



Illinois Tollway

Open Roads for a Faster Future

Illinois Asphalt Pavement Association

March 17, 2008

Illinois Tollway – Key Statistics

- **286-mile system comprised of four tollways**

- Tri-State (I-294/80/94)
- Jane Addams Memorial (I-90)
- Reagan Memorial (I-88)
- Veterans Memorial (I-355)

- **Built in 1958 as a bypass around Chicago to connect Indiana and Wisconsin**

- **Carries more than 1.3 M vehicles per day**



Congestion-Relief Program

Governor's Congestion-Relief Program (CRP) to reduce travel times by:

- Rebuilding/Restoring** nearly the entire 286-mile system
- Widening** many miles of major roads
- Converting 20 barrier toll plazas to **Open Road Tolling**
- Building the 12.5-mile **extension of I-355** to serve fast-growing Will County





Tri-State Tollway

Completed

- ✓ **Rebuild & Widening** from IL Route 394 to 167th Street completed in 2006 within budget at \$284.8 million

Current and Future Projects

- **Rebuild & Widening** underway with completion scheduled in 2010:
 - 159th Street to 95th Street
 - Balmoral Avenue to Lake Cook Road
 - Half Day Road to Wisconsin State Line

Financial Update

- The program budget for the Tri-State Corridor is \$2.3 billion





Reagan Memorial Tollway

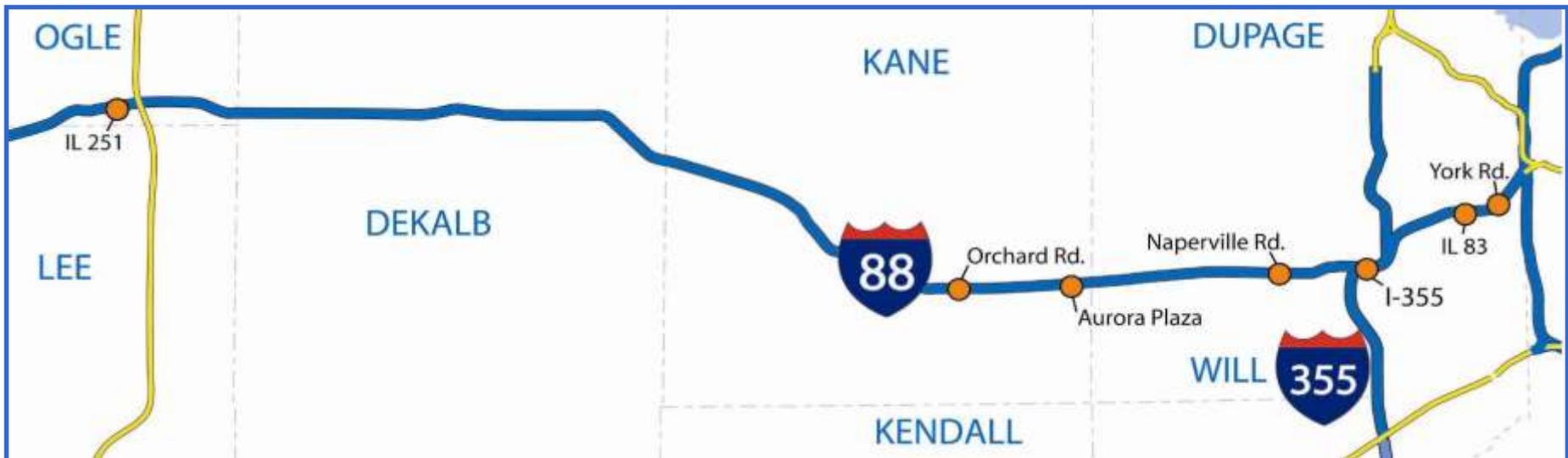
Completed

- ✓ **Rebuild & Widening** from IL Route 59 to Washington St. and **Improvements** from US Rt. 30 to IL 251 completed in 2005/06 within budget

Current and Future Projects

Rebuild & Widening underway with completion scheduled in 2009:

- York Road to Washington Street
- Aurora Toll Plaza to Deerpath Road





Jane Addams Memorial Tollway

Current and Future Projects

Master Planning from the Kennedy Expressway to I-39 will be completed in 2008. Final design for Mainline Reconstruction & Widening is to be completed within the 2005-16 program





Veterans Memorial Tollway

Current and Future Projects

- New 12.5-mile extension opened November 11, 2007**
 - Completed on budget and ahead of schedule
- Additional projects scheduled for 2008-10
 - Widening and Resurfacing segments of the original 17-mile roadway

Financial Update

- The program budget for the I-355 corridor is \$823.5 million



Update of Tollway Innovations for the HMA Industry

- Recent studies/innovations
- Support from contractors, asphalt suppliers, equipment manufacturers, other agencies
- Longer-lasting roads/reduced costs

The Option to Fractionate RAP



Jane Addams Memorial Tollway (I-90) Reconstruction & Widening Project



FRAP Research Goals

- Retain long-term performance at lower costs
- Quality Control maintained
- U. of I. structural analysis (fatigue and dynamic modulus)
 - Are mix properties compromised with higher RAP?
 - How soft for the PG? (64-22 vs. 58-22 vs. 58-28)



Resulting Tollway FRAP Specifications

■ Category 1 FRAP

- ❑ Crushed Aggregates only from Tollway Mainline
- ❑ Required in SMA (fine portion up to 15%)
- ❑ Highest Max. RAP allowed with Category 1 FRAP

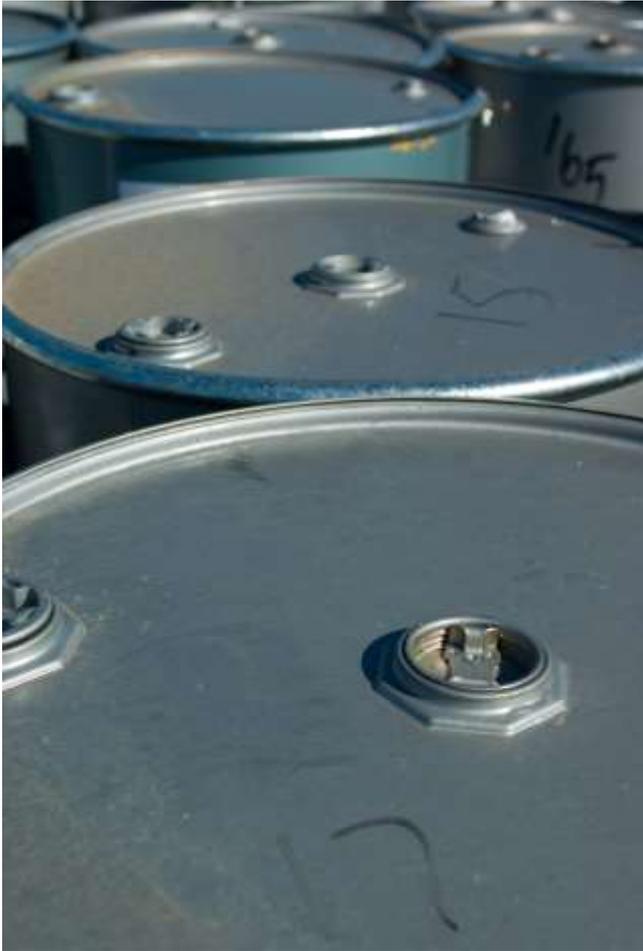


Resulting Tollway FRAP Specifications

- Category 2 FRAP
 - From Tollway shoulders or other State Projects
 - Allowable in all dense graded mixtures



Resulting Tollway FRAP Specifications



- Double bump of asphalt grade eliminated with high RAP mixes

Specified Increased Percentages of RAP in Tollway Mixes

Mix Type	PG Grade	Total FRAP % - Tollway	Total RAP % - IDOT
SMA's	PG 76-22	15% (fine only)	0
HMA surf., Mix D, N70	PG 58-22	25%	10%
HMA binder, IL-19, N50	PG 58-22	40%	20%
HMA base course, N50	PG 58-22	50%	20%

Ground Tire Rubber (GTR) as a Modifier in Asphalt



SMA mixes less costly and easier to produce

- PG 76-22 with Ground Tire Rubber Modifier
- Reduces drain down potential and the need for fibers
- PG 76-22 with alternate SBS Polymer Modifier to be studied
- 15% fine portion FRAP can replace virgin fine aggregate
- More options for coarse aggregate sources

HMA Stabilized Subbases under PCC Pavements less costly

- 40% to 50% of RAP or FRAP easily obtained
- PG 58-22 allowed with high FRAP mixes
- Volumetric properties more easy to obtain with 2% air voids
- Only 3-inch thickness



HMA Shoulder Mixes Less Costly and Easier to Construct

- HMA surface mixes with up to 25% FRAP
- HMA binder course with up to 40% FRAP & 3% air voids
- With thicker shoulders, HMA base course with up to 50% FRAP/RAP with 2% air voids
- PG 58-22 allowed with all high-FRAP mixes

Cost Savings on Tollway Bids

- Savings already in the millions on one bid
 - 15" Full-Depth HMA, > 19% Savings
 - 6" Full-Depth HMA Shoulders, > 30% Savings
 - 9" Full-Depth HMA Shoulders, > 12% Savings

Additional Ideas To Investigate

■ Quiet HMA Pavements



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- Quiet HMA Pavements
- Recycled Roof Shingles (manufactured or tear-offs) as processed independently



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- Warm-Mix Asphalt



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THANK YOU