



**NTSB** National Transportation Safety Board

---

# Recommendations From Recent Accidents

2010 Rail Corridor  
Safety Conference

June 24, 2010

***Christopher A. Hart***

***Vice Chairman***

# NTSB

- Independent agency, investigate transportation accidents
- Make findings, conclusions, determine probable cause(s), and make recommendations to prevent recurrences
- 5 Members, nominated by the President, confirmed by the Senate
  - Single focus is safety
  - Objective is to determine probable cause, not liability or blame



# Acceptance Rate

83.7% acceptance rate  
for railroad and rail transit safety  
recommendations  
(as of November 2009)

# Recent Accident



Head-on Collision, Chatsworth, CA  
September 12, 2008

# Probable Cause

The National Transportation Safety Board determined that the probable cause of this accident was the failure of the Metrolink engineer to observe and appropriately respond to the red signal aspect at Control Point Topanga because he was engaged in prohibited use of a wireless device, specifically text messaging, that distracted him from his duties. Contributing to the accident was the lack of a positive train control system that would have stopped the Metrolink train short of the red signal and thus prevented the collision.

# Recommendations to FRA

- Require the installation in locomotive cabs of audio and image recorders to verify that train crew actions are in accordance with rules and procedures that are essential to safety

- Require railroads to review and use in-cab audio and image recordings (with appropriate limitations on public release) to verify that train crew actions are in accordance with rules and procedures that are essential to safety

# Another Recent Accident



Rear-End Collision, Chicago, IL  
November 30, 2007



Stopped Norfolk Southern 23M

MP 518

**Accident  
MP 517.34**

Amtrak 371

MP 517

Track 2

Red over Red  
Southbound Signals  
Tracks 1 and 2

Metra

Red over Red  
Northbound Signal  
Tracks 2

Red Over Yellow Signal  
Northbound Signals

Englewood Interlocking

Track 1

Route of Amtrak  
Train 371

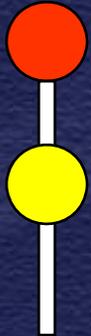
Stopped Freight Train

NOT TO SCALE



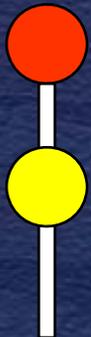
# Different Signal Interpretations

- Norfolk Southern - *Restricting*



- Be prepared to stop in one-half the range of vision
- Expect the track to be occupied

- Amtrak Terminal - *Slow Approach*



- Be prepared to stop at the next signal
- Expect a clear track

# Probable Cause

The NTSB determined that the probable cause of the November 30, 2007, collision of Amtrak train 371 with the rear of Norfolk Southern Railway Company train 23M near Chicago, Illinois, was the failure of the Amtrak engineer to correctly interpret the signal at Englewood interlocking and Amtrak's failure to ensure that the engineer had the competency to correctly interpret signals across the different territories over which he operated.

Contributing to the accident was the relief engineer's failure to immediately communicate to the engineer that he had miscalled the signal at Englewood and to stop the train when he did not respond to her expressed concern.

Also contributing to the accident was an absence of effective crew resource management between the relief engineer and the operating engineer which led to their failure to resolve the miscalled signal prior to the collision. Further contributing to the accident was the absence of a positive train control system that would have stopped the Amtrak train when it exceeded restricted speed.

# Recommendations

## To FRA

- Explore certain uniform signal aspects
- Require improved emergency exits on locomotives

## To Amtrak

- Enhance training, supervision, testing, and evaluation of engineers regarding signal proficiency

## To Amtrak, BLET, UTU, AAR, APTA, ASLRRA, and UTU

- Improve crew resource management regarding signal interpretation disagreements

# Remote Control Operations

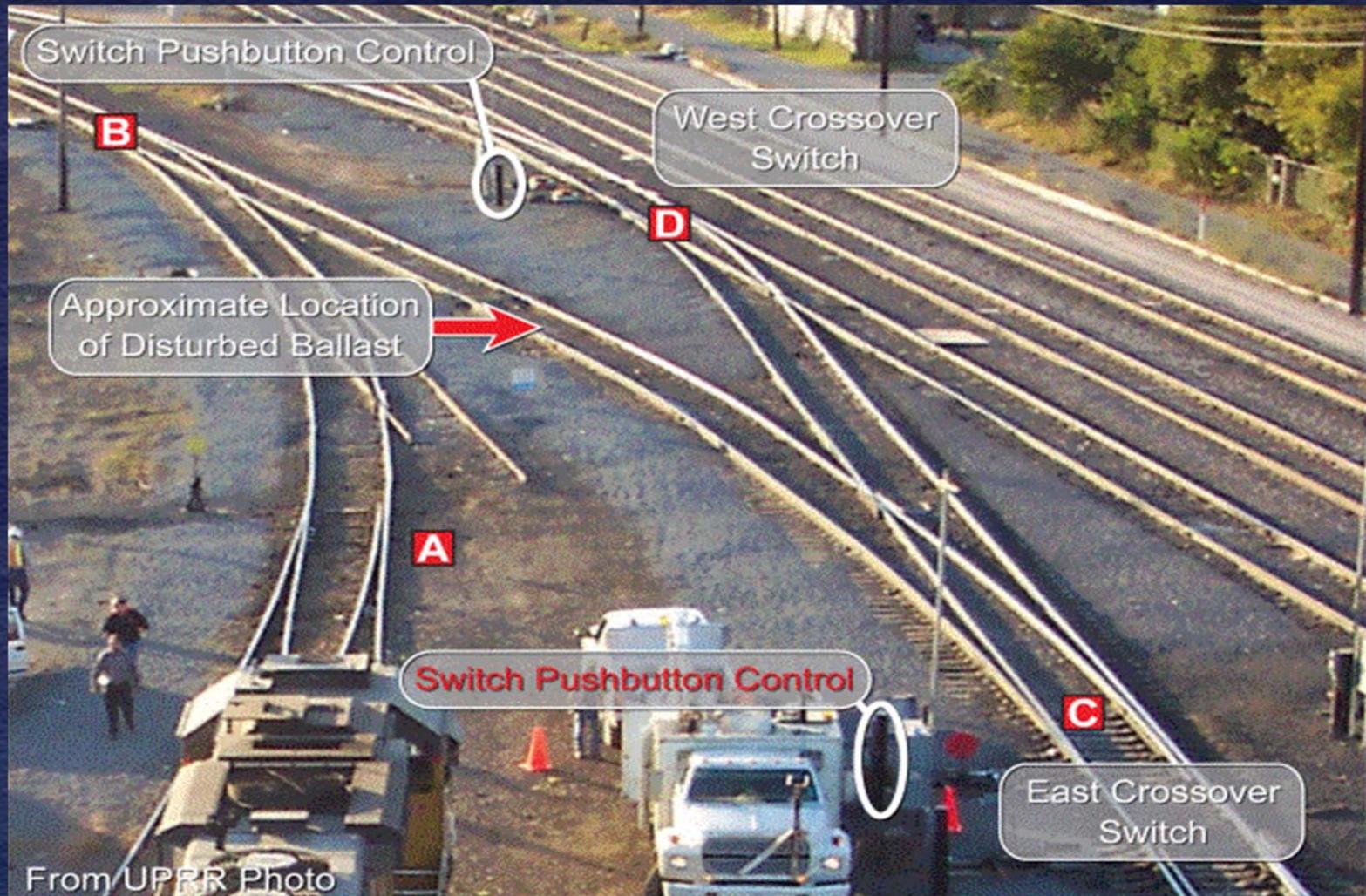
## Ongoing Investigations

- Minneapolis, MN, December 29, 2009
- Albany, NY, May 10, 2009
- Walbridge, OH, April 1, 2008

## Completed Investigations

- Stockton, CA, August 30, 2007
- Pajaro, CA, October 13, 2006
- San Antonio, TX, December 7, 2003

# Scene of the Accident



# Probable Cause

The NTSB determined that the probable cause of the December 7, 2003, yard accident in San Antonio, Texas, was the foremen's inattentiveness to the location of the locomotives and the switch position and the lack of adequate oversight by the Union Pacific Railroad of power-assisted switch installation, maintenance, and operations at its East Yard.

# Recommendations

## To FRA

- Require railroads to implement improved procedures regarding power-assisted switches

## To UP

- Emphasize importance of following installation and maintenance specs for power-assisted switches
- Emphasize the proper use of equipment to employees who use power-assisted switch machines

**Thank You!**

**Questions?**

**Website: [ntsb.gov](http://ntsb.gov)**