7. Yard/switching
8. Light loco(s).
9. Maint./inspect.car
A. Spec. MoW Equip. Code N/A

81. Was Equipment Attended? 1. Yes 2. No Code N/A

82. Train Number/Symbol N/A

83. Speed *(recorded speed, if available)* Code
R - Recorded
E - Estimated N/A MPH 0

84. Trailing Tons *(gross tonnage, excluding power units)* N/A

85. Method(s) of Operation *(enter code(s) that apply)*
a. ATCS
b. Auto train control
c. Auto train stop
d. Cab
e. Traffic
f. Interlocking
g. Automatic block
h. Current of traffic
i. Time table/train orders
j.Track warrant control
k. Direct traffic control
l.Yard limits
m.Special instructions
n. Other than main track
o. Positive train control
p. Other *(Specify in narrative)*
Code(s) N/A N/A N/A N/A N/A

85a. Remotely Controlled Locomotive?
0 = Not a remotely controlled
1 = Remote control portable
2 = Remote control tower
3 = Remote control transmitter - more than one remote control transmitter N/A

86. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded *(yes/no)*
(1) First involved *(derailed, struck, etc)*	0	0	N/A
(2) Causing *(if mechanical cause reported)*	0	0	N/A

87. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.

Alcohol	Drugs
N/A	N/A

88. Was this consist transporting passengers? (Y/N) N/A

89. Locomotive Units	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End c. Remote
(1) Total in Train	0	0	0	0	0
(2) Total Derailed	0	0	0	0	0

90. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	0	0	0	0	0
(2) Total Derailed	0	0	0	0	0

91. Equipment Damage This Consist $0.00

92. Track, Signal, Way, & Structure Damage $0.00

93. Primary Cause Code N/A

94. Contributing Cause Code N/A

Number of Crew Members

95. Engineer/ Operators	96. Firemen	97. Conductors	98. Brakemen
0	0	0	0

Length of Time on Duty

99. Engineer/Operator Hrs 0 Mi 0

100. Conductor Hrs 0 Mi 0

Casualties to:	101. Railroad Employees	102. Train	103. Other
Fatal	0	0	0
Nonfatal	0	0	0

104. EOT 1. Yes 2. No N/A

105. Was EOT Device Properly 1. Yes 2. No N/A

106. Caboose Occupied by Crew? 1. Yes 2. No N/A

Highway User Involved

107. Code G
A. Auto
B. Truck
C. Truck-Trailer.
D. Pick-Up Truck
E. Van
F. Bus
G. School Bus
H. Motorcycle
J. Other Motor Vehicle
K. Pedestrian
M. Other *(spec. in narrative)*

108. Vehicle Speed *(est. MPH at impact)* N/A

109. *geographical)* Code 4
1.North 2.South 3.East 4.West

Rail Equipment Involved

111. Equipment Code 1
1.Train *(units pulling)*
2.Train *(units pushing)*
3.Train *(standing)*
4.Car(s) *(moving)*
5.Car(s) *(standing)*
6.Light Loco(s) *(moving)*
7.Light(s) *(standing)*
8.Other *(specify in narrative)*

112. Position of Car Unit in 1

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FRA File # HQ-2009-12

110. Position	Code	113. Circumstance	Code
1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing 4. Trapped	2	1. Rail Equipment Struck Highway User 2. Rail Equipment Struck by Highway User	1
114a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? 1. Highway User 2. Rail Equipment 3. Both 4. Neither	4	114b. Was there a hazardous materials release 1. Highway User 2. Rail Equipment 3. Both 4. Neither	4

114c. State here the name and quantity of the hazardous materials released, if any.
N/A

115. Type Crossing Warning	1.Gates 2.Cantilever FLS 3.Standard FLS	4.Wig Wags 5.Hwy. traffic signals 6.Audible	7.Crossbucks 8.Stop signs 9.Watchman	10.Flagged by crew 11.Other *(spec. in narr.)* 12.None	116. Signaled Crossing Code *(See instructions for codes)*	117. Whistle Ban Code 1. Yes 2. No 3. Unknown
Code(s)	01	03	06	07	01	2

118. Location of Warning Code 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach	119. Crossing Warning with Highway Signals Code 1. Yes 2. No 3. Unknown	120. Crossing Illuminated by Street Lights or Special Lights Code 1. Yes 2. No 3. Unknown
1	2	2

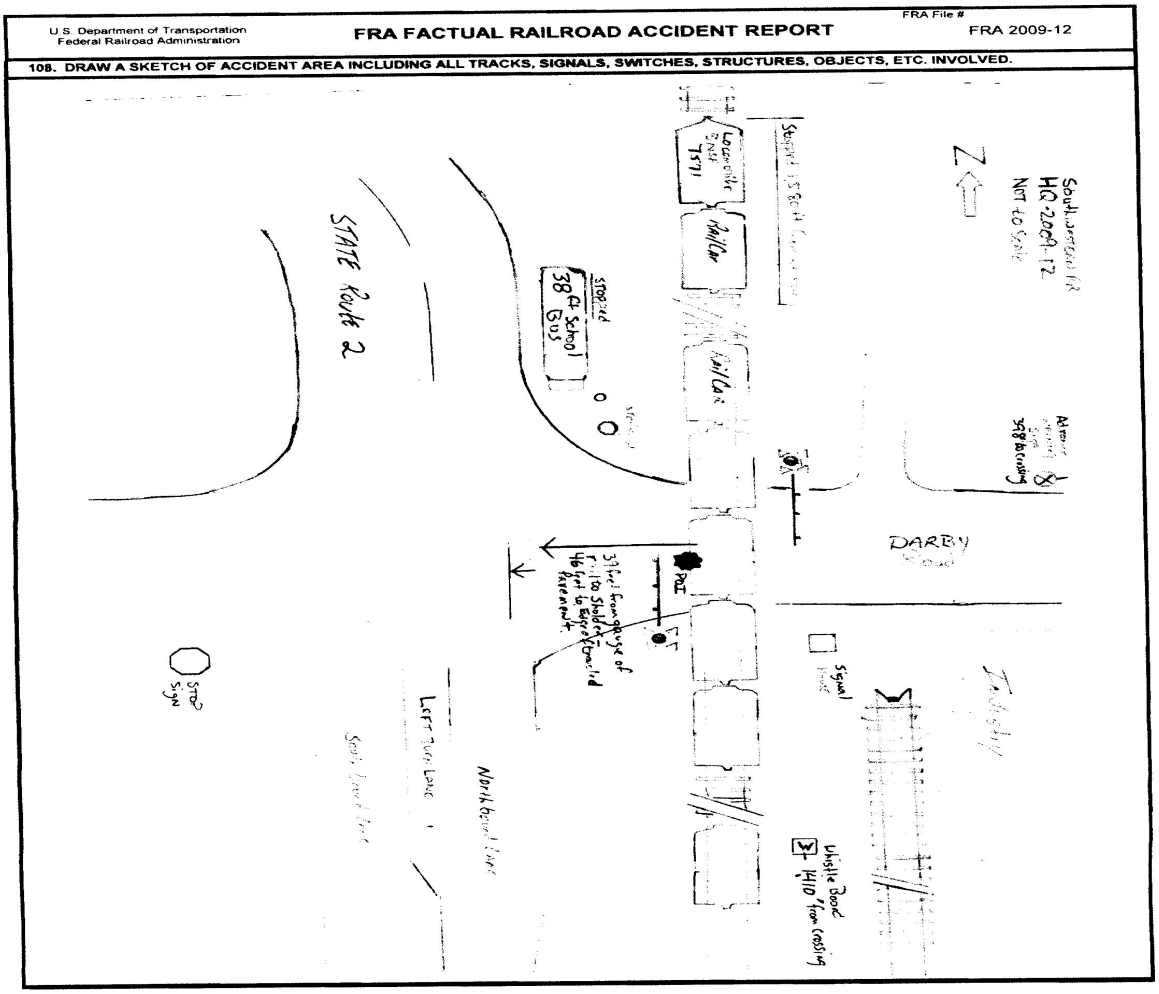
121. Age	122. Driver's Gender Code 1. Male 2. Female	123. Driver Drove Behind or in Front of and Struck or was Struck by Second Train Code 1. Yes 2. No 3. Unknown	124. Driver Code 1. Drove around or thru the Gate 2. Stopped and then Proceeded 3. Did not Stop 4. Stopped on Crossing 5. Other *(specify in narrative)*
68	2	2	2

125. Driver Passed Highway Vehicle Code 1. Yes 2. No 3. Unknown	126. View of Track Obscured by *(primary obstruction)* Code 1. Permanent Structure 2. Standing Railroad Equipment 3. Passing Train 4. Topography 5. Vegetation 6. Highway Vehicle 7. Other *(specify in narrative)* 8. Not obstructed
2	8

Casualties to:	Killed	Injured	127. Driver Code 1. Killed 2.Injured 3. Uninjured	128. Was Driver in the Vehicle? Code 1. Yes 2. No
			3	1
129. Highway-Rail Crossing Users	0	3	130. Highway Vehicle Property Damage *(est. dollar damage)* 26000	131. Total Number of Highway-Rail Crossing Users *(include driver)* 12

132. Locomotive Auxiliary Lights? Code 1. Yes 2. No	133. Locomotive Auxiliary Lights Operational? Code 1. Yes 2. No
1	1
134. Locomotive Headlight Illuminated? Code 1. Yes 2. No	135. Locomotive Audible Warning Sounded? Code 1. Yes 2. No
1	1

136. DRAW A SKETCH OF ACCIDENT AREA INCLUDING ALL TRACKS, SIGNALS, SWITCHES, STRUCTURES, OBJECTS, ETC., INVOLVED.



137. SYNOPSIS OF THE ACCIDENT

On March 30, 2009 at 5:47 p.m. MDT an eastbound South Western Railroad (SW) Freight Train CRLBNT4-29A collided with a school bus at a highway-rail grade crossing near Dexter, New Mexico. The accident occurred near SW railroad mile post 117.1 and the intersection of Darby road FRA DOT # 019 918 J. The Dexter Independent School District bus was transporting twelve passengers including the operator at the time of the collision. As a result of the collision three of the bus passengers suffered minor injuries. The school bus received moderate damage. There were no injuries reported to the train crew. The leading locomotive sustained minor damage of about $2,500, and there was no derailment.

At the time of the accident it was daylight and clear, with a west wind of about 24 mph gusting to 33 mph. The temperature was 61° F.

The accident was caused by failure of the school bus operator to yield to the oncoming train. According to the New Mexico State Police, the bus operator was cited for failure of the bus driver to cross the train tracks at a time it was safe to do so.

138. NARRATIVE

CIRCUMSTANCES PRIOR TO THE ACCIDENT

The crew of eastward SW Freight Train CRLBNT4-29A included a locomotive engineer and a conductor. They went on duty at 12:30 p.m. MDT on March 30, 2009, at the Southwestern Rail Yard in Carlsbad, New Mexico. This is the away from home terminal for these crew members, and both had received more than the required statutory off-duty rest period prior to reporting for duty.

The assigned freight train consisted of the lead locomotive, the BNSF 7571, two other locomotives and 84 loaded potash hopper cars. It was 5,264 feet long, and weighed 11,368 tons. The train was scheduled to travel from Carlsbad, New Mexico en route to Beaumont, Texas with an interchange to the Burlington Northern Santa Fe railroad at Clovis, New Mexico. The train received an initial terminal train air brake test, and departed Carlsbad at 2:00 p.m.

As the eastbound train approached the accident area, the locomotive engineer was seated at the controls on the east side of the leading locomotive and the conductor was seated opposite in the conductor’s seat on the west side.

The Dexter Independent School District bus was about half way through its route as it approached the Southwestern railroad highway rail grade crossing at Darby Road. The bus has a capacity for 72 passengers and is a 38 foot 2006 Bluebird model school bus. The bus driver was seated in the driver’s seat and ten students and a transportation aid were occupying the first 5 rows of seats on the bus. As the bus approached the crossing it moved to the center of Darby Road to pass by an area of construction on the north shoulder of the road. The bus then stopped about twenty feet from the tracks, paused, then proceeded. At the same time the bus preceded the highway rail grade crossing warning system activated. The bus continued westbound across the tracks with the north crossing gate striking and dragging along the roof of the bus. Because the bus was still traveling close to the center of the road, the south crossing gate also struck and drug along the driver’s side roof of the bus.

In this area of the Southwestern Railroad, the tracks are tangent and level as they approach the Darby Road highway rail grade crossing. New Mexico State Route 2 parallels the SW tracks. Darby Road is a gravel road that crosses the tracks at a ninety degree angle then requires a stop about 40 feet further as it then intersects with NM State Route 2.

The railroad timetable direction of the train is east. The geographic direction is north. Geographic directions are used throughout this report.

THE ACCIDENT

EASTWARD SW TRAIN CRLBNT4-29A:

Eastward SW Freight Train CRLBNT-29A was being operated at 41 mph approaching the Darby Road crossing. With a clear view of the crossing the engineer observed the school bus slow to a stop before crossing the tracks. The bus then proceeded, occupying the crossing after the crossing warning lights began flashing. As the engineer observed the bus preceding, he sounded and continued to sound the locomotive horn. The bus then stopped with about one third of the rear end of the bus still on the crossing. At about 500 feet from the crossing, the engineer placed the train in emergency braking. The bus pulled ahead but again stopped, leaving about two feet still fouling the tracks. The train speed recorded on the lead locomotive was about 40 mph when it collided with the school bus. The maximum authorized speed for the train was 49 mph as designated in the Southwestern Railroad timetable.

HIGHWAY VEHICLE:

The school bus was traveling west on Darby Road as it approached the railroad intersection. According to the bus driver she made the required stop, opened the bus door, and looked both directions. Seeing no trains and observing that the crossing warning devices were not activated, she then proceeded towards the crossing. As the bus occupied the crossing, the driver observed the approaching train but continued forward. Traveling a few feet further she stopped at the intersection of State Route 2 assuming the rear of the bus was clear of the tracks. When the bus stopped the passengers began yelling for her to go because they saw the oncoming train. She pulled the bus ahead but had to stop because of an oncoming north bound motor vehicle on State Route 2. Darby Road is a two lane gravel road with a speed limit of 35 mph. Thirty nine feet after crossing the tracks it requires a stop as it intersects with State Route 2.

The train collided with the bus lifting it and knocking the rear end ninety degrees to land parallel to the tracks. The bus now facing south rolled back several feet before stopping north of the crossing between State Route 2 and the railroad tracks. The train came to a stop about 1,580 feet north of the crossing.

After stopping the engineer stayed on the locomotive and made contact with another train crew in the area and requested they make contact with emergency personnel. The conductor went back to the crossing to assess the situation and offer assistance if needed.

Returning from an earlier call in the area, the Dexter Fire Department was on the scene almost immediately, followed by the emergency medical services and the New Mexico State Police. After assessing the situation, they determined that only minor injuries had occurred to three of the bus passengers. Neither of the train crew members was injured.

The Southwestern Railroad Manager of Operations arrived at the site at about 6:45 p.m. He determined that only minor damage occurred to the lead locomotive with no damage occurring to the track and remaining consist of the train. The train crew members were released at about 8 p.m. and transported by motor vehicle to their home terminal in Clovis, New Mexico, after they reversed the train to clear the road crossing for vehicular traffic. At about 12:00 p.m. a second crew arrived and proceeded to Clovis, New Mexico, on train SW CRLBNT4-29A. Clovis is located about 117 miles north of the accident site.

The three bus passengers were transported by Dexter Ambulance Service to Eastern New Mexico Medical center in Roswell, New Mexico where they were treated for minor injuries and released.

ANALYSIS AND CONCLUSIONS:

ANALYSIS- TOXICOLOGICAL TESTING:

The driver of the Dexter Independent School District bus was not tested on the day of the collision. There were no toxicological tests performed on the train crew. FRA does not require such testing for this type of accident.

CONCLUSION:

Intoxication was not a casual factor.

ANALYSIS- HIGHWAY-RAIL GRADE CROSSING:

The highway-rail grade crossing is equipped with a single bell, warning flashing lights and gates for both directions of highway traffic. There is an advanced warning sign posted 398 feet east of the crossing. Darby road is a loose gravel road without pavement markings and is maintained by Chaves County Highway Department.

The railroad has a whistle post in place about 1,410 feet south of the crossing. Both crew members stated the engineer began sounding the horn right after passing the whistle post. This was confirmed by analysis of the locomotive event recorder and the lead locomotive on board video recording.

Following the accident the active warning devices were tested by the SW signal maintainer and were determined to be working as intended. These tests were performed again on April 13, 2009, in the presence of an FRA Signal and Train Control (S&TC) Inspector and the State of New Mexico Public Regulatory Commission, Crossing Safety Inspector. The Darby road active warning system is controlled by a General Electric Transportation System HXP-3 predictor. A review of the data log of the HXP-3 recorded the train traveling at 41 mph at the crossing and giving a warning time of 30 seconds.

Proceeding west after crossing the SW Railroad tracks, Darby Road intersects with State Route 2. The distance from the gage of the nearest rail to the shoulder is about 39 feet with an additional 5 feet to the edge of the traveled lane. During interviews, statements were made that about three years ago State Route 2 was widened to include a left turn lane. This narrowed the distance between State Route 2 and the SW Railroad tracks.

On April 16, 2009, a sight distance survey at the Darby Road grade crossing was performed by an FRA Region 5 Grade Crossing Manager with assistance from a New Mexico Public Regulatory Commission Crossing Safety Inspector. The sight distance at this crossing was based on the Federal Highway Administration's (FHWA) "Sight Distance Combinations of Highway Vehicle and Train Speeds" contained in Table 32 of the FHWA Railroad-Highway Grade Crossing Handbook – Revised Second Edition 2007. The Darby Road grade crossing is equipped with gates and flashing lights designed to warn highway-users of the approach of a train. Since active warning devices are in place at this crossing and the school bus driver was required to make a full stop at the crossing to determine if it was safe to cross the tracks, a vehicle speed of "Zero" was used. A photograph was taken from the westbound lane of Darby Road at a distance of 20 feet from the tracks (it includes 15 feet from the tracks and an additional five feet for the front of the bus). This is about where the driver would have been seated while making a required stop. Using the FHWA formula for a vehicle stopped at the tracks, the FHWA Table 32 indicates that at the maximum authorized train speed of 49 miles per hour (50 miles per hour is the actual speed used by FHWA) the distance down the tracks should be 1201 feet in order for a stopped vehicle to safely complete a crossing of the tracks before the train enters the crossing. As determined by the sight distance survey, a northbound train approaching, should be able to be seen at a distance of 1,201 feet or more from the Darby Road crossing (southeast quadrant of the crossing). The track is basically level and straight, the signal bungalow is not blocking the view of the tracks from a highway-users stopped position, nor is any other obstruction on the railroad-right-of-way that would act as an obstruction at this grade crossing (see Photo #9).

CONCLUSION:

The crossing is in good operational condition with more than adequate site distance and the warning devices were operating as intended. The distance between SW Railroad tracks and Stated Route 2 is not of sufficient distance to alleviate the hazard of longer vehicles from fouling both State Route 2 and the tracks while

obeying the stop sign.

ANALYSIS - LOCOMOTIVE SAFETY DEVICES:

The leading locomotive was equipped with a headlight, auxiliary lights, and an audible warning device as required by Federal regulations. These devices were tested prior to departure from the initial terminal. The auxiliary lights were seen to be operating in photographs taken at the scene. The audible warning device was recorded sounding on the locomotive video camera for seventeen seconds prior to the collision. This was confirmed on the locomotive data record. This equipment was tested at the scene prior the train being released to continue on to its destination.

CONCLUSION:

The locomotive safety devices were in full compliance with federal requirements.

ANALYSIS - LOCOMOTIVE ENGINEER OPERATING PERFORMANCE:

The locomotive was equipped with a speed recorder and an event recorder as required. Because the lead locomotive was one of the BNSF fleet the relevant event recorder data was downloaded by the BNSF Road Foreman when the locomotive arrived in Clovis, New Mexico. The information was processed and was made available to the SW Railroad Staff. All three BNSF locomotives were equipped with on board video cameras that captured the accident.

CONCLUSION:

The locomotive engineer was in compliance with all applicable railroad operating and train handling requirements.

ANALYSIS - FATIGUE:

FRA uses an overall effectiveness rate of 77.5 percent as the baseline for fatigue analysis, which is equivalent to blood alcohol content (BAC) of 0.05. At or above this baseline, we do not consider fatigue as probable for any employee. Software sleep settings vary according to information obtained from each employee. If an employee does not provide sleep information, FRA uses the default software settings. FRA obtained fatigue related information, including a 10-day work history, for the two crew members involved in the accident.

CONCLUSION:

FRA concluded fatigue was not probable for any of the rail employees.

OVERALL CONCLUSIONS:

The railroad was in full compliance with their rules and all applicable Federal Standards. The train crew members as well as the adult occupants of the school bus were interviewed during this investigation. The driver of the school bus approached the crossing and stopped consistent with State and Federal Regulations. The driver continued to proceed after seeing the oncoming train and observing the crossing warning system devices were operating.

PROBABLE CAUSE & CONTRIBUTING FACTORS:

The accident occurred because the school bus driver failed to cross and clear the tracks at a time when safe to do so. The short distance did not allow the proper clearance of the bus at a point between the Southwestern Railroad tracks and State Route 2 was a contributing factor.