Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2006-76

Amtrak/Norfolk Southern
Wayne, MI
September 8, 2006

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-2006-76

1.Name of Railroad Operating Train #1: Amtrak [ATK]	1a. Alphabetic Code: ATK	1b. Railroad Accident/Incident No.: 102035
2.Name of Railroad Operating Train #2: N/A	2a. Alphabetic Code: N/A	2b. Railroad Accident/Incident: N/A
3.Name of Railroad Responsible for Track Maintenance: Amtrak [ATK]	3a. Alphabetic Code: ATK	3b. Railroad Accident/Incident No.: 102035
4. U.S. DOT_AAR Grade Crossing Identification Number: 477304K	5. Date of Accident/Incident: Month 09 / Day 08 / Year 2006	6. Time of Accident/Incident: 07:58:00 ☑ AM ☐ PM

7. 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): 07

8. Cars Carrying HAZMAT	9. HAZMAT Cars Damaged/Derailed	10. Cars Releasing HAZMAT	11. People Evacuated	12. Division
0	0	0	0	DEARBORN

13. Nearest City/Town	14. Milepost (to nearest tenth)	15. State Abbr	15. State Code	16. County
WAYNE	18.2	N/A	MI	WAYNE

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

21. Track Name/Number	22. FRA Track Class (1-9, X)	Code	23. Annual Track Density (gross tons in millions)	24. Time Table Direction 1. North 3. East	Code
NO 2 MAIN TRACK		4	1.4		4

OPERATING TRAIN #1

25. 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: 2

26. Was Equipment Attended? 1. Yes 2. No: 1

27. Train Number/Symbol: 351

28. Speed (recorded speed, if available) R - Recorded E - Estimated: 54 MPH; Code: R

29. Trailing Tons (gross tonnage, excluding power units): N/A

30. 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): f, k, N/A, N/A, N/A

30a. 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

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

32. 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

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

34. 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	1	0	0	0	1
(2) Total Derailed	0	0	0	0	0

35. Cars	Loade a. Freight	Loade b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	00	6	00	00	00
(2) Total Derailed	00	00	00	00	00

36. Equipment Damage This Consist: 2000

37. Track, Signal, Way, & Structure Damage: 00

38. Primary Cause Code: M302

39. Contributing Cause Code: N/A

Number of Crew Members

40. Engineer/ Operators	41. Firemen	42. Conductors	43. Brakemen
N/A	00	2	00

Length of Time on Duty

44. Engineer/Operator: Hrs 2 Mi 00

45. Conductor: Hrs 2 Mi 00

Casualties to:	46. Railroad Employees	47. Train Passengers	48. Other
Fatal	00	00	00
Nonfatal	N/A	00	00

49. EOT Device? 1. Yes 2. No: 2

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

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

OPERATING TRAIN #2

52. 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

53. Was Equipment Attended? 1. Yes 2. No: N/A

54. Train Number/Symbol: N/A

55. Speed (recorded speed, if available) R - Recorded E - Estimated: N/A MPH; Code: N/A

57. 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

57a. Remotely Controlled Locomotive? 0 = Not a remotely controlled; 1 = Remote control portable

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2006-76

56. Trailing Tons (gross tonnage, excluding power units)	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)	2 = Remote control tower 3 = Remote control transmitter - more than one remote control transmitter
N/A			N/A N/A N/A N/A N/A	N/A

58. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)	59. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.	Alcohol	Drugs
(1) First involved (derailed, struck, etc)	N/A	N/A	N/A		N/A	N/A
(2) Causing (if mechanical cause reported)	N/A	N/A	N/A	60. Was this consist transporting passengers? (Y/N)	N/A	

61. Locomotive Units	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End c. Remote	62. Cars	Loade a. Freight	Loade b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Train	N/A	N/A	N/A	N/A	N/A	(1) Total in Equipment Consist	N/A	N/A	N/A	N/A	N/A
(2) Total Derailed	N/A	N/A	N/A	N/A	N/A	(2) Total Derailed	N/A	N/A	N/A	N/A	N/A

63. Equipment Damage This Consist	64. Track, Signal, Way, & Structure Damage	65. Primary Cause Code	66. Contributing Cause Code
N/A	N/A	N/A	N/A

Number of Crew Members				Length of Time on Duty	
67. Engineer/ Operators	68. Firemen	69. Conductors	70. Brakemen	71. Engineer/Operator	72. Conductor
N/A	N/A	N/A	N/A	Hrs N/A Mi N/A	Hrs N/A Mi N/A

Casualties to:	73. Railroad Employees	74. Train Passengers	75. Other
Fatal	N/A	N/A	N/A
Nonfatal	N/A	N/A	N/A

76. EOT Device?	77. Was EOT Device Properly Armed?	78. Caboose Occupied by Crew?
1. Yes 2. No N/A	1. Yes 2. No N/A	1. Yes 2. No N/A

Highway User Involved

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

80. Vehicle Speed (est. MPH at impact): 1

81. Direction geographical) — Code: 1
1.North 2.South 3.East 4.West

82. Position — Code: 3
1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing
4. Trapped

86a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? — Code: 4
1. Highway User 2. Rail Equipment 3. Both 4. Neither

Rail Equipment Involved

83. 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)

84. Position of Car Unit in Train: 1

85. Circumstance — Code: 1
1. Rail Equipment Struck Highway User
2. Rail Equipment Struck by Highway User

86b. Was there a hazardous materials release by — Code: 4
1. Highway User 2. Rail Equipment 3. Both 4. Neither

86c. State here the name and quantity of the hazardous materials released, if any.
N/A

87. Type of 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)	08	N/A	N/A	N/A	N/A	N/A	N/A					

88. Signaled Crossing Warning (See instructions for codes) — Code: N/A

89. Whistle Ban — Code: 2
1. Yes
2. No
3. Unknown

90. Location of Warning — Code: 2
1. Both Sides
2. Side of Vehicle Approach
3. Opposite Side of Vehicle Approach

91. Crossing Warning Interconnected with Highway Signals — Code: 2
1. Yes
2. No
3. Unknown

92. Crossing Illuminated by Street Lights or Special Lights — Code: 1
1. Yes
2. No
3. Unknown

93. Driver's Age	94. Driver's Gender — Code	95. Driver Drove Behind or in Front of Train and Struck or was Struck by Second Train — Code	96. Driver — Code
28	1. Male 2. Female — 1	1. Yes 2. No 3. Unknown — 2	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) — 3

97. Driver Passed Standing Highway Vehicle — Code: 2
1. Yes 2. No 3. Unknown

98. View of Track Obscured by (primary obstruction) — Code: 8
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

101. Casulties to Highway-Rail Crossing Users	Killed	Injured
	00	1

99. Driver Was — Code: 2
1. Killed 2.Injured 3. Uninjured

100. Was Driver in the Vehicle? — Code: 1
1. Yes 2. No

102. Highway Vehicle Property Damage (est. dollar damage): 15500

103. Total Number of Highway-Rail Crossing Users (include driver): 1

104. Locomotive Auxiliary Lights? — Code: 1
1. Yes 2. No

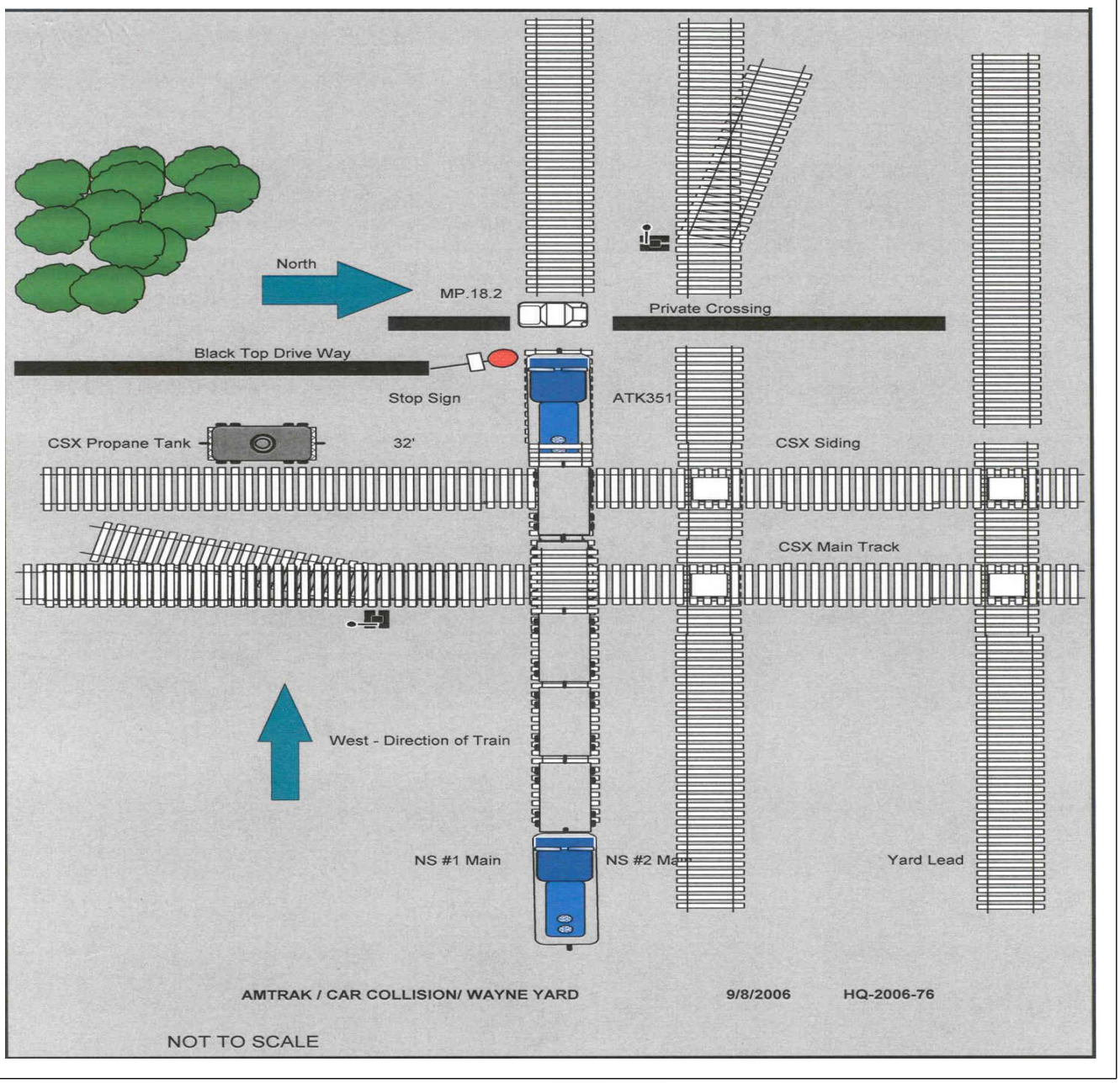
105. Locomotive Auxiliary Lights Operational? — Code: 1
1. Yes 2. No

106. Locomotive Headlight Illuminated? — Code: 1
1. Yes 2. No

107. Locomotive Audible Warning Sounded? — Code: 1
1. Yes 2. No

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

HQ-76-
2006
Accident
Sketch.jpg



109. SYNOPSIS OF THE ACCIDENT

Synopsis

Westbound Amtrak Train No. 351 collided with an automobile at a private highway-rail grade crossing entering Norfolk Southern's (NS) Wayne Yard on September 8, 2006, at 7:58 a.m., e.s.t. The accident occurred in Wayne, Michigan, NS Milepost MH18.2, on the Michigan Line Subdivision of the NS Dearborn Division.

The driver of the motor vehicle was an NS conductor reporting for work. He was transported to the University of Michigan Hospital where he was treated for a broken back, broken leg, and lacerations and bruises to his face and body. The motor vehicle was completely destroyed. There were no injuries to the train crew or passengers. The locomotive sustained damage of about $2,000, and there was no derailment.

At the time of the accident it was daylight and clear. The temperature was 68°F.

The accident was caused by highway user inattentiveness.

110. NARRATIVE

Circumstances Prior to the Accident

The crew of Amtrak Train No. 351 included a locomotive engineer, conductor, and assistant conductor, who went on duty at 5:55 a.m. on September 8, 2006, at Pontiac, Michigan. A system general road foreman of engines arrived at Pontiac at 5:30 a.m. to begin an audit on the crew of Amtrak 351.

The crew members received the statutory off-duty period before being called for service.

Amtrak 351 was a westbound train, which originates in Pontiac with a final destination of Chicago, Illinois. The train crew had a job briefing with the dispatcher and performed an initial air brake test prior to departure. Amtrak 351 departed Pontiac at 6:40 a.m. with the three person crew, the general road foreman, and 80 passengers. The train was operating in a pulling mode with Amtrak Locomotive No. 28 in the lead, followed by five passenger cars, a baggage car, and a control car on the rear of the train.

This train operates over Canadian National, Conrail Shared Assets and NS Railroads from Pontiac to Battle Creek, Michigan, where there is a crew change. The method of operation is NS Operating Rule 261, which reads (signal indication will be the authority for a train to operate in either direction on the same track). Train movements are controlled from the NS Dispatching Center located in Dearborn, Michigan.

As the westbound train approached the accident area, the locomotive engineer was seated at the controls on the north side of the leading locomotive. The general road foreman was seated on the south side of the leading locomotive. The conductor and assistant conductor were in the passenger coaches collecting tickets. The crew reported no unusual occurrences prior to the accident.

The area of the railroad where the accident occurred is tangent for two miles. There is a 0.15 percent ascending grade approaching the private crossing which enters Wayne Yard. The only obstruction to the drivers view is a stationary propane tank on CSX property, 32 feet south of the stop sign. This propane tank did not obstruct the drivers view of the approaching train from the location of the stop sign.

The railroad timetable and geographic direction of the train was west.

The Accident

Amtrak 351 approached milepost MH18.0 operating on a clear signal from the single main to Main Track No. 2, traveling at a recorded speed of 60 mph. The maximum authorized speed on Main Track No. 2 is 60 mph as designated in the current NS Dearborn Division Timetable No. 4 dated Friday, June 23, 2006.

The engineer had a clear view of the crossing. He noticed a northbound vehicle approaching from approximately 1,000 feet away. The engineer began sounding a series of short blasts on the locomotive horn. When it appeared the car would not clear the tracks in time, the engineer sounded the horn for a long blast and then initiated an emergency air brake application. The train had slowed to 54 mph when the collision occurred. The speed was recorded by the event recorder of the locomotive.

Highway Vehicle

The automobile was a 2005 Pontiac Grand Prix traveling north on the NS private drive into Wayne Yard. A report filed by the Wayne City Police Department stated the engineer observed a silver car approaching the crossing from his left side. He said the car slowed down at the stop sign, started across the crossing and slowed down once again, then lurched onto the tracks. When the engineer noticed the car entering the crossing he sounded the horn for a long solid blast. He stated he saw the driver of the car look toward him and freeze, stopping the car on the crossing.

The train struck the passenger side of the automobile about mid-point of the front door. The automobile was knocked clear of the tracks and came to rest on its wheels 242 feet west of the crossing. The train came to a stop 998 feet west of the crossing.

After stopping the train, the engineer stayed on the locomotive to establish radio communication with the NS train dispatcher, stating that they hit a car and needed emergency medical assistance. The general road foreman asked the engineer if he was injured and then checked with the conductor making sure the rest of the crew and passengers were not injured. The general road foreman and the conductor walked back to the automobile to await arrival of the emergency responders.

The Wayne City Police arrived at approximately 8:07 a.m. The Wayne Fire Rescue Squad arrived a couple of minutes later and began to administer first aid to the driver of the vehicle. The officers cordoned off the accident area, and one officer went to interview the engineer and the general road foreman.

An NS trainmaster was dispatched to the scene from Jackson, Michigan, and arrived about 9:15 a.m. He ascertained the condition of the train and track structure. There were no hazardous materials involved and only minor damage to the locomotive.

An Amtrak supervisor/locomotive engineer arrived at about 8:30 a.m. to interview and relieve the engineer involved in the accident. Amtrak 351 was allowed to proceed at approximately 10:30 a.m.

The driver of the car was taken by ambulance to Annapolis Hospital and then transferred to the University of Michigan Hospital in Ann Arbor, Michigan, in critical condition.

The motor vehicle was totally destroyed, and there was no track damage reported.

Analysis

The driver of the car was a 28 year old male. He is an NS Conductor with 1 year, 11 months of service who was reporting for duty at 8:01 a.m. The accident occurred at approximately 7:58 a.m. at the private highway-rail grade crossing entering NS Wayne Yard where he was to report for duty.

The Wayne Yard crossing is equipped with one stop sign located on the southeast quadrant of the crossing. There are no active warning devices and no AAR/DOT number assigned. The crossing is maintained by the NS.

This crossing can be accessed only from Annapolis Street, a public road. The stop sign is located on the southeast quadrant, 11 feet 6 inches from the nearest rail, and 10 feet from the edge of the pavement. The stop sign is 9 feet high with a rectangular private railroad crossing sign fastened to the same post. The road intersects with the railroad at a 90 angle, and the track is tangent in both directions.

The lead unit of Amtrak 351 was equipped with a headlight, auxiliary lights, and the audible warning device required by Federal regulations. The locomotive engineer stated that these devices were functioning as intended at the time of the accident. There was no record of any post-accident mechanical inspections or testing of equipment.

The locomotive was equipped with a speed indicator and an event recorder as required by Federal regulations. The relevant event recorder data was downloaded by the Amtrak road foreman at the accident site, and analyzed accordingly. The analysis disclosed that the locomotive engineer was in compliance with all applicable railroad operating rules and train handling requirements. FRA reviewed the results of this analysis, and concurred with the conclusions.

There are two entrances into NS Wayne Yard, one through a CSX rail yard to the north from Michigan Avenue which crosses several yard tracks. This was the main entrance until 1997 according to the local NS Track Supervisor. The entrance on which the accident occurred is now the primary entrance into Wayne Yard, running south to north along CSX's main track from Annapolis Street. It intersects with two NS main tracks.

Eight Amtrak passenger trains and six to eight freight trains operate daily over this segment of track. According to the NS Wayne yardmaster, there have been no reports of any accidents or close calls at this crossing to date.

This accident did not meet the criteria for 49 CFR Part 219 Subpart C Post Accident Toxicological Testing. Amtrak elected not to test under their post accident toxicological
testing authority since it also failed to meet their prescribed testing criteria.

Conclusions

The railroad was in full compliance with their own operating and safety rules, and all applicable Federal regulations.

The locomotive engineer and general road foreman both agree that the driver of the car slowed at the stop sign then proceeded across the tracks slowly and stopped in the middle of No. 2 Main Track after he heard the train's horn.

Probable Cause and Contributing Factors