Overview

- Route
- Funding
- Benefits
- Scope of Work
- Permitting
- Crossing Work
- Maintenance
Chicago-St. Louis Corridor (SPCSDL)

- IDOT has actively developed the corridor since the mid-1980’s
- Federally designated a HSR Corridor in 1992
- Previously completed NEPA (2004 ROD)
- Sizeable ridership at intermediate stations
High-Speed Intercity Passenger Rail Program

- $8 Billion funding American Recovery and Reinvestment Act (ARRA).
- Partnership with states, FRA, Amtrak and some freight railroads
- Investment focused on three key objectives:
  - Build new high-speed rail corridors;
  - Improve reliability, speed, and frequency of existing services; and
  - Lay the groundwork for future high-speed rail services.

HSIPR Program created to address nation’s transportation challenges by making strategic investments in an efficient network of passenger rail corridors that connect communities across the country.

As of 03/15/2011
Source: FRA
Current Program Budget

• ARRA Project
  – Track & Structures $681 million
  – Real Estate $24 million
  – Stations $33 million
  – Rolling Stock / Equipment $211 million
  – Signaling & Communications $202 million
  – Grade Crossings, Fencing, OH Bridges $176 million
  – Professional Services $203 million
    (Program Management, Environmental / Design, Construction Oversight)

Total: $1.530 billion

• Additional State Funding

Total: $102 Million
Chicago - St. Louis Ridership & Reliability

Year | Ridership (Thousands) | On-Time Percentage
--- | --- | ---
2000 | 100 | 0%
2001 | 110 | 5%
2002 | 120 | 10%
2003 | 130 | 15%
2004 | 140 | 20%
2005 | 150 | 25%
2006 | 160 | 30%
2007 | 170 | 35%
2008 | 180 | 40%
2009 | 190 | 45%
2010 | 200 | 50%
2011 | 210 | 55%
2012 | 220 | 60%
## Benefits Summary

<table>
<thead>
<tr>
<th>FRA Program</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>HSR daily round trips (five existing 79 mph)</td>
<td>3/4</td>
</tr>
<tr>
<td>Travel time reduction</td>
<td>45-minutes (one hour for express)</td>
</tr>
<tr>
<td>Reliability</td>
<td>85%</td>
</tr>
<tr>
<td>Safety improvements (crossings, fencing, PTC)</td>
<td>Yes</td>
</tr>
<tr>
<td>New equipment</td>
<td>Yes</td>
</tr>
<tr>
<td>New/upgraded stations</td>
<td>Yes</td>
</tr>
<tr>
<td>Service upgrades (with Amtrak)</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Who’s Involved?

Project Partners
- Illinois Department of Transportation (IDOT)
- Federal Railroad Administration (FRA)
- Union Pacific Railroad (UPRR)
  - Amtrak
- Illinois Commerce Commission (ICC)
  - Others

Support
- Parsons Brinckerhoff - Program Manager
  - IDOT Consultants (PTB Advertisements)
- UPRR Contractors/Consultants
**SPCSL Track 2A**

**ARRA HSIPR Track 2A Project**

<table>
<thead>
<tr>
<th>FRA HSR Project 2A</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1) TRT (Completed except for KCS – No. 2 ML Wann to Q Tower) | Joliet to St. Louis (Q Tower)  
- 240 ML mi Concrete Ties & Premium Rail  
- 626K ties, 1.3M TF new Rail, 13K CL ballast |
| 2) Const 2nd ML / New Siding / Re-Construct Sidings | Godfrey – Godfrey to Shipman (15.8 mi)  
Girard – Extend Girard Siding (8.5 mi)  
Elkhart – Extend Elkhart Siding (8.5 mi)  
Joliet – Construct 2nd ML (5.0 mi)  
Braidwood – Construct 10,000 ft. siding  
Re-Construct Sidings – 15 (completed 2) |
| 3) PTC & Grade Xings, Bridges | Joliet to Q Tower  
- Full Bridge Replacement 29  
- Crossing Reconstruction 234 (14 complete)  
- PTC – Signal Cutover |

**Construction Schedule**

- Tier 2 – 2013-2014
- Tier 3 – 2014-2015
- Tier 4 – 2014-2015
- Braidwood Siding – 2014
- Joliet to Elwood – 2014-2015
- Braidwood to Mazonia – 2015
- Elwood to Braidwood – 2016-2017
- Tier 1S – 2015-2016
- Tier 5 – 2016

**FRA – HSR Project 2A**

- New 2 ML
- Siding Re-Const.
- State Funded
- New 2 ML
State Work

- MOU Signed – October 2013
  - 18 Mi. 2nd Main Line – Mazonia to Ellwood
  - 4th Train Pair becomes HSR
  - End of 2015 in Service Joliet to Carlinville

**FRA – HSR Project 2A**

<table>
<thead>
<tr>
<th>State Funded</th>
<th>New 2 ML</th>
<th>Siding Re-Const.</th>
</tr>
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<tbody>
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</tbody>
</table>

- Proposed 2nd Main Line – Elwood to Mazonia (18 miles)
- 2nd ML Joliet-Elwood – 5 Mi.
- Braidwood – 10,000 ft. Siding

Map:
- Dwight MP 72.8
- Mazonia MP 62.7
- Joliet Intermodal Facility
- Joliet MP 36.7
- Elwood MP 44.7
- Wilmington
- Midsin Prairie
- Kankakee River
- Braidwood – 10,000 ft. Siding
- Midewin Prairie

**Proposed 2nd Main Line – Elwood to Mazonia (18 miles)**

**2nd ML Joliet-Elwood – 5 Mi.**

**Braidwood – 10,000 ft. Siding**
Major Components

- 243 miles of track rehabilitation (completed)
- 30 miles 2nd main line
- 15 new or improved sidings/DT (2 completed)
- 250 improved grade crossings (initial improvements made)
- 7 new or remodeled stations
- 6 new high-speed train sets (with California/others)
- Advanced signaling system (PTC)
Mainline Track Rehabilitation

Before ➔ After

Milepost 156.77

Milepost 118.12
110 mph Demo: Dwight-Pontiac

- 15-mile initial segment, in service November 2012
- Track/signal upgrade completion
- Interim equipment improvements
- On board service enhancements
Infrastructure Highlights for 110mph

• Cab signal installation
• ITCS at crossings (passenger)
• Crossings have quad gates including loop detection
• Siding rebuild
• Drainage
Key Foundation: 2003 Environmental Impact Statement (EIS)

- Tier 1 EIS - basis of environmental clearance for current project
- Tier 2 documentation underway (40+documents)
NEPA Challenges

- Fast Pace Technical Work
- Agency Coordination
- FRA Staffing Issues
- Critical Path
NEPA Process

Process:
1. Engineering footprint from UP
2. Determine if Categorical Exclusion or Environmental Assessment
3. FRA NEPA document prepared by IDOT/PMC
4. Engineering completion by UP
5. Construction by UP
6. Coordination of mitigations by all
Crossing Close-up

- Completed diagnostics at over 250 locations
- Extensive liaison with IDOT Highways, local agencies, ICC, FRA, and others
Diagnostics

• Diagnostics 2010-2012

• Team Makeup
  – Illinois Commerce Commission
  – IDOT Rail & Highway
  – Local Agency – County or City

• Evaluation
  – Profile
  – Access to Crossings
  – Loop Detection Requirements
  – Four Quad Gates
  – Pedestrian Gate Requirements
Fencing Requirements

• Diagnostics Team
• Part of 2004 ROD
• Local Communities
Grade Crossing Process

• IDOT handles PE including local coordination
• Extensive approval process
• Bid / Construct
  – Non-staged all work completed for final crossing – UPRR
  – Stage 1 – interim within UPRR R/W
  – Complex and Stage 2 – IDOT
• Design completed by entity handling construction
• ICC Collaborates during Design
• Final Submitted to ICC for Approval
Conventional Crossing Warning System Approach Circuit Limit configured for 79mph approach

Amtrak Locomotive Equipped with UP Cab Signals and X-ITCS

Locomotive sends request (via radio) to crossing to “arm” for high-speed operation and 80sec warning time, allowing operation at speeds greater than allowed by conventional approach circuit

If all crossing subsystems are “healthy”, crossing arms and sends acknowledgement to locomotive which allows high-speed operation ( )

If all crossing subsystems are not “healthy”, crossing sends indication which causes locomotive to restrict speed of train ( )

If crossing subsystems become unhealthy or a vehicle is detected in the crossing after activation, crossing sends indication which causes locomotive to restrict speed of train ( )

If locomotive never receives acknowledgement from crossing, locomotive restricts speed of train to speed limit allowed by conventional approach circuit ( )

Highway Crossing Warning System equipped with:
- Four-Quadrant Gates
- Exit Gate Management System
- Highway Vehicle Occupancy Detection
- X-ITCS Communications Equipment
PTC/Signal Options

• I-ETMS Highway Crossing Advanced Activation Function
  – Significant Technical and Schedule Risk

• I-ETMS / ITCS Integrated On-Board Sys.
  – Significant Technical and Schedule Risk

• I-ETMS / ITCS Co-Operation
  – Does not Meet UP PTC Requirements

• I-ETMS + Illinois XITCS
  – Utilizes I-ETMS PTC System
  – Installation within Construction Period
PTC Implementation Process

- **UPRR responsible for wayside infrastructure**
  - PTC Communication System
  - X-ITCS Equipment at Crossings
  - Wayside Signal Equipment

- **On-board equipment and systems**
  - I-ETMS / X-ITCS requires on-board locomotive equipment
  - Lead Time for retrofit
  - Amtrak and UP responsible for their own equipment

- **IDOT program team coordinates and provides funding**
Construction Challenge

• **Funding Deadline**
  – Project Closed Out by September 2017
  – Requires Construction to be Complete May 2017

• **Three Construction Seasons Remain**

• **Negotiated Curfews w/ Amtrak & IDOT**
  – Busing State Supported Amtrak Service
  – Re-routing Texas Eagle
  – Re-routing UP Freight Business

• **Curfews – three per year 2013-2015**
Major Bridge Work

Bridge Projects—$90 million of HSR funding

200 Total structures
- 38 Major structures
  - 18 Completed
  - 20 Remain

200 Total structures
- 38 Major structures
  - 18 Completed
  - 20 Remain
2013 Curfews

• Three Curfews – 2 of 3 complete
  – 2-No. 24 & 1-No. 20 Concrete Switches
  – 14 Bridges
Maintenance Issues at 110mph

• Class 6 standards
  – Geometry Car – run 4 times/year

• Findings:
  – Minimal issues overall
  – 6+/- crossings – profile
  – Signal Trouble Calls

• Activities since:
  – CAT Tamper Gang
  – Local M/W Gang
Agreements – 12

- 2010 Construction Agreement – IDOT
- 2011 Construction Agreement – IDOT
- Service Out Agreement – IDOT, FRA, Amtrak
- Maintenance Agreement – IDOT
- Operating Agreement – IDOT, Amtrak
- Busing Agreement – Amtrak
- Joliet UD Tower Agreements – Metra, Amtrak, BNSF, City of Joliet
- KCS Agreements – Operating / Construction / Maintenance
Where to Find Business Opportunities

For Business Opportunities:

• Visit the Doing Business section of www.idothsr.org.
  » Find details about the bidding process and current business opportunities
  » Find related links for detailed procedures
Full Speed Ahead

Welcome to the Illinois High-Speed and Intercity Passenger Rail website. This site has been created to facilitate public input and provide information about the process and schedule. We invite you to explore the site regarding these studies. You can also visit www.connectthemidwest.com for additional Midwest High-Speed Rail information.

Get Involved

This video has been developed by the Union Pacific Railroad to provide a broad overview of the Track Renewal Train (TRT) construction process. Some of the content within this video may not apply to the Illinois High-Speed Rail 2010 Construction.
Questions