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Federal Highway Administration



IRC
Industrial Resources Council

Federal Highway Administration and Industrial Resource Council (IRC) Sustainable Roadway Materials Workshop



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Todays Outline

- FHWA & ODOT Partnership in getting things done
- Purpose of the FHWA/IRC Materials Workshop
- FHWA Sustainability Efforts
- IRC Product Matrix
- IRC Webpage
- Todays IRC Presentations



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Purpose of the Workshop


- To advance the availability and use of multiple recyclable materials
 - Recycled Shingles
 - Scrap Tires
 - Fly Ash for Pavements
 - Recycled Concrete Aggregates
 - Foundry Sands
 - Steel Slags for Bases and Surface Applications




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FHWA Stakeholder Engagement

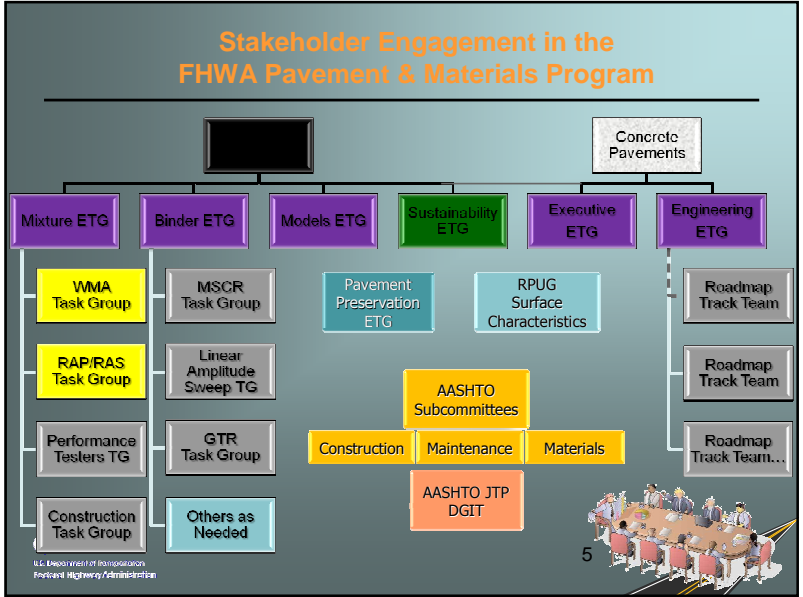
- Asphalt Mixture and Binder ETGs
 - Warm Mix Asphalt TWG
 - Reclaimed Asphalt Pavement ETG
- Pavement Sustainability TWG
- Concrete Executive & Technical ETGs




NOTE: WMA and RAP ETG's folded under the Asphalt Mixture ETG (Sep 2012)



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FHWA Sustainable Pavements Program Goals

- Increase the use of “sustainable” technologies and practices in pavement design, construction, and maintenance – 2002 Policy memo “first consideration” 
- Increase the body of knowledge regarding “sustainability” aspects of asphalt and concrete materials in pavement design, construction, and maintenance.
- Support the US DOT goals for live ability and sustainable transportation

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Current Program Framework

- Establishment and Coordination of a Sustainable Pavements Technical Working Group (TWG)
- Evaluation and Assessment of Existing Tools
- Development of Reference Documents on Sustainable Pavements and Materials 
- Evaluation and Assessment of Sustainable Techniques
- Technology Transfer and Deployment 

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ETG Pavement Discussions

- Concrete Strategies for Sustainability
 - Mixture optimization
 - Long-Life Designs
 - RCA, Industrial By-Products, Two-Lift Paving
- Asphalt Strategies for Sustainability
 - WMA
 - RAP, RAS
 - Perpetual Pavement Thickness
 - In-Place Recycling

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IRC Matrix of Recycled Materials

- Six Materials identified for use in 25 difference applications:
The matrix is not finished
- Technical Briefs also available for all materials
- Need to fill in areas

APPLICATIONS	MATERIALS					
	Coal Combustion Products	Slag Products	Foundry Sand	Recycled Tire	Recycled Concrete Material	Paper Production Residue
Asphalt Concrete						
• Hot Applications	✓	✓	✓	✓	✓	✓
• Cold Applications	✓	✓	✓	✓	✓	✓
Base	✓	✓	✓	✓	✓	✓
Portland Cement						
• Replacement for PC	✓	✓	✓	✓	✓	✓
• Hot Applications	✓	✓	✓	✓	✓	✓
• Cold Applications	✓	✓	✓	✓	✓	✓
Gravel Base						
• Hot Applications	✓	✓	✓	✓	✓	✓
• Cold Applications	✓	✓	✓	✓	✓	✓
• Subbase	✓	✓	✓	✓	✓	✓
Stabilized Base						
• Aggregate	✓	✓	✓	✓	✓	✓
• Slabs	✓	✓	✓	✓	✓	✓
• Base	✓	✓	✓	✓	✓	✓
• Hot Applications	✓	✓	✓	✓	✓	✓
• Cold Applications	✓	✓	✓	✓	✓	✓
Other						
• Concrete Barriers	✓	✓	✓	✓	✓	✓
• Slab-on-Subgrade	✓	✓	✓	✓	✓	✓
• Interlocking Concrete	✓	✓	✓	✓	✓	✓
Concrete						
• Embankments	✓	✓	✓	✓	✓	✓
• Shoulders	✓	✓	✓	✓	✓	✓
• Subgrade	✓	✓	✓	✓	✓	✓
• Subbase	✓	✓	✓	✓	✓	✓
Other						
• Compaction	✓	✓	✓	✓	✓	✓
• Soil Compaction	✓	✓	✓	✓	✓	✓
• Aggregate Compaction	✓	✓	✓	✓	✓	✓
• Backfill	✓	✓	✓	✓	✓	✓

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IRC Workshop Topics

- Case Studies
- Rubber additives for asphalt mixtures
- Use of Coal Ash
- Recycled Concrete Aggregates
- Steel Furnace Slag applications
- Foundry Sand Facts
- Compost Materials for Highway Projects

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www.industrialresourcescouncil.org/

Contacts

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