

Illinois Department of Transportation
Traffic Signal - Railroad Interconnects



October 25, 1995
Fox River Grove, Illinois

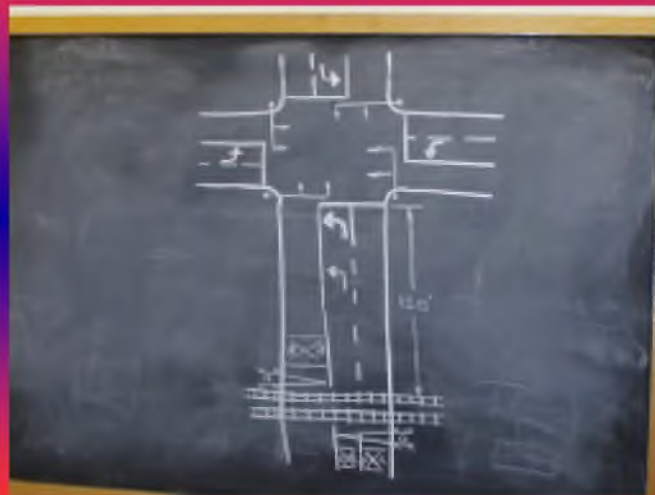
March 20, 2001

Purdue University, Indiana

1

Illinois Department of Transportation
Traffic Signal - Railroad Interconnects

Typical Railroad Interconnect Location



Minimum Preemption Time = ? Seconds

March 20, 2001

Purdue University, Indiana

2

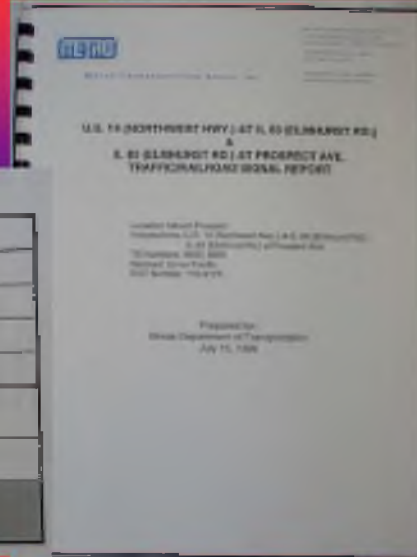
Illinois Department of Transportation
Traffic Signal - Railroad Interconnects

Engineering Report:

MPT Table:

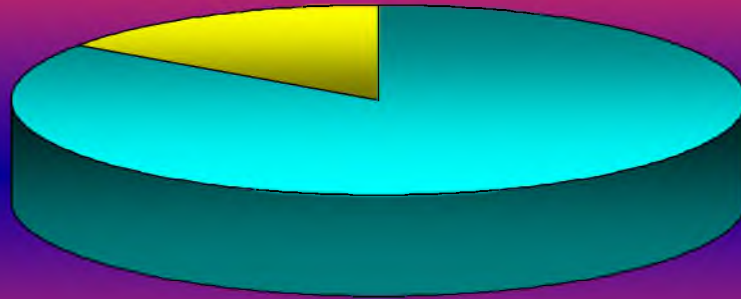
Table 3.1
Recommended Timing

	Time Needed
Delay ¹	1
Minimum Green (sec)	1
Yellow Interval ² (sec)	4.5
All-Red Interval ³ (sec)	1.5
Time Before I. 83 Receives the Green Interval (sec) (optional)	6
Track Clearance ⁴ (sec)	17
Min. All-Waiving Time Required (sec)	20



Illinois Department of Transportation
Traffic Signal - Railroad Interconnects

Statewide Interconnect Locations



- State Highway Locations - 215
- Local Road Locations - 39

Illinois Department of Transportation Traffic Signal - Railroad Interconnects

★ Traffic Signal Improvements

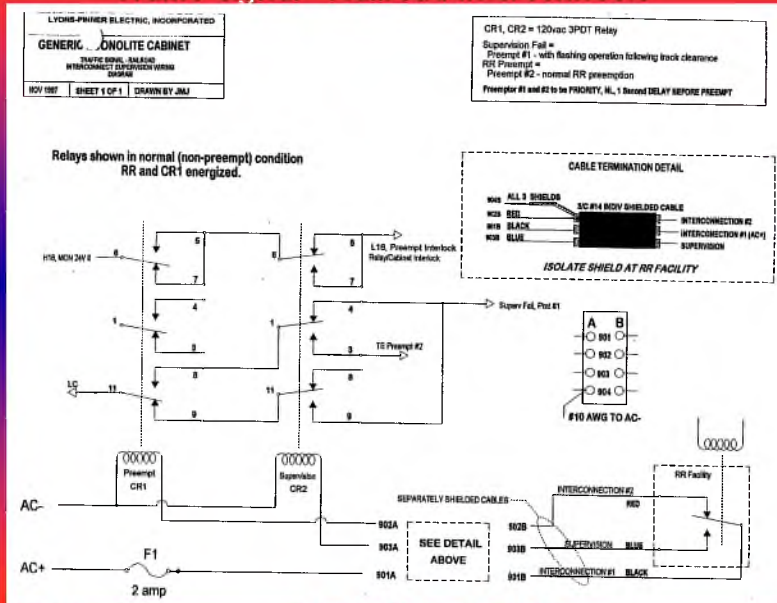
- ★ New controller cabinets with railroad preempt features
- ★ Track Clearance Green Re-service Feature
- ★ Supervised Interconnect Circuit

March 20, 2001

Purdue University, Indiana

5

Illinois Department of Transportation Traffic Signal - Railroad Interconnects



March 20, 2001

Purdue University, Indiana

6

Illinois Department of Transportation
Traffic Signal - Railroad Interconnects

★ **Traffic Signal Improvements**

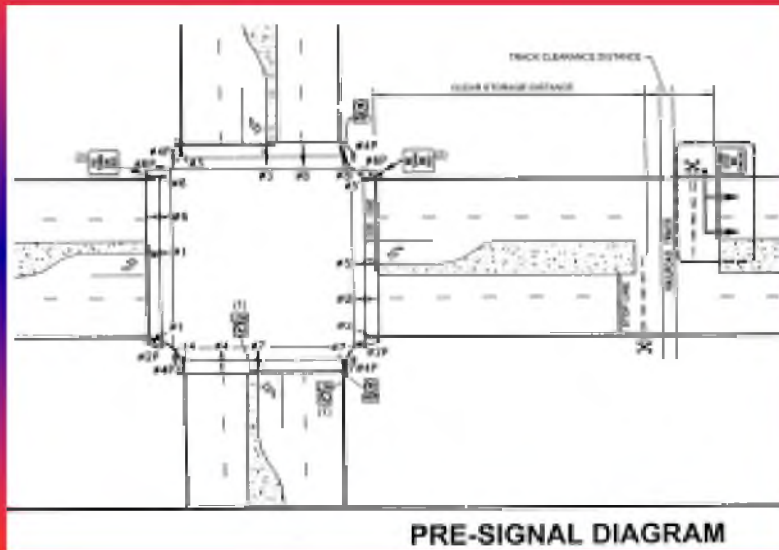
- ★ New controller cabinets with railroad preempt features
- ★ Track Clearance Green Re-service Feature
- ★ Supervised Interconnect Circuit
- ★ Presignals where short storage distance
- ★ Security / Preempt Data Verification
- ★ Remote Monitoring

March 20, 2001

Purdue University, Indiana

7

Illinois Department of Transportation
Traffic Signal - Railroad Interconnects

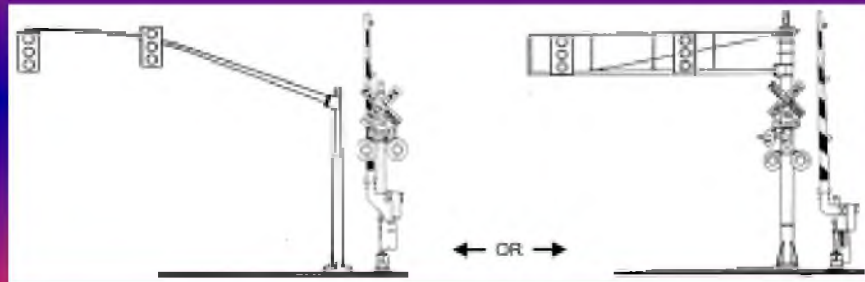


March 20, 2001

Purdue University, Indiana

8

Illinois Department of Transportation
Traffic Signal - Railroad Interconnects



March 20, 2001

Purdue University, Indiana

9

Illinois Department of Transportation
Traffic Signal - Railroad Interconnects

Signal Heads on Mast Arms



March 20, 2001

Purdue University, Indiana

10

Illinois Department of Transportation
Traffic Signal - Railroad Interconnects

Signal Heads on Railroad Cantilever



March 20, 2001

Purdue University, Indiana

11

Illinois Department of Transportation
Traffic Signal - Railroad Interconnects



Measures to Mitigate Higher Warning Times



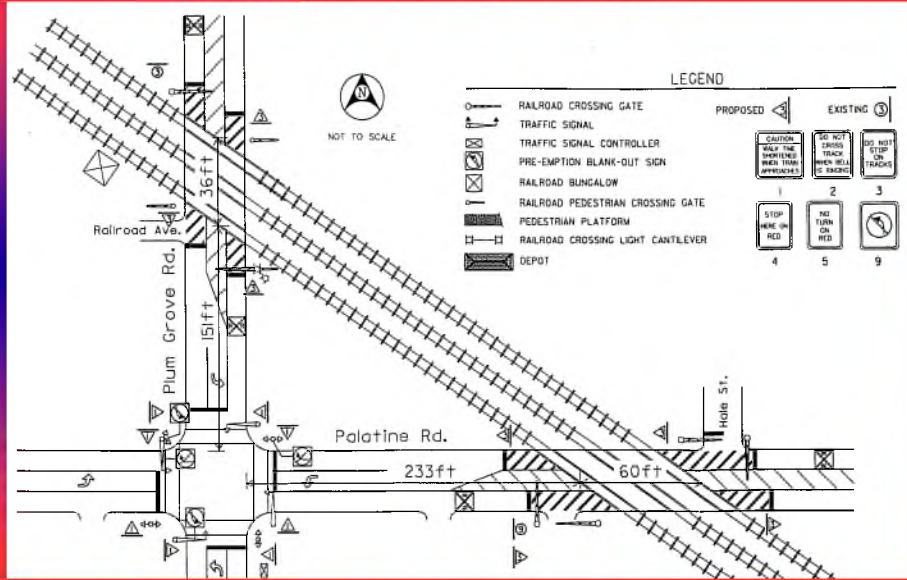
Median Barriers above 35 sec MPT

March 20, 2001

Purdue University, Indiana

12

Illinois Department of Transportation Traffic Signal - Railroad Interconnects



March 20, 2001

Purdue University, Indiana

13

Illinois Department of Transportation Traffic Signal - Railroad Interconnects



March 20, 2001

Purdue University, Indiana

14

Illinois Department of Transportation
Traffic Signal - Railroad Interconnects

★ **Measures to Mitigate Higher Warning Times**

- ★ Median Barriers above 35 sec MPT
- ★ Grade Crossing Predictors (CWT controllers)
- ★ Studying Advance Preemption
- ★ Video Enforcement
- ★ Flashers on DO NOT STOP ON TRACKS signs

March 20, 2001

Purdue University, Indiana

15

Illinois Department of Transportation
Traffic Signal - Railroad Interconnects

★ **Advance Preemption Study**

- ★ Participation by Major Railroads
- ★ Minutes of the Meetings Available on Web:
- ★ <http://cee.ce.uiuc.edu/tol>
- ★ Password: palatinestudy

March 20, 2001

Purdue University, Indiana

16

Illinois Department of Transportation
Traffic Signal - Railroad Interconnects

★ **Typical Cost of Improvements**

★ Railroad Crossing Warning Devices Improvements

★ \$150 K per track (90% IDOT Share)

★ Traffic Signal Improvements

★ \$ 20 K* (100% IDOT Share)

* Non-Presignal location

Illinois Department of Transportation
Traffic Signal - Railroad Interconnects

Interconnect Improvements Time Line



Illinois Department of Transportation
Traffic Signal - Railroad Interconnects

The End