



***Federal Railroad Administration  
Office of Safety  
Headquarters Assigned  
Accident Investigation Report  
HQ-2007-51***

***New Mexico Rail Runner Express (NMRX)  
Los Chavez, New Mexico  
September 18, 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.***

1. Name of Railroad Operating Train #1 New Mexico Rail Runner Express [NMRX]		1a. Alphabetic Code NMRX		1b. Railroad Accident/Incident No. 091907	
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: New Mexico Rail Runner Express [NMRX]		4a. Alphabetic Code NMRX		4b. Railroad Accident/Incident No. 091907	
5. U.S. DOT_AAR Grade Crossing Identification Number 019467H		6. Date of Accident/Incident Month 09 Day 19 Year 2007		7. Time of Accident/Incident 06:01:47 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	
8. Type of Accident/Incident (single entry in code box)					
1. Derailment		4. Side collision		7. Hwy-rail crossing	
2. Head on collision		5. Raking collision		10. Explosion-detonation	
3. Rear end collision		6. Broken Train collision		11. Fire/violent rupture	
		9. Obstruction		12. Other impacts	
				13. Other (describe in narrative) Code 07	
9. Cars Carrying HAZMAT 0		10. HAZMAT Cars Damaged/Derailed N/A		11. Cars Releasing HAZMAT N/A	
				12. People Evacuated 0	
				13. Division Southwest	
14. Nearest City/Town Los Lunas		15. Milepost (to nearest tenth) 926.4		16. State Abbr Code N/A NM	
				17. County VALENCIA	
18. Temperature (F) (specify if minus) 85 F		19. Visibility (single entry) Code 1. Dawn 3. Dusk 2. Day 4. Dark 2		20. Weather (single entry) Code 1. Clear 3. Rain 5. Sleet 2. Cloudy 4. Fog 6. Snow 1	
				21. Type of Track Code 1. Main 3. Siding 2. Yard 4. Industry 1	
22. Track Name/Number Single Main Track		23. FRA Track Code Class (1-9, X) 4		24. Annual Track Density (gross tons in millions) 210	
				25. Time Table Direction Code 1. North 3. East 2. South 4. West 4	
OPERATING TRAIN #1					
26. Type of Equipment Consist (single entry)		1. Freight train		4. Work train	
3. Commuter train		5. Single car		7. Yard/switching	
6. Cut of cars		8. Light loco(s).		A. Spec. MoW Equip. Code	
				27. Was Equipment Attended? Code 1. Yes 2. No 3 1	
29. Speed (recorded speed, if available) Code R - Recorded E - Estimated 79 MPH R		31. Method(s) of Operation (enter code(s) that apply)			31a. Remotely Controlled Locomotive?
30. Trailing Tons (gross tonnage, excluding power units) 179.5		a. ATCS g. Automatic block m. Special instructions b. Auto train control h. Current of traffic n. Other than main track c. Auto train stop i. Time table/train orders o. Positive train control d. Cab j. Track warrant control p. Other (Specify in narrative) Code(s) e. Traffic k. Direct traffic control f. Interlocking l. Yard limits			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)	33. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.
(1) First involved (derailed, struck, etc)		NMRX 101	1	N/A	Alcohol Drugs N/A N/A
(2) Causing (if mechanical cause reported)		0	0	N/A	34. Was this consist transporting passengers? (Y/N) Y
35. Locomotive Units		a. Head End	Mid Train		Rear End
		b. Manual	c. Remote	d. Manual	c. Remote
(1) Total in Train		1	0	0	0
(2) Total Derailed		0	0	0	0
36. Cars		a. Freight	b. Pass.	c. Freight	d. Pass.
		0	3	0	0
(1) Total in Equipment Consist		0	3	0	0
(2) Total Derailed		0	0	0	0
37. Equipment Damage		38. Track, Signal, Way, & Structure Damage		39. Primary Cause Code	
This Consist \$2,684.00		\$1,330.00		M399	
				40. Contributing Cause Code M302	
Number of Crew Members				Length of Time on Duty	
41. Engineer/Operators 1		42. Firemen 0		43. Conductors 1	
				44. Brakemen 0	
				45. Engineer/Operator Hrs 5 Mi 55	
				46. Conductor Hrs 5 Mi 55	
Casualties to:		47. Railroad Employees		48. Train Passengers	
Fatal		0		0	
Nonfatal		0		0	
				49. Other 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		4. Work train	
3. Commuter train		5. Single car		7. Yard/switching	
6. Cut of cars		8. Light loco(s).		A. Spec. MoW Equip. Code	
				54. Was Equipment Attended? Code 1. Yes 2. No N/A N/A	
56. Speed (recorded speed, if available) Code R - Recorded E - Estimated 0 MPH N/A		58. Method(s) of Operation (enter code(s) that apply)			58a. Remotely Controlled Locomotive?
		a. ATCS g. Automatic block m. Special instructions b. Auto train control h. Current of traffic n. Other than main track			0 = Not a remotely controlled 1 = Remote control portable

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
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59. Principal Car/Unit (1) First involved (derailed, struck, etc) 0	a. Initial and Number 0	b. Position in Train 0	c. Loaded(yes/no) N/A	60. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box. Alcohol: N/A Drugs: N/A
(2) Causing (if mechanical cause reported) 0	0	0	N/A	61. Was this consist transporting passengers? (Y/N) N/A

62. Locomotive Units	a. Head End	Mid Train b. Manual c. Remote	Rear End d. Manual c. Remote	63. Cars	Loaded a. Freight b. Pass.	Empty c. Freight d. Pass.	e. Caboose
(1) Total in Train 0	0	0 0	0 0	(1) Total in Equipment Consist 0	0 0	0 0	0 0
(2) Total Derailed 0	0	0 0	0 0	(2) Total Derailed 0	0 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		Length of Time on Duty	

68. Engineer/Operators 0	69. Firemen 0	70. Conductors 0	71. Brakemen 0	72. Engineer/Operator Hrs 0 Mi 0	73. Conductor Hrs 0 Mi 0
Casualties to:		74. Railroad Employees	75. Train Passengers	76. Other	77. EOT Device? 1. Yes 2. No N/A
Fatal		0	0	0	78. Was EOT Device Properly Armed? 1. Yes 2. No N/A
Nonfatal		0	0	0	79. Caboose Occupied by Crew? 1. Yes 2. No N/A

**OPERATING TRAIN #3**

80. Type of Equipment Consist (single entry)	1. Freight train	4. Work train	7. Yard/switching	A. Spec. MoW Equip.	Code N/A	81. Was Equipment Attended? 1. Yes 2. No N/A	82. Train Number/Symbol N/A
	2. Passenger train	5. Single car	8. Light loco(s).				
	3. Commuter train	6. Cut of cars	9. Maint./inspect.car				

83. Speed (recorded speed, if available) R - Recorded E - Estimated N/A MPH 0	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
84. Trailing Tons (gross tonnage, excluding power units) N/A				

86. Principal Car/Unit (1) First involved (derailed, struck, etc) 0	a. Initial and Number 0	b. Position in Train 0	c. Loaded(yes/no) N/A	87. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box. Alcohol: N/A Drugs: N/A
(2) Causing (if mechanical cause reported) 0	0	0	N/A	88. Was this consist transporting passengers? (Y/N) N/A

89. Locomotive Units	a. Head End	Mid Train b. Manual c. Remote	Rear End d. Manual c. Remote	90. Cars	Loaded a. Freight b. Pass.	Empty c. Freight d. Pass.	e. Caboose
(1) Total in Train 0	0	0 0	0 0	(1) Total in Equipment Consist 0	0 0	0 0	0 0
(2) Total Derailed 0	0	0 0	0 0	(2) Total Derailed 0	0 0	0 0	0 0

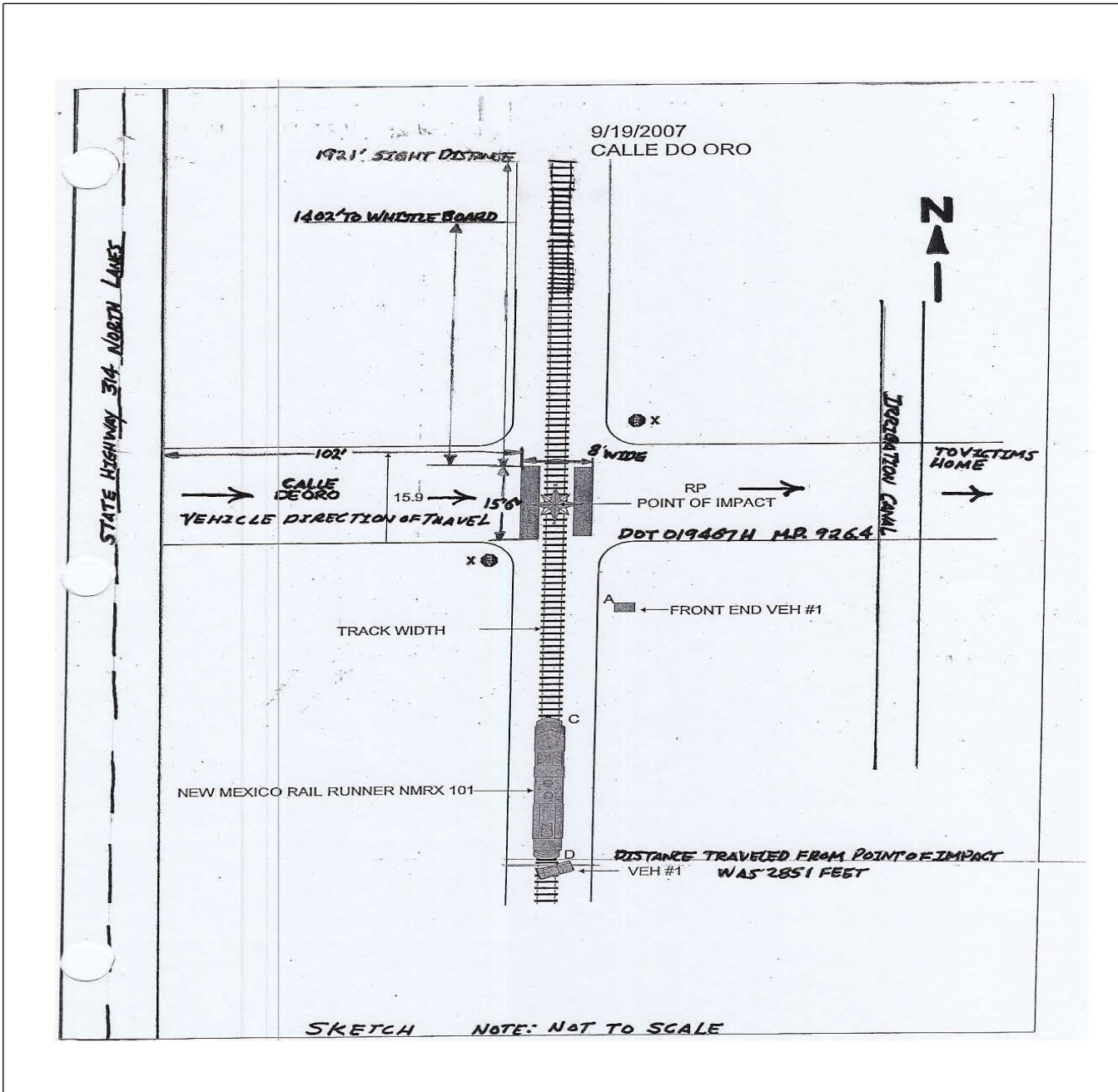
91. Equipment Damage This Consist \$0.00	92. Track, Signal, Way, & Structure Damage \$0.00	93. Primary Cause Code N/A	94. Contributing Cause Code N/A
Number of Crew Members		Length of Time on Duty	

95. Engineer/Operators 0	96. Firemen 0	97. Conductors 0	98. Brakemen 0	99. Engineer/Operator Hrs 0 Mi 0	100. Conductor Hrs 0 Mi 0
Casualties to:		101. Railroad Employees	102. Train	103. Other	104. EOT 1. Yes 2. No N/A
Fatal		0	0	0	105. Was EOT Device Properly 1. Yes 2. No N/A
Nonfatal		0	0	0	106. Caboose Occupied by Crew? 1. Yes 2. No N/A

Highway User Involved	Rail Equipment Involved
107. C. Truck-Trailer. F. Bus J. Other Motor Vehicle Code A. Auto D. Pick-Up Truck G. School Bus K. Pedestrian B. Truck E. Van H. Motorcycle M. Other (spec. in narrative)   A	111. Equipment 3. Train (standing) 6. Light Loco(s) (moving) Code 1. Train(units pulling) 4. Car(s) (moving) 7. Light(s) (standing) 2. Train(units pushing) 5. Car(s) (standing) 8. Other (specify in narrative)   1
108. Vehicle Speed (est. MPH at impact) 5	109. geographical Code 1. North 2. South 3. East 4. West   3
	112. Position of Car Unit in 1

110. Position 1. Stalled on Crossing 2. Stopped on Crossing 3. Moving Over Crossing 4. Trapped				Code 3	113. Circumstance 1. Rail Equipment Struck Highway User 2. Rail Equipment Struck by Highway User				Code 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				Code 4	114b. Was there a hazardous materials release 1. Highway User 2. Rail Equipment 3. Both 4. Neither				Code 4				
114c. State here the name and quantity of the hazardous materials released, if any. N/A													
115. Type Crossing 1. Gates 2. Cantilever FLS 3. Standard FLS Warning 4. Wig Wags 5. Hwy. traffic signals 6. Audible				Code N/A	116. Signaled Crossing (See instructions for codes)				Code N/A	117. Whistle 1. Yes 2. No 3. Unknown		Code 2	
Code(s)		08	11	N/A	N/A	N/A	N/A	N/A					
118. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach				Code 1	119. Crossing Warning with Highway Signals 1. Yes 2. No 3. Unknown				Code 2	120. Crossing Illuminated by Street Lights or Special Lights 1. Yes 2. No 3. Unknown			Code 2
121. Age 60		122. Driver's Gender 1. Male 2. Female		Code 1	123. Driver Drove Behind or in Front of and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown				Code 2	124. Driver 1. Drove around or thru the Gate 2. Stopped and then Proceeded 3. Did not Stop			Code 3
125. Driver Passed Highway Vehicle 1. Yes 2. No 3. Unknown				Code 2	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 8				
Casualties to:			Killed	Injured	127. Driver 1. Killed 2. Injured 3. Uninjured				Code 1	128. Was Driver in the Vehicle? 1. Yes 2. No			Code 1
129. Highway-Rail Crossing Users			1	0	130. Highway Vehicle Property Damage (est. dollar damage) 5700				131. Total Number of Highway-Rail Crossing Users (include driver) 1				
132. Locomotive Auxiliary Lights? 1. Yes 2. No				Code 1	133. Locomotive Auxiliary Lights Operational? 1. Yes 2. No				Code 1				
134. Locomotive Headlight Illuminated? 1. Yes 2. No				Code 1	135. Locomotive Audible Warning Sounded? 1. Yes 2. No				Code 1				

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



## 137. SYNOPSIS OF THE ACCIDENT

At approximately 6:01 p.m. on September 19, 2007 NMRX Train No. 513, a westbound (geographic south) commuter train traveling 79 mph struck a 1996 red Subaru Outback vehicle at a highway/rail grade crossing near Los Lunas, NM. The collision occurred at Milepost 926.40, DOT Crossing No. 019467H on the main track. The impact resulted in the death of a 60 year old male driver, the sole occupant and driver of the vehicle.

The weather at the time was clear and the temperature was approximately 85 degrees Fahrenheit. The view approaching the crossing from the west is clear and unobstructed in both directions and provides access to two family dwellings, one of which was the victims.

The estimated monetary damages were listed as \$4,013.65 and did not meet the monetary threshold as listed in 49 CFR Part 225.119 (c).

The primary cause of the accident is failure of the driver of the vehicle to yield to an oncoming train and driver inattentiveness.

## 138. NARRATIVE

## Circumstances Prior to the Accident

The operating crew of the NMRX 513 included a train operator and a train attendant. Both crew members had received statutory off-duty periods prior to reporting for duty on September 19, 2007. Albuquerque, NM is the home terminal for all crew members operating commuter trains between Albuquerque and Bernalillo, NM to the north and commuter trains between Albuquerque and Belen, NM to the south.

The train crew first went on duty at Albuquerque for the morning commuter train segment at 4:05 a.m., MDT and went off duty at 9:20 a.m. MDT. The crew returned to duty for the afternoon commuter segment at 3:15 p.m. MDT and went off duty at 10 p.m. MDT. NMRX train crews operate under what is referred as "Broken Service." Broken Service as utilized, allows for an interim period of release of four hours after having previously worked; so long as the aggregate hours of "on duty" time for the train crews does not exceed 12 hours.

Commuter Train, NMRX 513 consisted of one locomotive, NMRX 101, a Motive Power Industries built locomotive, NMRX 1003 and 1105, two Bombardier Coach Cars and NMRX 1101, a Bombardier Control Cab Car. NMRX 1101 is considered a locomotive without propelling motors but with a control stand and is equipped with 26C air brake equipment. The Control Cab allows operation as the lead and controlling locomotive on reverse movements to Albuquerque from Bernalillo and Belen, NM.

On the afternoon of September 19, 2007 commuter train NMRX 513 was 255 feet in length, weighed 179.5 tons, and was complemented by two train crew members, a train operator and train attendant. A ticket agent was also present but was not considered a covered employee for the purposes of the Hours of Service Law.

At 5:57 p.m. NMRX 513 departed westward (geographic south) from Los Lunas Station, mile post 922.8, with 86 persons that included: a train operator, train attendant, ticket agent and 83 passengers. As the Westbound commuter train approached the accident area, the train operator was seated on the seat provided and on the right side of the lead and controlling locomotive in the direction of movement. The train attendant was in

NMRX 1105 and was counting the passengers after having made the required public service announcements.

In this area the track is tangent and has an average .10 per cent descending grade. The view from the posted whistle board approximately 1,402 feet east of the highway/rail grade crossing at mile post 926.40 and for a considerable distance beyond is clear and unobstructed. Also in this area, New Mexico State Highway 314, a four lane highway, parallels the main track east and west (geographic north and south) and descends however slightly. The elevation in this area is 4830 feet.

The railroad timetable direction of the train was west. The geographic direction was south. Timetable directions are used throughout this report followed by geographical directions enclosed in parenthesis for clarity when needed.

#### The Accident NMRX 513

Approaching the accident area from the east (geographical north), the commuter train was traveling at the maximum authorized speed of 79 mph. The train operators view of the right-of-way and crossings are clear and unobstructed. Analysis of the on-board Bach Simpson Event Recorder indicates the horn was activated and was blown approximately 16 times prior to the collision at the Calle de Oro crossing at mile post 926.40, DOT No. 019467H. The blasts of the horn began in the vicinity of mile post 925.70, prior to private rail grade crossing at Elaine Dr., mile post 926.03, DOT No.019466B.

There is also a whistle board approximately 1402 feet east (geographic north) of the private grade crossing at Calle de Oro crossing at mile post 926.40, DOT No. 019467H.

As the train approached the accident site, the train operator states that he observed a red vehicle turn off of New Mexico State Highway 314 from an unknown direction and move geographically east along a dirt road referred to as Calle de Oro. As the locomotive audible warning device (horn) was blowing, the train operator states he foresaw the impending crash as he determined that the vehicle was not going to stop. The train operator states the red vehicle was moving about five mph and that the occupant of that vehicle was looking west (geographical south) and away from the direction of the oncoming train.

At this time, the train operator states he placed the commuter train in an engineer induced "emergency" application of the train air brakes. The time of the train operator induced emergency, according to the event recorder analysis, was 18:01:44 or 6:01:44 p.m. The impact between the commuter train and the occupied vehicle occurred three seconds later at 6:01:47.

After impact, the commuter train along with remaining components of the vehicle and the occupant continued to move westward along the right-of-way until stopping in the vicinity of mile post 926.94, a distance of about 2,851 feet or 0.54 miles. The train attendant states he was conducting a passenger count when he heard the train operator shout "Emergency, Emergency, Emergency" over the radio. He stated he then began to see flying dust and debris prior to stopping. After the train stopped the train operator called the BNSF dispatcher (DS 18), notified him/her of the accident and requested police, paramedics, and other emergency personnel. The time was about 6:03 p.m.

The train attendant states that after the train came to a stop he instructed the ticket agent to check the condition of the passengers to ensure they were safe and had suffered no injuries. He then began walking to the head end of the train so as to check on the train operators condition, the time was 6:05 p.m. After checking on the train operator, the train attendant saw the condition of the vehicle and then began securing the area and looking for other occupants and possibly survivors. The train attendant stated he then called a Herzog Transit Services Inc. manager so as to apprise him of the situation.

#### Highway Vehicle - 1996 Red Subaru Outback

Approaching the private grade crossing [DOT No. 019467H] at milepost 926.40 along Calle de Oro Road from geographical west to east, the vehicle, according to the train operator of NMRX 513, was moving at about five mph. As it approached the crossing the train operator stated the driver of the vehicle was facing west or geographical south, away from the approaching commuter train.

The commuter train struck the left front driver's side of the vehicle and created dust and debris upon impact. The commuter train and vehicle continued moving westward until stopping approximately 2,851 feet or 0.54

miles west of the point of impact.

#### Analysis and Conclusion

Following the accident an inspection of the locomotive and equipment was performed so as to determine compliance with Federal Regulations. There were no exceptions noted. A previous inspection of the locomotive's lights and horn were reported to be in normal working condition according to the New Mexico State Police Officer's investigative report.

Analysis of the event recorder also revealed the horn was blown 16 times prior to impact with the vehicle, the headlights were lit, the locomotive crossing lights were on, and the bell was ringing. FRA also conducted a walking inspection at the point of impact on the following day on September 20, 2007 so as to determine visibility and obstructions. No exceptions were noted.

Note: Three witnesses whose interviews are included in this report reported hearing the horn blowing prior to impact with the vehicle. One witness indicated hearing blasts from the train's horn indicating an approaching train, then a long solid blast. A second witness states the train drew her attention because of the blowing horn. The third witness said the horn was blaring for quite a long time for which she attributed to caution on the part of the railroad as another grade crossing accident had occurred in the area the month before.

The private grade crossing is constructed of wood creosote soaked planks and approximately 15 feet in width and eight feet in length and traverses the single main track. Approaching the private grade crossing from New Mexico State Highway 314 is clear and unobstructed both east and west (geographic north and south).

The distance from the outer edge of New Mexico State Highway 314 to the outer edge of the wood planked private crossing is approximately 102 feet. Approximately 15 feet from the outer edges of the wood planked crossing and on the right side in both directions are standard octagon shaped stop signs. Below the octagon shaped stop signs are plasticized signs indicating "Private Railroad Crossing" and "No Trespassing" signs.

The private crossing at this location provides access to two homes in the area, one of which belonged to the now deceased occupant of the vehicle. Other users include, but are not limited to, private land owners and irrigation canal water monitoring regulatory agencies.

On September 26, 2007 FRA conducted a Grade Crossing Accident Sight Distance Diagnostic; photographs taken, and sketch drawn (see sketch and photographs).

The sketch contained in this report indicates that a motor vehicle operator making the required stop at the outer edge of the private crossing has 1,920 feet of visibility. This is the recommended sight distance needed for a motorist to be able to cross the tracks from a stopped position prior to the arrival of a train moving 79-80 mph according to the Federal Highway Administration (FHWA).

#### Conclusion

All indications are that involved employees of Herzog Transit Services Inc., the operators of the New Mexico Railrunner Express (NMRX) were in full compliance with their own and all applicable Federal standards. The only eye witness to the accident was the train operator who has stated that the vehicle never stopped nor looked in the direction of the on-coming train. Based on available evidence, one can surmise that failure to yield to an on-coming train and driver inattentiveness were the predominant factors that resulted in this accident.

The New Mexico Railrunner Express (NMRX) is owned by the New Mexico Department of Transportation and managed by the New Mexico Mid-Regional Council of Government (MRCOG), a New Mexico State entity, and operated contractually by Herzog Transit Services Inc.

#### Probable Cause and Contributing Factors

The Federal Railroad Administration's investigation has determined that the probable cause of the accident is the failure of the vehicle to yield to an on-coming train and driver inattentiveness.