Federal Railroad Administration
Office of Railroad Safety
Accident and Analysis Branch

Accident Investigation Report
HQ-2013-10

Amtrak (ATK)
Toccoa, GA
May 3, 2013

Note that 49 U.S.C. §20903 provides that no part of an accident or incident report, including this one, 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.

U.S. Department of Transportation Federal Railroad Administration	**FRA FACTUAL RAILROAD ACCIDENT REPORT**	FRA File #HQ-2013-10

TRAIN SUMMARY

1. Name of Railroad Operating Train #1	1a. Alphabetic Code	1b. Railroad Accident/Incident No.
Amtrak (National Railroad Passenger Corporation)	ATK	128121

GENERAL INFORMATION

1. Name of Railroad or Other Entity Responsible for Track Maintenance	1a. Alphabetic Code	1b. Railroad Accident/Incident No.
Norfolk Southern Railway Company	NS	104508
2. U.S. DOT Grade Crossing Identification Number	**3. Date of Accident/Incident**	**4. Time of Accident/Incident**
717594K	5/3/2013	9:46 PM

5. Type of Accident/Incident
Hwy-Rail Crossing

6. Cars Carrying HAZMAT	7. HAZMAT Cars Damaged/Derailed	8. Cars Releasing HAZMAT	9. People Evacuated	10. Subdivision
				Greenville District

11. Nearest City/Town	12. Milepost *(to nearest tenth)*	13. State Abbr.	14. County
Toccoa	549.2	GA	STEPHENS

15. Temperature (F)	16. Visibility	17. Weather	18. Type of Track
61 °F	Dark	Cloudy	Main

19. Track Name/Number	20. FRA Track Class	21. Annual Track Density *(gross tons in millions)*	22. Time Table Direction
No. 2	Freight Trains-80, Passenger Trains-90		North

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OPERATING TRAIN #1

1. Type of Equipment Consist:	2. Was Equipment Attended?	3. Train Number/Symbol
Passenger Train-Pulling	Yes	PO200403

4. Speed (recorded speed, if available) R - Recorded E - Estimated	Code	5. Trailing Tons (gross exluding power units)	6a. Remotely Controlled Locomotive? 0 = Not a remotely controlled operation 1 = Remote control portable transmitter 2 = Remote control tower operation 3 = Remote control portable transmitter - more than one remote control transmitter	Code
65 MPH	R			

6. Type of Territory

Signalization:

N/A

Method of Operation/Authority for Movement:

N/A

Supplemental/Adjunct Codes:

Q, N/A

7. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)	8. 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.)*	ATK-05	1	yes			
(2) Causing *(if mechanical, cause reported)*	N/A	0		9. Was this consist transporting passengers?		Yes

10. Locomotive Units (Exclude EMU, DMU, and Cab Car Locomotives.)	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End e. Remote	11. Cars (Include EMU, DMU, and Cab Car Locomotives.)	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Train	2	0	0	0	0	(1) Total in Equipment Consist	0	9	0	0	0
(2) Total Derailed	0	0	0	0	0	(2) Total Derailed	0	0	0	0	0

12. Equipment Damage This Consist	13. Track, Signal, Way & Structure Damage
18511	0

14. Primary Cause Code

M302 - Highway user inattentiveness

15. Contributing Cause Code

Number of Crew Members				Length of Time on Duty	
16. Engineers/Operators	17. Firemen	18. Conductors	19. Brakemen	20. Engineer/Operator	21. Conductor
1	0	2	0	Hrs: 2 Mins: 38	Hrs: 2 Mins: 38

Casualties to:	22. Railroad Employees	23. Train Passengers	24. Others	25. EOT Device?	26. Was EOT Device Properly Armed?
				Yes	Yes
Fatal	0	0	3	27. Caboose Occupied by Crew?	
Nonfatal	0	0	0		No

28. Latitude	29. Longitude

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CROSSING INFORMATION

Highway User Involved		Rail Equipment Involved
1. Type		5. Equipment
2. Vehicle Speed *(est. mph at impact)*	3. Direction *(geographical)*	6. Position of Car Unit in Train
4. Position of Involved Highway User		7. Circumstance
8a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? Neither		8b. Was there a hazardous materials release by N/A

8c. State here the name and quantity of the hazardous material released, if any.

9. Type of Crossing Warning	10. Signaled Crossing Warning	11. Roadway Conditions
1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew 2. Cantilever FLS 5. Hwy. traffic signals 8. Stop signs 11. Other *(spec. in narr.)* 3. Standard FLS 6. Audible 9. Watchman 12. None 7, N/A, 8		N/A

12. Location of Warning	13. Crossing Warning Interconnected with Highway Signals	14. Crossing Illuminated by Street Lights or Special Lights
Both Sides	N/A	No

15. Highway User's Age	16. Highway User's Gender	17. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train	18. Highway User

19. Driver Passed Standing Highway Vehicle	20. View of Track Obscured by *(primary obstruction)*

Casualties to:	Killed	Injured	21. Driver was	22. Was Driver in the Vehicle?
23. Highway-Rail Crossing Users	3	0	24. Highway Vehicle Property Damage *(est. dollar damage)*	25. Total Number of Vehicle Occupants *(including driver)*

26. Locomotive Auxiliary Lights?	27. Locomotive Auxiliary Lights Operational?
N/A	N/A
28. Locomotive Headlight Illuminated?	29. Locomotive Audible Warning Sounded?
Yes	Yes

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SYNOPSIS

A northbound Amtrak (ATK) passenger Train PO200403 struck a highway vehicle in Toccoa, Georgia, on May 03, 2013, at 9:46 PM Eastern Daylight Time (EDT). The accident occurred at the highway-rail grade crossing intersection located at Norfolk Southern milepost (MP) 549.2 of the Greenville District, Piedmont Division (1.9 miles south of Toccoa,GA). The passenger train consisted of two (2) locomotives and nine (9) passenger cars operating on the Norfolk Southern Corporation (NS) trackage. The train was operating on main track no. 2 northward as it approached Toccoa Station. The Amtrak lead locomotive, ATK-05, struck the automobile after it traversed main track no. 1 traveling geographically south to north into the path of the moving train. All three (3) occupants of the automobile were killed. Amtrak reported that no passenger or train crew members received injuries.

Train movements through the accident area are controlled by signal indication of a traffic control signal system under the direction of the NS train dispatcher located in Greenville, SC. There was no reported NS track damage. Amtrak reports that the rolling equipment received damages of $18,511. The automobile damages were estimated at $8,000.

At the time of the accident, the weather was dark with a temperature of 61 degrees Fahrenheit. The road surface was reported as wet with intermittent precipitation.

The probable cause of the accident was the failure of the automobile driver to obey a posted stop sign or yield-right-of-way to the passenger train.

NARRATIVE

CIRCUMSTANCES PRIOR TO THE ACCIDENT

On May 03, 2013, the crew of Amtrak passenger Train PO200403 included a locomotive engineer, a locomotive engineer/trainee, two (2) conductors, and 171 passengers. The train crew went on duty in Atlanta, Georgia at 7:08 PM(EDT). The train crew received the statutory off-duty period prior to reporting for duty. The four (4) man train crew conducted a pre-departure job briefing then prepared to depart Peachtree Station, Atlanta, GA MP 633.3. After Amtrak Train PO200403 arrived from New Orleans, LA, the passengers were loaded, the train was inspected and departed Atlanta at 8:04 PM (EDT). The train consist included nine (9) passenger coaches with two (2) locomotives, ATK 05 and ATK 69. The Amtrak passenger train was 854 feet in length and weighed 532 tons. No hazardous material was included in the train's consist.

Amtrak passenger Train PO200403 arrived at Gainesville, Georgia, MP 584.6, at about 9:00 PM (EDT), and shortly thereafter departed Gainesville continuing northward towards the accident site. The locomotive engineer was seated at the controls of the lead locomotive (ATK 05) and the locomotive engineer/trainee was seated on the opposite side of the cab compartment. The two (2) train conductors were located in the passenger cars with the passengers.

The locomotive engineer reported that after passing a clear signal indication (proceed-green over red) at MP 552.0, Control Point Ayersville, the passenger train continued northward operating on main track no. 2 at the maximum authorized track speed. The engineer began to apply the train brakes preparing for a mandatory 65 mph speed restriction through the curve located between MP 552.0 to MP 549.5. As the train approached the highway-rail grade crossing intersection, Summit Ridge Road located at MP 549.2, he began to alternately sound the locomotive horn. He then noticed the highway vehicle moving over the adjacent track from east to west (geographical south to north).

He continued braking and sounding the horn as he operated the train closer to the highway-rail grade crossing intersection. When he realized that impact was imminent, he warned the locomotive engineer-trainee to prepare for impact, then placed the train brakes into full emergency application. The crew reported the trip as uneventful until the accident.

The Motor Vehicle

The automobile was a 2008 Mazda RX8. It was owned and operated at the time of the accident by a 22 year old female. The automobile was occupied by the driver, a 20 year old female and a 23 year old male. The automobile was traveling north on Summit Ridge Road prior to impact. During the investigation, no pavement skid marks were found on the road surface after the collision. Georgia State Patrol is investigating the accident and reports that at the time of the accident the automobile failed to stop and obey the posted stop sign.

THE ACCIDENT

Approaching MP 549.2 of the NS Greenville District at approximately 9:46 PM (EDT), Amtrak Train PO200403 was traveling at a recorded speed of 65 mph on a clear signal indication when the train collided with an automobile at the highway-rail crossing intersection of the NS railroad and Summit Ridge Road. The locomotive engineer placed the train brakes into full emergency application just prior to impact with the highway vehicle. The event recorder download from the controlling locomotive, ATK 05, indicates the train was operating at 65 mph at 9:46 PM (EDT), then there was an abrupt reduction in speed associated with a emergency brake application just prior to impact with the automobile. The maximum track speed for passenger trains operating on this portion of the Greenville District is 65 mph. At the time of the accident the temperature was 61 degrees Fahrenheit, overcast cloudy conditions and dark.

Agencies responding to the scene included Georgia State Patrol, Stephens County Fire and Rescue, Norfolk Southern Railroad, Stephens County Medical Examiner, a representative for Amtrak, and the Federal Railroad Administration (FRA).

POST ACCIDENT INVESTIGATION

Analysis-Toxicology-Testing:

Federal Post Accident Toxicology Testing-Analysis was not conducted on the Amtrak train crew.

Analysis-Highway-rail Grade Crossing:

The highway-rail grade crossing intersection located at Summit Ridge Road and the NS tracks is equipped with passive warning signs only. The wooden post containing the reflective cross buck signs includes a posted "2 TRACK" sign. There are posted hexagon stop signs for each direction of highway traffic over the highway-rail grade crossing intersection. There were no advanced pavement markings or signs. Summit Ridge Road consists of one (1) lane for each direction of travel. The road ascends up to the NS tracks traveling from geographical south to north and beyond. From the stop sign, standing in the geographical southeast quadrant of the crossing, the view of the NS tracks looking westward is obstructed by a natural occurring permanent standing rock rise.

In written post-accident statements, both the Amtrak locomotive engineer and engineer/trainee stated that the motor vehicle came into view just seconds prior to impact. The motor vehicle was viewed entering the highway-rail grade crossing intersection moving from geographical south to north. The motor vehicle did not appear to stop as it moved over the crossing.

Conclusion:
The highway-rail grade crossing intersection is in relatively good condition except for the absence of pavement markings and the presence of a natural rock rise in the area of the crossing.

Operating Crew- Analysis
The operating crew members of Amtrak PO200403 were interviewed for proper train handling and operating procedures. FRA interviewed the crew to determine compliance with Amtrak and NS Operating Rules, FRA regulations or any additional actions that may have impacted the passenger train's operation. Crew actions and train handling that occurred before, during, and immediately after the accident were discussed. Train crew work histories, rest cycles, experience, and training were also reviewed.

Conclusion

FRA took no exception to the practices and procedures of the Amtrak locomotive engineer and engineer/trainee.

Train Operations- Analysis

The locomotives were equipped with speed indicators and event recorders as required. The event recorder data was downloaded by an Amtrak Road Foreman of Engines (RFE) at the accident site and reviewed by FRA. Video recordings were also captured by the lead locomotive of the train.

The captured video, produced by the camera mounted on the lead locomotive of ATK-05 were viewed by both the Georgia State Patrol accident investigation team and the FRA. Review of the video revealed that the Amtrak locomotive engineer was sounding his horns with the head lights burning and oscillating. The video also revealed that the automobile operator did not stop before crossing the NS tracks from south to north while traveling on Summit Ridge Road prior to impact with Amtrak PO200403.

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

Mechanical- Analysis
Inspections of the locomotives and cars were conducted at the scene of the accident and in Charlotte, NC. Minor damage was reported.

Conclusion

Conclusion
Inspections of the locomotives found no mechanical factors or defective conditions that could have contributed to or caused this accident.

Track
An inspection was made of the undisturbed track at the accident site with no defective conditions noted. Throughout the accident area, the NS trackage is tangent and relatively level with a slight deviation in grade from north to south. The rail throughout the accident site is 132LB RE mounted on wooden cross ties. Visibility of Summit Ridge Road from the rail for trains approaching from timetable south, geographically west, is limited by virtue of a natural occurring rock rise located geographically south of the NS main tracks, for a distance of 384 feet south of Summit Ridge Road.

Overall Conclusions:

The Georgia State Patrol official report cites the failure of the automobile operator to yield-right-of-way to Amtrak passenger Train PO200403 while traveling northward on Summit Ridge Road and crossing the NS highway-rail grade crossing intersection.

Probable Cause & Contributing Factors:
The probable cause of the accident was the failure of the automobile driver to obey a posted stop sign or yield-right-of-way to the passenger train.