



# *Meeting Challenges for Energy and the Environment*

## *Northeast & Mid-Atlantic States In-Place Recycling Conference*

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# *General Recycling*

National (AASHTO SOM Recycling Task Force) and local perspective on construction materials recycling for DOT's.....

**“The greatest gap in life is the one between knowing and doing.”** Dick Biggs

# Construction Materials Recycling

- ◆ Why?
- ◆ Impediments to implementation
- ◆ Overcoming obstacles
- ◆ Research Activities
- ◆ What materials to use?
- ◆ DelDOT experience
- ◆ Challenge

# Why Recycle?

- ◆ Psychological – “feel good”
- ◆ Environmental sustainability – *ward off “help” from external sources*
- ◆ Environmental benefits – no land filling (*difficult to find, costly disposal*)
- ◆ Save finite natural resources
- ◆ Value of in-place materials

## Why Recycle? (cont)

- ◆ Engineering benefits - *in-place better than new virgin materials?*
- ◆ Lower greenhouse gas emissions (less trucking)
- ◆ It makes **cents.... (and \$\$)!**

**“Success is measured by your ability to maintain enthusiasm between failures.”** Winston Churchill

# Impediments to Implementation

- ◆ Misconceptions
- ◆ Bad (past) experiences
- ◆ Lack of knowledge
- ◆ Regulatory challenges
- ◆ Department (Agency)/Contractor willingness
- ◆ Lack of national standards (AASHTO)

# Overcoming Obstacles

- ◆ Outreach/marketing

- ◆ Educate

- Research work (FHWA, AASHTO, NCHRP, Industry, University, etc).

- ◆ Highlight state's/contractor's successes

- ◆ Perception

- Recycled material  $\neq$  inferior material

- ◆ Fear of failure

# Overcoming Obstacles (cont)

## ◆ Partnerships

- Recycled Materials Resource Center (RMRC)
- Industry (NAPA, ACI, PCA, ARRA, etc)
- Federal Agencies – FHWA, EPA
- AASHTO
- Planners, Designers
- Materials/Construction groups
- University researchers
- Elected Officials/Public



# Overcoming Obstacles (cont)

- ◆ Communication
- ◆ Partners have the same goals
  - Quality product
  - Specification conformance
  - Environmentally sensitive
- ◆ Be proactive
- ◆ Seek innovation

# Research Activities

- ◆ RMRC
- ◆ FHWA RAP ETG
- ◆ TRB – Energy and Environmental Workshop
- ◆ EPA Green Highway Partnership (GHP) Mid-Atlantic Specification Harmonization
- ◆ AASHTO, NCHRP, TRB

# **GHP Harmonization Materials**

- ◆ Foundry Sand
- ◆ Recycled Asphalt Pavement
- ◆ Fly Ash/Bottom Ash
- ◆ Scrap Tires
- ◆ Steel Slag
- ◆ Scrap Shingles

# Challenge.....

Take something you've heard today, and try to implement it in your state.

**“It is hard to fail, but it is worse never to have tried to succeed .... he who makes no mistake makes no progress.”** Theodore Roosevelt

**“If we knew what we were  
doing, it wouldn’t be called  
research.”**

Albert Einstein



# Thank you for your time and attention

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