Illinois Asphalt Pavement Association

Paul Kovacs, *Illinois Tollway*
March 14, 2017
Move Illinois Program

ADDRESS EXISTING SYSTEM NEEDS

JANE ADDAMS MEMORIAL TOLLWAY
$2.5 billion

ELGIN O’HARE WESTERN ACCESS
$3.4 billion

I-294/I-57 INTERCHANGE
$719 million

INTERCHANGES AND
OTHER EMERGING PROJECTS

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Cleanest and Greenest Program

Goal to recycle 100 percent of the original pavements and structures into the new pavements
• Recycled Asphalt Pavement (RAP)
• Recycled Concrete Aggregate (RCA)
• Existing sub-bases

Improve sustainability further using as many waste products as possible
• Fly ash/slag in Portland concrete cement (PCC)
• Roof shingles in asphalt
• Ground tires in asphalt

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INVEST at the Tollway

Infrastructure Voluntary Evaluation Sustainability Tool (INVEST)

Tollway implemented a version of INVEST in 2014

Measure and report progress annually
Achievements

INVEST achievement scale: percentage of points earned

Baseline projects

Move Illinois projects

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Jane Addams Memorial Tollway (I-90)

From 2013 through 2016, the Tollway recycled nearly five million tons of materials on the I-90 Rebuilding and Widening Project

- 1.9 million tons of recycled asphalt pavement
- 1.2 million tons of recycled aggregate
- 1.7 million tons of recycled concrete
Important Aspects of Sustainability

- Economic
- Social
- Environment
Ground Tire Rubber (GTR) Research

Current specifications allow terminal-blended GTR
• Widespread use in Tollway stone-matrix asphalt (SMA) paving since 2008

Reagan Memorial Tollway (I-88) GTR test sections
• 2015: Dry crumb rubber added to SMA and dense-graded mixtures for shoulder test sections
• 2016: Dry crumb rubber, rubber-polymer blend and terminal-blended GTR used in mainline SMA mixes, along with softer asphalt binder and increased asphalt binder replacement (ABR)

Lab testing of 2016 field production samples
• Hamburg, DCT, I-FIT
• Advanced low temperature cracking testing and modeling

Goals
• Increase options for GTR use in Tollway SMA placements
• Consider developing protocol for evaluation of other GTR processes
Performance-Based Asphalt Mix Designs

Recently closed Tollway research solicitation

2 ½ year project

Goal to evaluate performance tests and develop a specification that goes beyond volumetrics

• Rutting
• Low-temperature cracking
• Fatigue cracking
• Moisture damage

Shadow testing to be conducted on upcoming asphalt contracts

New specification anticipated in 2020
Tollway Mixture Sustainability

2006 to 2008
• Fractionated RAP research

2009 to 2010
• Reclaimed shingles research

2011
• Finalized current, high asphalt binder replacement (ABR)

2012
• Fully implemented warm-mix asphalt

Future
• Moving on to the “other” pavement
• CRC for mainline Central Tri-State Tollway (I-294) reconstruction
• Roller compacted cement-treated bases
• Will require asphalt pavers and rollers

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Asphalt Projects
2017 Construction Look-Ahead

Systemwide Improvements
- Pavement, Bridge, Ramp and Wall Repairs
- Roadside Improvements
- Pavement Marking and Signage
- Facility Repairs and Reconstruction
- Drainage Improvements
- Landscaping and Fencing
- Intelligent Transportation System Upgrades

Jane Addams Memorial Tollway (I-90)
- SmartRoad Implementation
- Barrington Road to I-294

Jane Addams Memorial Tollway (I-90)
- Interchange Construction
- Roselle Road

Illinois Route 390 Tollway
- Interchange Construction
- I-290 Interchange

I-490 Tollway
- Advance Work

Illinois Route 390 Tollway
- Interchange Construction
- Wood Dale Road and Illinois Route 83

Reagan Memorial Tollway (I-88)
- Interchange Reconstruction
- Farnsworth Avenue

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Reagan Memorial Tollway (I-88)

I-88 western segment between Rochelle and Aurora
• Reconstruction of distressed shoulders with full-depth asphalt shoulders
• Mainline SMA mill and overlay

Reconstruction of east end mile of I-88 and I-294/I-88 ramps in 2018
• Asphalt shoulders
• Asphalt stabilized subbases
Elgin O’Hare Western Access Project

Construction underway on Illinois Route 390 Tollway and planning for I-490

- Asphalt shoulders
- Asphalt stabilized subbase
- Local road reconstruction and rehabilitation
Veterans Memorial Tollway (I-355)

I-355 overlay (anticipated in 2023)

- Mainline: mill to bare concrete and overlay SMA
- Shoulder mill and overlay
Explore Projects by Roadway section
• Overview of current projects
• Updated construction information

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Questions?
THANK YOU