

Federal Railroad Administration Office of Safety Headquarters Assigned Accident Investigation Report HQ-2007-42

> Amtrak (ATK) Lakeland, Florida July 16, 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       FRA FACTUAL RAILROAD ACCIDENT REPORT       FRA File # HQ-2007-42         FEDERAL RAILROAD ADMINISTRATION       FRA FACTUAL RAILROAD ACCIDENT REPORT       FRA File # HQ-2007-42																		
1.Name of Railroad O	1a. Alphabetic Code					1b. I	b. Railroad Accident/Incident No.											
2.Name of Railroad O	29	Alphabetic	Code			2h F	2b Railroad Accident/Incident No											
N/A	N/A					20.1	N/A											
3.Name of Railroad O N/A	3a. Alphabetic Code N/A					3b. I	o. Railroad Accident/Incident No. N/A											
4.Name of Railroad R	4a. Alphabetic Code CSX					4b. I	b. Railroad Accident/Incident No.											
5. U.S. DOT_AAR G	rade Cro	ssing Iden	tificati	on Nur	nber			6. D	Date of Acc	ident/Inc	ident		7. 1	. Time of Accident/Incident				
624								Moi	nth 07	Day	16 Ye	ar 2007		03:1	8:		AM	V PM
8. Type of Accident/Ir		4. Side c	ollision		7.	7. Hwy-rail crossing 10. Explosion-d				deton	onation 13. Other				Code			
(single entry in cod	ision	5. Raking	g collision		8.1	RR grade c	crossing	ossing 11. Fire/violent ru			ure	narra	tive)	n	07			
0 Core Corrying	ision	6. Broke	n Train co	llision	9.	Obstruction	1 12. Other impact			icts	ts				07			
HAZMAT Damaged/Derailed				Cars led	27/4	11. 0 HAZ	Cars Rele ZMAT	easing	3	1   E	12. People Evacuated			13. Div				
	0				N/A	15 Mile	nost		N/A	16.000			17	0		Ja	acksonvi	lle
14. Nearest City/Towr	1					15. Milepost (to nearest			th) 16. Sta		Abbr	Code	17.	. County				
	L	akeland					A8	852.96	5	Ν	N/A F			POLK		2		
18. Temperature (F)		19. Visil	oility	(sing	gle entry)	Code	20. W	Veathe	er (single	entry)		Code		21. Typ	e of Tra	nck		Code
(specify if minus)	F	1. 2.	Dawn Day	3.D 4.I	usk Dark	1 2		. Clea	r 3. Rai	in 5.S	Sleet	1		1. Main 3.		5. Siding		1
22 Track Name/Nur	nber		,			23 FRA	Track	. Ciou	Code 2		24 Appual Treat Day			25 Tim	e Table	- Industry		Code
22. Hack Name/Nu	noei					Clas	s (1-9, X	Ω <sub>1</sub>	(gross tons in			n		23. 1111	1. Nort	orth 3. East		·
			man	ı/no. l					4	mill	ions)	15.	1		2. Sout	h 4.		1
							OPER	ATI	NG TRÀ	IN #1								
26. Type of Equipment 1. Freight train 4. Work train 7. Yard/switching A. Spec. MoW Equip. Code 27. Was Equipment Code 28. Train Number/												nber/Symbol						
Consist (single en	try) 2.	Passenge	r train	5. Sir	ngle car 8.	Light loc	o(s).			1		Atten	ded?					2.16
3. Commuter train 6. Cut of cars 9. Maint./inspect.ca											2	1.	Yes	s 2. No 1 P092-16				
29. Speed (recorded s	speed, if	available)	Code	e 31.	. Method(s)	of Operation	on (	enter	code(s) t	hat app	oly) al instruc	tions		31a. Rem	otely C	ontro	lled Loco	omotive?
R - Recorded a. ATCS g. Autom									lock	n. Other	than mai	n track		1 = Remote control portable				
E - Estimated 74 MPH b. Auto train control h. Current of Auto train stop i Time f								ible/tra	ain orders	o. Positi	ve train o	control		2 = Remo	ote cont	rol to	wer	
30. Trailing Tons (gross tonnage, d. Cab							Track w	arrant	t control	p. Other	(Specif	y in narrat	ive)	3 = Rem	ote con	trol		
excluding power units) e. Traffic							. Direct	traffic	c control		Code(s	;)		transmi	tter - m	ore th	an one	
900 f. Interlocking 1. Yard limits $e N/A N/A N/A$ remote control transmitter 0												0						
32. Principal Car/Unit		a. Initial	and Nu	ımber	b. Positio	on in Trair	n c. I	Loade	d(yes/no)	33. If ra	ailroad e	mployee(s	) teste	d for drug	/alcoho	ol use,	,	
(1) First involved ATK 63						1		N	I/A	en	ter the n	umber that	were	positive i	n		Alcohol	Drugs
(derailed, struck, et	1C)						_			un							N/A	N/A
(2) Causing (11 mec cause reported)			0		N	/A	34. W	as this c	onsist tran	sporti	ng passen	gers? (	Y/N)		N/A			
35. Locomotive Units	s	a. Head		Mid 7	Frain	Re d Manua	ar End		36. Cars			o Er	Lo	aded	o Ero	Emp	d Pass	Cabaaaa
(1) Total in Train		- End	b. Ma	nual	c. Remote			note	(1) Total i	in Equip	ment Co	nsist		0.1 ass.	c. Fie	igin )	0	e. Caboose
		2		0	0	0	0		(2) T . 11				0	9		,	0	0
(2) Total Derailed	1	0	ļ	0	0	0	0		(2) I otal I	Derailed			0	0	(	)	0	0
57. Equipment Dama	ge .	1500	:	38. Tra	ick, Signal, V	Way,	7429		39. Prima	ary Cause				40. Contributing Cause				
This Consist		N		&	Structure Da	mage			Code			M308	4 67	Code				N/A
41 Engineen/	42 Ein	Numbe	r of Cr	$\frac{43}{43}$	onductors	1 44 Br	kemen		45 Engin	0.0.0	noton	Leng	th of	or time on Duty				
Operators 1	42. Ph	o		15. 00	inductors	11. Dit	44. Brakemen		45. Engineer/Operator			Mi at		Hrs 1		1	Mi 31	
					2	(	0						51 XX			4 10		
Casualties to:	4/. Railr	Railroad Employees 48. Train Passenge				rs 49. C	Other		50. EOT Device?					51. Was EOT Device Properly Armed?				
Fatal		0 0					0	-	1. Yes 2. No 1				1. I US 2. INO 1					
Nonfatal		2			0 0				52. Caboose Occupied by Crew? 1. Yes 2. No									2
<u> </u>						01	PERAT	ΓING	G TRAIN	#2								
53. Type of Equipment	nt 1.	Freight tra	ain	4. Wo	ork train 7.	Yard/swit	tching	A. 9	Spec. MoW	/ Equip	Code	54. Was I	Equip	ment C	ode	55. T	rain Nun	nber/Symbol
Consist (single ent	ry) 2.	Passenger	train	5. Sin	gle car 8.	Light loco	o(s).		1	1P.		Atten						
	3.	Commute	r train	6. Cu	t of cars 9.	Maint./in	spect.car	ſ			N/A	1. 1	les 2	2. No 1	N/A		N	/A
56. Speed (recorded s	speed, if	available)	Code	58	Method(s) $\overline{a}$	of Operation	on (	enter	code(s) t	hat app	ly)		Ī	58a. Rem	otely C	ontro	lled Loco	omotive?
R - Recorded	0		NI/A	a.	ATCS Auto train	g control h	. Autom	atic bl	lock 1 affic -	m.Specia	al instruc	tions		0 = Not a remotely controlled				
E - Estimated	U	MPH	1N/A	1 0	. muto traill (	Control II	. curren	i or th	unite	n. Outer	uiali mai	II U ACK		I = Rem	oue con	uoi p	onable	

DEPARTMENT FEDERAL RAILF	OF TRAI	NSPORT DMINIST	TATIO RATI	ON ION	FRA FA	CTUAL	RAILR	OAD AC	CCIDENT REP	ORT	F	RA File	# <u>HQ-200</u>	17-42		
57. Trailing Tons (gross tonnage, excluding power units)					Auto train Cab Traffic	stop i. T j.T k l	'ime table/ti rack warran Direct traffi	rain orders of it control l c control	o. Positive train contr p. Other (Specify in Code(s)	ol narrative)	2 = Remo 3 = Remo transmit					
0					f. Interlocking 1.Yard limi			N/A N/A N/A N/A N/A			remote c	N/A				
59. Principal Car/Unit a. Initial and Nur				umber	b. Positio	on in Train	c. Load	led(yes/no)	60. If railroad emp	loyee(s) tes	ted for drug/alcohol use,					
(1) First involved (detailed struck ato) 0				0	)	1	N/A	enter the numb	ber that were	e positive i	n	Alcohol	Drugs			
(derailed, struck, etc)								61 Was this cons	iet transport	ing passan	gare? (V	N/A	N/A			
cause reported) 0				0		N/A			ing passengers? (1/14)			N/A				
62. Locomotive Units a. He		a. Head End	b. Ma	Mid T anual	rain c. Remote	Rear d. Manual	r End c. Remote	63. Cars		Lo a. Freight	b. Pass.	I c. Freig	Empty ht d. Pass.	e. Caboose		
(1) Total in Train		0		0	0	0	0	(1) Total in	n Equipment Consist	0	0	0	0	0		
(2) Total Deraile	ed	0		0	0	0	0 0		Derailed	0	0	0	0	0		
64. Equipment Dama	age	0		65. Tra	ck, Signal, V	Vay,	0	66. Prima Code	ry Cause		67. Contributing Cause					
		Numbe	r of Cr	ew Me	mbers	mage	0			Length of	Time on D	uty		N/A		
68. Engineer/	69. Fire	men		70. Co	nductors	71. Brak	emen	72. Engin	eer/Operator		73. Conductor					
Operators 0		0			0		0		Hrs 0 M	i 0		Hrs		Mi 0		
Casualties to:	74. Railro	oad Emplo	oyees 7	75. Tra	in Passenger	s 76. Othe	76. Other		Device?		78. Was	EOT De	vice Properly	Armed?		
Fatal		0			0		0		1. Yes 2. No N/A				1. Yes 2. No			
Nonfatal		0			0		0		1. Yes	v? 2. No				N/A		
						OI	OPERATING TRAIN #3									
80. Type of Equipment       1. Freight train       4. Work train       7. Yard/switching       A. Spec. MoW Equip.       Code       81. Was Equipment       Code       82. Train Nu         Consist (single entry)       2. Passenger train       5. Single car       8. Light loco(s).       Attended?       Attended?										2. Train Nun	nber/Symbol					
92 Smood (	3. Commuter train 6. Cut of cars 9. Maint./inspect.car								N/A	1. Yes	2. No	VA	N/A	um otivo?		
85. Speed (recorded speed, if available) Code 85. Method(s) of Operation (entropy of the speed o							utomatic h	r code(s) tr	nat apply) n.Special instructions		0 = Not a	remotely	controlled	mouve?		
E - Estimated	E - Estimated     N/A     MPH     0     b. Auto train control     h. Current of							raffic <sup>n</sup>	n. Other than main tra	ck	1 = Remo	ote contro	ol portable			
84. Trailing Tons	(gross ton	nage,			Auto train	stop i. T	'ime table/ti rack warran	rain orders ( t control 1	p. Other (Specify in 1	ol harrative)	2 = Remo 3 = Remo	te contro ote contro	ol tower ol			
excluding powe	r units)			e.	Traffic	j. 1 k. l	Direct traffi	c control	Code(s)		transmit	ter - mor	e than one			
		0		f.	Interlocking	1.Y	ard limits	,	N/A N/A N/A	N/A N/A	remote c	ontrol tra	ansmitter	N/A		
86. Principal Car/Un	86. Principal Car/Unit a. Initial and Nu						c. Load	ted(yes/no) 87. If railroad employee(s) tested for drug/alcohol use,								
<ol> <li>(1) First involved (derailed, struck,</li> </ol>	etc)		0			0		N/A	the appropriate	er that were box.	e positive i	n	Alcohol N/A	Drugs N/A		
(2) Causing (if mechanical 0					0	1	N/A	88. Was this cons	ist transport	ing passen	gers? (Y	/N)	N/A			
89. Locomotive Uni	its	a. Head		Mid T	rain	Rear	End	90. Cars	1	Lo Encicht	aded	I Emio	Empty	. Cohoooo		
(1) Total in Train	n	End 0	b. Ma	onual 0	c. Remote	0 0	c. Remote	(1) Total in	n Equipment Consist	a. Freight	0. Fass.	0	0	0		
(2) Total Deraile	ed	0		0	0	0	0	(2) Total D	Derailed	0	0	0	0	0		
91. Equipment Damage					ck, Signal, V	Vay,	0	93. Primary Cause Code 94. Contributing Cause						N/A		
		Numbe	r of Cr	ew Me	mbers	mage	0	Length of Time on Duty								
95. Engineer/ 96. Firemen Operators 0 0				97. C	97. Conductors 98. Braker 0 0			99. Engineer/Operator Hrs 0 Mi 0			100. Conductor Hrs 0 Mi 0					
Casualties to:	ties to: 101. Railroad Employees				Train	103. Oth	103. Other				105. Was EOT Device Properly					
Fatal		0			0		0		1. Yes         2. No         N/A         1. Yes         2. No           106         Caboose Occupied by Crew?         106 <t< td=""></t<>							
Nonfatal 0					0		0	1. Yes 2. No						N/A		
		Highwa	ay Use	er Inv	olved	1			Rail	Equipmen	t Involved	d		1		
107. C. Truck-7	Frailer -	Buc	т	Other	Motor Vak	cle	Code	111. Equip	pment 3 Troin	(standing)	6 Light	Loco(s)	(movine)	Code		
A. Auto       D. Pick-Up Truck       G. School Bus       K. Pedestrian         B. Truck E. Van       H. Motorcycle       M. Other (spec. in narrative)       A						А	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)									
108. Vehicle Speed	5	109.		geographic	cal)	Code	112. Position of Car Unit in									
(est. MPH at in	npact)	5	1.Nor	th 2.So	outh 3.East	4.West	1				1					

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110. Position	110. Position Code 113. Circumstance													Code		
1.Stalled o	1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing       1. Rail Equipment Struck Highway User         2. Rail Equipment Struck by Highway User													1		
114a Was the	highway user	and/or r	نا مرينا	nment	involved				I					<u> </u>		
in the im	in the impact transporting hazardous materials?												Code			
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     1.Gates     4.Wig Wags     7.Crossbucks     10.Flagged by crew     116. Signaled Crossing     Code     117. Whistle												Code				
Crossing 2.Cantilever FLS 5.Hwy. traffic signals 8.Stop signs 11.Other (spec. in narr.) (See instructions for codes) 1. Yes																
Warning 3.Standard FLS 6.Audible 9.Watchman 12.None 2. No 3. Unknown											3. Unknown					
Code(s)	01	02	2 N/A N/A N/A N/A N/A 01								2					
118. Location of Warning Code 119. Crossing Warning Code 120. Crossing Illu											luminated	inated by Street				
1. Both Sides     with Highway Signals     Lights or Special Lights											ints					
2. Side of	venicle Approa	ich	1				2. No	2. No								
3. Opposit	e Side of Venic	cle Appro	ach		1		3. Unknown		1 3. Unknown					2		
121.	122. Driver's	Gender	Code	123.	Driver Drov	ve Behind o	or in Front of	Code	124. Driv	. Driver						
Age	1. Male				and Struck o	r was Struc	k by Second 1	Frain	1. Drov	e arou	and or thru th	e Gate	4. Stopped on Crossing			
20	2. Female	e I	2		1. Yes	2. No	3. Unknowr	1   .	2. Stop	ped ar	nd then Proce	eded	5. Other (specify in	Ι.		
			2					2	3. Did i	not Sto	ор		narrative)			
125. Driver Pa	ssed	Cod	e   12	6. Vie	w of Track C	bscured by	(primary ob	struction)						Code		
Highway V	ehicle	1		1. P	ermanent Str	ucture	3. Passi	ng Train 5.	Vegetation		7. Other (s	pecify in 1	narrative)			
1. Yes 2. No	3. Unknown	1		2. S	tanding Raili	road Equipi	ment 4. Topo	graphy 6. l	Highway Veh	icle	8. Not obstru	icted		O a da		
Casualties to: Killed Injured 127. Drive							ver		Code		128. Was D	Driver in th	he Vehicle?			
						I. Kille	d 2.Injured 3.	Uninjured			1. Yes 2. No					
129. Highway-Rail Crossing Users 4 0						(est.	. dollar damag	property Da ge)	8500 (include driver) 4							
132. Locomotive Auxiliary Lights?   Code   133. Locomotive Auxiliary Lights Operational?											Code					
1. Yes 2. No							1 1. Yes 2. No				1					
134. Locomotive Headlight Illuminated?     Code     135. Locomotive Audible Warning Sounded?												Code				
1. Y	es	2.	No				1	1.	Yes		2. No			1		

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



#### 137. SYNOPSIS OF THE ACCIDENT

On July 16, 2007, at 3:18 p.m., Eastern Daylight Time (EDT), a northbound Amtrak Train PO92-16 struck a westbound automobile at Wabash Avenue highway-rail grade crossing. The accident occurred in Lakeland, Florida (FL) at CSX milepost (MP) A 852.96 on the Jacksonville Division, Lakeland Subdivision. The method of operation in the accident area is by a Traffic Control System (TCS).

The automobile driver and three passengers (one male and three females) were fatally injured. The automobile was completely destroyed. There were no personal injuries to the train passengers, but the engineer and conductor received counseling which resulted in lost time injuries. Amtrak reported an estimated damage to their lead locomotive of \$1,500 and CSX Transportation (CSX) reported damage to signal equipment and track structure as \$7,429. There was no derailment as a result of this highway grade crossing accident.

At the time of the accident, it was daylight and clear. The temperature was 95 °F.

The accident was caused by the highway user deliberately disregarding crossing warning devices.

#### 138. NARRATIVE

## **Circumstances Prior to the Accident**

On July 16, 2007, Amtrak Train PO92-16 originated in Miami, FL, at Hialeah Yard. This train consisted of two locomotives (leading Locomotive ATK 63 and trailing ATK 23) with one baggage car, two sleeper cars, one dinner car, one lounge car, and four coach cars for a total of nine cars. At Hialeah Yard, a Class 1 Brake Test was performed at 7 a.m. Amtrak Train PO92-16 departed Miami at 8:50 a.m. bound for Tampa, FL, which is a crew change point and station stop. The new Amtrak crew, which boarded Train PO92-16 in Tampa, consisted of a locomotive engineer, conductor, and an assistant conductor, with their home terminal being Jacksonville, FL. They went on duty at 1:47 p.m. at Tampa, and all three crew members received 24 hours and 42 minutes rest. They departed Tampa at 2:40 p.m. bound for Jacksonville on the CSX Lakeland Subdivision.

Train PO92-16 was operating at 74 miles per hour (mph) as it approached Wabash Avenue highway-rail grade crossing on the No. one main track. The engineer was operating and seated at the controls of the lead locomotive. The conductor was in the lounge car (9240) and the assistant conductor was in the first sleeper car (Viewliner 9210) performing their normal duties.

From MP A 852 to the point of the accident the track is tangent. From MP A 852 there is a 0.85 descending grade for 3,000 feet, followed by a 0.54 descending grade to Wabash Avenue where the track is tangent and level.

The CSX timetable direction of the train was north. The geographic direction was east. Timetable directions are used throughout this report.

## The Accident

The engineer said about 3:18 p.m., Train PO92-16 was traveling northbound on the CSX No. one main track approaching Wabash Avenue. The train was operating at 74 mph, as recorded by the event recorder on the lead locomotive (ATK 63). The maximum authorized speed for this line segment is 79 mph, as designated in the current CSX Jacksonville Division Timetable No. 4. He observed a red automobile traveling north on Old Tampa Highway, which parallels the CSX main line. At the intersection of Old Tampa Highway and Wabash Avenue an automobile was already stopped at the traffic control light and the red automobile was the second vehicle to stop at the traffic control light. The grade crossing warning devices at Wabash Avenue were activated. The first vehicle made a left-hand turn onto Wabash Avenue and stopped at the downed grade crossing gate arm. The red automobile followed the first vehicle on Wabash Avenue, but proceeded around the first car by going into the center turning lane (westbound) on Wabash Avenue. The car continued around the stopped vehicle, passed the downed grade crossing gate arm into the path of Train PO92-16. The train struck the vehicle on the driver's side. The impact forced the automobile 425 feet northward, and it came to rest on a CSX freight lead. Train PO92-16 stopped 2,004 feet north of the impact point. The engineer also said the accident occurred so quickly that he was unable to place the train's air brakes system into emergency before striking the vehicle.

After the train stopped, the engineer made an emergency transmission on channel 3232 (a CSX road radio channel) and then went to channel 0808 to notify the CSX BB dispatcher. The assistant conductor walked back to the accident scene to see if he could be of assistance and the conductor informed the passengers what had happened. After the accident, the locomotive engineer asked to be relieved from his duties. He then went back to the body of the train and remained there to his home terminal, Jacksonville.

A Lakeland Police Officer was notified of the accident at 3:18 p.m. and arrived at the scene at 3:23 p.m. Emergency Medical Services (EMS) was notified at 3:18 p.m. and arrived at the scene at 3:24 p.m. All four occupants of the automobile were pronounced deceased at the scene of the accident. According to the Florida Traffic Crash Report, two occupants were ejected from the automobile and the other two occupants were partially ejected. Amtrak was delayed two hours and 23 minutes.

# **Analysis and Conclusions**

The automobile involved was a 2004 Pontiac Grand Prix GTP, four door. The automobile was occupied by a driver and three passengers (one male and three females). A female, age 20, was operating the automobile and the passengers ranged in age as follows: male age 22, female age 18, female age 20.

No toxicological tests were performed on the train crew. Toxicological tests were performed on the driver of the automobile, but are not available at the time of this report. The toxicological tests will be forwarded when they are received.

After the accident, the locomotive engineer was relieved from his duties. Another locomotive engineer was transported from Tampa to the accident site. This locomotive engineer operated Train PO92-16 from the accident site to the Amtrak facility in Sanford, FL. At Sanford, Locomotive No. 63 was placed in the trail position and Locomotive No. 23 was placed in the lead position. Another locomotive engineer boarded Train PO92-16 and operated the train from Sanford to Jacksonville.

Wabash Avenue is an asphalt surface and there are three lanes of traffic. There is a westbound lane of traffic, an eastbound lane of traffic, and a center turning lane. Eastbound the center turning lane is utilized for left turns onto West Olive Street. Westbound the center turning lane is utilized for left turns onto Old Tampa Highway. Old Tampa Highway has two lanes of traffic, a lane for northbound highway traffic, and a lane for southbound highway traffic. Old Tampa Highway traffic lanes are ten feet wide and there are no turning lanes onto Wabash Avenue. Wabash Avenue is equipped with gate arms, cantilevered flashing lights, flashing lights, and bells. The grade crossing warning devices are controlled by a Harmon Phase Motion Detector (PMD-1). Old Tampa Highway parallels the CSX railroad, and there are no passive railroad signs or pavement markings approaching the intersection of Old Tampa Highway and Wabash Avenue. The highway traffic signal at the intersection of Old Tampa Highway and Wabash Avenue is interconnected with the grade crossing warning devices. When the grade crossing warning devices are activated, the highway traffic signal functions as follows: if the highway traffic signal is red, it will stay red for 23 seconds and then turn green to allow highway traffic to move north and south. If the highway traffic signal is green, it will cycle to red and stay red for 14 seconds and then turn green to allow highway traffic to move north and south.

There are three CSX tracks that intersect Wabash Avenue and from west to east they are designated as freight lead, No. one main track, and No. two main track. Train PO92-16 was being operated on No. one main track. There is a whistle post located 1,500 feet south of the grade crossing.

A witness at the accident scene said that the grade crossing gate arms were down before the automobile entered the grade crossing.

A Federal Railroad Administration (FRA) inspection of the grade crossing warning devices revealed a pair of flashing light units were missing on the north cantilever mast. According to the CSX signal plan, these missing lights are aimed at the stop bar on Wabash Avenue. These lights are for westbound highway traffic on Wabash Avenue and did not contribute to the accident. However, the inspection did reveal some signs that were in bad condition and a power down gate arm motor contact did not function as intended. Inspection of the grade crossing warning devices did not reveal any contributing factors to the accident.

There is a surveillance camera in the Publix facility located on the northwest quadrant. This camera recorded the accident and revealed the following: There were two vehicles stopped at the intersection of Wabash Avenue and Old Tampa Highway in a northward direction. The grade crossing warning devices were activated for Train PO92-16. The first vehicle made a left-hand turn onto Wabash Avenue and stopped at the downed grade crossing gate arm. The second vehicle followed the first, but made a left-hand turn into the center turning lane (westbound) onto Wabash Avenue. The second vehicle drove around the first vehicle and the downed grade crossing gate arm into the path of Train PO92-16.

The locomotive was equipped with a headlight, auxiliary lights, and audible warning device required by Federal regulations. These devices were tested at the Amtrak facility in Sanford, FL. The locomotive was equipped with a speed indicator and an event recorder as required. The relevant event recorder was downloaded by Amtrak mechanical personnel in Sanford. The analysis disclosed that the locomotive engineer was in compliance with all applicable railroad operating and train handling requirements.

#### Fatigue Analysis

FRA obtained fatigue related information, including a 10-day work history, for the employees involved in this grade crossing accident and concluded that fatigue was not probable for these employees.

## **Probable Cause**

It was determined, through an investigation by the FRA, that the accident was caused by the highway user deliberately disregarding crossing warning devices.