



***Federal Railroad Administration  
Office of Railroad Safety  
Accident and Analysis Branch***

***Accident Investigation Report  
HQ-2016-1149***

***Kansas City Southern Railway Company (KCS)  
Poteau, OK  
August 7, 2016***

***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.***

**SYNOPSIS**

**Synopsis**

Kansas City Southern Railway (KCS) northbound train CTUKC-07, proceeding on signal indication in centralized train control territory on single main track, struck a 2011 grey Chevy Malibu (struck vehicle), with five occupants at a highway-rail grade crossing on August 7, 2016, at 1:19 p.m., CST, near Poteau, Oklahoma at Milepost 326.44 on KCS' Heavener Subdivision. The struck vehicle's driver and three passengers were fatally injured with a fourth passenger sustaining critical injuries. The crossing location was Dewey Street (U.S. DOT Crossing Number 330723X), in Poteau, OK, and was equipped with standard flashing lights, audible warning, and crossbucks. Damage resulting from this accident included \$150 to the lead locomotive, \$636 to track and signal damage, and \$8000 to the struck vehicle. There was no derailment or hazardous materials released, and no injuries to the train crew.

At the time of the accident, the weather was clear, 95 °F with calm winds and 59% humidity.

FRA concluded the probable cause of the accident was the driver of the automobile failed to stop at the highway-rail grade crossing, cause code M303 – highway user misjudgment under normal weather and traffic conditions.

**TRAIN SUMMARY**

1. Name of Railroad Operating Train #1 Kansas City Southern Railway Company	1a. Alphabetic Code KCS	1b. Railroad Accident/Incident No. 16080702
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**GENERAL INFORMATION**

1. Name of Railroad or Other Entity Responsible for Track Maintenance Kansas City Southern Railway Company	1a. Alphabetic Code KCS	1b. Railroad Accident/Incident No. 16080702
2. U.S. DOT Grade Crossing Identification Number 330732X	3. Date of Accident/Incident 8/7/2016	4. Time of Accident/Incident 1:19 PM
5. Type of Accident/Incident Hwy-Rail Crossing		
6. Cars Carrying HAZMAT 0	7. HAZMAT Cars Damaged/Derailed 0	8. Cars Releasing HAZMAT 0
	9. People Evacuated 0	10. Subdivision Heavener
11. Nearest City/Town Poteau	12. Milepost (to nearest tenth) 326.44	13. State Abbr. OK
		14. County LE FLORE
15. Temperature (F) 95 °F	16. Visibility Day	17. Weather Clear
		18. Type of Track Main
19. Track Name/Number Main	20. FRA Track Class Freight Trains-60, Passenger Trains-80	21. Annual Track Density (gross tons in millions) 40.73
		22. Time Table Direction North

**OPERATING TRAIN #1**

1. Type of Equipment Consist: Freight Train					2. Was Equipment Attended? Yes		3. Train Number/Symbol CTUKC-07 LEAD UN				
4. Speed (recorded speed, if available) R - Recorded 52 MPH E - Estimated		Code E	5. Trailing Tons (gross excluding power units) 2945		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 0	
6. Type of Territory Signalization: <u>Signaled</u> Method of Operation/Authority for Movement: <u>Signal Indication</u> Supplemental/Adjunct Codes: _____											
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.)		1	1	no				0	0		
(2) Causing (if mechanical, cause reported)		N/A	0	no	9. Was this consist transporting passengers?			No			
10. Locomotive Units (Exclude EMU, DMU, and Cab Car Locomotives.)	a. Head End	Mid Train		Rear End		11. Cars (Include EMU, DMU, and Cab Car Locomotives.)	Loaded		Empty		e. Caboose
		b. Manual	c. Remote	d. Manual	e. Remote		a. Freight	b. Pass.	c. Freight	d. Pass.	
(1) Total in Train	2	0	0	0	1	(1) Total in Equipment Consist	0	0	120	0	0
(2) Total Derailed	0	0	0	0	0	(2) Total Derailed	0	0	0	0	0
12. Equipment Damage This Consist 150			13. Track, Signal, Way & Structure Damage 636								
14. Primary Cause Code M303 - Highway user misjudgment under normal weather and traffic conditions											
15. Contributing Cause Code											
Number of Crew Members						Length of Time on Duty					
16. Engineers/Operators 1		17. Firemen 0		18. Conductors 1		19. Brakemen 0		20. Engineer/Operator Hrs: 0 Mins: 55		21. Conductor Hrs: 0 Mins: 55	
Casualties to:		22. Railroad Employees		23. Train Passengers		24. Others		25. EOT Device? No		26. Was EOT Device Properly Armed? N/A	
Fatal		0		0		4		27. Caboose Occupied by Crew? N/A			
Nonfatal		0		0		1					
28. Latitude 35.048271000				29. Longitude -94.617462000							

**CROSSING INFORMATION**

Highway User Involved			Rail Equipment Involved		
1. Type Auto			5. Equipment Train (Units Pulling)		
2. Vehicle Speed ( <i>est. mph at impact</i> ) 45	3. Direction ( <i>geographical</i> ) East		6. Position of Car Unit in Train 1		
4. Position of Involved Highway User Moved over Crossing			7. Circumstance Rail Equipment Struck Highway User		
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 Neither		
8c. State here the name and quantity of the hazardous material released, if any. N/A					
9. Type of Crossing  1. Gates      4. Wig wags      7. Crossbucks      10. Flagged by crew 2. Cantilever FLS      5. Hwy. traffic signals      8. Stop signs      11. Other ( <i>spec. in narr.</i> ) 3. Standard FLS      6. Audible      9. Watchman      12. None  3, 6, 7			10. Signaled Crossing Warning 1, 1		11. Roadway Conditions Dry
12. Location of Warning Both Sides		13. Crossing Warning Interconnected with Highway Signals No		14. Crossing Illuminated by Street Lights or Special Lights No	
15. Highway User's Age 37	16. Highway User's Gender Female	17. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train No		18. Highway User Did not stop	
19. Driver Passed Standing Highway Vehicle No		20. View of Track Obscured by ( <i>primary obstruction</i> ) Not Obstructed			
Casualties to:		Killed	Injured	21. Driver was Killed	22. Was Driver in the Vehicle? Yes
23. Highway-Rail Crossing Users	4	1	24. Highway Vehicle Property Damage ( <i>est. dollar damage</i> )	8000	25. Total Number of Vehicle Occupants ( <i>including driver</i> ) 5
26. Locomotive Auxiliary Lights? Yes			27. Locomotive Auxiliary Lights Operational? Yes		
28. Locomotive Headlight Illuminated? Yes			29. Locomotive Audible Warning Sounded? Yes		

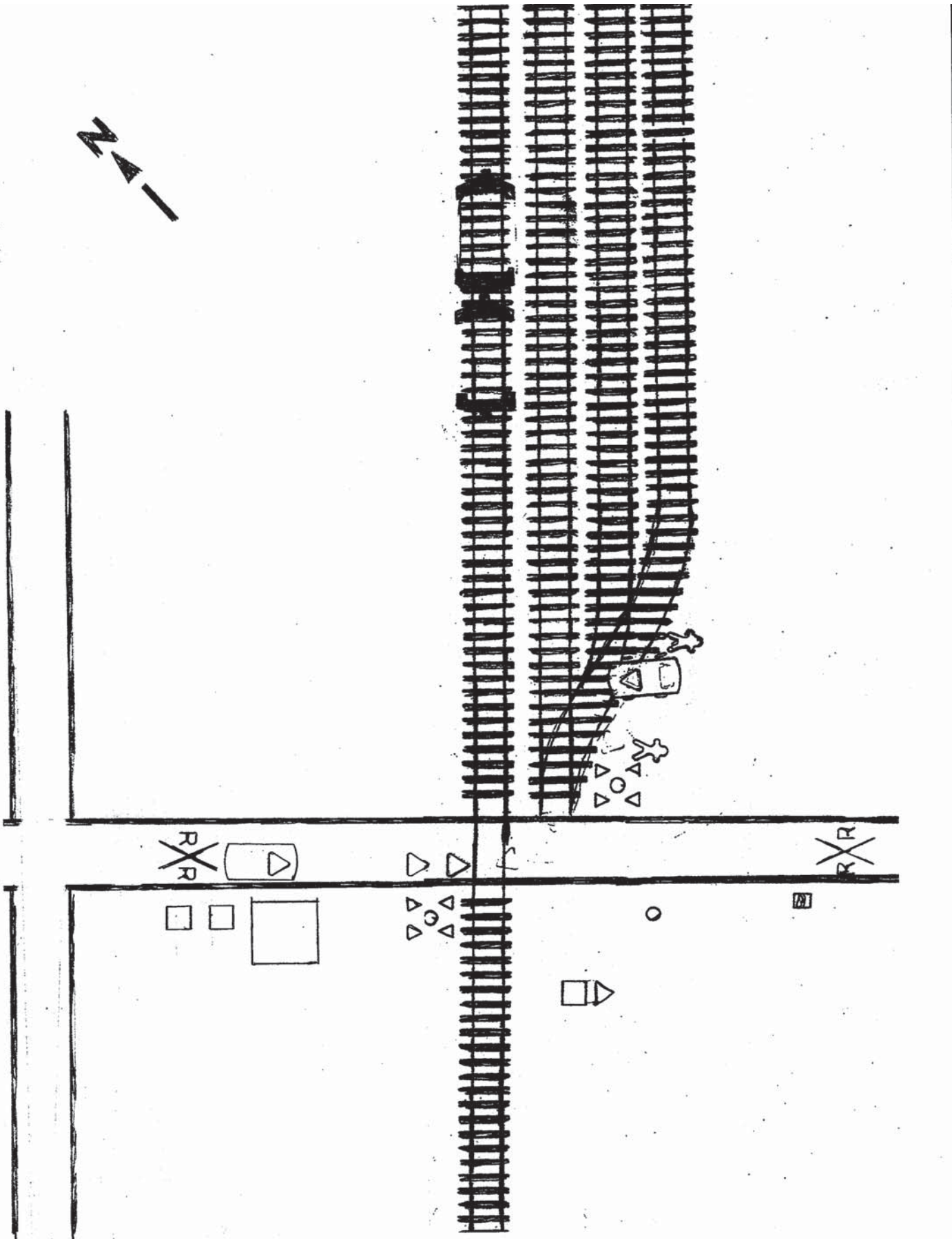
**10. Signaled Crossing Warning**

**Explanation Code**

- |  |  |
|--|--|
| 1 - Provided minimum 20-second warning             | A - Insulated rail vehicle   |
| 2 - Alleged warning time greater than 60 seconds   | B - Storm/lightning damage   |
| 3 - Alleged warning time less than 20 seconds      | C - Vandalism  |
| 4 - Alleged no warning                             | D - No power/batteries dead  |
| 5 - Confirmed warning time greater than 60 seconds | E - Devices down for repair  |
| 6 - Confirmed warning time less than 20 seconds    | F - Devices out of service   |
| 7 - Confirmed no warning                           | G - Warning time greater than 60 seconds attributed to accident-involved train stopping short of the crossing, but within track circuit limits, while warning devices remain continuously active with no other in-motion train present |
| N/A - N/A  | H - Warning time greater than 60 seconds attributed to track circuit failure (e.g., insulated rail joint or rail bonding failure, track or ballast fouled)   |
|  | J - Warning time greater than 60 seconds attributed to other train/equipment within track circuit limits   |
|  | K - Warning time less than 20 seconds attributed to signals timing out before train's arrival at the crossing/island circuit   |
|  | L - Warning time less than 20 seconds attributed to train operating counter to track circuit design direction  |
|  | M - Warning time less than 20 seconds attributed to train speed in excess of track circuit's design speed  |
|  | N - Warning time less than 20 seconds attributed to signal system's failure to detect train approach   |
|  | O - Warning time less than 20 seconds attributed to violation of special train operating instructions  |
|  | P - No warning attributed to signal systems failure to detect the train  |
|  | R - Other cause(s). Explain in Narrative Description   |

SKETCHES

Sketch



## NARRATIVE

**Circumstances Prior to the Accident**

The crew of Kansas City Southern Railway (KCS) northbound train CTUKC-07 (striking train) included a locomotive engineer and conductor who were on duty at 12:30 p.m., CST, on August 7, 2016, at Poteau, Oklahoma, with a destination of Kansas City, Missouri. Both crew members received more than the statutory off-duty period prior to reporting for duty.

The striking train consisted of three locomotives and 120 empty railcars with one of the locomotives positioned on the rear of the train in Distributive Power configuration, and was 2,945 tons and 6,195 feet in length.

The accident occurred at milepost (MP) 326.44 on the KCS Heavener Subdivision, which is single main track and in centralized traffic control territory as indicated by the KCS railroad timetable in effect at the time of the accident. Maximum authorized speed for freight trains is 55 mph. The railroad timetable direction of the train was north, geographic direction northeast. Timetable directions are used throughout this report.

The Dewey avenue crossing, DOT crossing 330723X, (the crossing) is a public highway crossing at grade over a single main line. Estimated train traffic is 24 trains per day, and the crossing is equipped with advanced warning signs, stop lines, railroad crossing symbols, incandescent flashing lights and bells. Dewey avenue is a two lane, paved street that intersects with the railroad main line at an approximate 90-degree angle. The speed limit of Dewey avenue is posted at 25 mph.

Just prior to the accident, a 2011 grey Chevy Malibu (struck vehicle), with five occupants was traveling eastbound on Dewey avenue approaching the crossing. The view to the south, while traveling in the direction of the struck vehicle, is partially obstructed by a residential building adjacent to the railroad right-of-way.

At the time of the accident, the weather was clear, 95 °F with calm winds and 59% humidity.

**The Accident***The Striking Train*

The striking train was being operated northbound at 52 mph approaching the crossing and the Engineer was blowing the horn, as recorded by the lead locomotive's event recorder. The view of the struck vehicle was obstructed by a commercial building and a residence on the west side of the tracks as it approached the crossing. When aware of the pending collision, the Conductor initiated an emergency brake application at 1:19:05 p.m., as the striking train impacted the passenger side of the struck vehicle at about the mid-point. The lead locomotive came to a final stop 1,683 feet after the point of impact (POI). After conferring with emergency responders, the Conductor separated the train to cut the crossing allowing better access to the struck vehicle. The Conductor was then transported back to the lead



locomotive by a KCS Operations Supervisor and the Engineer and Conductor provided a statement to a Poteau Police Officer.

### *The Struck Vehicle*

The struck vehicle entered the crossing in front of the striking train. Per witness statements taken by a Poteau Police Officer, the struck vehicle appeared to speed up to try and “beat the train”. Because of the impact, the struck vehicle was pushed north and east coming to rest 133 feet from the POI. Two passengers were ejected from the vehicle, and a nearby witness called 911.

Police, fire, and medical emergency personnel responded and extracted the driver and the two remaining passengers from the car. The driver and three of the passengers were fatally injured and one passenger was critically injured. The critically injured passenger was taken from the scene by Tulsa Life Flight to Saint John’s Hospital. The other three passengers and driver were transported from the scene by Evens and Miller Funeral Home. Neither crew member reported suffering any injuries, and no hazardous material was released by the train and the engine received minor damage. Damage resulting from this accident included \$150 to the lead locomotive, \$636 to track and signal damage, and \$8000 to the struck vehicle. KCS operations, track, and signal personnel were dispatched to the scene to investigate.

### **Post-Accident Investigation**

The Federal Railroad Administration (FRA) began an investigation of this accident/incident. Upon commencing its investigation, FRA investigators inspected the accident site, active warning devices at the crossing, toxicology analysis, and reviewed documents provided by outside agencies.

After their on-site inspection and investigation FRA conducted interviews with the train crew of the striking train. FRA’s investigators also requested and received all records, forms, and other documentation necessary to conduct their final analysis and draw conclusions concerning the pertinent facts of the accident/incident. The following analysis and conclusions, as well as any possible contributing factors and the probable cause in this report, represents the findings of FRA’s investigation.

### **Analysis and Conclusions**

Analysis - Highway-Rail Grade Crossing Warning Devices: The highway-rail crossing at grade was equipped with warning lights and bells without gates. On the westbound approach to the crossing (opposite from the struck vehicle’s approach), there were faded pavement markings and an advanced warning sign. On the eastbound approach to the crossing (the struck vehicle’s approach), there were faded pavement markings placed just ahead of an intersection at which the advanced warning sign appeared to have been placed previously, however, no advanced warning sign was present on that side at the time of the accident.

While the view of the approaching train was obstructed by a residence and a commercial structure between the advanced warning pavement markings and the crossing, the view of the train was unobstructed across railroad property and across a vacant lot adjacent to railroad property. The view of the active crossing warning devices was not obstructed at any point between the advanced warning markings and the crossing.

A whistle board was posted on the railroad right-of-way approximately 1,000 feet south of the crossing.



Event recorder data indicates that the whistle was being blown by the striking train in approach to the crossing. The active warning devices were tested by a KCS signal maintainer after the accident, and found to function as intended. The crossing was later tested by the signal maintainer in the presence of an FRA signal inspector with no exceptions noted to the operation of the crossing. Inspection of the crossing revealed that it was in relatively good condition, except for the pavement markings and missing advanced warning sign west of the crossing. The active warning devices functioned as intended and the train horn was sounding on the approach of the crossing.

Conclusion: FRA determined the warning devices did not contribute to the cause of severity of this accident.

Analysis – Toxicological: The Tulsa Oklahoma coroner performed toxicological testing on the remains of the driver, and the results were negative. There were no toxicological tests performed on the train crew. FRA does not require such testing for this type of accident.

Conclusion: FRA determined toxicology did not contribute to the cause or severity of the accident.

Analysis – Outside Agency Findings: According to the Poteau police report, the vehicle “failed to stop for a railroad signal”. Two witnesses interviewed by police, stated that the vehicle sped up to beat the train over the crossing. Both witnesses indicated that the crossing lights were flashing and that they heard the train’s horn as it approached the crossing.

Conclusion: FRA determined the actions of the struck vehicle was the probable cause of this accident.

### **Overall Conclusions**

The railroad was in full compliance with its own rules and all applicable federal regulations. The city was missing an advanced warning sign on the approach to the crossing on the west side and the advanced warning pavement markings were faded, however the faded pavement markings and missing advanced warning sign did not prevent the driver from detecting the presence of the train in time to act. The two witnesses’ statements included in the police report state that the driver was speeding and that the driver accelerated to beat the train.

### **Probable Cause and Contributing Factors**

FRA concluded the probable cause of the accident was the driver of the automobile failed to stop at the highway-rail grade crossing, cause code M303 – highway user misjudgment under normal weather and traffic conditions.

FRA did not identify any contributing factors that contributed to the cause or severity of this accident.