



NJAPA

New Jersey's RAP Crisis – An Update

New Jersey Asphalt Paving Conference
February 27, 2015

Reclaimed Asphalt Pavement

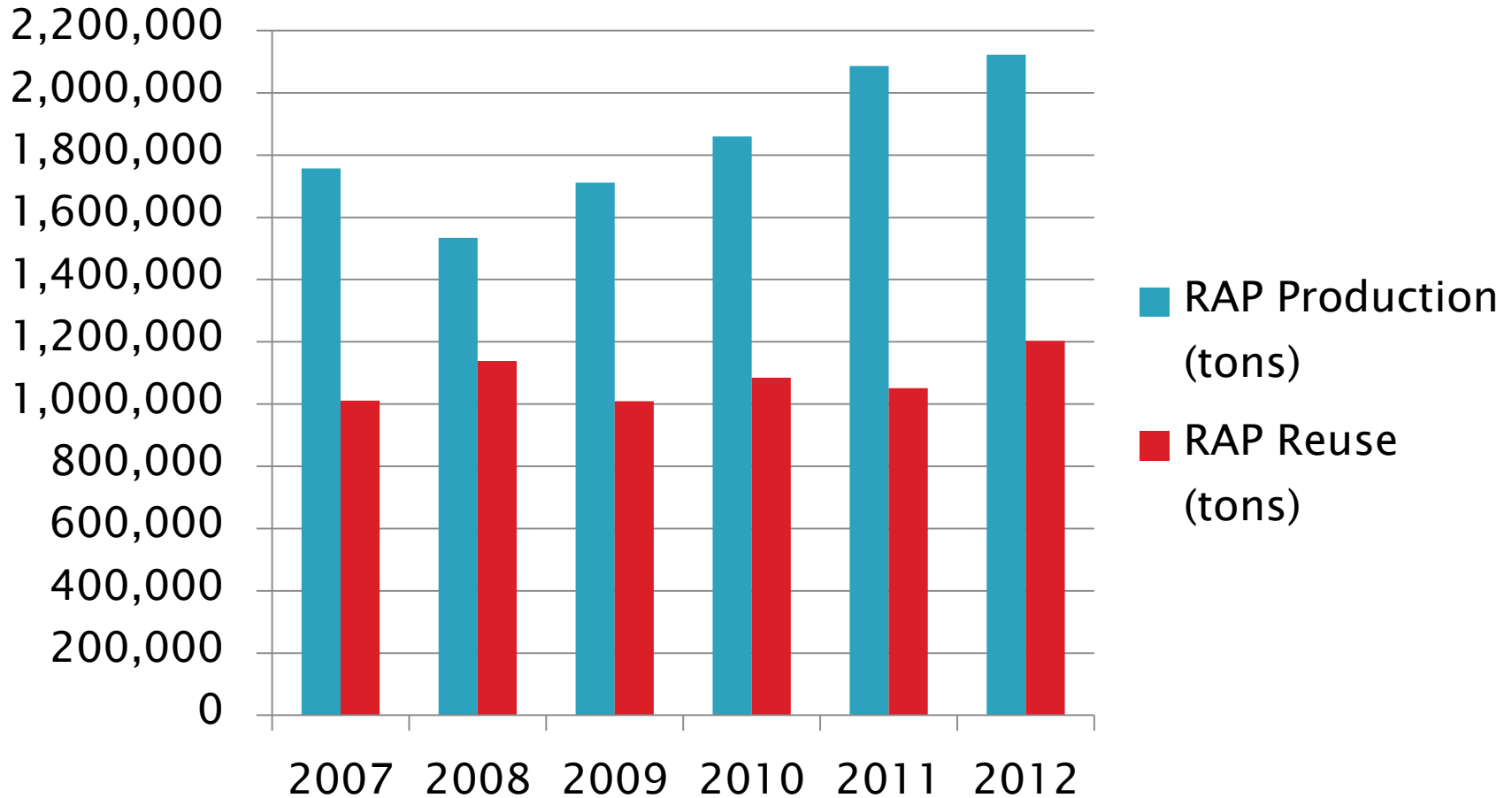
- ▶ Resurfacing projects throughout the State generate vast amounts of millings (Reclaimed Asphalt Pavement or RAP)
- ▶ RAP production has increased dramatically over the past decade due to:
 - Fewer full depth reclamation projects
 - More maintenance resurfacing to keep roads in a state of good repair
- ▶ NJDOT and NJAPA have been working together to increase reuse on State highway projects
- ▶ NJDEP released *“Recycled Asphalt Pavement and Asphalt Millings (RAP) Reuse Guidance”* in March 2013, which provided some relief, but...
- ▶ **New Jersey needs to find more solutions**

RAP Production & Reuse

- ▶ Between 2007 & 2012, over 11 million tons of RAP were produced
- ▶ Millings from NJDOT projects comprise a majority of this production
- ▶ RAP reuse has not kept pace with production
- ▶ In 2014, RAP storage piles exceeded 4.5 million tons – current estimates are > 6 million



RAP Production & Reuse



Source: NJAPA Member Survey of 7 Members, September 2013

NJDOT Opportunities for RAP Reuse

- ▶ DGA – up to 50%
- ▶ HMA Base Course – up to 25%
- ▶ HMA Surface Course – up to 15%
- ▶ High RAP HMA – at least 30% (in pilot)
- ▶ RAP cannot be used in:
 - OGFC, MOGFC, or AR-OGFC
 - Ultra-Thin HMA
 - SMA
 - HPTO

NJDOT Opportunities for Reduction of RAP

- ▶ Pavement Preservation Projects
 - Microsurfacing
 - Slurry Seals
 - Fog Seals
- ▶ High RAP HMA Projects – setting a minimum
 - 25% in Surface
 - 30% in Base
- ▶ Reduce milling opportunities
 - Working with NJAPA & NJDEP


NJDEP Strictly Limits RAP Reuse

- ▶ NJDEP released *“Recycled Asphalt Pavement and Asphalt Millings (RAP) Reuse Guidance”* in March 2013
 - RAP reuse for quarry reclamation and most commercial and industrial developments is prohibited
 - RAP reuse as an alternative fill material is permitted ONLY:
 - for non-residential roadway transportation and/or construction-related activities
 - under non-residential building structure slabs that are ordinarily unoccupied
 - for roadway and parking area soil aggregate subbase material on projects UNLESS the project must meet NJDOT Specifications

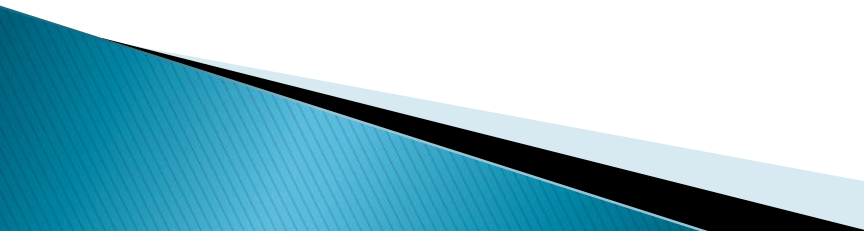
RAP is Environmentally Safe

- ▶ Peer-reviewed scientific studies show:
 - RAP does not leach hydrocarbons into the soil (*Brantley, A.S., Townsend, T.G., 1998, "Leaching Characteristics of Asphalt Road Waste," State University System of Florida*)
 - Polycyclic aromatic hydrocarbons (PAHs) are not present in RAP at high concentrations (*Legret, M., Odie, L., Demare, D., Jullien, A., 2005, "Leaching of heavy metals and polycyclic aromatic hydrocarbons from reclaimed asphalt pavement," Water Research 39 (2005) 3675-3685*)
- ▶ More expansive uses of RAP are allowed in other states, in Canada, and in Europe (e.g.; as an alternative to gravel in WY)
- ▶ Asphalt pavement is used as liners in drinking water reservoirs and fish hatcheries (*Humer, R.P., 1992, "Asphalt Liners in California Reservoirs Resist Loading Stress and Erosion," Asphalt Magazine, Vol. 5 No. 39*)

The Crisis

- ▶ NJ is producing twice as much RAP as it can reuse
 - ▶ Room to store RAP is being depleted
 - ▶ Eventually, recycling facilities will no longer be able to accept RAP
 - ▶ Millings will need to be shipped to landfills
 - ▶ Transportation and disposal costs will increase project costs
 - ▶ Higher project costs = fewer projects, fewer construction jobs, less tax revenue
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Proposed Solutions

- ▶ NJDOT continues to work with the industry to investigate additional reuse of RAP on State and Local Aid projects
 - ▶ NJDEP agreed to review the “*Guidance*” and work with NJAPA to modify reuse restrictions and clarify language
 - ▶ NJDEP has agreed to work with NJDOT & NJAPA to review FHA Rules restricting roadway elevation changes
 - ▶ RAP can and should be used on non-transportation related projects
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Where Are We Today?

- ▶ NJAPA Producer Members – Mix Designs
 - ▶ NJAPA & NJDEP
 - ▶ NJAPA & NJ Governor's Office
 - ▶ NJAPA & NJ Legislature
 - ▶ NJDOT Research
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