Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2008-12

Amtrak (ATK)
Houston, TX
January 25, 2008

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-2008-12

1.Name of Railroad Operating Train #1: Amtrak [ATK]	1a. Alphabetic Code: ATK	1b. Railroad Accident/Incident No.: 106838
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: Union Pacific RR Co. [UP]	4a. Alphabetic Code: UP	4b. Railroad Accident/Incident No.: 0108HO039
5. U.S. DOT_AAR Grade Crossing Identification Number: 762897N	6. Date of Accident/Incident: Month 01 Day 25 Year 2008	7. Time of Accident/Incident: 11:40:00 ☐ 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	SWD

14. Nearest City/Town	15. Milepost *(to nearest tenth)*	16. State Abbr	16. State Code	17. County
Houston	349.1	N/A	TX	HARRIS

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
42 F	4	2	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
Main Track	4	51.6	4

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
2	1	ATK 1-24

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

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): e | 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)*	AMT157	1	N/A
(2) Causing *(if mechanical cause reported)*	N/A	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): Y

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	2	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	0	6	0	0	0
(2) Total Derailed	0	6	0	0	0

37. Equipment Damage This Consist	38. Track, Signal, Way, & Structure Damage	39. Primary Cause Code	40. Contributing Cause Code
$1,151,054.00	$55,507.00	M302	N/A

Number of Crew Members

41. Engineer/ Operators	42. Firemen	43. Conductors	44. Brakemen
2	0	2	0

Length of Time on Duty

45. Engineer/Operator	46. Conductor
Hrs 5 Mi 47	Hrs 5 Mi 47

Casualties to:	47. Railroad Employees	48. Train Passengers	49. Other
Fatal	0	0	0
Nonfatal	3	1	1

50. EOT Device? 1. Yes 2. No — N/A

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

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

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
0 MPH N/A

58. Method(s) of Operation *(enter code(s) that apply)*: a. ATCS; b. Auto train control; g. Automatic block; h. Current of traffic; m.Special instructions; n. Other than main track

58a. Remotely Controlled Locomotive? 0 = Not a remotely controlled; 1 = Remote control portable

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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)*	N/A	0	N/A
(2) Causing *(if mechanical cause reported)*	N/A	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)*	N/A	0	N/A
(2) Causing *(if mechanical cause reported)*	N/A	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. 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)* Code: C

108. Vehicle Speed *(est. MPH at impact)* 0

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

Rail Equipment Involved

111. Equipment 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)* Code: 1

112. Position of Car Unit in 1

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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 *(See instructions for codes)*	Code	117. Whistle Ban 1. Yes 2. No 3. Unknown	Code
Code(s)	01 03 05 06 07 N/A N/A				01			2

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

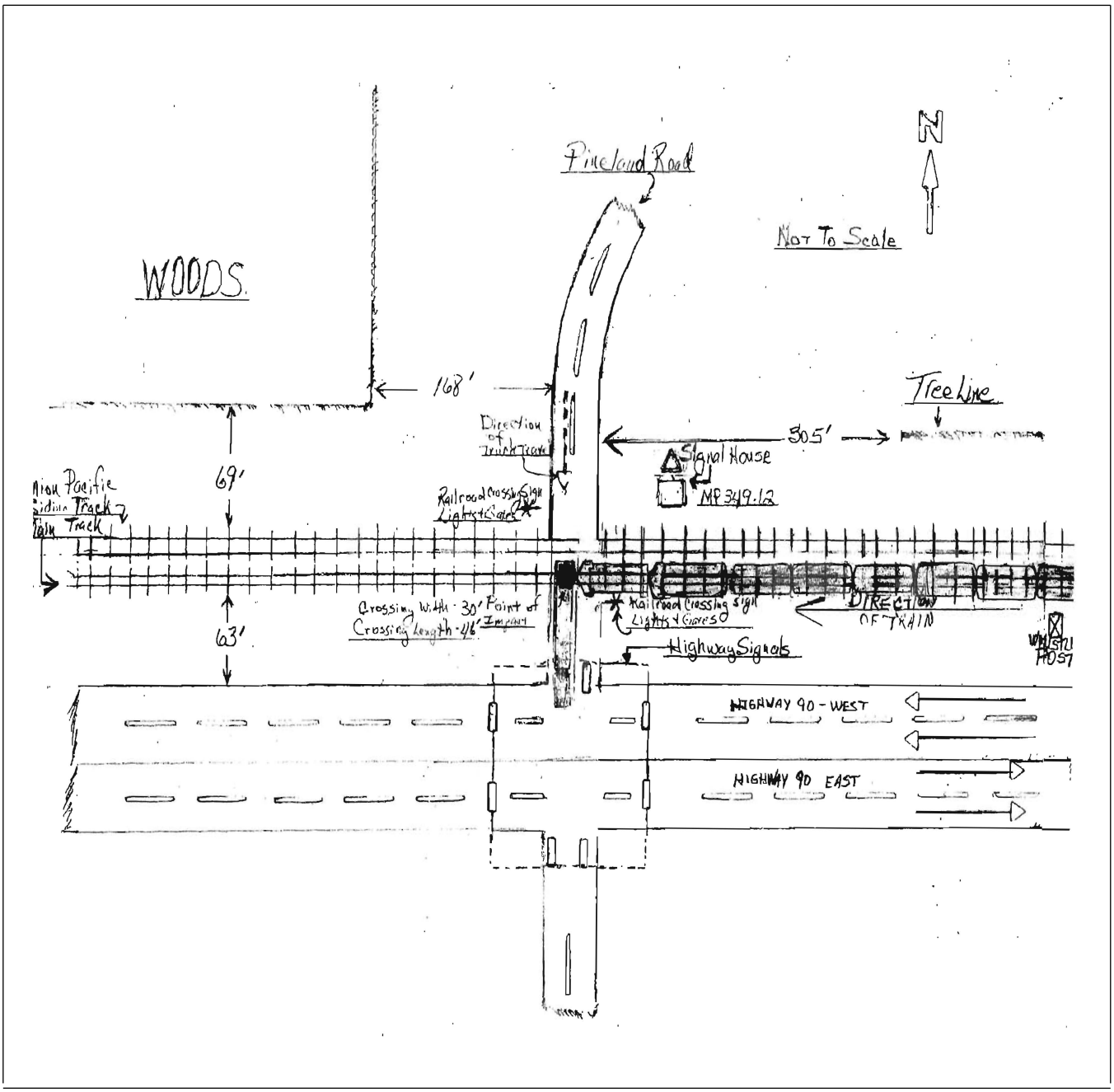
121. Age	122. Driver's Gender 1. Male 2. Female	Code	123. Driver Drove Behind or in Front of and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown	Code	124. Driver 1. Drove around or thru the Gate 2. Stopped and then Proceeded 3. Did not Stop 4. Stopped on Crossing 5. Other *(specify in narrative)*	Code
38		1		2		4

125. Driver Passed Highway Vehicle 1. Yes 2. No 3. Unknown	Code	126. View of Track Obscured by *(primary obstruction)* 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	Code
	2		8

Casualties to:	Killed	Injured	127. Driver 1. Killed 2.Injured 3. Uninjured	Code	128. Was Driver in the Vehicle? 1. Yes 2. No	Code
				2		1
129. Highway-Rail Crossing Users	0	1	130. Highway Vehicle Property Damage *(est. dollar damage)*	60000	131. Total Number of Highway-Rail Crossing Users *(include driver)*	1

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

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



137. SYNOPSIS OF THE ACCIDENT

Westbound Amtrak (ATK) Passenger Train ATK 1-24, with 2 locomotives and six passenger cars, struck a semi-truck/trailer vehicle at a highway-rail crossing at grade on January 25, 2008 at 11:40 p.m. CST on the Union Pacific's (UP) Houston Service Unit, Lafayette Subdivision at UP Milepost 349.1. The accident occurred at Pineland Road in Harris County, at Department Of Transportation (DOT) Crossing #762 897 N, about four miles east of Houston, TX. The railroad timetable direction for this train was west.

As a result of the collision, two persons, the truck driver and one of the 62 passengers aboard the train, were reported to have been taken to a local hospital with non-life-threatening injuries from the accident site. Three of the five on-board crew members were later reported as having non-life-threatening injuries also. The six passenger cars derailed but remained in the upright position. Total estimated monetary damages were $1,206,561.

At the time of the accident it was night. The temperature was about 42° F, with cloudy skies.

The accident was caused by failure of the vehicle driver to yield the right-of-way to the oncoming train. According to the Harris County Sheriff Department the driver was charged with a disregard to railroad crossing signal, citation # EE0052771, and violation prohibiting park/stop/standing on railroad track, citation # EE0052771.

138. NARRATIVE

CIRCUMSTANCES PRIOR TO THE ACCIDENT

The crew of ATK Passenger Train ATK 1-24 included a locomotive engineer, 2nd locomotive engineer, a conductor, and an assistant conductor. In addition, the on-board crew consisted of two lead service attendants, a service attendant, a train attendant, and a chef. The train crew went on duty on January 25, 2008 at 5:53 p.m. CST at the Amtrak Terminal in Beaumont, TX, UP Milepost 280.1, with the scheduled destination location of San Antonio, TX (the train operating crew's home terminal). All train operating crew members received the required statutory off duty rest period prior to reporting for duty at Beaumont, TX.

The make-up of ATK Train 1-24 consisted of two locomotives and six passenger cars. An air brake test was performed on the train in New Orleans, LA, and since this is a crew change terminal at Beaumont, TX, a set-and-release air brake test was performed by the train crew. An End OF Train Device (EOTD) was not required.

The engineer was seated at the controls on the left side of the lead locomotive, and the 2nd engineer was seated on the right side; both were viewing the approach to the Pineland Road crossing. The conductor was located behind the engineers and had only a side view of the forward motion. The assistant conductor was seated, performing his paper-work in the first passenger car behind the second locomotive. The railroad timetable and geographic directions are west. Timetable directions are used throughout this report.

The vehicle involved in the collision was a 1999 white Kenworth cab tractor licensed R8S-Y53 (TX), with a 1999 red Great Dane empty flatbed trailer licensed X27-005 (TX). The driver was the sole occupant of the truck. Prior to the collision, the truck/trailer vehicle was traveling in a southward direction, about a 90 degree angle from the train movement and came to a complete stop at the Highway 90 and Pineland Road intersection.

In this area of the railroad there are no curves. There is a 0.06-percent ascending grade.

THE ACCIDENT

AMTRAK TRAIN 1-24

ATK Passenger Train 1-24 was operating at a recorded speed of 68 mph approaching the accident area. This was validated by the locomotive event recorder download. The maximum authorized speed for this train was 70 mph as designated in the current Union Pacific Railroad Company's Lafayette Subdivision, Houston Area Timetable No.4. The train crew's view of the crossing was unobstructed. Both the engineer and 2nd engineer of the train crew stated that they saw two semi-truck vehicles crossing the highway-rail crossing. The first semi-truck vehicle went through the crossing without incident. As the second semi-truck vehicle was proceeding through the crossing, the crossing gates came down, first striking the cab and then sliding off the cab onto the flatbed empty trailer and eventually off the rear of the trailer. The semi-truck then stopped at the intersection of Highway 90, with the cab of the truck portion of the vehicle in the right lane of westbound Highway 90 and the trailer portion of the vehicle was fouling the Main Track. The engineer stated that as soon as he became aware of the impending collision, about 150 to 200 feet from the highway-rail crossing, he immediately placed the train into an emergency air brake application. The engineer fell to the floor, and the 2nd engineer remained in his seat. The locomotive event recorder download revealed no significant speed difference from the time of the emergency application and the time of impact. After the train stopped, the train dispatcher was given notification of the accident. The two locomotives remained on the Main Track, but the six passenger cars derailed, remaining upright.

Damage to railroad mechanical equipment was $1,151,054, according to Amtrak's Form FRA F6180.54 Report. Track and signal structure damages were $55,507, according to UP's Rail Accident/Incident Record Form 97. Combined costs are $1,206,561.

HIGHWAY VEHICLE:

The semi-tractor/trailer vehicle was traveling from north to south on Pineland Road. The semi-truck driver's view of the crossing was unobstructed. A report, filed by the Harris County Sheriff Department's Deputy, stated that the vehicle stopped with the rear portion of the trailer on the tracks.

The train struck the left side of the trailer at about the trailer axles. The vehicle was carried west along the track about 100 feet from the point of impact where the trailer became detached from the truck. The train came to a stop about 2500 feet west of the point of impact.

The Harris County Sheriff Department Deputy arrived at the scene at 11:45 p.m. The Channelview EMS arrived at the accident site at 11:54 p.m., January 25, 2008, and transported the vehicle driver from the site to a local hospital. The North Channel EMS arrived at the accident site at 12:39 a.m., January 26, 2008 and transported the passenger from the train to a local hospital.

ANALYSIS

According to the Harris County Sheriff Department Deputy's report, neither the driver of the semi-truck vehicle nor the engineer were tested for alcohol or drugs.

The highway-rail grade crossing is composed of asphalt with concrete panels. Pineland Road consists of a northbound lane and a southbound lane. At the crossing, there is a rail siding (referred to as the Fauna Siding) located on the north side of the Main Track. There is a traffic light at the intersection of Pineland Road and Highway 90. For southbound vehicular traffic, there is an advanced warning sign posted about 509 feet from the crossing, as well as pavement markings. However, the stop-line marking was not present. There is a highway warning mast on each side of the track. Each is equipped with warning devices that include lights, bells, gates, and crossbucks. They are controlled by a GCP (Grade Crossing Predictor) 4K with an 86 Hz frequency, located in the signal house. The recorder showed that the crossing warning system provided approximately 26 seconds of warning time prior to the train occupying the crossing. The Grade Crossing Predictor time is factored with any train speed. The approaches to the crossing are 3,600 feet in both directions. The lights at the crossing are L-E-D's and are very visible from all views to the crossing and provides 44 flashes per minute. Pineland Road is maintained by Harris County Highway Department, and the highway intersection signals are maintained by Texas DOT.

UP has whistle post in place about 1,467 feet east of the crossing. The locomotive engineer stated he was sounding the horn at this location, as validated by the locomotive event recorder download, and that the locomotive crossing bell, headlights, and auxiliary lights were equipped and working.

The active warning devices were tested by a UP signal maintainer at 1:00 p.m. on January 26, 2008, and found to function as intended. The tests were performed again in the presence of an FRA employee at 10:30 a.m. on February 25, 2008, and found to function as intended.

The leading locomotive was equipped with a headlight, the auxiliary lights, and the audible warning device required by Federal regulations.

The lead locomotive was also equipped with a speed indicator and an event recorder as required by Federal regulations. The relevant event recorder data was downloaded by the ATK Assistant Superintendent. The analysis disclosed that the locomotive engineer was in compliance with all applicable railroad operating and train handling requirements. FRA reviewed the results of this analysis and concurred with the conclusions.

CONCLUSION

There were no citations issued to the train crew of ATK or UP employees for noncompliance of rules, regulations or laws associated with the accident by any oversight authorities that were made known during the investigation. The engineer and the 2nd engineer were the only crew members that witnessed the accident and they had no information that could be used to determine why the vehicle driver stopped without clearing the Main Track.

ANALYSIS: - FATIGUE

FRA obtained fatigue related information for the 10-day period preceding this incident including the 10-day work history (on duty/off duty cycles) for all of the employees involved.

CONCLUSION:

Upon analysis of that information FRA concluded fatigue was not probable for any of the employees.

PROBABLE CAUSE AND CONTRIBUTING FACTORS

The accident occurred because the driver of the semi-truck vehicle came to a complete stop before clearing the crossing and fouled the Main Track. No contributing factors that resulted in this accident were discovered.