INNOVATIVE PROJECT DELIVERY AT IDOT

31st Annual IDOT Fall Planning Conference
October 6-7, 2016
Moline, Illinois

Roger L. Driskell
Director, Office of Planning & Programming
Illinois Department of Transportation
(217) 782-6289
Roger.Driskell@illinois.gov
• Bureau of Innovative Project Delivery
• Houbolt Bridge
• I-55 Managed Lanes
• LED Lighting
• P3
• D-B, CMGC and ATC’s
Bureau of Innovative Project Delivery

- Located in Office of Planning & Programming
- Staff
- Scope
HOUBOLT BRIDGE
A NEW PARTNERSHIP MODEL
Houbolt Road Bridge

• Background
• Multi-Jurisdictional Cooperation
• Concept Overview
• Benefits
• Roles and Responsibilities
• Summary
CenterPoint Intermodal Center – Joliet/Elwood

The Nation’s Largest Inland Port and Third Largest U.S. Port

- 3.1 Million TEUs in 2014; potential for 6 Million TEUs at full build out
- $2 Billion invested to date; $3 Billion at full build out
- 6,400-acre integrated logistics center; 3,600-acre industrial park
- 730-acre BNSF intermodal facility
- 835-acre UPRR intermodal facility
- International and domestic intermodal service
- 13 Million SF of industrial facilities; 36 Million SF at full build-out
- Grain and bulk transload facilities
- 116 acres of container storage yards; 600 acres at full build-out
- $60 Billion imports(exports) through CIC annually

Top 15 N.A. Container Port Rankings (2014 Total TEU)
Public-Private Partnership (P3)

Align incentives for all stakeholders

- Total investment (at full build-out)
  - $3 Billion private (93%)
  - $200 Million public (7%)

- Benefits to region
  - Created more than 13,000 permanent jobs; will create more than 27,000 jobs.
  - Bring annual revenues in terms of total wages and taxes of over $1.5 Billion.

- Keeping region competitive
  - An estimated $65 Billion of goods are imported and exported annually.
  - Fastest growing agriculture export hub in the Midwest moving 70 Million bushels of locally produced agricultural products.

- Serves logistics customers
  - BNSF, UP efficient yards, higher value, new customers
  - Minimize BCO transportation costs
    - Fewer long haul trucks
    - Lower intermodal/warehouse dray expense
    - Quality warehouse space
Intermodal vs. Long Haul Trucking

**Trucking Industry Challenges**

- Fuel costs added on to shipping rates as a percentage of transportation costs; shippers take fuel risk
  - Varies based on cost of fuel
  - Fuel surcharge is currently 30% of transportation cost
- Capacity Shortage
  - 8% reduction in capacity in 2014
  - Compliance Safety & Accountability 2010 (CSA)
  - Hours of Service (HOS)
    - New regulations began July 2013
    - Truck driver hours reduced from 82 to 70 hours per week
- Four key trends are expected to drive the cost and efficiency differentials between intermodal and trucking
  - High fuel prices
  - Increased fuel efficiency of rail
  - Increases in highway congestion
  - Double stacking – drives efficiency in trains
- If U.S. truckload capacity is reduced by 5% due to current challenges, it could equate to a 29% increase in total intermodal loads.

**Average Daily Truck Traffic 2007 vs. 2040**

---

Illinois Department of Transportation
Largest inland port in North America located in Will County

- Total of 6,300 Acres
- 770 Acre BNSF Logistics Park Chicago (Opened in 2002)
- 835 Acre UP Joliet Intermodal Terminal (Opened in 2010)
Houbolt Road Bridge Background

Highlights

• $75 billion of dollars of goods are imported and exported annually
• 65 million bushels of agricultural export per year
• One of largest agricultural hubs in Midwest
• Thousands of jobs created
• Significant Intermodal Growth/Infill Anticipated to Continue Here
Safe and efficient movement of goods relies on effective **intermodal connections** and access

- State Access – Arsenal Road to I-55
- Local Access – Laraway Road to IL 53
- No direct access to I-80
- Local Concern for Volume of Truck Traffic on IL 53
Houbolt Road Bridge Background

History of I-80 Access

• 2004 Joliet Arsenal Long-Range Transportation Plan
  ✓ West Extension of Laraway Road across DesPlaines River to Houbolt Road and I-80

• 2007 City of Joliet Comprehensive Plan
  ✓ West Extension of Laraway

• 2010 Joliet Arsenal Area Transportation Plan Update
  ✓ North Extension of Vetter Road across DesPlaines River to Houbolt Road and I-80

• 2011 – 2014 CenterPoint Houbolt Road Extension Feasibility Studies (Lochner, TranSystems)
Houbolt Road Bridge
Multi-Jurisdictional Cooperation

2015 CenterPoint Site Tour/Meeting

- CenterPoint
- IDOT
- Will County
- City of Joliet

Intermodal Growth
Limited Access to Intermodals
Regional Transportation Issues
Need for Better Access to I-80
Houbolt Road Bridge Concept Overview

- Transportation investment needs
  - New Houbolt Road and Bridge Over DesPlaines River
  - Links intermodal to I-80
  - Private investment
  - Toll Bridge

New Houbolt Road Toll Bridge

Proposed CenterPoint Intermodal Center
Houbolt Road Bridge Concept Overview

• Transportation investment needs
  – Improvements to adjoining state, local, and private roads
    • State/Local Investment
    • Houbolt Road at I-80 Ramps
    • Houbolt Road (I-80 to US 6)
    • Houbolt Road at US 6
Houbolt Road Bridge Benefits

- Modest State investment
- Direct Access to I-80
  - Provides improved access to America’s largest inland port
  - Increases transportation efficiencies
  - Reduces truck volume on IL 53
  - Promotes safety
  - Reduced emissions yields environmental benefits
- Job creation

- Supports growth and expansion of Statewide intermodal industry and commerce
- New river crossing provides trucks alternative when I-55 operations are impacted
  - Bridge and road inspections/maintenance
  - Emergency Incident Management
Houbolt Road Bridge Summary

CenterPoint Responsibilities

• Project Development
  • Planning, Design, ROW and Construction
  • Regulatory Permits
  • Agreements
• Houbolt Road Toll Bridge Operations
• Overall Funding and Financing
• Houbolt Road Bridge over Des Plaines River and BNSF
• Houbolt Road: US 6 to CenterPoint Way
• $150M to $170M

State of Illinois Responsibilities

• Issue State Highway Access Permit (I-80 and US 6)
• State Project Review
• State Highway Improvement Funding
• Houbolt Road from I-80 to US 6
• Diverging Diamond Interchange at I-80
• Improvements to Houbolt Road at US 6
• $21M estimated cost

Joliet Responsibilities

• Local Agency Lead
• Highway Construction Permit for Houbolt Road from I-80 to US 6

Will County Responsibilities

• Illinois Toll Bridge Act
• County Resolution
• Establish Toll Rates
Houbolt Road Bridge – Next Steps

• Memorandum of Understanding
• Agreement
• Moving Forward
I-55 MANAGED LANE PROJECT

POTENTIAL P3
• Project Overview
I-55 Managed Lane Project

2012

- Initiate stakeholder involvement
- Collect data
- Analyze existing conditions

2016

- Purpose & Need
- Develop a summary of the transportation problems that will be addressed
- Develop alternatives
- Evaluate the effectiveness of each alternative
- Evaluate potential impacts

- Alternatives Development & Evaluation
- Select preferred alternative(s)
- Quantify potential impacts
- Develop mitigation strategies

- Preferred Alternative(s)
- Document findings of environmental studies

- Environmental Documentation
- We are Here

- CPG Meetings
- Public Meetings/Hearing
I-55 Study Area

Communities: 16
System Interchanges: 3
Service Interchanges: 14

Study Limits: I-355 to I-90/I-94
25 miles
Existing Traffic Characteristics

Average Daily Traffic (ADT)
- Year 2040 (No-Build) 200,000 to 250,000 vehicles per day
- Current 140,000 to 180,000 vehicles per day

Passenger Vehicle Occupancy
- 1 passenger 83.5%
- 2 passengers 13.7%
- 3 or more passengers 2.8%

Trucks
- 13 – 15% of total volume
I-55 Bus-on-Shoulder Program

**Successes:**
- Since inception in 2011, on-time performance improved to nearly 90%
- Ridership increased up to 150%

**Limitations:**
- Buses can only use the shoulder for 18 miles of the 25 mile corridor
- **35 mph** maximum speed limit
- May only use shoulder when mainline traffic speed is less than **35 mph**
Typical Roadway Section
Project Purpose and Need

• Mobility and operational efficiency to adapt to changing travel demands

• Congestion management strategies to improve system performance & travel time reliability

• New travel choices supporting transit opportunities

• Sustainable transportation solutions that meets future environmental & economic needs

• Maximize use of existing facility to recognize funding constraints
Alternatives Carried Forward

**HOV-2+**
- Only carpools
- 2+ Occupants
- No Toll

**HOV-3+**
- Only carpools
- 3+ Occupants
- No Toll

**HOT-2+**
- 2+ Occupants
- Ride Free
- Single Occupants Vehicles Pay Toll

**HOT-3+**
- 3+ Occupants
- Ride Free
- Single and Double Occupant Vehicles Pay Toll

**ETL**
- All Vehicles Pay
Preferred Alternative

Express Toll Lane (ETL): Best Addresses Corridor Needs

- Time Savings
  - ETL – 10 to 15 Minutes Time Savings in AM and PM Peak
  - Existing Free Lanes – 5 to 10 minutes time savings

- Person throughput – 11-14% Increase
- Greatest Ability to control congestion
- Best accommodates Pace bus service
- Ease of Enforcement
- Compatible with regional tolling technology
Express Toll Lane
Before and After

40 feet
Approx. 15 miles

60 feet
Approx. 10 miles

40 feet
Approx. 15 miles

60 feet
Approx. 10 miles
Managed Lane Access

Controlled Access

Continuous Access

Traffic Flow

Managed Lane Vehicle
General Purpose Lane Vehicle

Illinois Department of Transportation
Active Traffic Management Strategies (ATMS)

• **Dynamic message signs** relay real time information to drivers about traffic conditions

• **Traffic Harmonization** through advisory speed alters

• **Redirecting traffic** with arrows and x’s over each lane

• Provides *opportunity to close lanes as needed* for incidents or maintenance
P3’s – Project Status and Next Steps

• EA
  – Completed April, 2016
  – Public Hearing – May 17, 2016
  – FHWA issued FONSI – July 20, 2016

• Opportunity for a P3

• P3 Analysis
  – Advisors
  – Financial Model
  – Technical Questions
## P3’s – Project Status and Next Steps

<table>
<thead>
<tr>
<th>Anticipated Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBFOM</td>
</tr>
<tr>
<td>Revenue Risk</td>
</tr>
<tr>
<td>Private Sector Innovation</td>
</tr>
<tr>
<td>Tollway Participation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Received - Sept. 8, 2016</td>
</tr>
<tr>
<td>Industry Forum – Sep. 21, 2016</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illinois Public-Private Partnership for Transportation Act, 630 ILCS 5/</td>
</tr>
<tr>
<td>Joint Resolution</td>
</tr>
<tr>
<td>RFQ / RFP</td>
</tr>
</tbody>
</table>

### Illinois Department of Transportation
LED LIGHTING
LED Lighting Privatization

• Exploring interest in alternative delivery of LED lighting services for IDOT facilities
• IDOT is currently conferring with other agencies and local governments about best practices
• Scope and scale (interstate system, statewide, regional) will be investigated with interested vendors
• RFI expected this winter
• Expect to interview a short list of interested parties
• RFI responses will inform eventual determination of whether to privatize LED lighting and how to package the services
P3'S
Public Private Partnerships

• Legislation / Authority
  – Illiana
  – South Suburban Airport
  – General P3 Legislation
Public Private Partnerships (continued)

• Status
  – Support for P3’s
  – Right Project
    ✓ Programmatic Approach
  – Managed Lanes
    ✓ ETL, HOT
Public Private Partnerships (continued)

- Projects
  - I-55 Managed Lanes
  - LED Lighting
  - Houbolt Road
  - I-290
  - Chicagoland Expressway
  - Major River Bridges

- Other Projects
  - Bridges
  - Interstates
  - Solar
  - Sponsorships
P3’s

• An Option
• Not for Every Project
• Financing vs. Funding
• No free money
• Does not make a bad project good
Design-Build (DB)

Construction Manager / General Contractor (CMGC)

Alternative Technical Concepts (ATCs)
Purpose

• Growing need for Alternative project delivery methods to meet schedule, cost, and quality constraints and to select the best firms that can provide innovative solutions to meet these constraints.

• Provide IDOT with other “Tools in the Toolbox” – allow for the best delivery method for each project.

• Not intended to replace DBB. DBB will still be the predominate project delivery method.
Proposed legislation would allow IDOT to utilize the DB and CMGC project delivery method and allow the use of ATCs on D-B-B Projects

Working with Industry and other stakeholders

Introduce in the Spring Session
Background & Current Legislation

• DB
  – FHWA Authorized DB through TEA-21 (1998)
    ✓ DB Rule (23 CFR 636) effective as of January 2003
  – Illinois Authorization - Limited
    ✓ Regional Transit Authority
    ✓ Public Building Commission
    ✓ Capital Development Board (expired)

• CMGC
  – FHWA Authorized CMGC through MAP-21 (2012)
  – Illinois Authorization – None
• Every Day Counts (EDC) Initiatives

  – Initiated in 2008

  – FHWA effort focused on shortening the time needed to complete highway projects through the use of new technologies and innovative processes

  – DB and CMGC are both included in the 2nd wave of EDC Initiatives

  – ATCs in D-B-B also discussed.
DB Authority 30+ States

2016 Design-Build Authorization for Transportation

- **Design-build is not specifically authorized**
- **Design-build is widely permitted**
- **Design-build is authorized with certain limitations**
- **Design-build is fully authorized**
CMGC Authority – 14 States

- Alaska
- Arizona
- Connecticut
- Colorado
- Florida
- Idaho
- Minnesota
- Michigan
- Nevada
- Oregon
- Rhode Island
- Texas
- Utah
- Washington
Benefits of DB & CMGC over Traditional Design-Bid-Build (DBB)

• **Schedule**
  - Acceleration
    - Design / construction overlap
    - Earlier material orders
  - Earlier Schedule Certainty

• **Budget / Cost**
  - Greater Budget Certainty / Fewer Change Orders
  - Earlier Cost Certainty

• **Innovation**
  - Increased Opportunity
  - Better Constructability
DB or CMGC?

• DB and CMGC are appropriate if:
  – Early cost certainty is required
  – There are complex constructability issues

• DB is appropriate if:
  – A compressed schedule is required
  – There is a well-defined project scope
  – Project quality can be defined through minimal design and use of perform standards for both design and construction
  – There are minimal third-party risks

• CMGC is appropriate if:
  – Owner wants to control scope and design during project development
  – There is need/ability to manage third-party issues
Legislation – Innovation for Transportation Infrastructure Act

- Design-Build
- Construction Manager / General Contractor
- Alternative Technical Concepts for Design-Bid-Build
- IDOT and ISTHA
- Pre-Procurement
  - Use / Limitations
    - DB – IDOT 20% of 5 Year Program
    - CMGC – IDOT – 2 Projects
    - ATCs – IDOT – 3 Projects
  - Best Interest of State Analysis
  - Report to General Assembly
  - Include in MYP
  - Consistent with MPO
2 Phase Procurement

- RFQ
  - Scope, Key Personnel, Evaluation Criteria...

- Shortlist
  - 2 to 5

- RFP
  - Scope, Performance Criteria, Technical Components, Evaluation Criteria

Allowance for Emergency

Other Items

- Stipends – May
- Evaluation Committee
- Project Records
- Confidentiality
Legislation – Innovation for Transportation Infrastructure Act (continued)

- Contract
  - Compensation
  - Liability
  - Technical Specifications
  - Review
  - Bonding
- Funding
- DBE Requirements
Potential Challenges

• DB and CMGC
  – Difficulty in agencies and stakeholders adjusting to “best value” procurements

• DB
  – Less owner control over final design

• CMGC
  – Does not provide significant schedule benefits
  – Tension between need for competitive bidding for trade contractors and traditional self-performance requirements
Keys for Success

• Right Delivery Method for Right Project
• Programmatic Approaches
  – “Tool in the Toolbox”
  – Provides for Innovation
    ✓ Fiscal / Time / Constraints
  – Examples
    ✓ ARRA “Shovel Ready”
    ✓ Emergency Projects – Florence Bridge

• Balance Risks
Keys for Success (continued)

• Coordinate with FHWA
• Development of Process / Program
• Selection of Projects
  – Fiscal / Time / Constraints
• Work with Industry
  – Develop Working Group
  – Partnering is Key
• Develop Rules and Policies for the Program
• Transparency is Critical
• Competitive Procurement
Next Steps

- Legislation
- Industry Work Group
- Rules
- Policy / Framework
QUESTIONS AND DISCUSSION