



Illinois Asphalt Pavement Association

Paul Kovacs, *Illinois Tollway*
March 14, 2017

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

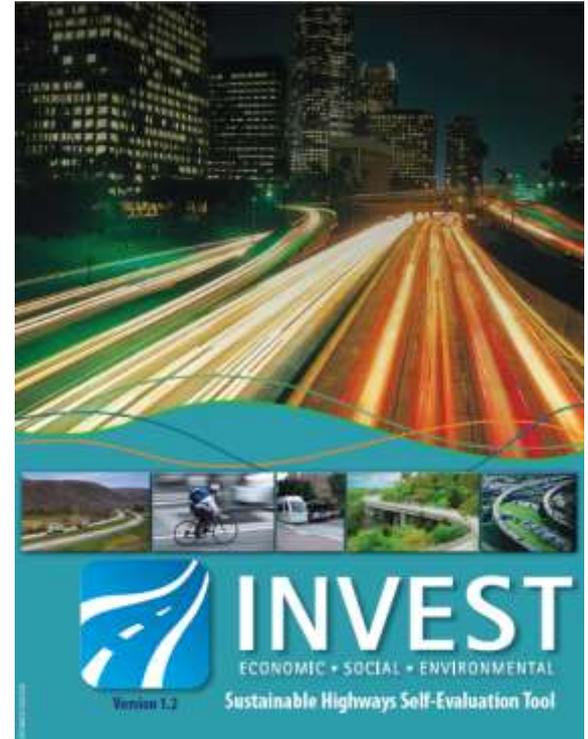


INVEST at the Tollway

Infrastructure Voluntary Evaluation Sustainability Tool (INVEST)

Tollway implemented a version of
INVEST in 2014

Measure and report progress
annually



The Illinois Tollway
**DRIVING
THE FUTURE**

Achievements

INVEST achievement scale: percentage of points earned



Jane Addams Memorial Tollway (I-90)

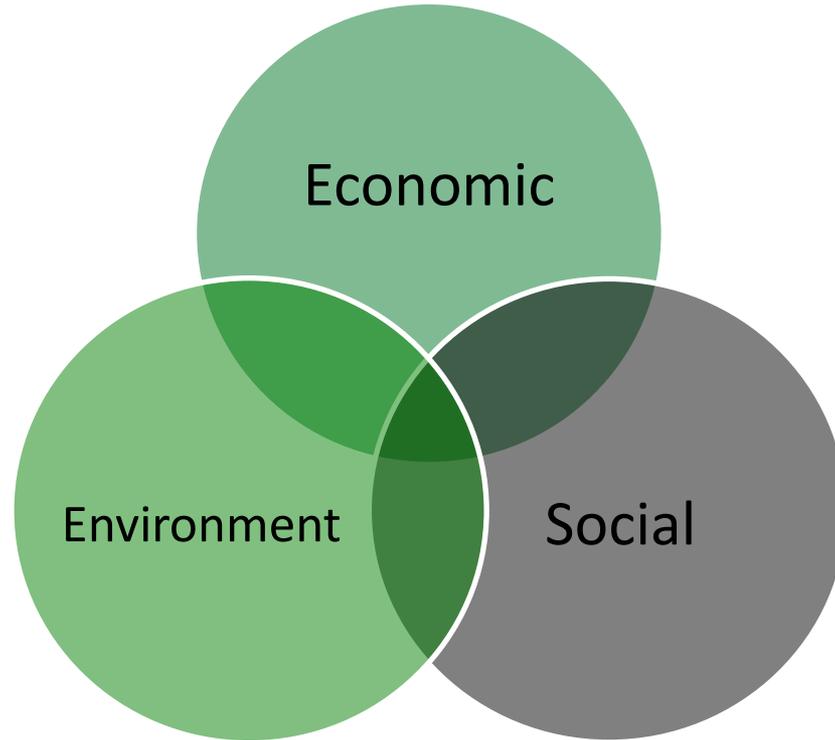
From 2013 through 2016, the Tollway recycled nearly five million tons of materials on the I-90 Rebuilding and Widening Project

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



The Illinois Tollway
DRIVING
THE FUTURE

Important Aspects of Sustainability



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



The Illinois Tollway
**DRIVING
THE FUTURE**

Asphalt Projects

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



illinoistollway.com

Explore Projects by Roadway section

- Overview of current projects
- Updated construction information

Contact information

- Paul Kovacs, Chief Engineering Officer
- paulkovacs@getipass.com

Questions?

THANK YOU