

RSAC Update of NAJPTC Project

*John Samuels
Chairman NAJPTC Management Committee*

December 2, 2003



FRA



IDOT



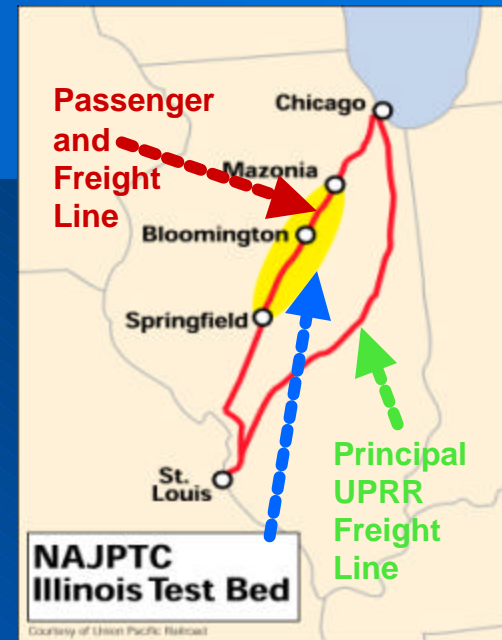
AAR



NAJPTC Project

OBJECTIVES

- Demonstrate cost effective PTC **Safety Functionality**
 - Prevent Train to Train Collisions
 - Enforce Speed Restrictions
 - Protect Roadway Workers Operating Under Specific Authorities
- Develop **Interoperability** Standards
- Operation of Passenger Trains @ **110 mph** Intermixed with Freight Trains



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ManCom



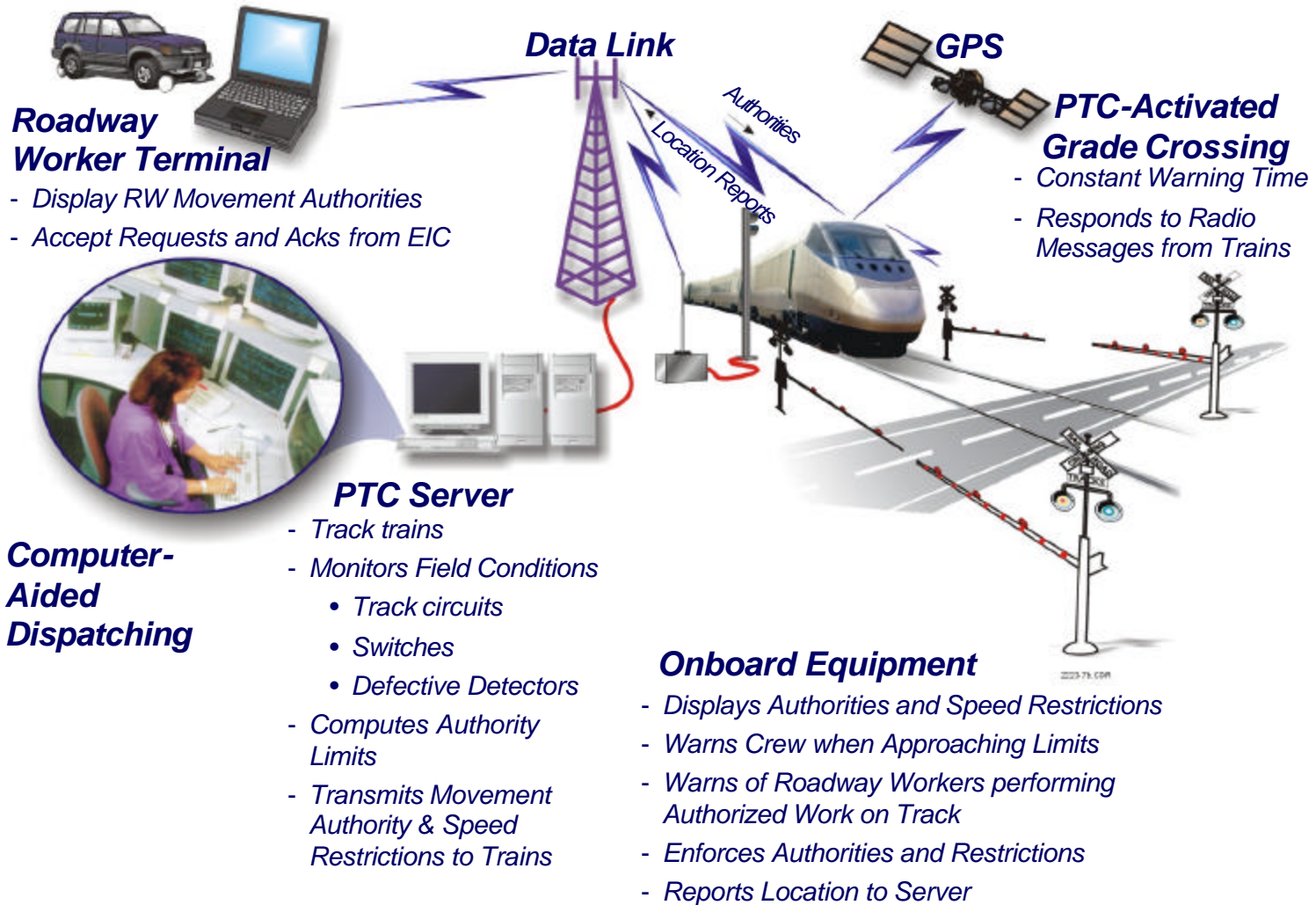
Program Manager

SE
(ARINC)

SDI
(LM)



PTC CONOPS

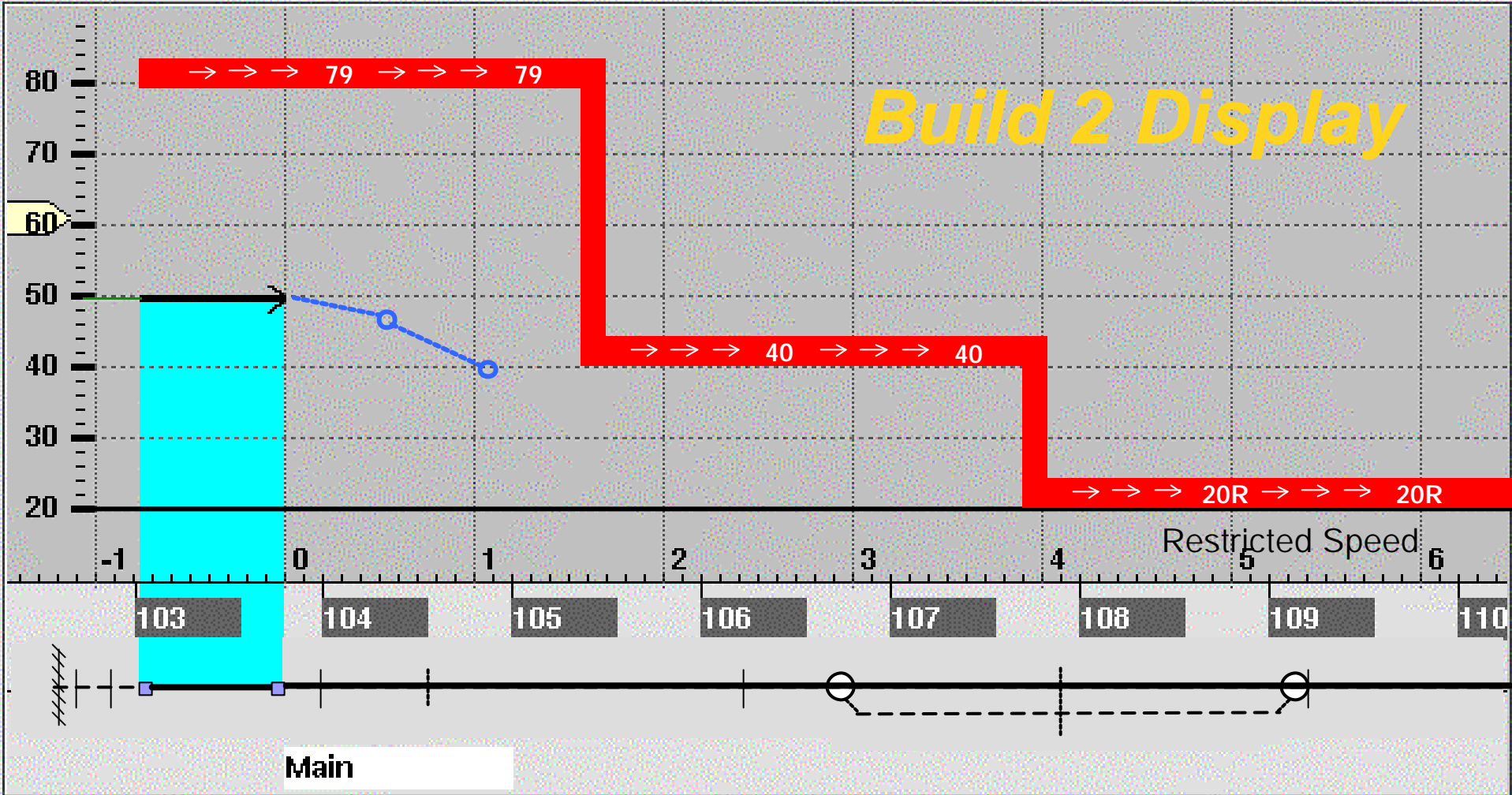


PTC uses Mobile Data Radios and Onboard Location Determination

PTC Enabled **RF** **Enforcement** **Authority** **Speed** 11/18/02 10:00:57

50 mph
MP : **103.8**
Pace : **60**

Civil 079 mph; MP: 102.50 to 105.25
TEMPORARY 040 mph; MP: 105.25 to 107.70; Effective: 08:25 11/18/2002 until 17:30 11/18/2002
RESTRICTED 020 mph; MP: 107.70 to 110.00; Effective: 10:00 11/18/2002 until 17:30 11/18/2002



Info Track Train PTC OBD ↑ ↓ ACK

IDOT PTC Builds

◆ **Build 1**

- * **Infrastructure (comm, server, onboard hardware)**
- * **Location Determination, Reporting, and Tracking functionality**

◆ **Build 2 adds:**

- * **Basic PTC Functionality with Emphasis on High Speed Passenger**
 - **Management & Enforcement of Authorities**
 - **Management & Enforcement of Speed Restrictions (civil & temporary)**
 - **Advance Activation of Highway Crossings**
 - **Route Integrity Monitoring**
 - **Roadway Worker Protection**
- * **Revenue Service Ready, per NPRM**

◆ **Build 3 (if fully funded) adds:**

- * **Confirmed Consist**
- * **Predictors**
- * **High Speed Defect Detectors**
- * **Online Database Changes**
- * **Roadway Worker Terminal**
- * **Train Pacing**
- * **Cab Signal Interoperability Demo**
- * **Functional Negotiation**



Summary of PTC Project Status

- ◆ Build 1 – Complete – Successful Field Test/Demo Oct '02 ✓
- ◆ Upgrades to UPRR CAD – Complete Jan. 2003 ✓
- ◆ New ATCS Comm Network In Territory – Complete ✓
- ◆ 10 Amtrak & 3 UP Locomotives Fitted w/PTC Hardware ✓
- ◆ All Wayside Equipment Delivered ✓
- ◆ Track Upgrades (Class 6) in Territory – *Nearly Complete*
- ◆ Build 2 - High Speed Train Control
 - * Lab System Integration Underway
 - * Demonstrated in Lab on Nov. 18, '03
 - * WIU Cutovers to start after SW V&V in Dec. '03 & take ~8 mo.
 - * Field Trials, Tests & Demo in Q1-Q3 2004
 - * To begin High Speed Revenue Service around end of 2004
- ◆ Build 3 – Features to be Added as funding permits

