Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2007-50

Amtrak (ATK)
Houston, Texas
August 22, 2007

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-2007-50

1.Name of Railroad Operating Train #1: Amtrak [ATK]	1a. Alphabetic Code: ATK	1b. Railroad Accident/Incident No.: ASIS105410
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.: 0807HO053
5. U.S. DOT_AAR Grade Crossing Identification Number: 762904W	6. Date of Accident/Incident: Month 08 Day 22 Year 2007	7. Time of Accident/Incident: 10:55: ☐ 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	Houston

14. Nearest City/Town	15. Milepost (to nearest tenth)	16. State Abbr	16. State Code	17. County
Houston	351.6	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
82 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	40.47		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. Yes	1	ATK1-21

29. Speed (recorded speed, if available) R - Recorded E - Estimated	Code	31. Method(s) of Operation (enter code(s) that apply)	31a. Remotely Controlled Locomotive?
60 MPH	R	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)	0 = Not a remotely controlled 1 = Remote control portable 2 = Remote control tower 3 = Remote control transmitter - more than one remote control transmitter

30. Trailing Tons (gross tonnage, excluding power units)	Code(s)				
0	e	N/A	N/A	N/A	N/A

31a. Remotely Controlled Locomotive?	
	0

32. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)
(1) First involved (derailed, struck, etc)	ATK-84	1	yes
(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)	
	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	7	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
$19,225.00	$0.00	M308	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 2	Hrs 5 Mi 2

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. Yes	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	1. Yes	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

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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)	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: 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. 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: A

108. Vehicle Speed (est. MPH at impact): 5

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

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	3	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

Code(s)	01	N/A	N/A	N/A	N/A	N/A	N/A

116. Signaled Crossing (See instructions for codes)	Code	117. Whistle 1. Yes 2. No 3. Unknown	Code
	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		2		1

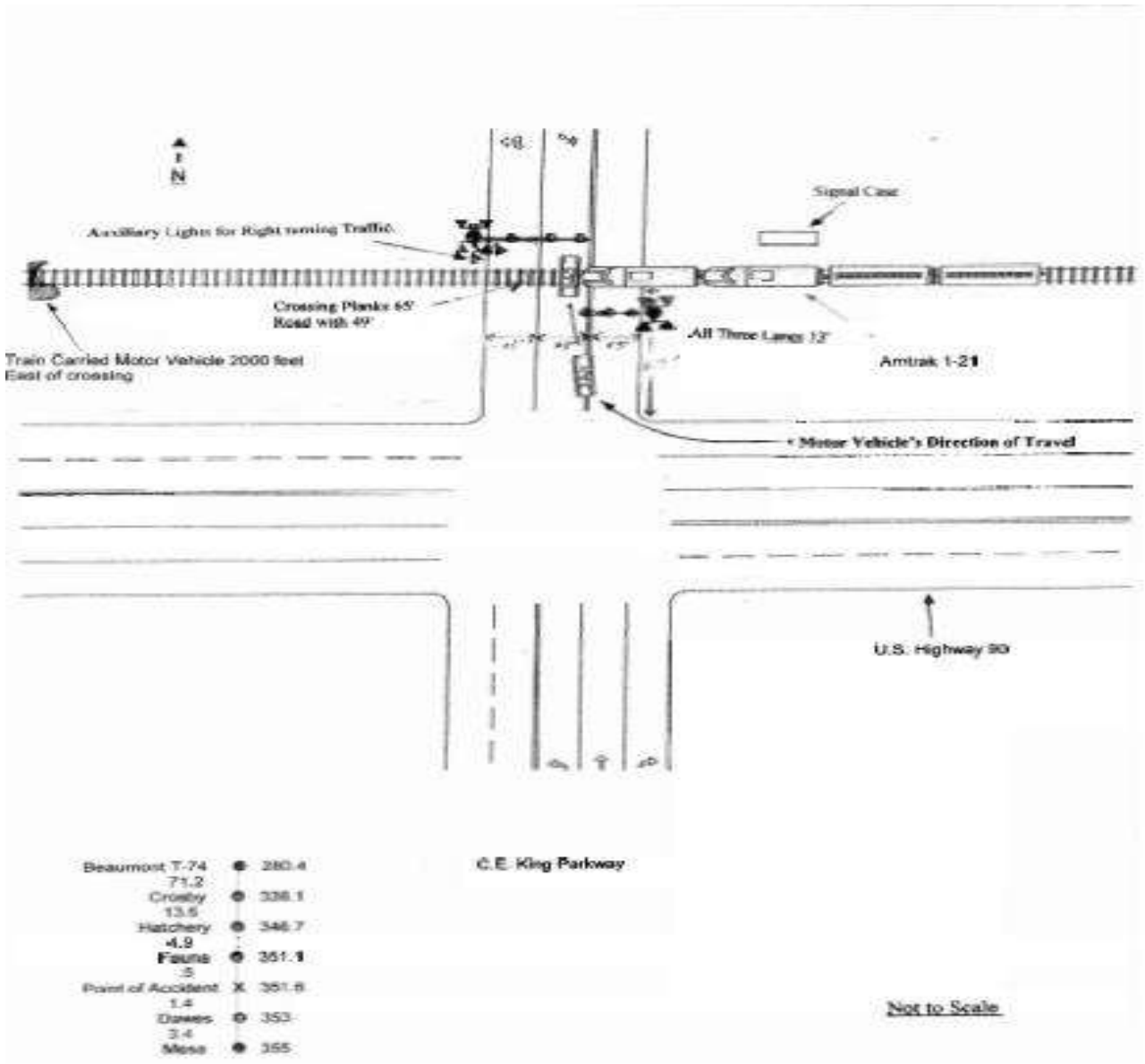
121. Age	122. Driver's Gender 1. Male 2. Female	Code	123. Driver Drove Behind or in Front of and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown	Code	124. Driver 1. Drove around or thru the Gate 2. Stopped and then Proceeded 3. Did not Stop 4. Stopped on Crossing 5. Other (specify in narrative)	Code
18		1		1		1

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
				1		1
129. Highway-Rail Crossing Users	3	0	130. Highway Vehicle Property Damage (est. dollar damage)	2000	131. Total Number of Highway-Rail Crossing Users (include driver)	3

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

SYNOPSIS OF THE ACCIDENT

A westbound Amtrak (ATK) Passenger train Train Number 1-21, consisting of two locomotives,7 cars, and operating at an estimated speed of 60 mph, collided with an automobile at a highway/rail grade crossing, C.E. King Parkway and Union Pacific (UP) tracks, on August 22, 2007, at 10:55p.m. The accident occurred near Houston, Texas, at UP Milepost 351.6, on the UP Lafayette Subdivision, in Harris County at D.O.T. Crossing # 762904W. The crossing is controlled by a HXP-3 warning system. It's recorder shows that the crossing warning system provided approximately 27 seconds of warning time prior to the train occupying the crossing.

Timetable speed limit for the area is 70 MPH for passenger and 60 MPH for freight. The highway warning mast on the south east quadrant for north bound highway traffic is equipped with a set of side lights pointed at turning traffic from east bound Highway 90. The main lights are pointed south for C.E. King Parkway, the back lights of the mast in the northwest quadrant are pointed for turning west bound traffic off Highway 90. At C.E. King Parkway there is a single north bound lane and two south bound lanes for motor vehicle traffic. There is a traffic light at the intersection of C.E. King Parkway and Highway 90 with turn signals. The occupants of the motor vehicle were driver male age 18, passenger female age 16, passenger male age 13.

The motor vehicle driver and all passengers were killed. The automobile was completely destroyed. There were no injuries to the ATK train crew or passengers. The leading locomotive ATK locomotive No. 84 sustained minor damage and the train's 66 passengers were delayed approximately 4 hours. Damage to locomotive No. 84 sustained in the collision consisted of a bent plow, burned electrical wires and a broken ditch light, estimated to be $19,225, and there was no derailment.

At the time of the accident it was night and overcast, with high humidity and no wind. The temperature was 82 F.

The accident was caused by failure of the motor vehicle driver to stop at the lowered gates of the highway warning system and to yield to the oncoming train. According to the Harris County Sheriff's Department, the driver of the motor vehicle did not have a drivers license and was in violation of Texas state law.

138. NARRATIVE

CIRCUMSTANCFES PRIOR TO THE ACCIDENT

AMTRAK ATK1-21

The crew of train ATK1-21 west included a locomotive engineer, two conductors, and an assistant engineer. The crew went on duty at 5:53 p.m., August 22, 2007, at Beaumont, Texas. Beaumont, Texas is the away-from-home terminal for all crew members; and all crew members received more than 30 hours off-duty, prior to reporting for duty.

Their assigned passenger train consisted of two locomotives, seven occupied passenger cars with 66 passengers on board. The train was scheduled to travel from Beaumont, Texas to San Antonio, Texas. The train received a Class I Brake Test (initial terminal inspection), and departed Beaumont, Texas at about 7:50 p.m. The train was delayed several times due to UP operational tests. They flagged signals out of Hatchery behind another train, then they were stopped at the east end of Fauna. They received a yellow and proceeded to the west end of Fauna. At the west end of Fauna the signal was yellow then went to a flashing yellow. The engineer then proceeded to increase speed.

As the southbound train approached the accident area, the locomotive engineer was seated at the controls on the north side of the leading locomotive. The conductors were located in the passenger coach cars. The engineer was sounding the horn.

The railroad trackage in this area is tangent track with no grades for more than 2,000 feet in both directions to the point of impact and for a considerable distance beyond.

HIGHWAY VEHICLE

The motor/vehicle was a 1995 Mazda 929 four door sedan. There were three occupants in the motor/vehicle, the driver a male, 18, a female passenger, 16, located in the front seat and a13 year old male located in the back seat. The motor/vehicle was traveling west on U.S. Highway 90 slowed at the intersection of C.E. King Parkway and U.S.90 and with out stepping on the brakes made a right hand turn going north around the lowered crossing gate arm and onto the tracks.

Traveling east to west on highway U.S. 90, the grade is practically level. Turning onto C.E. King Parkway there is a slight grade to the tracks and the road is level from the point of impact with no curves for about 500 feet.

The railroad timetable direction of the train is west. The geographic direction is west. Timetable directions are used throughout this report.

THE ACCIDENT

TRAIN - ATK1-21 WEST

The train was being operated at about 60 mph approaching the accident site. The engineer's view of the crossing was unobstructed. The engineer said he became aware of the impending collision when the automobile failed to stop at the highway grade crossing and went around the lowered gates about 60 feet in advance of the train. He simultaneously initiated an emergency train air brake application. The train had slowed to about 56 mph when the collision occurred. Both speeds were recorded by the event recorder of the controlling locomotive. The maximum authorized speed for this train was 70 mph, as designated in the current UP Timetable Houston Area No. 4.

HIGHWAY VEHICLE

The automobile was traveling west on U.S Highway 90. According to the locomotive engineer, he saw the motor vehicle at the traffic light and no brake lights came on as the driver turned right onto C.E. King Parkway. He was blowing the horn and the motor/vehicle made no attempt to stop before it entered the crossing. It was estimated the driver was operating the motor/vehicle at about 5 mph when he was maneuvering around the lowered gates just before the collision occurred. The posted speed limit is 45 mph.

The train struck the right side of the automobile about midpoint of the vehicle. The automobile was carried west, along the tracks, for about 2,000 feet before the train came to a stop.

After the train stopped, the locomotive engineer stayed on the locomotive to establish radio communications with the train dispatcher. The motor vehicle was attached to the front of the locomotive and on fire. The engineer backed up the train about two car lengths in order to dislodge the motor/vehicle when that failed the conductor and assistant engineer attempted to put the fire out with fire extinguishers. The crew then waited for the arrival of emergency response personnel.

The Harris County, Texas, deputy sheriff arrived on the scene at 11:18 p.m. The Shellton Fire department arrived about the same time and put out the fire. The Harris County Medical Examiners Office was notified at 11:19 p.m.. There was no signs of life by the occupants of the motor/vehicle at the scene. The Medical Examiners Office arrived at 12:56 a.m. and transported the bodys to the Harris County's Medical Examiners Office.

Just before 3 a.m. UP employees were able to dislodge the motor/vehicle from the front of the train. The UP ascertained the condition track structure to be alright. There were no hazardous materials involvement and only minor structural damage to the lead locomotive, mostly burn damage to the paint. The train and crew were released to proceed at 3:45 p.m., and continued the trip to San Antonio, TX, which is about 210 miles west of C.E. King Parkway. The train made it as far as Eagle Lake, about 142 miles from San Antonio, before the crew was relived because of hours-of-service requirements.

The driver and both passengers were pronounced dead at the scene.

The motor/vehicle was completely destroyed; estimated damages were $2,000.00. The locomotive sustained burned electrical connections, one broken ditch light, bent plow and burn damage to the locomotive paint for a total of $19,225.

ANALYSIS AND CONCLUSIONS

ANALYSIS

The driver was an 18 year old male. The other two passengers of the automobile were the drivers brother age 13 and the drivers girl friend age 16. The Harris County, Texas, Sheriff department submitted specimens for toxicological testing on the remains of the driver, and the results were negative.

The highway-rail crossing at grade is equipped with warning lights, bells, and gates. It is controlled by a Harmon HXP-3 motion predictor. The approaches to the crossing are 3,025 feet in both directions. The north signal mast is equipped with back lights and an axillary set of lights mounted to be visible for traffic turning off of U.S. Highway 90 onto C.E. King Parkway. The lights at the crossing are L-E-D's and are very visible from all views to the crossing.

The railroad has a whistle post in place about 1,580 feet west of the crossing. The locomotive engineer said, he began sounding the whistle when the train neared this post and until the time of the collision. This was later validated by analysis of the event recorder data.

The active warning devices were tested by a UP signal maintainer and signal manager at about 1:30 a.m. on the 23rd of August, and found to function as intended. The tests were performed again at 9:30 a.m. on August 27th, this time in the presence of an FRA signal and train control inspector. The warning devices functioned as intended.

The leading locomotive was equipped with a headlight, auxiliary lights, and audible warning device required by Federal regulations. These devices were tested by ATK mechanical foreman in San Antonio, and they functioned as intended. The devices were in full compliance with Federal requirements.

The locomotive was also equipped with a speed indicator and an event recorder as required. The relevant event recorder data was downloaded by the trainmaster at the accident site, and analyzed at the ATK locomotive facility in San Antonio, TX. The analysis disclosed that the locomotive engineer was in compliance with all applicable railroad operating and train handling requirements.

CONCLUSIONS

The railroad was in full compliance with their own, and all applicable Federal standards. The train's locomotive engineer was the only available witnesses to the accident. There was not any information that could be used to determine why the automobile failed to stop at the crossing. The driver did not have a license. Based on the little evidence available, the sheriff surmised that driver inexperience and inattention were predominant factors.

PROBABLE CAUSE & CONTRIBUTING FACTORS

It was determined by the Federal Railroad Administration that the accident occurred because the driver of the automobile failed to stop at the highway-rail crossing at grade, as required by Texas State law.