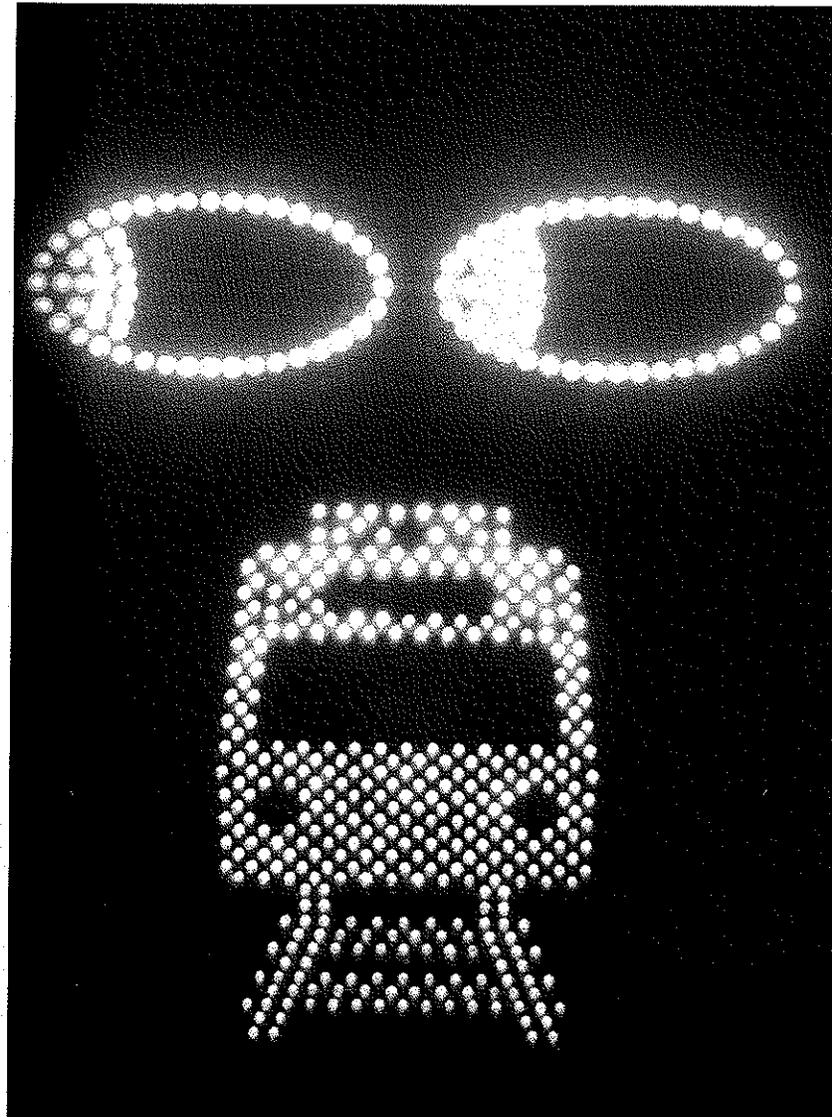


# THE DADDS Public - Rail Crossing "Culture Change" PROJECT



*National Sign and Signal*  
www.nationalssc.com

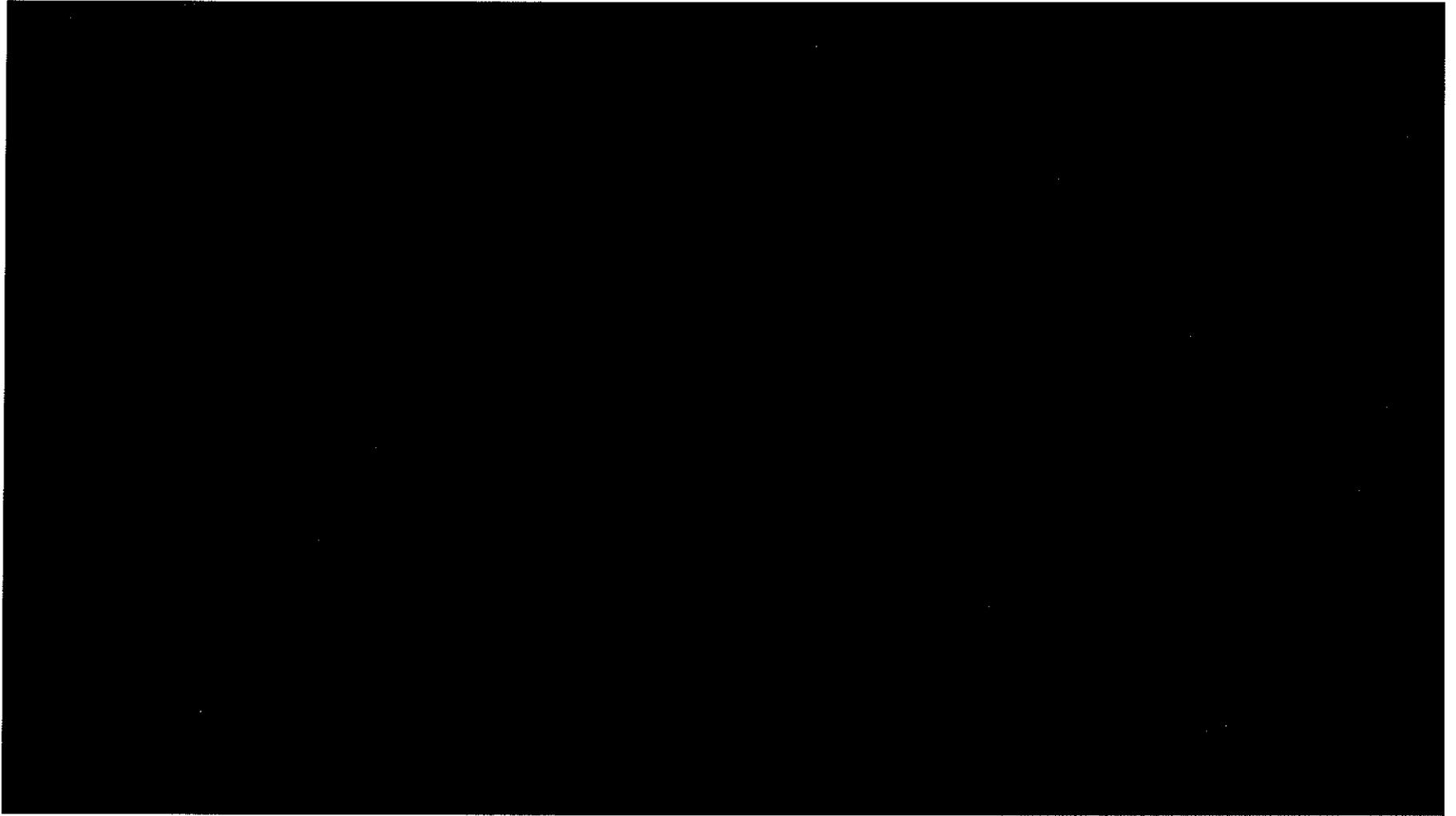


An ISO 9001:2008 Quality Management Company

**TO CROSS OR NOT TO CROSS**

**THAT IS THE QUESTION?**

# CURRENT CULTURE VIDEO



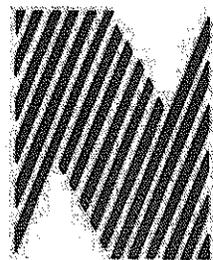
# CULTURE CHANGE TEST



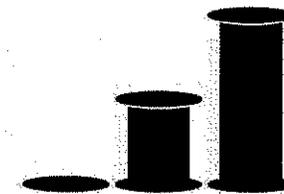
**Federal Railroad Administration  
Office of Safety Analysis**



**Wayne County, Michigan**



***National Sign and Signal***  
[www.nationalssc.com](http://www.nationalssc.com)



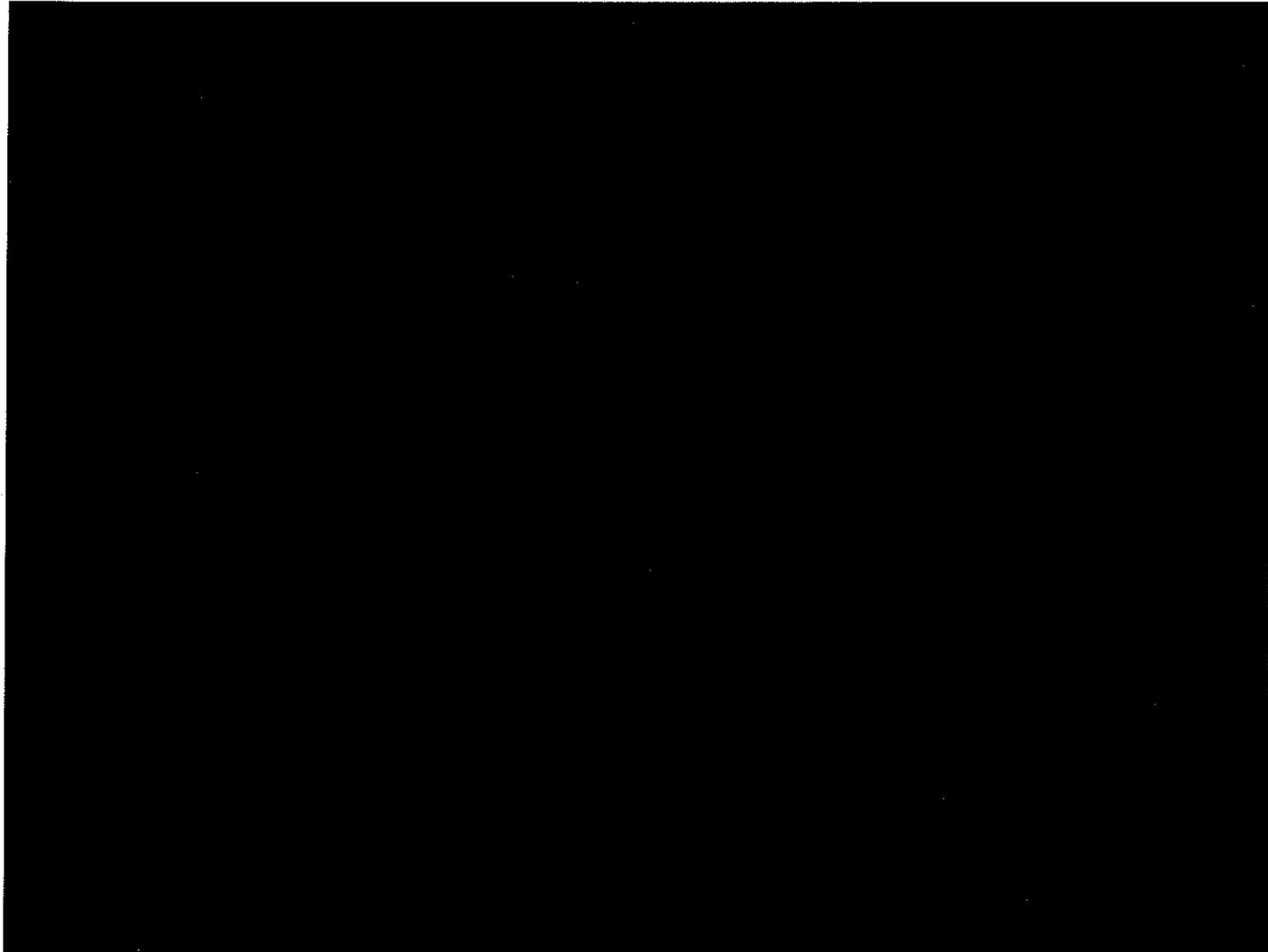
**Intelligent  
Perimeter Systems**  
[www.ibarrier.com](http://www.ibarrier.com)

# VISUAL RESISTANCE

Mostly **URBAN APPLICATION** *Lower Speed Crossings*



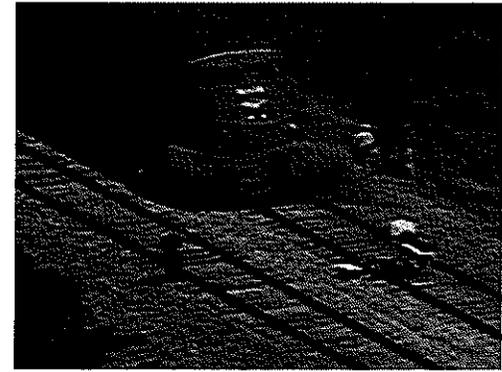
# TEST APPLICATION VIDEO



# TEST RESULTS - SAVING LIVES - VIDEO



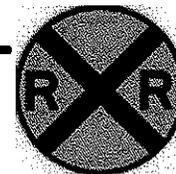
# Michigan Fatal Crash Gate-Running



- **5 Teens Die in Train-Car Crash in Mich.**
- **Amtrak Train Strikes Car at Road Crossing, Killing All Five in Sedan**
- The crossing has a gate and flashing lights that were believed to be working when the car approached, said Gajeski, a police spokesman. Based on witness accounts, police suspect the people in the sedan tried to go around the gate and were hit, he said.

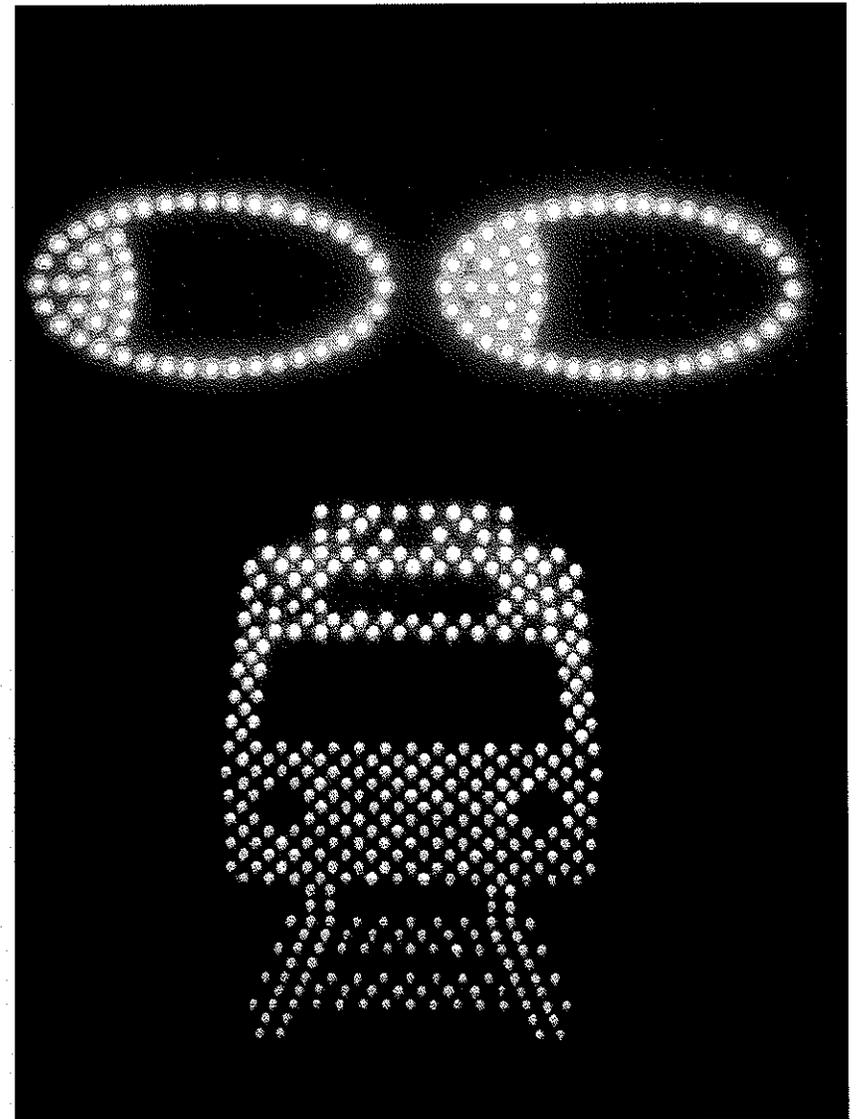
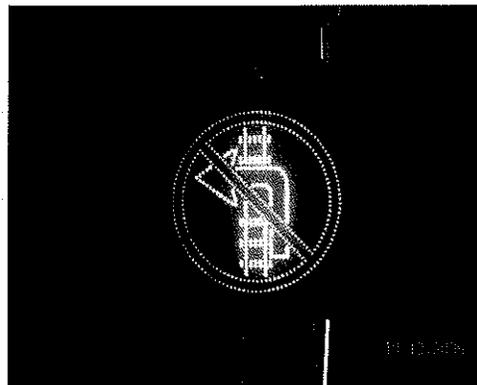
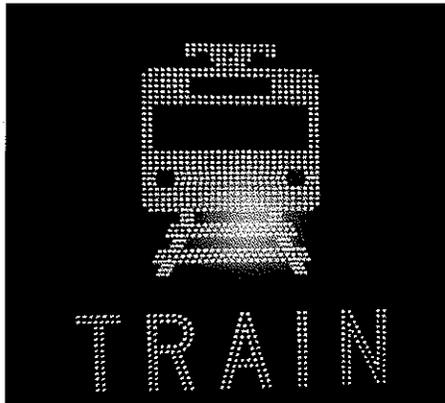
"It looks like they probably did go around the arm. They went around the gate," Gajeski said.

# WHY? The **DADDS** PROJECT



- AT ALL CROSSING LOCATIONS
  - D**ETECT a train crossing is going to occur
  - A**LERT vehicle operators of the crossing
  - D**ETER vehicle operators from crossing
- AT HIGHER SPEED CROSSINGS
  - D**ENY a vehicle from reaching the tracks
  - S**ECURE rail passenger high speed travel safety

# DADDS PROJECT - ALERTS



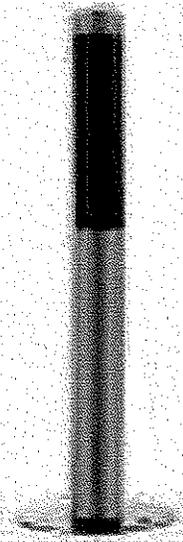
# DADDS PROJECT - DEVICES



## **LOW SPEED CROSSINGS**

Model 100-Flexible

Visual Resistance Traffic Control

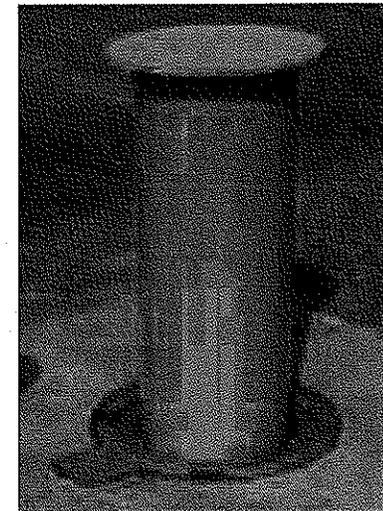


## **HIGH SPEED CROSSINGS**

Model 400 – Security Barrier

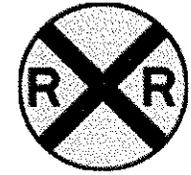
Physical Resistance Traffic Denial

*Government Certified  
US/UK*



**K12/PAS68**

# DADDS PROJECT – SYSTEMS



System Health Monitor Condition - GREEN



# DADDS PROJECT – SYSTEMS



System Health Monitor Condition – RED ALERT



# DADDS PROJECT – SYSTEMS



## System Health Monitor Condition - REPORT

Report

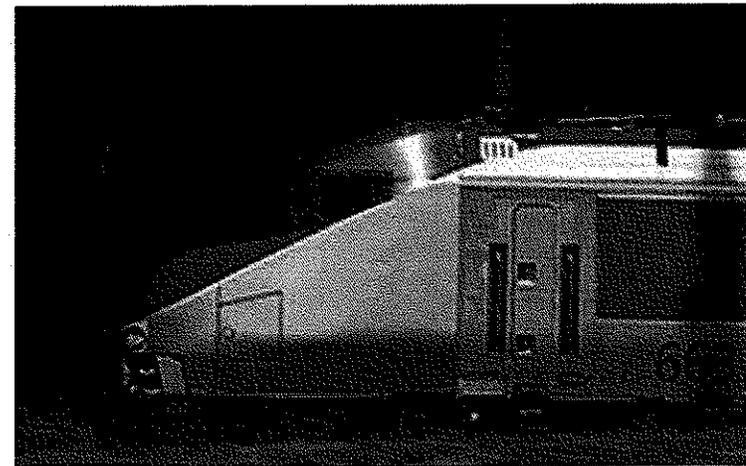
Close Data Selection Filter Options Run Export Print

Standard reports: Range: Last 24 Hours

Processed: 31 of 31 Cancel

Date	Time	User ID	Device	Description	Level	Action
03/01/07	18:58:13	MASTER	*VIEW - Dam		NORMAL	1
03/01/07	18:58:13	MASTER	*VIEW - Dam		NORMAL	1
03/01/07	18:58:13	MASTER	*VIEW - Dike 4 5 6		NORMAL	1
03/01/07	18:58:13	MASTER	*VIEW - Morman Island		NORMAL	1
03/01/07	18:58:13	MASTER	*VIEW - Mappoint		NORMAL	1
03/01/07	18:58:13	MASTER	*VIEW - Parking Garag		NORMAL	1
03/01/07	18:58:13	MASTER	*SITE		NORMAL	1
03/01/07	19:03:46	MASTER	Dike 4 Right	1:Up 2:Up 3:Up   Control	SEVERE	Controller Temper
03/01/07	19:03:49	MASTER	*VIEW - Dike 4 5 6	Dike 4 Right Controller T	SEVERE	8
03/01/07	19:03:49	MASTER	*VIEW - Mappoint	Dike 4 Right Controller T	SEVERE	8
03/01/07	19:03:49	MASTER	*SITE	Dike 4 Right Controller T	SEVERE	8
03/01/07	19:03:55	MASTER	Dike 4 Right	1:Up 2:Up 3:Up	NORMAL	Dike 4 Right Up
03/01/07	19:03:56	MASTER	*SITE		NORMAL	1
03/01/07	19:03:56	MASTER	*VIEW - Dike 4 5 6		NORMAL	1
03/01/07	19:03:56	MASTER	*VIEW - Mappoint		NORMAL	1
03/01/07	19:03:59	MASTER	Dike 5 Left	1:Down 2:Down 3:Down	ELEVATED	Dike 5 Left Down
03/01/07	19:04:00	MASTER	*VIEW - Dike 4 5 6	Dike 5 Left Down	ELEVATED	2
03/01/07	19:04:00	MASTER	*VIEW - Mappoint	Dike 5 Left Down	ELEVATED	2
03/01/07	19:04:00	MASTER	*SITE	Dike 5 Left Down	ELEVATED	2
03/01/07	19:04:10	MASTER	Dike 4 Right	1:Up 2:Up 3:Up   Battery	HIGH	Battery Open
03/01/07	19:04:11	MASTER	*SITE	Dike 4 Right Battery Ope	HIGH	6
03/01/07	19:04:11	MASTER	*VIEW - Dike 4 5 6	Dike 4 Right Battery Ope	HIGH	6
03/01/07	19:04:11	MASTER	*VIEW - Mappoint	Dike 4 Right Battery Ope	HIGH	6
03/01/07	19:04:23	MASTER	Dike 4 Right	1:Up 2:Up 3:Up	NORMAL	Dike 4 Right Up

FOR DEMONSTRATION PURPOSES ONLY



QUESTION: WHAT CONSTITUTES HIGH SPEED RAIL?

ANSWER: TRAIN SPEED AT CROSSING \_\_\_\_\_!

RELATIVE ISSUE/QUESTION?

**Does today's rail crossing culture/systems over promise and under deliver rail passenger safety at the higher speed crossings?**

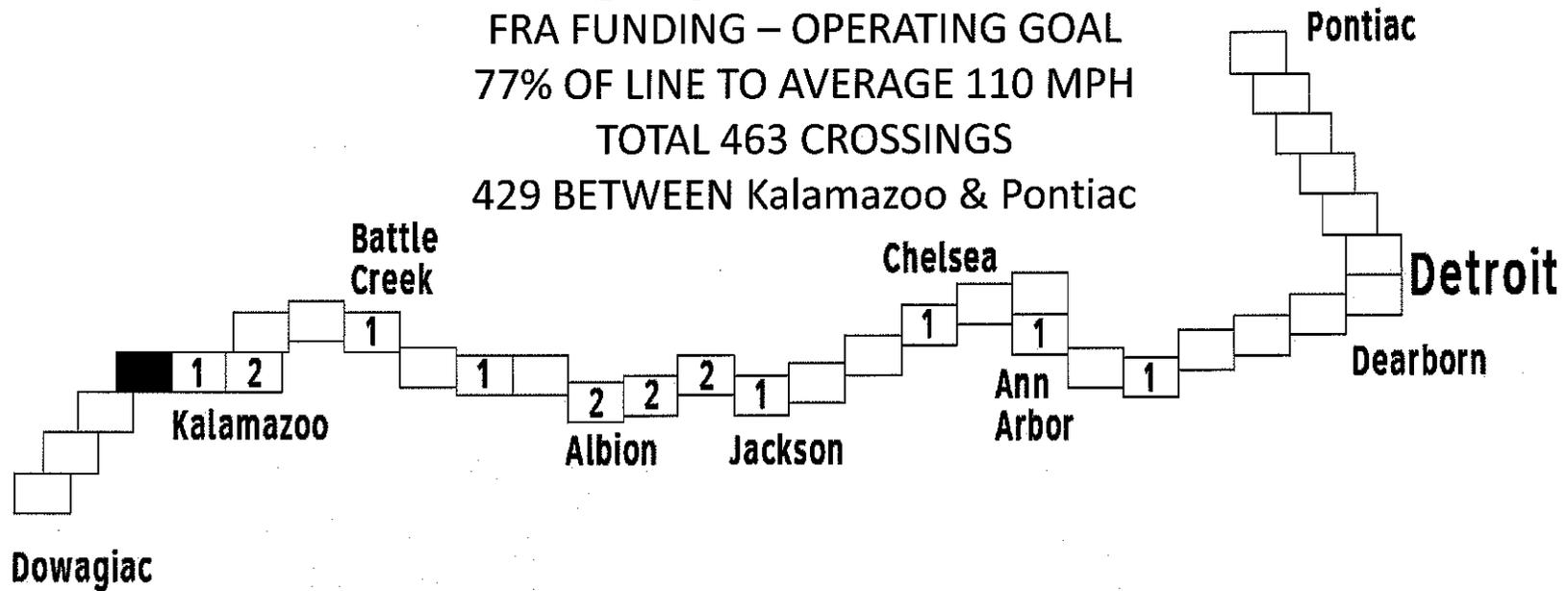
# FRA-Highway-Rail Grade Crossing Guidelines

## High Speed Rail – Section 6 – Barriers – 111 to 125 mph

- **Barrier systems must operate in concert with the crossing warning system**, and the combined system must provide critical information concerning system health and status to the train control system in real time.  
***DADDS PROJECT / YES***
- **Barrier must be capable of stopping short of the crossing the heaviest motor vehicle** operated on that roadway, taking into consideration the posted speed limit on the roadway.  
***DADDS PROJECT / YES***
- **Barrier systems must include the capability to detect any object of significant obstruction** (car, truck) that remains on the crossing after the barriers go into place.  
***DADDS PROJECT / YES***
- **Barrier systems must communicate to approaching high-speed trains** the presence of any significant obstruction in time for the train to reduce speed (i.e., to approximately 20 mph) or stop before reaching the crossing.  
***DADDS PROJECT / YES***

# High Speed Rail Line

FRA FUNDING – OPERATING GOAL  
77% OF LINE TO AVERAGE 110 MPH  
TOTAL 463 CROSSINGS  
429 BETWEEN Kalamazoo & Pontiac



# Passenger Train Crossing Accident Speed at Crossing 79 MPH

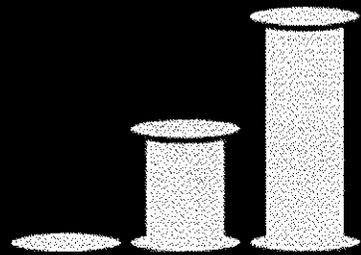


# PHYSICAL RESISTANCE

Mostly **RURAL APPLICATIONS** *Higher speed crossings*



**DENY ACCESS**  
**SECURE PASSENGERS - SAFE TRAVEL**



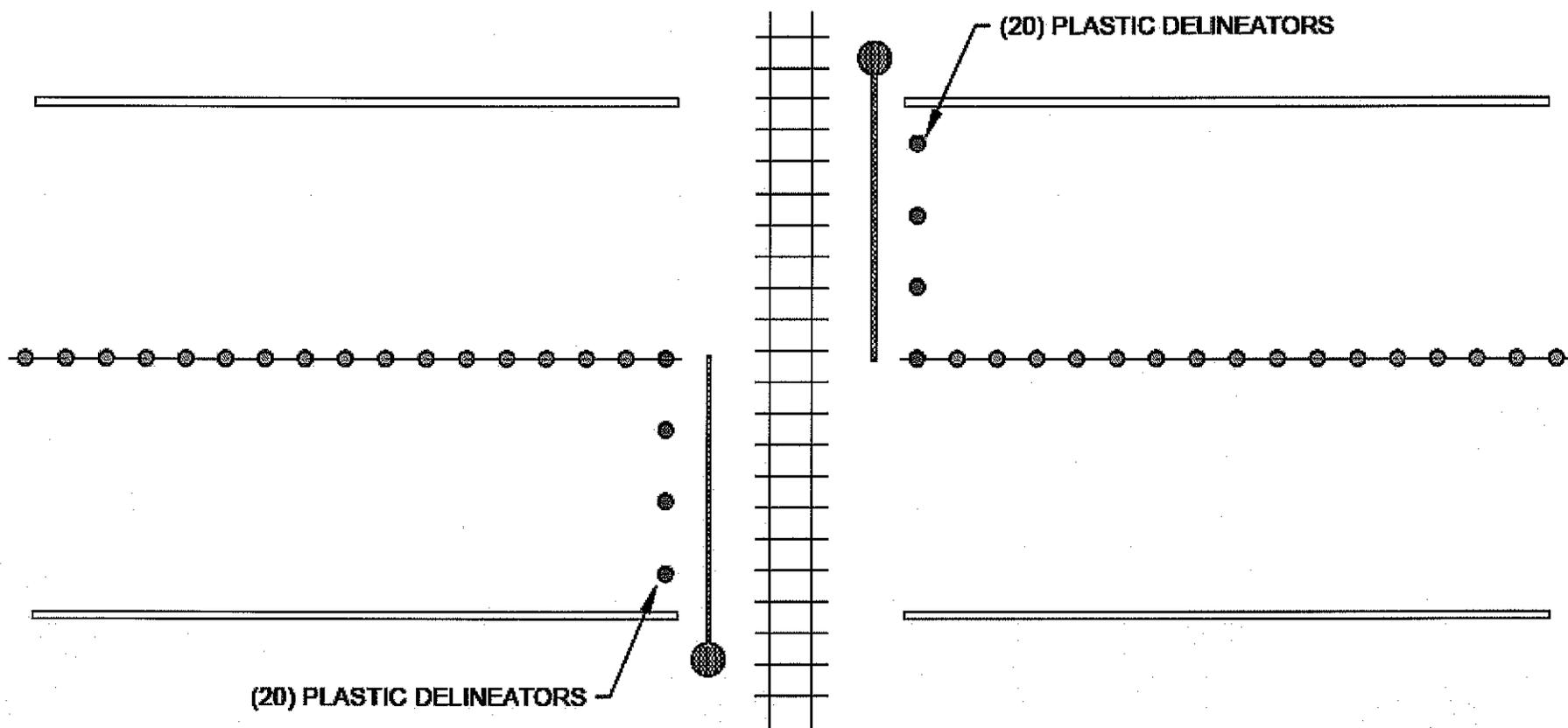
**Intelligent**  
Perimeter Systems

Intelligent Perimeter Systems  
5131 Post Rd.  
Dublin, Ohio 43017  
[www.iBarrier.com](http://www.iBarrier.com)

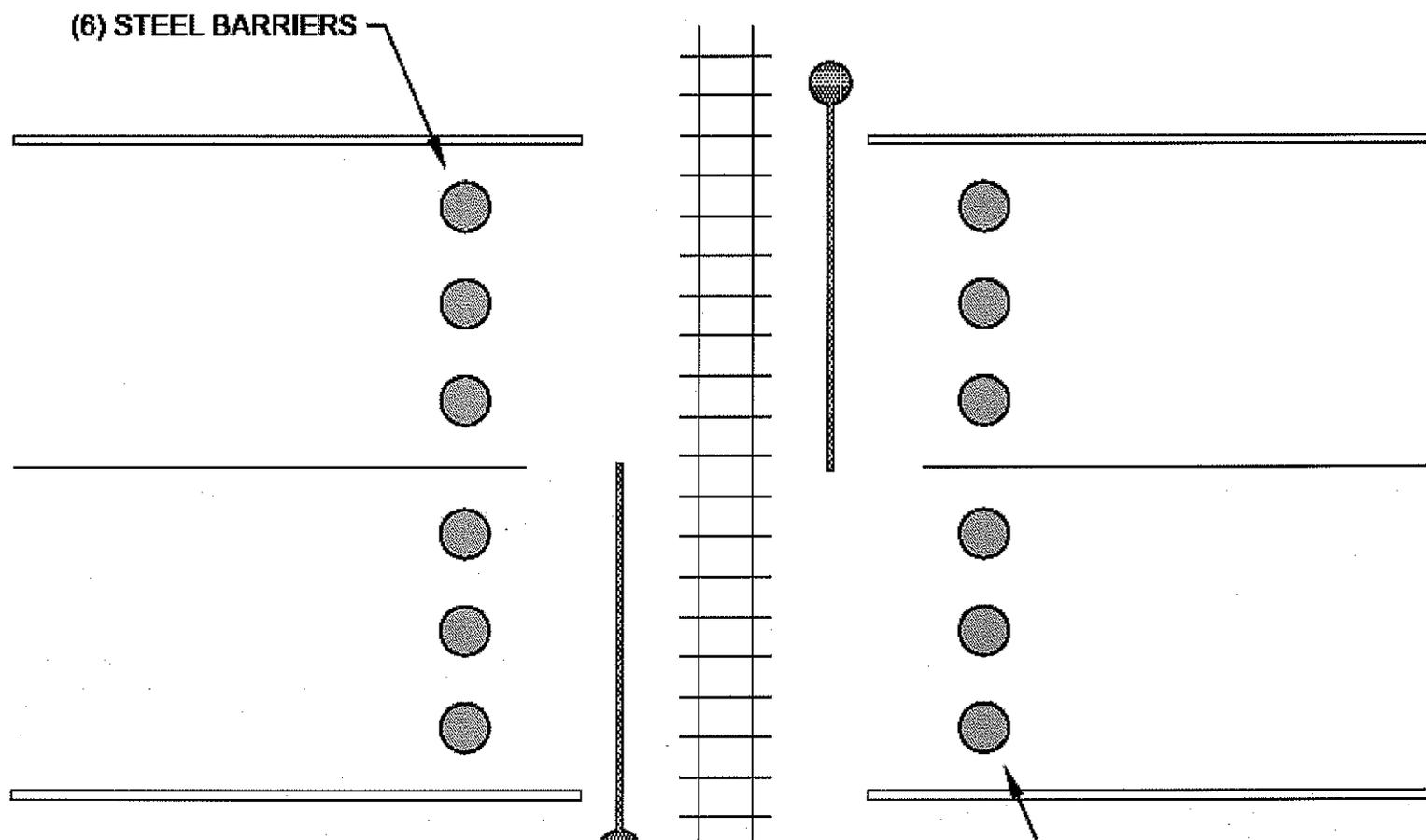
**1-800-304-9422**

# APPLICATION DESIGN VISUAL RESISTANCE (VR)

(PLASTIC DELINEATORS)

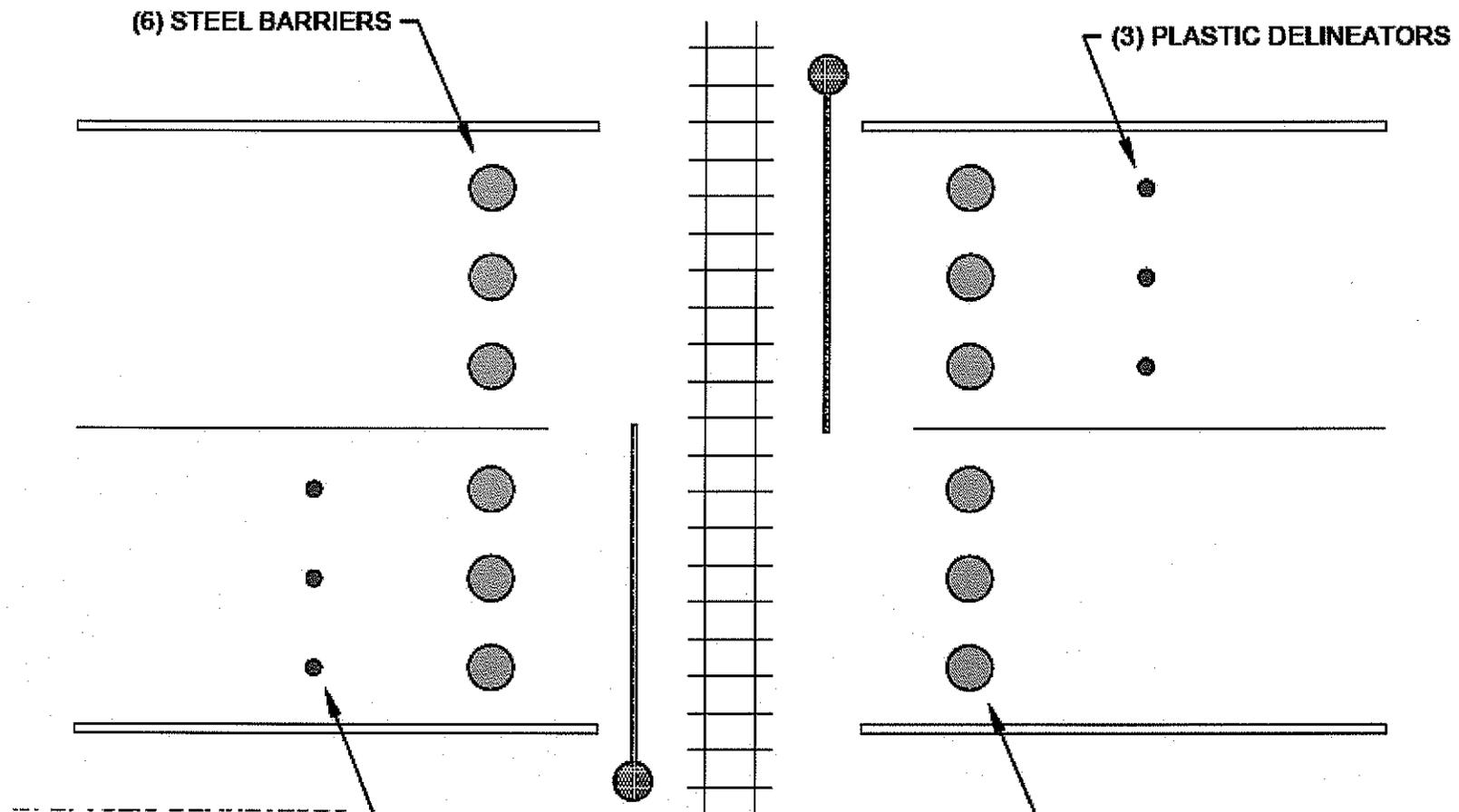


# APPLICATION DESIGN PHYSICAL RESISTANCE (PR) (STEEL BARRIERS)



# APPLICATION DESIGN VISUAL/PHYSICAL RESISTANCE (V/PR)

(PLASTIC DELINEATORS AND STEEL BARRIERS)



The DADDS PROJET promotes the State of Michigan as the "First Mover in the Market Place" to advance a safer rail crossing culture by a program of information and system influence targeting the vehicle operator question of "to cross or not to cross" changing it to a perception of rail area access denial at train crossing times.

Thank you for your time and consideration!

Ronald E Scherer  
Chairman  
National Sign & Signal Company

**THE  
DADDS**  
*Public - Rail Crossing "Culture Change"*  
**PROJECT**



# RXR CULTURE CHANGE DASH BOARD

NATIONAL SIGN & SIGNAL // RAIL CROSSING SAFETY // CULTURE CHANGE DASHBOARD								
AREA	MEASURE	WHY IT MATTERS	DATA SOURCE	DATA LINK	UNITED STATES		MICHIGAN	
					2010	2011	2010	2011
CULTURE CHANGE OF RAIL CROSSING SAFETY	Total Accidents/Incidents	A train hits an individual in America every 115 minutes, often with fatal results. According to Operation Lifesaver, a national nonprofit organization, nearly 2,000 Americans are killed or injured at highway/rail grade crossings each year.	Source: US Department of Transportation, Federal Rail Administration	<a href="http://www.fra.dot.gov">www.fra.dot.gov</a>	11,563	11,116	178	159
	# of Fatal Accidents/Incidents				693	685	15	12
	Percentage involving fatalities				5.99%	6.16%	8.43%	7.55%
RAIL CROSSINGS	Total Crossings	Ninety-four percent of all grade crossing accidents are caused by risky driver behavior. A vehicle operator is 40 times more likely to die in a collision with a train than with another vehicle. Nationally, nearly 50% of all vehicle/train collisions occur at crossings with active warning devices (gates, lights, bells)	Source: US Department of Transportation, Federal Rail Administration	<a href="http://www.fra.dot.gov">www.fra.dot.gov</a>		135,000		4,931
	# of Urban Crossings @ Public Roads					35,000		1,480
	# of Rural Crossings @ Public Roads					100,000		3,451
CROSSING ALERTS & MOTORISTS PRESSURE	Total Crossings	Only 33% of public crossings have gates. The most common informational sign at a crossing is the familiar crossbucks with black letters in an "X" format spelling "railroad" and "crossing". About 43% of public crossings have crossbucks. Since trains have the right-of-way at crossings, motorists have to interpret the warning signs, watch for dangerous conditions, determine if trains are approaching and estimate train speeds.	Source: Angels on Tracks 501 C3 Organization	<a href="http://www.anglesontrack.org">www.anglesontrack.org</a>		136,041		4,931
	# of Crossings Signaled (calculated)					23,235		1,627
	# of Crossings with Crossbucks (calculated)					112,806		3,304
HIGH SPEED RAIL	FRA Highway Rail Grade Crossing Guidelines	The FRA calls for use of a more modern approach to rail crossing safety that makes use of today's technology. However, the current standard rail crossing set-up "over promises and under delivers" rail passenger/vehicle crossing safety.	Source: US Department of Transportation, Federal Rail Administration	<a href="http://www.fra.dot.gov">www.fra.dot.gov</a>		111 mph +		
	High Speed Rail Section 6 Barriers Denial							
MICHIGAN HIGH SPEED RAIL LINE CROSSINGS	Total Crossings (Estimate)	With the increased speed of trains at crossings, the risk factors are changing and growing for each crossing. Valuations of risk per system used must now be approached on an individual crossing basis with the maximum safe travel benefit system installed at each crossing.	Source: US Department of Transportation, Federal Rail Administration	<a href="http://www.fra.dot.gov">www.fra.dot.gov</a>				463
	Dowagiac to Kalamazoo							34
	Kalamazoo to Pontiac							429
GROWTH OF RAIL & PASSENGER USE/TRAVEL EXPOSURE	Rail Growth	US railroads carried 427 billion ton miles of cargo in 1930, 750 billion ton miles by 1975 and 1.5 trillion ton miles by 2005. Amtrak operates more than 300 trains each day connecting 500 destinations in 46 states primarily traveling on freight lines with maximum speeds in certain areas of 150 mph.	Source: Wikipedia Information Site & Michigan Department of Transportation	<a href="http://www.wikipedia.org">www.wikipedia.org</a>				
	Growth of freight movement						1.5 t ton	120 m tons
	Amtrak passengers						30.2 m	756,651