ADOT's Use of RAP

Plans/Challenges

A little history

How we got to where we are today

Past Experience

- Heater scarification
- High RAP mixes (50%)
- SPS sites

Bottom Line

Performance was unacceptable

Current Specifications

- Maximum allowed RAP 0%
- Cold-in-Place recycling
- Hot-in-Place recycling

Where is RAP currently used?

- Shoulder build up
- Component in base material
- ADOT maintenance
- Cities/counties

Special Projects

- Large stone mix crushed to use as aggregate for AR-ACFC

- I-19 AR-ACFC recycling experiment
  - Hot-in-place
  - 15% and 20% RAP mixes

ADOT's Challenges

- Overcoming past failures
- Extensive use of rubber, especially AR-ACFC
- Stiffness of our RAP
- Lack of RAP stockpiles outside urban areas

ADOT's Challenges

- Perception by some of inferior product
- Sharing cost savings
- Payment for asphalt cement (ADOT pays for binder separately)
- Development of new specifications/test methods

Where are we going?

- This summer several projects were successfully constructed using 15-20% RAP (change order/value engineering)

- At ADOT's request, Industry is preparing proposed specifications and test methods for RAP use in non-rubber HMA

Expected proposal – allowable RAP

- 15% or less
  - No fractionation required
  - Use specified binder grade
- Greater than 15% up to 25%
  - Fractionation required
  - Use one grade lower per table (unless testing shows it is not needed)

Expected Proposal - Payment

- Pay for mix and mineral admixture as is done now

- Pay for total asphalt cement in mix based on ignition results

Expected Time Line

- As fast as possible
- Proposal to ADOT by ???
- ADOT to review, make changes by end of year?
- AGC review/approval
- FHWA review/approval

Expected Time Line – cont.

- ADOT to determine need for adjustments to FAST (computer software)
- ADOT issues as stored specification
- ADOT begins incorporating into Special Provisions