



Tollway Sustainability

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Agenda

- What is sustainability?
- Current Tollway initiatives
 - Capital construction
 - Operations
- Tollway sustainability vision
- Policy establishment
- Sustainability work plan
- Next steps

Tollway Sustainability

Sustainability is more than just green

- Environmental
- Social
- Economic



The Sustainability Triple Bottom Line



The “Cleanest and Greenest” Capital Program in History

As part of *Move Illinois: The Illinois Tollway Driving the Future*, the Tollway Board committed to:

- Natural environment and resource protection
- Waste reduction and recycling
- Renewable energy and energy conservation
- Investments in technology

***Move Illinois* Program research initiatives and best practices adopted to support sustainability include:**

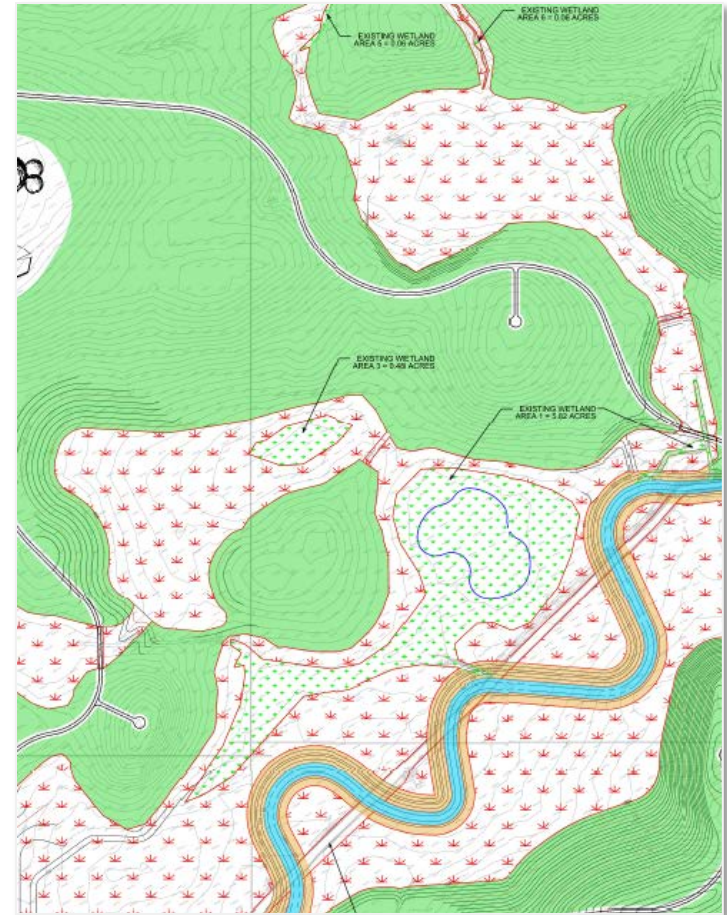
- Environmental Studies Manual
- Infrastructure Voluntary Evaluation Sustainability Tool (INVEST)
- Lifecycle Cost Analysis (LCA)
- Leadership in Energy and Environmental Design (LEED)
- Sustainable Design and Construction



Sustainable Design and Construction

Orland Grasslands South Addition Wetland Mitigation Site

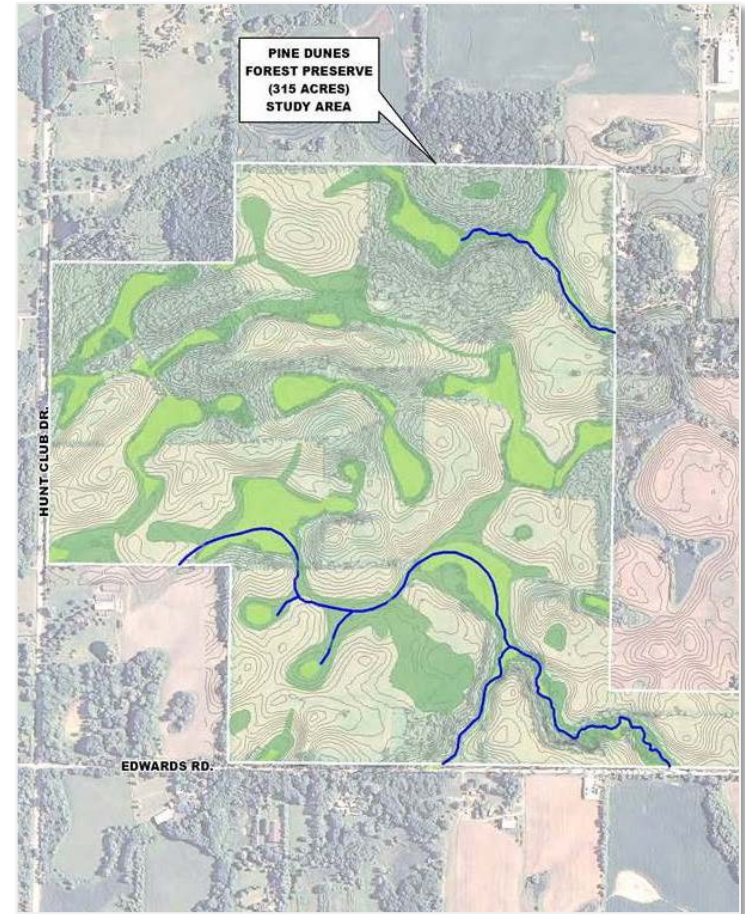
- 160 acres of FPDCC property
 - ❑ 40 acres of wetlands
 - ❑ 90 acres prairie restoration
 - ❑ Meandered tributary to East Branch Marley Creek
 - ❑ 1.5 miles of bike/pedestrian trails



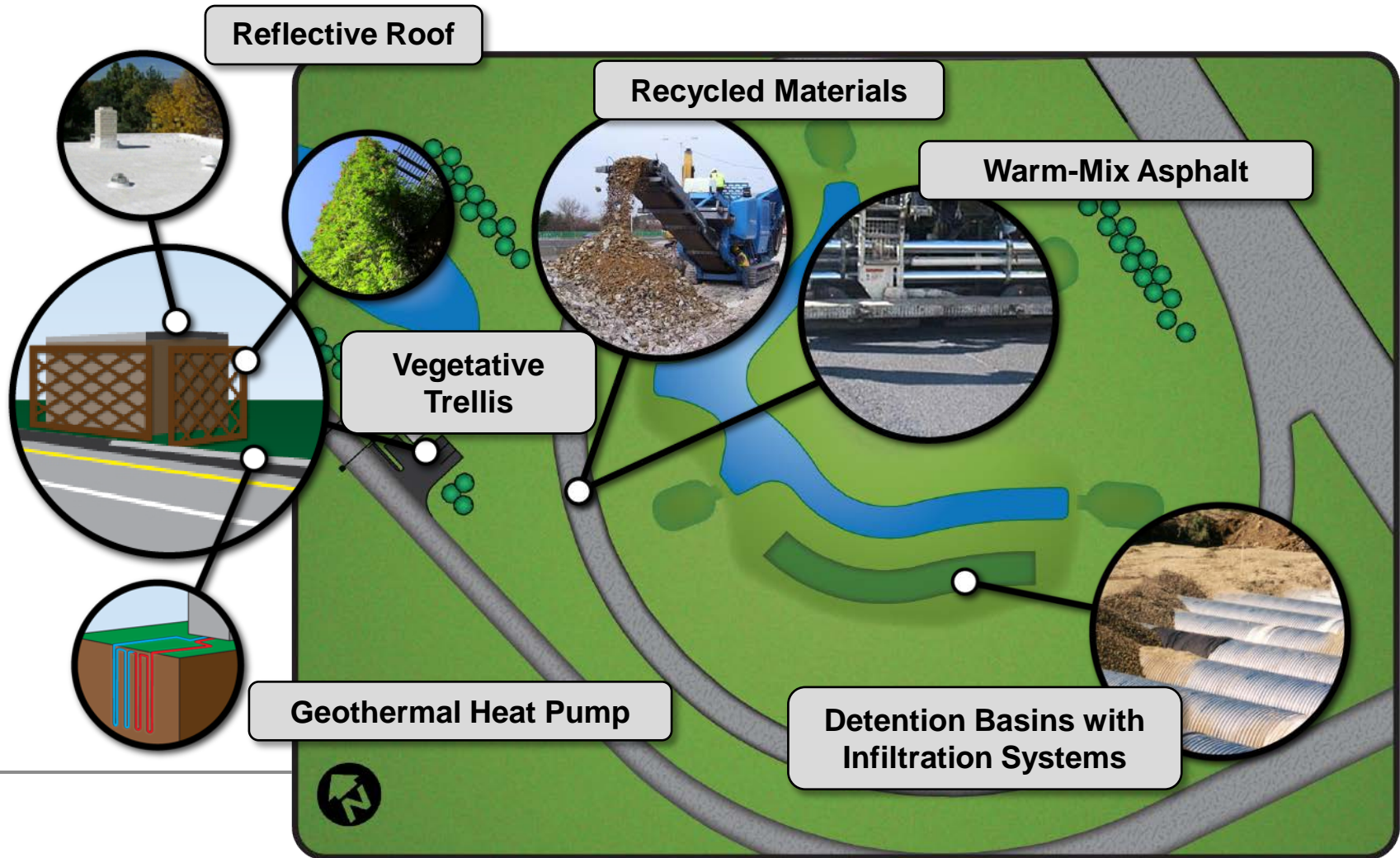
Sustainable Design and Construction

Pine Dunes Wetland Mitigation Site

- 315 acres of LCFPD property
 - ❑ Rolling topography with oak-hickory woodlands
 - ❑ 100 acres of wetland restoration
 - ❑ 200 acres prairie restoration
 - ❑ 3 miles of bike/pedestrian trails



Illinois Route 47 at I-90 Sustainable Construction



Tollway Operations Sustainability

■ Energy Audit

- Tollway conducted a systemwide audit
- Developed a utility tracking database
- Reduced systemwide electricity consumption by 26 percent

■ Fuel Reduction Task Force

- Agency-wide initiative
- Used 2010 as a baseline year with a goal of reducing fuel consumption by 10 percent annually
- Met reduction goals in 2012 and 2013, but not in 2014 due to extreme winter

■ Central Administration (CA) Recycling

- Established recycling program which allowed for the recycling of all paper, plastic and aluminum



Tollway Sustainability Vision - Operations

■ Tollway Sustainability Policy

- Board/Executive level commitment to sustainability

■ Comprehensive Operations Sustainability Plan

- Goal of reducing environmental footprint
- Plan to include baseline assessments, goals, performance metrics, quantifiable targets, strategies and actions designed to help meet the overall plan objectives

■ Sustainability Manual

- Guidance document providing specifications for achieving Sustainability Plan goals



Proposed Policies: Voice Your Opinion

- The Tollway regularly seeks public comment via email, mail or in-person on proposed policies to ensure that the interests of those impacted by Tollway decisions have been considered
- Staff and the Board will review the comments, post their responses online and then revise the proposed policy, as necessary

Note: This process is for committees that generally meet every other month.



Sustainability Workplan - Operations

Sustainability Workplan Items		
	Timeline	Benefit Level
Annual electricity, natural gas, gasoline and diesel fuel consumption	1–6 months	High
Agency fleet fuel efficiency and vehicle miles traveled	1–6 months	Medium
Agency road salt usage	1–6 months	High
Annual reams of paper consumed	1–6 months	High
Annual water consumption	1–6 months	High
Annual tons of solid waste produced	6– 12 months	High
Annual renewable energy consumption	6 –12 months	Medium
Annual recycling rate	12–18 months	Medium
Percent of procured items that are sustainably produced, contain recycled materials, produced locally, etc.	12–18 months	Medium
Building inventory meeting green or sustainable building criteria	12–18 + months	Medium
Others???		

Should additional resources, outside of Tollway staff, be required to complete sustainability initiatives, a cost benefit analysis will be conducted for those efforts and coordinated with Tollway Finance and the Board.



Next Steps

- **Seek public comment on proposed Sustainability Policy**
- **Tollway staff to develop a comprehensive Operations Sustainability Plan**
- **Future Tollway Board involvement:**
 - Progress updates on sustainability plan?
 - Publish and present annual sustainability report (capital and operations)?
 - Bi-annual policy review?





THANK YOU



Appendix

Environmental Studies Manual

The Environmental Studies Manual establishes an environmental process that comprehensively addresses the environmental issues of our regional transportation system and development planning. The following four objectives provide a framework for which the Tollway can execute the process:

- documentation of environmental effects during all phases of project development
- coordination with federal, state, and local agencies with regulatory responsibility and jurisdictional authority
- coordination with affected public
- internal coordination at the Tollway



INVEST – Measuring Sustainability Efforts

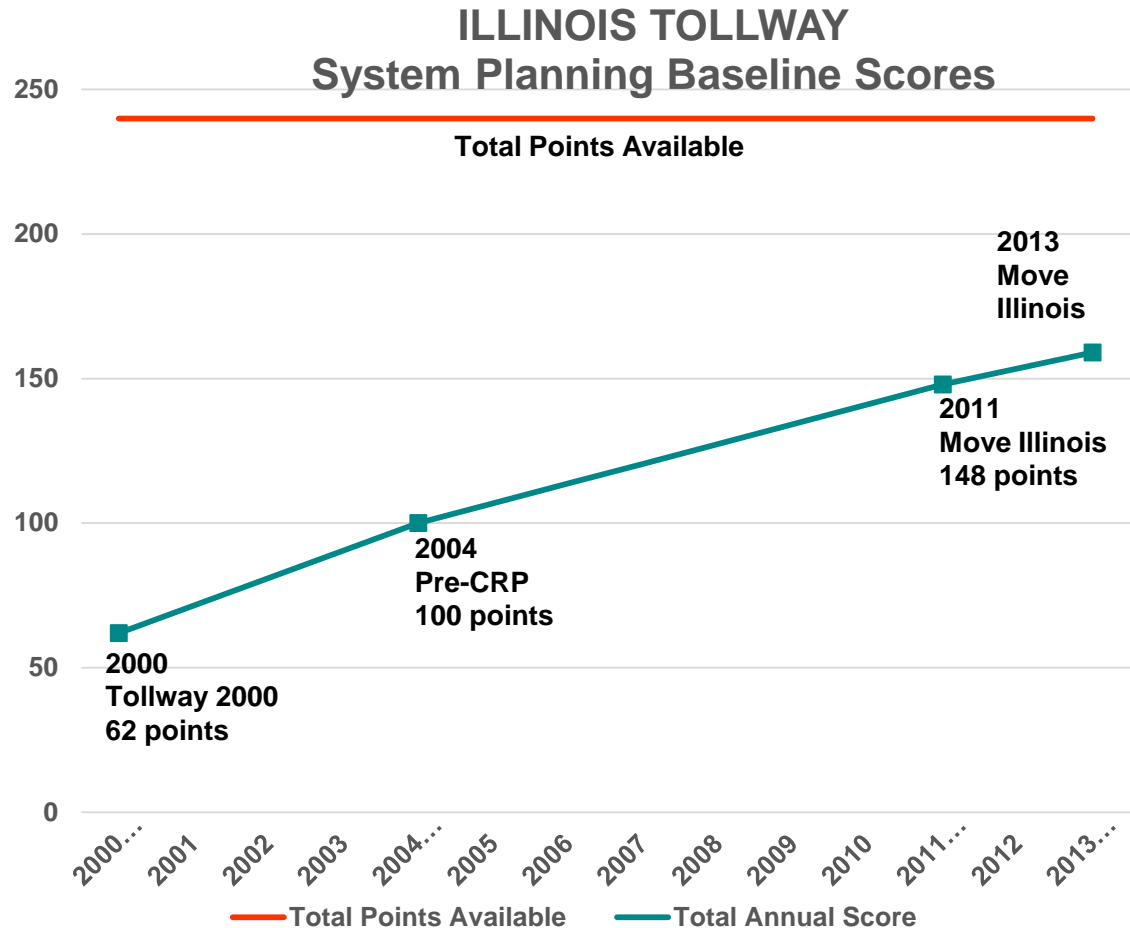
- The Tollway has adopted FHWA's INVEST to measure its sustainability
- INVEST is a sustainability measurement tool for linear projects, similar to LEED (for facilities)
- Has three modules
 - Planning
 - Project Development
 - Operations and Maintenance



INVEST – System Planning

The Planning Department will focus on improving:

- Coordination with CMAP on analysis methods
- Infrastructure resiliency, including LCA
- Reduction of energy and fossil fuel consumption
- Climate change adaptations of Tollway facilities

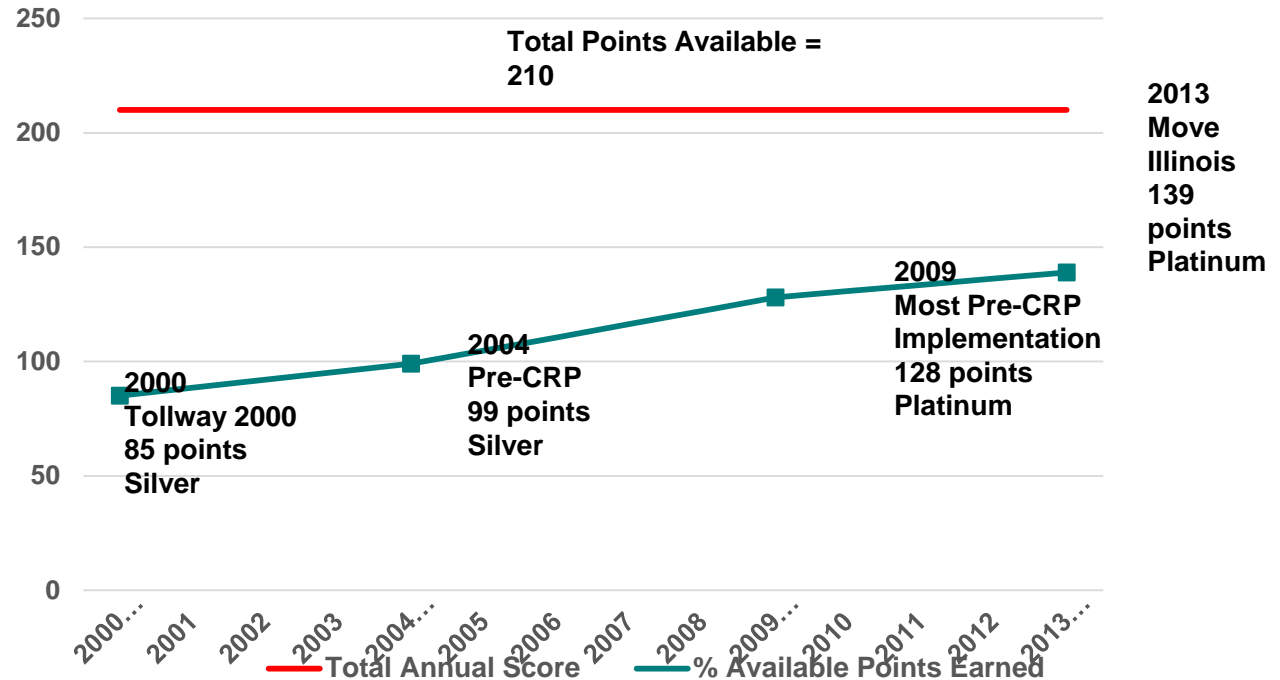


INVEST – Operations and Maintenance

The Planning Department will focus on improving:

- Internal sustainability planning and execution
- Tracking of environmental commitments

ILLINOIS TOLLWAY
Operations & Maintenance Baseline Scores



INVEST - Project Development

■ Baseline Evaluations

- More than 35 projects constructed between 1998 and 2014
- Final score pending
- Equitable distribution of projects between Tollway's four capital improvement programs

■ The Tollway will focus on **improving:**

- Tracking of environmental commitments
- reduction of energy consumption
- Contractor activities that promote sustainability
- Use of LCA for bridge and major elements
- Implementation of FHWA's newly released Highway Safety Manual



Tollway Sustainability

- Public Act 096-0073
 - New buildings or major renovations must achieve LEEDs rating
- M-1 has achieved a LEED Silver design rating
- Future facilities will include sustainability measures for LEED certification



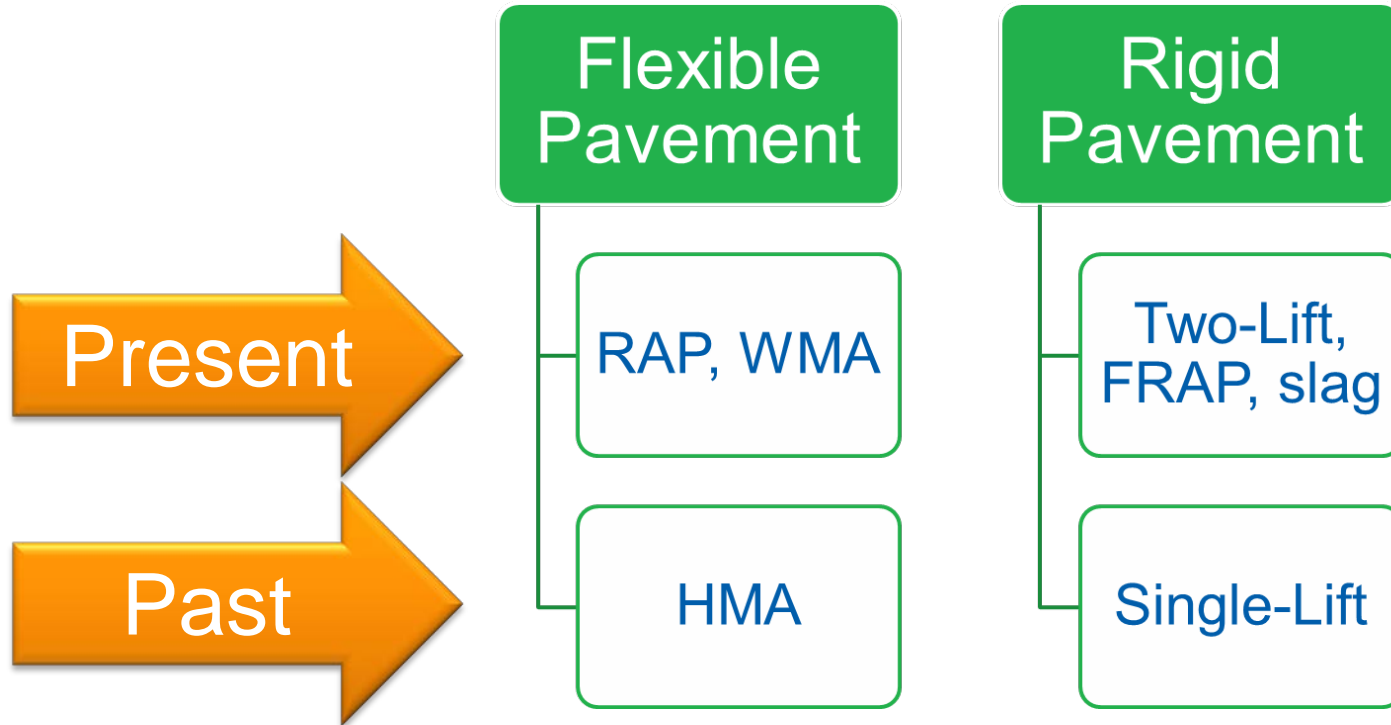
Tollway Sustainability

- The Tollway is developing Lifecycle Cost Analysis modules for roadway elements
 - Pavement
 - Drainage structures
 - Landscape
 - Lighting
- Allows comparisons of methods/materials to identify best choices
- Pavement module completed



Pavement LCA Results

Baseline comparisons for Tollway's historical and current projects based only on construction practices and materials at this time:

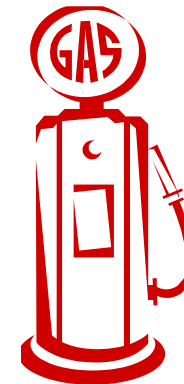


Pavement LCA Results

- Flexible Pavement Results
 - HMA pavements in 2013 resulted in reduced emissions comparable to burning 660,000 gallons of gasoline, compared to how the same pavement would have been built in 2000



660,000
Gallons of gas



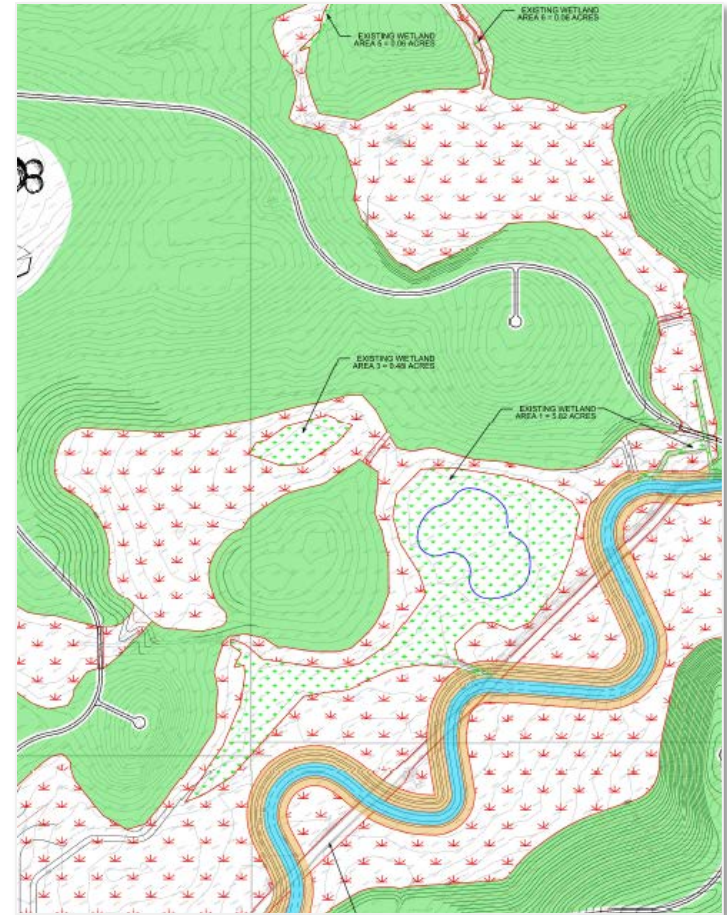
Pavement LCA Results

- Rigid Pavement Results
 - PCC pavements in 2013 resulted in reduced emissions comparable to burning 31,000 tons of coal, compared to how the same pavement would have been built in 2000



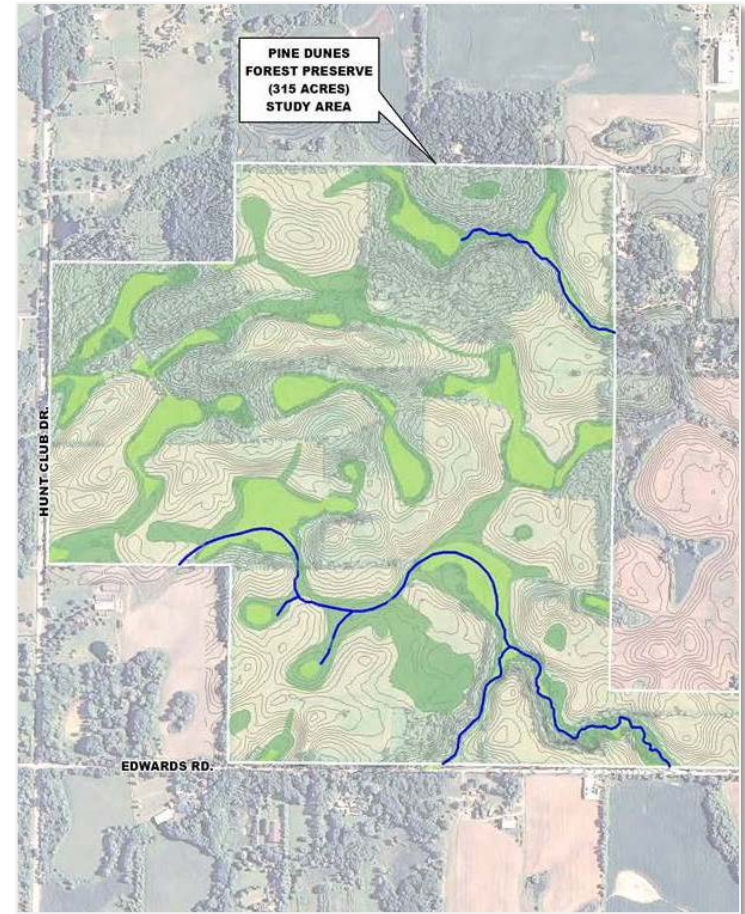
I-90 East Mitigation - Orland Grasslands

- 160 acres of FPDCC property
 - ~ 40 acres of wetlands
 - ~ 6.5 acres stream restoration
 - ~ 90 acres prairie restoration
- Meandered tributary to East Branch Marley Creek



EOWA Mitigation – Pine Dunes

- 315 acres of LCFPD property
 - Rolling topography with oak-hickory woodlands
 - ~ 100 acres of wetland restoration
 - ~ 0.5 acres stream restoration
 - ~ 200 acres prairie restoration



Chloride Reduction Program - EOWA

- Overall watershed salt reduction
 - Salt Creek and West Branch have chloride TMDL
 - Chlorides an impairment to aquatic life
- MOU with DuPage River Salt Creek Workgroup
- Tollway to reduce salt use by 20%
- Participation beyond Tollway right of way
- Collaboration with neighboring municipalities, target 1,853 tons

