Meeting Opening
Project Team

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Project Manager
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**Midwest Regional Manager**
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**STAKEHOLDER ENGAGEMENT**
Task Lead
Mark Berndt (Quetica)

**GOVERNANCE**
Task Lead
Wynne Davis (WSP | PB)

**BASELINE CONDITIONS, MARKET ASSESSMENT, NETWORK DESIGN, SERVICE PLANNING**
Task Lead
Yoav Hagler (WSP | PB)

**WORK PLAN, DRAFT/FINAL REGIONAL RAIL PLAN, LESSONS LEARNED**
Task Lead
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**Senior Strategic Advisors**
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Dave Carol (WSP | PB)
Meeting Objectives

- Process, expectations, and schedule
- Milestones and timeline
- Southwest study outline and results
- Stakeholder Planning Group guiding principles
- Midwest passenger rail history and relationships
- Existing plans, challenges, benefits, outreach activities, and gaps
- CONNECT model introduction
- Potential Midwest network connections; opportunities and constraints
- Importance of governance and overview of MIPRC
- Future workshop date and location
Project Background

- PRIIA mandate
- Discrete parts of national planning effort
- Replicate approach for the Southwest
  - Southeast
  - Midwest
Study Participants

- Stakeholder Planning Group
  - Primary Midwest Rail Plan States (IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI)
  - Other stakeholders: host and operating railroads, MIPRC, MPOs and municipalities, advocacy groups
  - Complementary Jurisdictions: KY, NY (Buffalo area), PA (Pittsburgh area), WV, Ontario
Study Overview
Project Goal

Produce a 40-year framework for the Midwest intercity passenger rail network, including a prioritization of corridors and investment projects, a governance structure, and funding strategy.
Study Purpose

Advance Regional Rail Planning for the Midwest

- Engage in long-term visioning process
- Perform conceptual planning of high-performance passenger rail at the regional level
- Support National Rail Planning objectives
- Final Regional Rail Plan supports existing statewide and regional processes
  - State Rail Plans
  - Long-Range Transportation Planning
- Facilitate future planning and streamline implementation
What the Study is **NOT**

- *DOES NOT* identify specific routes or alignments for corridors that make up the network
- *DOES NOT* come to conclusions regarding capacity or operating feasibility
- *DOES NOT* represent a commitment to implementing specific projects
Work Plan Approach

• Engage key stakeholders
• Catalogue and summarize existing rail and transportation plans
• Assess existing and potential future travel demand
• Analyze performance
• Provide a benefit-cost analysis for the regional network

• Formulate a high-level prioritization of the Midwest corridors
• Validate a governance structure
• Complete a final regional plan
• Document lessons learned
# Milestone Schedule

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<thead>
<tr>
<th>Task</th>
<th>Month 1</th>
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<td>Task 10: Lessons Learned</td>
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We are here
Other FRA
Regional Rail Planning Studies
**Southwest Multi-State Study**

- **Started in 2011, completed in 2014**
- **Study Area:** California, Nevada & Arizona; Utah, Colorado and New Mexico
- **Initial FRA multi-state study:** collective interest in development of high performance rail
- **Initial Use of FRA’s CONNECT Tool:** Analyze conceptual connections between study area MSAs

**Southeast Regional Rail Planning Study**

- **Ongoing**
- **Lead Stakeholders:** State DOTs from Florida, Georgia, North Carolina, South Carolina, Tennessee, Virginia and Washington, D.C.
  - Participatory States: Alabama and West Virginia
Southwest Study

- Test case for the guidelines, tools, and performance standards developed in FRA’s national planning effort.

- Two primary objectives:
  - Identify potential multi-state network of “candidate corridors” for further evaluation and planning, utilizing a new sketch-planning network planning tool.
  - Identify institutional challenges and opportunities related to multi-state rail development and delivery.
Southwest Study Outputs

Potential Core Express candidate corridors
- San Diego–S.F./Oakland
- Greater Los Angeles–Las Vegas
- Las Vegas–Salt Lake City
- Las Vegas–Reno
- Las Vegas–Tucson via Phoenix
- Greater Los Angeles–Phoenix
- San Diego–Phoenix

Potential Regional candidate corridors
- S.F./Oakland–Reno
- Phoenix–Tucson

Potential Feeder candidate corridors
- Phoenix–Albuquerque
- Reno–Salt Lake City

Recommended Network Connections between MSAs

Source: Southwest Multi-State Rail Planning Study
Stakeholder Charge and Guiding Principles
The overriding objective for engaging the Midwest Regional Rail Plan stakeholder community is to inform the work being undertaken by FRA and the consultant team;

Achieve support and consensus on the outcome of the planning study; and,

Encourage on-going participation in advancing the projects and programs required to advance the Midwest framework.
Stakeholder Planning Group Charge

• **Provide relevant data and input** to the study effort
• **Review and assess** information produced from the effort and present your state’s perspective on the topics to be analyzed
• **Identify** institutional requirements and financial arrangements required to achieve the goals
• **Communicate** study progress to state transportation leadership
• **Strategize and collaborate** on future study activities and planning priorities
1. **Lead Stakeholders (States)**
2. **Other Planning Group Stakeholders**
3. **All other interested parties**
State Briefings
State Briefings

State Involvement in Rail Service
  • Overview

Ongoing and Recent Rail Projects

Rail Planning Overview
  • State Planning Activities
  • State Planning Objectives
State Briefings - Illinois

State Involvement in Rail Service
• Overview

Ongoing and Recent Rail Projects

Rail Planning Overview
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State Briefings - Indiana

State Involvement in Rail Service
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Ongoing and Recent Rail Projects

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State Briefings - Iowa

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State Briefings - Kansas

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State Briefings - Nebraska

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Ongoing and Recent Rail Projects

Rail Planning Overview
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State Briefings - Wisconsin

State Involvement in Rail Service
• Overview

Ongoing and Recent Rail Projects

Rail Planning Overview
• State Planning Activities
• State Planning Objectives
15-minute break
Midwest Regional Rail Planning Study Technical Overview

March 8, 2017
Overview

- Technical Approach
- Goals and Principles
- Network Concepts
- Toolkit
Approach to Technical Analysis
**Overview**

**Midwest Regional Rail Planning Study**

*Strategic Plan* – Provides Framework for Investments
- Sets service goals
- Identifies Opportunities for Network Integration

**State Rail Plans**

**Corridor Implementation Plans**
Technical Approach

Three Elements of Integrated Rail Planning

- Market Demand
- Infrastructure Assessment
- Service Planning / Network Integration
Technical Approach

Three Elements of Integrated Rail Planning

- Use CONNECT to establish baseline CBSA-CBSA demand;
- Baseline competing modes (trip times and frequencies) to establish requirements for rail competitiveness;
- Iterate runs to test network and service scenarios;
Technical Approach

Three Elements of Integrated Rail Planning

- Define service principles for an integrated network approach;
- Develop service parameters that replicate existing, near term improvements, and future baseline scenarios for comparison;
- Develop scenarios to test alternative network configuration and service delivery options.
Technical Approach

Three Elements of Integrated Rail Planning

- Catalogue existing infrastructure on which passenger rail operates - ownership, condition, urban/rural, freight density, ROW
- Estimate impact of additional service within CONNECT
- Zoom in - more detailed analysis in key territories in the network
Goals and Principles
Goals and Principles

Shared Regional Network Planning Goals

1) Improve regional and intercity rail connections between small/mid-sized cities and Chicago; and among mid-sized cities within the Midwest;
2) Maximize the utility of capital investment across the full range of potential markets and passenger types;
3) Minimize the friction of passenger transfers;
4) Avoid capital investment in the short term that is inconsistent with the long-term network vision.
5) Regional and Intercity rail connections to major airports within the region are important.
6) Build toward the maximum viable service tier for corridors in network.
## Service Principles – Service Tiers

<table>
<thead>
<tr>
<th>Corridors</th>
<th>Top Speeds (mph)</th>
<th>Other Common Characteristics</th>
<th>Primary Markets Served</th>
<th>Minimum Reliability Target (On-time Performance)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Express</strong></td>
<td>over 125</td>
<td>Frequent service; dedicated tracks, except in terminal areas; electric-powered</td>
<td>Serving major metropolitan centers</td>
<td>99%</td>
</tr>
<tr>
<td><strong>Regional</strong></td>
<td>90–125</td>
<td>Frequent service; dedicated and shared tracks; electric- and diesel-powered</td>
<td>Connecting mid-sized urban areas with each other or with larger metropolitan areas</td>
<td>95%</td>
</tr>
<tr>
<td><strong>Emerging / Feeder</strong></td>
<td>Up to 90</td>
<td>Shared tracks</td>
<td>Connecting mid-sized and smaller urban areas with each other or with larger metropolitan areas</td>
<td>85%</td>
</tr>
</tbody>
</table>
Service Principles

Service Coordination

Integration **Across Corridors** - Connecting markets on different corridors in network
- Branch Line to Trunk Line
- End Point to End Point
- Train to Train or Bus to Train

Integration **Within Corridors** - Connecting all markets on corridors to the full network
- Local Intercity to Express Intercity
- Regional / Commuter Rail to Intercity
Service Principles

Service Coordination

**Integration Across Corridors** - Connecting Markets on different corridors in network

Examples of Existing Connections: Albany/Hudson Valley → Philadelphia/Washington

<table>
<thead>
<tr>
<th>Empire Line Arrivals in NYP</th>
<th>Southbound NEC Departures</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:05</td>
<td>7:05</td>
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<tr>
<td>7:30</td>
<td>7:25</td>
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<tr>
<td>8:15</td>
<td>9:00 Acela</td>
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<tr>
<td>9:20</td>
<td>9:35 NE REG</td>
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<tr>
<td>10:50</td>
<td>10:35 NE REG</td>
</tr>
<tr>
<td>12:45</td>
<td>12:35 NE REG</td>
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</tbody>
</table>

- Missed Connection
- 30 Min Connection to Acela
- 40 Min to Regional
- 45 Min to Acela, No Connection to Acela
Integration Across Corridors - Connecting Markets on different corridors in network

Examples of Existing Connections: Milwaukee ➔ St Louis

<table>
<thead>
<tr>
<th>Arrivals into CUS</th>
<th>7:00</th>
<th>9:25</th>
<th>1:45</th>
<th>5:15</th>
<th>7:00</th>
<th>7:14</th>
<th>9:04</th>
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<tbody>
<tr>
<td>Southbound</td>
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<td>Departures to ST Louis</td>
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Missed Connection

1 Hour, 15 Min connection

45 Min connection
To fully achieve network benefits service needs to be organized around two core principles:

1) Service designed with regular patterns in repeating intervals

2) Key station within the network are designated as hub around which service is organized
Service Principles

Pulse Hub – Facilitating Transfer Between Corridors

Minor Station

Hub Station

Minor Station

Minor Station
Service Principles

Pulse Hub – Facilitating Transfer Between Corridors

Passenger arrives 56 minutes after the hour.

Transfers for departure at 1 minute after the hour.

Passenger arrives at 59 minutes after the hour.

Transfers for departure at 4 minutes after the hour.
Service Principles

Service Coordination

Examples of Existing Connections: Zurich S-Bahn (Regional Rail Network)

<table>
<thead>
<tr>
<th></th>
<th>S41 – Arrival @ Eglisau</th>
<th>7:20</th>
<th>7:45</th>
<th>8:45</th>
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<td>S9 – Departure @ Eglisau</td>
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5 Minute Connection
Every Hour
Service Principles

Service Coordination

Examples of Existing Connections: NEC @ Trenton SEPTA → NJT

<table>
<thead>
<tr>
<th>NB SEPTA Arrival</th>
<th>5:09</th>
<th>6:03</th>
<th>6:44</th>
<th>7:02</th>
<th>7:17</th>
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<th>8:54</th>
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Integration Within Corridors - Connecting all markets on corridors to the full network

NEC Future Planning

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<th>EXP</th>
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<td>PHL Arrival</td>
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<td>PHL Departure</td>
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Service Principles

Service Coordination

**Integration Within Corridors** - Connecting all markets on corridors to the full network

### Metra and Amtrak Service @ Glenview

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<th>9:11</th>
<th>10:11</th>
<th>12:11</th>
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<td>NB Metra Arrival @ Glenview</td>
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<tr>
<td>NB Amtrak Departure @ Glenview</td>
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<td>8:47</td>
<td>10:42</td>
<td>12:27</td>
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<td>Transfer Time</td>
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[Map showing rail lines and stations]

- Amtrak Hiawatha Line/Stations
- Metra Milwaukee District North Line/Stations
- Other Passenger Rail Lines

Lake Forest

General Mitchell International Airport

Chicago

Milwaukee

Sturtevant

Shared Stations

N
Service Principles

Pulse Hub – Facilitating Transfer Between Corridors

**Minor Station**

**Regional Rail Station**

**Hub Station**

**Regional Rail Station**

**Regional Rail Station**

**Regional Rail Station**

**Minor Station**

- Passenger boards train at local station at 32 minutes after the hour.
- Arrives at hub at 56 minutes after the hour.
- Transfers for intercity trains departure at 1 minute after the hour.
Network Scenarios
Network Concepts

Chicago Centric Network doesn’t mandate a “Hub and Spoke”

SAMPLE NETWORK

INTEGRATION CONSIDERATIONS
Network Concepts

Chicago Centric Network doesn’t mandate a “Hub and Spoke”

Hub & Spoke

- All service focused on individual corridors to/from Chicago
- Only one hub in network, connectivity occurs only at Chicago
- Each corridor must to be justified independently based on demand to/from Chicago
- Movement across “spokes” difficult to impossible by rail
Network Concepts

Chicago Centric Network doesn’t mandate a “Hub and Spoke”

Multi-Hub Network

- Network still focused on Chicago as primary economic engine of region
- Multiple hubs in network allows for increased connectivity
- Corridors justified in network context
- Strengthens relative position of midsized cities within the network
- Movement enabled between cities across network
Network Effects - Focused investment in Multi-Hub Network may support high service tiers / frequencies than single hub network.

Individual spokes support mix of Regional and Emerging service

Key network corridors support Core Express service fed by Regional and Emerging corridors
Network Concepts

Potential Networks for Inquiry

<table>
<thead>
<tr>
<th>Investment Types</th>
<th>Focused</th>
<th>Dispersed</th>
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<tbody>
<tr>
<td>Network Based</td>
<td>Multi-Hub</td>
<td>Poly-Centric</td>
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<tr>
<td>Corridor Based</td>
<td>Air Market</td>
<td>Chi Corridors</td>
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**Chicago Corridors** – Investment spread across corridors in network with Chicago as single hub.

**Chicago Multi-Hub** – Investment focused on inner core network, Chicago focused with connectivity at intermediate hubs

**Air Market** – Investment in high-speed infrastructure focused on capturing point to point markets with significant air markets.

**Poly-centric** – Investments made across network to provide connectivity among as many markets as possible
**Level of Analysis**

*Network Wide*
Service goals including aspirational trip time and frequency goals. Includes all potential markets within study area.

*Core Markets*
Service Goals + Trip time analysis / confirmation of service tiers. Applies to key market connections within network (e.g. CHI-MIN, CHI-STL, CHI-DET)

*Key Corridors*
Pattern analysis with infrastructure requirements. On key subsections within the network with high volumes with potential integration benefits.

*Connectivity Planning*
Assessment of infrastructure configuration at key hubs in network (Chicago)
Level of Analysis

Network Wide
Notional service goals including aspirational trip time and frequency goals. Includes all potential markets within study area.
• Sketch planning tool originally developed in 2012 – recently updated
• Estimates the overall performance of user-defined corridors and networks
• Intended for use at the outset of the planning process
• Enables the user to
  • Describe potential high-performance (HPR) network
  • Develop high-level service plans
  • Generate operational data
  • Estimate the financial and operational performance of the network
• Developed on Microsoft Excel and Access platforms - Extensive use of Visual Basic for Applications
CONNECT How it works

User Inputs / Default Assumptions

Travel Demand/Revenue

O&M Cost

Capital Cost

Network Performance Outputs
**Corridor**: A corridor is defined as a series of CBSAs connected with direct rail service. Up to ten CBSAs can define a corridor.

**Segment**: A segment is a subset of a corridor defined by two consecutive CBSAs.

**Network**: A network is the full set of corridors entered into CONNECT and can consist of as few as one corridor to as many as 15 corridors.

**Primary Corridor**: The primary corridor is evaluated to the full extent of CONNECT. A user can test a range of frequency on all three service tiers (Emerging, Regional, and Core Express) with a single run. The “network effects” can also be analyzed on the primary corridor.

**Secondary Corridor**: All other corridors (up to nine) are secondary corridors. These corridors play a supporting role in the analysis. Corridors can be rotated into the “primary slot” to fully evaluate of multiple corridors in a network.
CONNECT  How it works - Inputs

Corridor Definition

- CBSA Name
- Frequency of Service (All Stop, Limited Stop)
- Airport Connection (Y/N)
- Service Tier

Physical Characteristics

- Number of Stations
- Existing vs. New Alignment
- Public ROW vs. New Acquisition
- Investment level by development type (e.g. Urban-High)
- Freight volume and track quality for service on existing lines
Users can also modify default assumptions built into the tool

- Unit Costs (Capital, O&M)
- Operating characteristics (speed, transfer times)
- Fleet Characteristics, Facility Assumptions
- Ridership factors ((value of time, congestion, fares, rail access time)
### Capital Costs:

<table>
<thead>
<tr>
<th>Unit Costs</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Construction</td>
<td></td>
</tr>
<tr>
<td>Average ROW Acquisition Costs - Urban (low)</td>
<td>$4,000,000</td>
</tr>
<tr>
<td>Average ROW Acquisition Costs - Urban (high)</td>
<td>$32,000,000</td>
</tr>
<tr>
<td>Average ROW Acquisition Costs - Rural (low)</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Average ROW Acquisition Costs - Rural (high)</td>
<td>$14,000,000</td>
</tr>
<tr>
<td>Cost per route Mile - At Grade (low)</td>
<td>$15,000,000</td>
</tr>
<tr>
<td>Cost per route Mile - At Grade (high)</td>
<td>$35,000,000</td>
</tr>
<tr>
<td>Cost per route Mile - Tunnel (220mph)</td>
<td>$325,000,000</td>
</tr>
<tr>
<td>Cost per route Mile - Tunnel (380mph)</td>
<td>$275,000,000</td>
</tr>
<tr>
<td>Cost per route Mile - Tunnel (550mph)</td>
<td>$250,000,000</td>
</tr>
<tr>
<td>Cost per route Mile - Tunnel (120mph)</td>
<td>$200,000,000</td>
</tr>
<tr>
<td>Cost per route Mile - Tunnel (90mph)</td>
<td>$150,000,000</td>
</tr>
<tr>
<td>Cost per route Mile - Tunnel (60mph)</td>
<td>$175,000,000</td>
</tr>
<tr>
<td>Cost per route Mile - Aerial (low)</td>
<td>$60,000,000</td>
</tr>
<tr>
<td>Cost per route Mile - Aerial (high)</td>
<td>$300,000,000</td>
</tr>
<tr>
<td>Major Station - Emerging</td>
<td>$50,000,000</td>
</tr>
<tr>
<td>Major Station - Regional</td>
<td>$100,000,000</td>
</tr>
<tr>
<td>Major Station - Core Express</td>
<td>$200,000,000</td>
</tr>
<tr>
<td>Minor Station - Emerging</td>
<td>$10,000,000</td>
</tr>
<tr>
<td>Minor Station - Regional</td>
<td>$20,000,000</td>
</tr>
<tr>
<td>Minor Station - Core Express</td>
<td>$40,000,000</td>
</tr>
<tr>
<td>Trainset (low)</td>
<td>$35,000,000</td>
</tr>
<tr>
<td>Trainset (high)</td>
<td>$35,000,000</td>
</tr>
</tbody>
</table>

### O&M Costs:

<table>
<thead>
<tr>
<th>OPERATING AND MAINTENANCE COSTS</th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Costs</td>
<td></td>
</tr>
<tr>
<td>Fixed Costs</td>
<td>$3,000,000</td>
</tr>
<tr>
<td>Major Stations - Core Express</td>
<td>$10,000,000</td>
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<tr>
<td>Minor Station - Core Express</td>
<td>$2,500,000</td>
</tr>
<tr>
<td>Major Stations - Regional</td>
<td>$4,000,000</td>
</tr>
<tr>
<td>Minor Station - Regional</td>
<td>$1,000,000</td>
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<tr>
<td>Major Stations - Emerging</td>
<td>$1,000,000</td>
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<tr>
<td>Minor Station - Emerging</td>
<td>$500,000</td>
</tr>
<tr>
<td>Annual Seat Miles - Low - Emerging</td>
<td>$0.060</td>
</tr>
<tr>
<td>Annual Seat Miles - Low - Regional</td>
<td>$0.060</td>
</tr>
<tr>
<td>Annual Seat Miles - Low - Core Express</td>
<td>$0.060</td>
</tr>
<tr>
<td>Annual Seat Miles - High - Emerging</td>
<td>$0.080</td>
</tr>
<tr>
<td>Annual Seat Miles - High - Regional</td>
<td>$0.080</td>
</tr>
<tr>
<td>Annual Seat Miles - High - Core Express</td>
<td>$0.080</td>
</tr>
<tr>
<td>Route Miles - Low</td>
<td>$200,000</td>
</tr>
<tr>
<td>Route Miles - High</td>
<td>$300,000</td>
</tr>
</tbody>
</table>
Stage 1
Demand Models

Stage 2
Mode Choice Models

Stage 3
Induced Demand Model

CONNECT How it works - Ridership

Intercity Auto Demand Model

Local Air Demand Model

Connect Air Demand Model

Auto Diversion Model

Local Air Diversion Model

Connect Air Diversion Model

Rail
Auto
Rail
Air
Rail
Air

Diverted Rail Ridership

Induced Demand Model

Total Rail Ridership
## CONNECT Outputs

### Table: CBSA Pair, Segment, Corridor, and Network Performance Indicators

<table>
<thead>
<tr>
<th>Category</th>
<th>CBSA Pair</th>
<th>Segment</th>
<th>Corridor</th>
<th>Network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ridership / Revenue</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>O&amp;M Costs</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Costs</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Dashboard:

<table>
<thead>
<tr>
<th>Performance of Primary Corridor in Standalone Context</th>
<th>Chicago, IL-Cleveland, OH</th>
<th>Forecast year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency—All Stop</strong></td>
<td>EMERGING</td>
<td>REGIONAL</td>
</tr>
<tr>
<td></td>
<td>Range for Each Output</td>
<td>Range for Each Output</td>
</tr>
<tr>
<td></td>
<td>Low - Medium - High</td>
<td>Low - Medium - High</td>
</tr>
<tr>
<td></td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td>O&amp;M Cost Recovery Ratio</td>
<td>120,000</td>
<td>120,000</td>
</tr>
<tr>
<td>Annual Ticket Revenue</td>
<td>$120,000,000</td>
<td>$120,000,000</td>
</tr>
<tr>
<td>Annual O&amp;M Cost</td>
<td>$100,000,000</td>
<td>$100,000,000</td>
</tr>
<tr>
<td>Annual O&amp;M Profit(Deficit)</td>
<td>($20,000,000)</td>
<td>($20,000,000)</td>
</tr>
<tr>
<td>Annual O&amp;M Subsidy/Passenger-Mile</td>
<td>$2.5</td>
<td>$5.15</td>
</tr>
<tr>
<td>Rail Ridership (Annual Passengers)</td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td>O&amp;M Cost Recovery Ratio</td>
<td>120,000</td>
<td>120,000</td>
</tr>
<tr>
<td>Annual Ticket Revenue</td>
<td>$120,000,000</td>
<td>$120,000,000</td>
</tr>
<tr>
<td>Annual O&amp;M Cost</td>
<td>$100,000,000</td>
<td>$100,000,000</td>
</tr>
<tr>
<td>Annual O&amp;M Profit(Deficit)</td>
<td>($20,000,000)</td>
<td>($20,000,000)</td>
</tr>
<tr>
<td>Annual O&amp;M Subsidy/Passenger-Mile</td>
<td>$2.5</td>
<td>$5.15</td>
</tr>
<tr>
<td><strong>Initial Capital Investment</strong></td>
<td>EMERGING</td>
<td>REGIONAL</td>
</tr>
<tr>
<td></td>
<td>Range for Each Output</td>
<td>Range for Each Output</td>
</tr>
<tr>
<td></td>
<td>Low - Medium - High</td>
<td>Low - Medium - High</td>
</tr>
<tr>
<td></td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Analyst's Rating</td>
<td>120,000</td>
<td>120,000</td>
</tr>
<tr>
<td>Annual Ticket Revenue</td>
<td>$120,000,000</td>
<td>$120,000,000</td>
</tr>
<tr>
<td>Annual O&amp;M Cost</td>
<td>$100,000,000</td>
<td>$100,000,000</td>
</tr>
<tr>
<td>Annual O&amp;M Profit(Deficit)</td>
<td>($20,000,000)</td>
<td>($20,000,000)</td>
</tr>
<tr>
<td>Annual O&amp;M Subsidy/Passenger-Mile</td>
<td>$2.5</td>
<td>$5.15</td>
</tr>
<tr>
<td><strong>Performance of Full Network</strong></td>
<td>Chicago, IL-Cleveland, OH</td>
<td>Forecast year</td>
</tr>
<tr>
<td></td>
<td>EMERGING</td>
<td>REGIONAL</td>
</tr>
<tr>
<td></td>
<td>Range for Each Output</td>
<td>Range for Each Output</td>
</tr>
<tr>
<td></td>
<td>Low - Medium - High</td>
<td>Low - Medium - High</td>
</tr>
<tr>
<td></td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Analyst's Rating</td>
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<td>120,000</td>
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<tr>
<td>Annual Ticket Revenue</td>
<td>$120,000,000</td>
<td>$120,000,000</td>
</tr>
<tr>
<td>Annual O&amp;M Cost</td>
<td>$100,000,000</td>
<td>$100,000,000</td>
</tr>
<tr>
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<td>($20,000,000)</td>
<td>($20,000,000)</td>
</tr>
<tr>
<td>Annual O&amp;M Subsidy/Passenger-Mile</td>
<td>$2.5</td>
<td>$5.15</td>
</tr>
</tbody>
</table>

*All figures presented in 2015.*

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Benefit-Cost Analysis (BCA)

- Uses results of the ridership, revenue and cost calculations to generate a time stream of project annual benefits and costs covering all the years of the project life span.
- The project’s benefit-cost ratio and net present value are calculated.
- The benefit-cost analysis methodology follows the FRA’s Benefit-Cost Analysis Guidance for Rail Projects, issued in June.

Cartographic Outputs

- Includes a cartographic output module, enabling the user to view interactive maps that present the following information:
  - Network CBSAs, rail segments, and corridors.
  - Existing and projected travel demand for auto, air, existing rail, and bus at the CBSA pair level.
  - Forecast rail ridership at station, segment, corridor, and CBSA pair levels.
- Allows users to export standard GIS files of this information allowing the files to be imported into GIS software of the user’s choice for further processing.
CONNECT Limitations

- Intentionally applies approximate and simplified methods
- Only appropriate for early-stage planning
- Not substitute for detailed corridor and network planning
- High-level service plan assumptions used
- Coarse representation of a particular rail corridor or network
- Coarse geographic representation
- Capital cost calculations consist of a very simplified costing model
- All outputs in CONNECT are presented as ranges (with low, medium, and high values)
Level of Analysis

Core Markets
Service Goals + Trip time analysis / confirmation of service tiers. Applies to key market connections within network (e.g. CHI-MIN, CHI-STL, CHI-DET)

Toolkit

Sample
**Toolkit**

**Level of Analysis**

**Key Corridors**

Pattern analysis with infrastructure requirements. On key subsections within the network with high volumes with potential integration benefits.
Level of Analysis

*Connectivity Planning*
Assessment of infrastructure configuration at key hubs in network (Chicago)
Breakout #1
Breakout

*Input / Feedback on:*

- Shared Regional Network Planning Goals
- Service Principles
- Potential Networks For Consideration
Lunch
Summary from Breakout #1
Baseline Conditions and Market Assessment

March 8, 2017
Overview

- State of Midwest Rail Planning
- Market Analysis
- CONNECT Model Existing Conditions
State of Midwest Rail Planning

- Review of Previous Studies
State of Midwest Rail Planning

Midwest passenger rail planning distinguished by a history of cooperative, multi-state rail planning spanning over 20 years

**MWRRI:** partnership between nine Midwest states and FRA initial series of service concepts
  - Evolved into the Midwest Regional Rail System (MWRRS) in 2000

**MIPRC:** Formed by compact agreement in 2000
  - Brought together state leaders to promote, coordinate and support regional improvements to passenger rail service
City Locations and Categories

- Primary, Major, and Regional Cities
CBSA Locations - Detroit

- **Primary**
- **Major**
- **Regional**
- **Other**

Cities: Chicago, Minneapolis, Des Moines, St. Louis, Indianapolis, Cleveland, Detroit, Kansas City, Pittsburgh, Cincinnati, Louisville, Milwaukee, Columbus, Grand Rapids,Omaha, Dayton, Akron, Wichita, Madison, Toledo, Youngstown, Oklahoma City, Nashville, Chattanooga, Memphis, Little Rock, Fayetteville, Greensboro, Charlotte, Buffalo, Toronto, London.
CBSA Populations

• Population, Density, Growth, Projection
CBSA Populations Ranked

PRIMARY CITY:
Chicago

MAJOR CITIES:
Pop. >1.5 million

REGIONAL CITIES:
Pop. >500,000

OTHER CITIES:
Largest in State
Pop. <500,000

Source: US Census Bureau 2015
CBSA Population Density

Source: US Census Bureau 2015; Population density is population per square mile
CBSA Populations & Growth

Source: US Census Bureau
CBSA Population Growth Rate

Source: US Census Bureau
CBSA Corridors
CBSA Corridor Locations

- **Primary**
- **Major**
- **Regional**
- **Other**
CBSA Corridor Population

Source: US Census Bureau 2015; Population of CBSA intersecting rail corridors.
CBSA Corridor Population

- Chicago to Pittsburgh
- Chicago to Minneapolis
- Chicago to Detroit
- Chicago to Cincinnati
- Chicago to St. Louis
- Chicago to Kansas City
- Chicago to Omaha
- St. Louis to Kansas City

Source: US Census Bureau 2015; Population of CBSA intersecting rail corridors.
CBSA Corridor Population Per Route Mile

- Chicago to Pittsburgh
- Chicago to Minneapolis
- Chicago to Detroit
- Chicago to Cincinnati
- Chicago to St. Louis
- Chicago to Kansas City
- Chicago to Omaha
- St. Louis to Kansas City

Source: US Census Bureau 2015; Population of CBSA intersecting rail corridors, Density per routes mile
Travel Markets by Mode
Top Travel Markets Auto

Top 15 Travel Pairs for Cities over 50 Miles Apart

- Chicago - Milwaukee
- Chicago - St. Louis
- Chicago - Detroit
- Chicago - Indianapolis
- Cincinnati - Dayton
- Detroit - Toledo
- Detroit - Toronto
- Cincinnati - Columbus
- Buffalo - Toronto
- Chicago - Madison
- Cincinnati - Indianapolis
- Chicago - Cincinnati
- Cleveland - Detroit
- Chicago - Grand Rapids
- Cleveland - Pittsburgh

Chicago to Major City
Chicago to Regional City
Major City to Major City
Major City to Regional City
Top Travel Markets  Auto

Source: CONNECT Analysis
Top Travel Markets Air

Top 15 Travel Pairs

- Chicago - Minneapolis/St. Paul
- Chicago - Kansas City
- Chicago - Detroit
- Chicago - Nashville
- Chicago - Cleveland
- Chicago - St. Louis
- Chicago - Pittsburgh
- Chicago - Columbus
- Chicago - Omaha
- Minneapolis/St. Paul - St. Louis
- Detroit - Nashville
- Detroit - Minneapolis/St. Paul
- Chicago - Memphis
- Buffalo - Chicago
- Chicago - Toronto

Legend:
- Red: Chicago to Major City
- Pink: Chicago to Regional City
- Blue: Major City to Major City
- Light Blue: Major City to Regional City
Top Travel Markets Air

Source: CONNECT Analysis

- **Chicago**
- **Minneapolis**
- **Des Moines**
- **St. Louis**
- **Indianapolis**
- **Cleveland**
- **Detroit**
- **Pittsburgh**
- **Cincinnati**
- **Louisville**
- **Milwaukee**
- **Columbus**
- **Grand Rapids**
- **Grand Rapids**
- **Miami**
- **Toronto**
- **Sioux Falls**
- **Fargo**
- **Lexington**
- **Knoxville**
- **Fayetteville**
- **Greensboro**
- **Charlotte**
- **Buffalo**
- **Toronto**

**Annual Trips**

- 150,000-199,999
- 200,000-499,999
- 500,000-749,999
- 750,000-999,999
- >1,000,000
Annual Enplanements CY15

Source: CONNECT Analysis

- Red: Primary
- Blue: Major
- Gray: Regional
- Light Gray: Other

Annual Enplanements
- 0-999,999
- 1,000,000-5,999,999
- 6,000,000-29,999,999
- >30,000,000
Annual Enplanements CY15

Source: FAA
Top Travel Markets Rail

Source: CONNECT Analysis

- Primary
- Major
- Regional
- Other

Annual Trips:
- 10,000-99,999
- 100,000-199,999
- 200,000-399,999
- 400,000-700,000
- >700,000
Top Travel Markets Bus

Source: CONNECT Analysis
## Top Travel Markets All Modes

### Top 5 Travel Pairs by Mode

<table>
<thead>
<tr>
<th>Rank</th>
<th>Auto</th>
<th>Air</th>
<th>Rail</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chicago - Milwaukee</td>
<td>Chicago - Minneapolis/St. Paul</td>
<td>Chicago - Milwaukee</td>
</tr>
<tr>
<td>2</td>
<td>Chicago - St. Louis</td>
<td>Chicago - Kansas City</td>
<td>Chicago - St. Louis</td>
</tr>
<tr>
<td>3</td>
<td>Chicago - Detroit</td>
<td>Chicago - Detroit</td>
<td>Chicago - Detroit</td>
</tr>
<tr>
<td>4</td>
<td>Chicago - Indianapolis</td>
<td>Chicago - Nashville</td>
<td>Kansas City - St. Louis</td>
</tr>
<tr>
<td>5</td>
<td>Cincinnati - Dayton</td>
<td>Chicago - Cleveland</td>
<td>Chicago - Grand Rapids</td>
</tr>
</tbody>
</table>
Select Travel Pairs

- Mode Split
- Travel Time
Existing Conditions

Mode Split for 15 Selected Travel Pairs

- Chicago - Milwaukee
- Chicago - St. Louis
- Chicago - Detroit
- Chicago - Indianapolis
- Cincinnati - Dayton
- Detroit - Toronto
- Chicago - Minneapolis/St. Paul
- Chicago - Grand Rapids
- Chicago - Kansas City
- Chicago - Cleveland
- Chicago - Pittsburgh
- Kansas City - St. Louis
- Chicago - Nashville
- Chicago - Omaha
- Minneapolis/St. Paul - St. Louis

Auto
Air
Rail
Existing Conditions

Mode Split for 15 Selected Travel Pairs

- Chicago - Milwaukee
- Chicago - St. Louis
- Chicago - Detroit
- Chicago - Indianapolis
- Cincinnati - Dayton
- Detroit - Toronto
- Chicago - Grand Rapids
- Chicago - Kansas City
- Chicago - Cleveland
- Chicago - Pittsburgh
- Kansas City - St. Louis
- Chicago - Nashville
- Chicago - Omaha
- Minneapolis/St. Paul - St. Louis

[Bar chart showing mode split for each travel pair with categories for Auto, Air, and Rail]
Existing Conditions

Travel Time for 15 Selected Travel Pairs

- Auto
- Air
- Rail

Minutes

1200
1100
1000
900
800
700
600
500
400
300
200
100
0

MSP-STL  CLI-LAX  CLI-IAH  KSC-STL  CHI-PGH  CHI-CLE  CHI-KSC  CHI-CRA  CHI-MSP  DET-TWO  CIN-Dayton  CHI-IND  CHI-DET  CHI-STL  CHI-MKE
CONNECT Base Runs
CONNECT modeled the following three scenarios:

- **Existing** – existing service levels and conditions
  - 2015 forecast year
- **Near-term** – completion of ongoing improvements to CHI-STL and CHI-DET corridors
  - 2015 forecast year
- **Future** – service levels and conditions proposed in the MWRRI plan and other corridors with proposed improvements
  - 2045 forecast year

The following network attributes are modeled in each scenario:

- CBSAs served
- Trips Times
- Frequencies
• Sketch planning tool to estimate overall performance of Intercity passenger rail corridors
  • Based on connections to CBSAs
  • User inputs
    • Network configuration
    • Cost
    • Operations
    • Infrastructure assumptions
  • Outputs
    • Capital costs
    • Operating and maintenance costs
    • Ridership
    • Revenue
    • Public benefits
Today we are only focusing on the following aspects of CONNECT:

- **User inputs**
  - Network configuration (corridor CBSAs)
  - Cost
  - Operations (travel time and frequencies)
  - Infrastructure assumptions

- **Outputs**
  - Capital costs
  - Operating and maintenance costs
  - Ridership – standalone context
  - Revenue
  - Public benefits
CONNECT Outputs:
Approximate Existing Ridership
CONNECT Existing Network

*all CONNECT trip times are within 2 mins of actual
**CONNECT State-Supported Corridors**

<table>
<thead>
<tr>
<th>Route</th>
<th>Frequency (RTs)</th>
<th>Time</th>
<th>CONNECT ridership – existing frequency +1</th>
<th>CONNECT ridership – matched frequency</th>
<th>CONNECT ridership – existing frequency -1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago - Milwaukee</td>
<td>7</td>
<td>89</td>
<td>8 RTs</td>
<td>4 RTs</td>
<td>6 RTs</td>
</tr>
<tr>
<td>Chicago - St. Louis</td>
<td>5</td>
<td>328</td>
<td>4 RTs</td>
<td>2 RTs</td>
<td>2 RTs</td>
</tr>
<tr>
<td>Chicago - Detroit</td>
<td>3</td>
<td>331</td>
<td>4 RTs</td>
<td>2 RTs</td>
<td>2 RTs</td>
</tr>
<tr>
<td>Chicago - Carbondale</td>
<td>3</td>
<td>330</td>
<td>2 RTs</td>
<td>2 RTs</td>
<td>2 RTs</td>
</tr>
<tr>
<td>Chicago - Quincy</td>
<td>3</td>
<td>263</td>
<td>2 RTs</td>
<td>2 RTs</td>
<td>2 RTs</td>
</tr>
<tr>
<td>Chicago - Port Huron</td>
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<td>308</td>
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<td>2 RTs</td>
<td></td>
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<tr>
<td>Kansas City - St. Louis</td>
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<td>340</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Chicago - Grand Rapids</td>
<td>1</td>
<td>250</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chicago - Indianapolis</td>
<td>1</td>
<td>305</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*all CONNECT trip times are within 2 mins of actual*
**CONNECT State-Supported Corridors**

### Frequency (RTs)

<table>
<thead>
<tr>
<th>Frequency (RTs)</th>
<th>7</th>
<th>5</th>
<th>3</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>2</th>
<th>1</th>
<th>1</th>
</tr>
</thead>
</table>

### Time

| Time  | 89  | 328 | 331 | 330 | 263 | 308 | 340 | 250 | 305 |

### Difference

| Difference | 0.24% | 62.64% | 20.06% | 44.31% | 83.80% | 26.62% | 172.77% |

*all CONNECT trip times are within 2 mins of actual*
CONNECT Long-Distance Routes

<table>
<thead>
<tr>
<th>Frequency (RTs)</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>472</td>
</tr>
<tr>
<td>1</td>
<td>556</td>
</tr>
<tr>
<td>1</td>
<td>442</td>
</tr>
<tr>
<td>1</td>
<td>587</td>
</tr>
<tr>
<td>1</td>
<td>578</td>
</tr>
</tbody>
</table>

*all CONNECT trip times are within 2 mins of actual
CONNECT Long-Distance Routes

**Frequency (RTs)**

<table>
<thead>
<tr>
<th>Frequency (RTs)</th>
<th>Chicago-MSP</th>
<th>Chicago-Omaha</th>
<th>Chicago-Kansas City</th>
<th>Chicago-Buffalo</th>
<th>Chicago-Pittsburgh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>472</td>
<td>556</td>
<td>442</td>
<td>587</td>
<td>578</td>
</tr>
<tr>
<td>Difference</td>
<td>908.56%</td>
<td>365.30%</td>
<td>203.21%</td>
<td>101.27%</td>
<td>236.05%</td>
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*all CONNECT trip times are within 2 mins of actual*
*all CONNECT trip times are within 2 mins of actual
**CONNECT Future**

<table>
<thead>
<tr>
<th>Route</th>
<th>Frequency (RTs)</th>
<th>Time</th>
<th>Difference</th>
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<tbody>
<tr>
<td>Chicago-MSP</td>
<td>6</td>
<td>337</td>
<td>578%</td>
</tr>
<tr>
<td>Chicago - Milwaukee</td>
<td>17</td>
<td>65</td>
<td>347%</td>
</tr>
<tr>
<td>Chicago-Detroit</td>
<td>9</td>
<td>226</td>
<td>1003%</td>
</tr>
<tr>
<td>Chicago-Kansas City</td>
<td>6</td>
<td>254</td>
<td>924%</td>
</tr>
<tr>
<td>Chicago-Green Bay</td>
<td>6</td>
<td>180</td>
<td>234%</td>
</tr>
<tr>
<td>Chicago-St. Louis</td>
<td>7</td>
<td>229</td>
<td>1395%</td>
</tr>
<tr>
<td>Chicago-Cincinnati</td>
<td>6</td>
<td>248</td>
<td>576%</td>
</tr>
<tr>
<td>Chicago-Columbus</td>
<td>12</td>
<td>240</td>
<td>301%</td>
</tr>
<tr>
<td>Chicago-Buffalo</td>
<td>8</td>
<td>50</td>
<td>555%</td>
</tr>
<tr>
<td>Chicago-Grand Rapids</td>
<td>4</td>
<td>442</td>
<td>129%</td>
</tr>
<tr>
<td>Chicago-Port Huron</td>
<td>4</td>
<td>422</td>
<td>1111%</td>
</tr>
<tr>
<td>Cleveland-Cincinnati</td>
<td>4</td>
<td>249</td>
<td>228%</td>
</tr>
<tr>
<td>Chicago-Pittsburgh</td>
<td>1</td>
<td>180</td>
<td>206%</td>
</tr>
<tr>
<td>Minneapolis-Duluth</td>
<td>8</td>
<td>382</td>
<td>129%</td>
</tr>
<tr>
<td>Chicago-Quincy</td>
<td>4</td>
<td>445</td>
<td>1111%</td>
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<tr>
<td>Chicago-Carbondale</td>
<td>3</td>
<td>150</td>
<td>1111%</td>
</tr>
<tr>
<td>Kansas City-St. Louis</td>
<td>6</td>
<td>224</td>
<td>1111%</td>
</tr>
<tr>
<td>Chicago-Dubuque</td>
<td>1</td>
<td>254</td>
<td>1111%</td>
</tr>
</tbody>
</table>

*all CONNECT trip times are within 2 mins of actual*
Breakout #2
15-minute break
Summary from Breakout #2
Introduction to Governance
Summary from Breakout #2
Introduction to Governance
Discussion Overview

- The importance of a governance framework
- Challenges to implementing a functioning governance framework
- Introduction of governance models
- Homework
Why is Governance Important?

• The implementation of a Regional Rail Plan requires extensive coordination.

• A governance structure can facilitate the coordination and implementation of the plan and its projects across multiple jurisdictions:
  - Formalize roles and responsibilities.
  - Develop protocols and decision-making procedures.
  - Establish accountability and oversight.
  - Represent individual states’ and other stakeholders’ objectives.

• A functioning governance framework can sustain the momentum of the regional plan.
Challenges to Implementing a Functioning Governance Framework

- Lack of or limited political support
- Limited resources
- Conflicting or divergent levels of interest
- Conflicting or competing objectives in an constrained funding environment
- Equitable stakeholder representation relative to role within the region
- Difficulty determining sustainable cost-sharing commitments
- Difficulty maintaining transparency and providing an open process for stakeholder participation and engagement
- Competing or conflicting federal, regional, state, and local laws, regulations, and responsibilities
- Difficulty in communicating the public benefits of a singular project to the broader region
- Slow decision making at the federal, state, local, and railroad levels
A Functioning Governance Framework

• Lead to the creation and implementation of a visionary regional investment strategy for a long-term regional rail network
• Coordinate continued regional planning and communication
• Identify the rail network’s investment needs and its role in the future economic growth and development of the region
• Prioritize and advance near-term projects across the region
• Help to define subsequent institutional arrangements that will be required for follow-on phases of the program
Overview of Governance Models

Based on Collaboration or Agreement
- Coordinated State Efforts
- Coalition/Partnership
- Single State Agency Contracting with/on behalf of other States

Agreement
- Public/Private Partnership
- Multi-State Commission

Authorized by Legislation
- Multi-State Special Authority
- Federal-State Commission
Overview of Governance Models

Based on Collaboration or Agreement

- **Coordinated State Efforts**
  - Less formalized (from "no agreement" to "MOU")
  - Fast to create, focus is on coordination
  - Often voluntary participation

- **Coalition/Partnership**
  - Less formalized (from "no agreement" to "MOU")
  - Fast to create, focus is on coordination
  - Often voluntary participation

- **Single State Agency Contracting with/on behalf of other States**
  - Agreement required (binding/non-binding)
  - Delegation of decision making authority to one state
  - Oversight with other partners
Overview of Governance Models

Agreement

Public / Private Partnership

- Formal agreement
- Private sector involvement, often with capital/asset investment (payback + profit)
- Requires clear decision authorities
### Overview of Governance Models

#### Authorized by Legislation

<table>
<thead>
<tr>
<th>Multi-State Commission</th>
<th>Multi-State Special Authority</th>
<th>Federal-State Commission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likely require some form of federal (and state) legislation</td>
<td>“Heavy” weight through its federal approval</td>
<td></td>
</tr>
<tr>
<td>Longer lead time</td>
<td>Establishes governing body</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identical state legislation in addition to federal legislation</td>
<td>Longer lead time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Independent entity which delivers a limited number of public services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Federal, state, and local participants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Generally authorized through federal legislation</td>
</tr>
</tbody>
</table>
Homework

• Read FRA Governance Whitepaper
  • Will be sent to the stakeholder group after the meeting
• State perspectives on governance
  • What has worked and what hasn’t
  • Suggestions for Midwest governance framework
MIPRC and MWRRI History and Accomplishments
Working to implement a 21st century passenger rail system by adding the Midwest Regional Rail Initiative network and additional state-supported corridors to the region's existing passenger rail infrastructure.
Originally enacted in 2000, states are members through compact legislation.

- **Nine Member States**:  
  - Illinois
  - Indiana
  - Kansas
  - Michigan
  - Minnesota
  - Missouri
  - Nebraska
  - North Dakota
  - Wisconsin

*Iowa, Ohio & South Dakota are also eligible to join the compact

- **Four Commissioners (plus alternates) are appointed from each state**:  
  - Two gubernatorial appointments (Governor or his/her designee and a private sector appointee)
  - Two legislators (one from each chamber)
The purposes of MIPRC are to promote, coordinate and support passenger rail service improvements:

- Promote development and implementation of improvements and plans for intercity passenger rail service in the Midwest;
- Coordinate and promote Midwestern interests regarding passenger rail development;
- Support state DOTs’ passenger rail plans.
Amtrak Routes in the Midwest (2015)
State-Supported Passenger Rail Routes (less than 750 miles in length) increase frequency of service
The build-out of the **Midwest Regional Rail System** is increasing service frequencies, providing new routes and decreasing travel times.
MWRRI Steering Committee

- The technical rail staff from nine state DOTs have been working together since 1996 to develop and implement the MWRRI plan.
  - Illinois
  - Indiana
  - Iowa
  - Michigan
  - Minnesota
  - Missouri
  - Nebraska
  - Ohio
  - Wisconsin
MWRRI Steering Committee

Between 1996 & 2010, the states provided funding and the MWRRI periodically received federal funding to undertake seven phases of tasks, including:

- Development of the Midwest Regional Rail System plan – a proposed 10-year plan to implement a network of faster, more frequent regional passenger rail service (up to 110 mph) in 100- to 500-mile corridors, hubbed in Chicago.
- Development of ridership and revenue forecasts (2000)
- Executive plan (2004)
- Economic impact analysis (2007)
- Implementation plan (ongoing)

The MWRRI plan served as the blueprint for the vast majority of the Midwestern states’ applications to the federal HSIPR grant program.
MWRRS Overview

- 3,000-mile, 9-state passenger rail system with Chicago as the hub
- 63 trainsets
- 4 to 17 daily trains in each direction at speeds up to 110 mph
  - Chicago-Detroit/Grand Rapids/Port Huron
  - Chicago-Toledo-Cleveland
  - Chicago-Indianapolis-Cincinnati
  - Chicago-Carbondale
  - Chicago-St. Louis-Kansas City
  - Chicago-Quincy/Quad Cities-Des Moines-Omaha
  - Chicago-Milwaukee-Madison-La Crosse-St. Paul
  - Chicago-Milwaukee-Green Bay

- Overall Economic Benefit: $23 billion
- Permanent New Jobs: 57,450
- Average Annual Jobs During Construction (10-year build-out): 15,200
Federal/State Partnership

MIPRC has taken a primary role in advocating for the federal government to develop an enduring collaboration with states for passenger rail development similar to the partnership it has with states for other modes of transportation.
Efforts include . . . .

- Educating Midwestern Members of Congress and staff on the Midwest’s accomplishments & plans
- Testimony before Congress
- Advocating for intercity passenger rail to be included in federal surface transportation reauthorization legislation, input into FAST Act
- Annual appropriations requests on behalf of the Midwest, emphasizing need for ongoing, dedicated funding
- Input on other important issues, such as the PTC deadline and passenger rail-related issues before the STB
In 2012, MIPRC approached the FRA about holding a series of FRA-led workshops which would help identify the governance structure the Midwest will need to plan and move forward with regional passenger rail development, and to begin the next phase of regional planning & oversight.

On Oct. 20, 2014, the FRA released a “Call for Statements of Interest and Qualifications for Federally-Led Regional Rail Planning Projects” with a deadline of Nov. 12.

On behalf of the Midwest, MIPRC submitted a Statement of Interest, along with 85 letters of support from a great variety of supporters across the region.

July 30, 2015: MIPRC received word that the Midwest and Southeast had been chosen for FRA-led multi-state planning projects.
Joint Equipment Procurement

**Midwest Equipment Management**

- The four states (Illinois, Michigan, Missouri and Wisconsin) have reached an agreement to jointly own, manage, and maintain the Midwest Fleet, under the authority of the Midwest Interstate Passenger Rail Compact.

- Agreement provides option to add additional MIPRC members in the future.
Working to implement a 21st century passenger rail system by adding the Midwest Regional Rail Initiative network and additional state-supported corridors to the region's existing passenger rail infrastructure.

Thank you!
Next Steps and Final Comments
Action Items

• Summarize the meeting discussion and key outcomes;
  • Post the meeting notes and presentations to the website
  • Incorporate the meeting summary and outcomes into the first electronic newsletter to broader interested parties list

• Use the input from the workshop to support the technical analysis using CONNECT:
  • Revisit the baseline conditions based on stakeholder feedback
  • Begin initial runs of future network design and service plan concepts

• Others based on meeting discussion and outcomes
Next Steps

• Continue to provide input and feedback as draft products are developed and we continue to move through the process;
  • Begin exploring future network design and service concepts;
  • Read the governance whitepaper and being prepared to discuss this topic from the state’s perspective at the next session
• Begin planning for the next workshop in St. Paul in June (Tentatively June 7th).
St. Paul, June 7, 2017 [TENTATIVE]

- Review transportation connectivity, stations, and bottlenecks
- Discuss connections map and key potential connections to be considered, discuss regional and network service concepts
- Address relationship to high-speed rail planning
- Begin assessment of options for institutional and governance issues
- Finalize CONNECT education, including benefit-cost analysis methodology
- Additional input from Interested Parties - Topic – TBD
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# Key Contacts – Consultant Team

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<th>Position</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
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Questions/Discussion
Thank You!