

Asphalt Pavement Highlights

53rd Annual Idaho
Asphalt Conference
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Butch Wlaschin, P.E.

**Director, FHWA Office of Asset Management
Pavements and Construction**

Overview

- MAP-21
 - New Rules
 - Asset Management
 - Pavement Performance
- Asphalt Pavement Activities
- EDC2
- SHRP2

MAP-21

- 2 year Bill with 5 years of activities
- Continued funding
- Fewer funding programs
- Increased flexibility
 - New provisions
- 9 new rules
 - Asset Management and Pavement Performance

MAP-21

- Asset Management
 - Business approach to managing highway infrastructure
 - Preservation of existing pavement and bridge assets
 - Stated goal and vision
 - Inventory and condition assessment
 - Gap analysis
 - Lifecycle cost and risk assessment
 - Financial Plan
 - Investment scenarios

MAP-21

- Rule includes new minimum criteria for pavement and bridge management systems
- Must lead to a program of projects that will be used in STIP and TIP along with HSIP, CMAQ, Freight etc

MAP-21

- Draft completed
- Undergoing legal review
- Should be published late in the year
- 60 day comment period
- Final rule Early summer 2014
- Phased approach

MAP-21

- Pavement Performance
- Establish a method to assess the condition of the pavement on the Interstate and NHS
- Set minimum standards for the condition of the pavement on the Interstate

MAP-21

- Assess the condition of the pavement
- 43000 miles of Interstate
- 177000 miles of NHS

- Could we just use IRI?

- What does it mean?

- Can we assess I-90 or I-84 from one end to another consistently?

MAP-21

- HPMS – PMS
- HPMS reporting tool
- PMS a management tool
- Good – fair – poor
- 95 – 170 / 220

MAP-21

- PMS often includes IRI, rutting, cracking, faulting
 - Weighted
 - Non-weighted
- Matrix
- Uniform segments
- Both directions / 100% coverage

MAP-21

- Lane miles
 - 2 lane / 4 lane / 16 lane?
- VMT – law only wants to look at lane miles
- HWA – PCC – Composites?

MAP-21

- Equipment
 - Calibration Centers
 - Driver certification
 - QC/QA
- Analysis tools
- Legacy data

- 3rd generation?

- Maximum 'poor' condition of Interstate

MAP-21

- Draft rule completed
- Legal review
- NPRM early 2014
- 90 comment period
- Final rule late 2014

Asphalt Materials Lab Field Support

- Focus on Emerging Technologies -
New asphalt binder modifiers, high recycled asphalt, warm mix asphalt, recycled shingles, ground tire rubber
- Field Data QC/Testing
- Use/Demo Emerging Test Devices
- POC: Matthew Corrigan



Asphalt Mix Design & Testing

- Mix Design Manual - NCHRP 9-33
- Asphalt Mix Performance Tester (AMPT)
 - Refined under NCHRP 9-29
 - Provides Pavement ME Design input
 - Dynamic Modulus E^* | and Flow (Fn)
 - Fatigue Testing protocols
 - POC: Jeff Withee



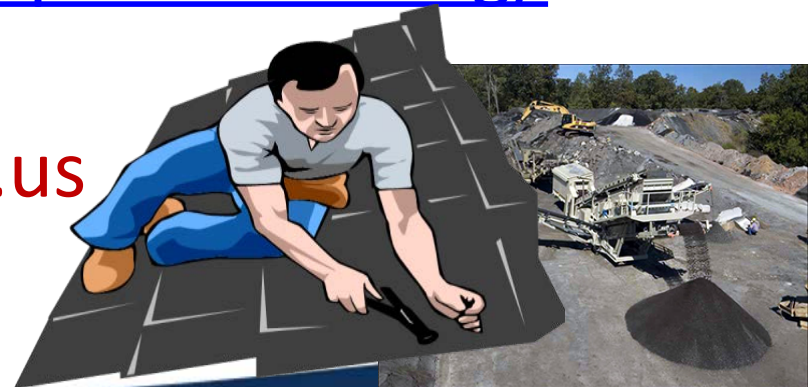
Reclaimed Asphalt Pavement & Recycled Asphalt Shingles

- Guidance on use of High RAP +25%
- Guidance on RAS Usage
- Ongoing NCHRP Research Studies
- Update AASHTO Test Standards
- Usage: NAPA Member Survey

<http://www.asphaltpavement.org/>

- POC: Lee Gallivan

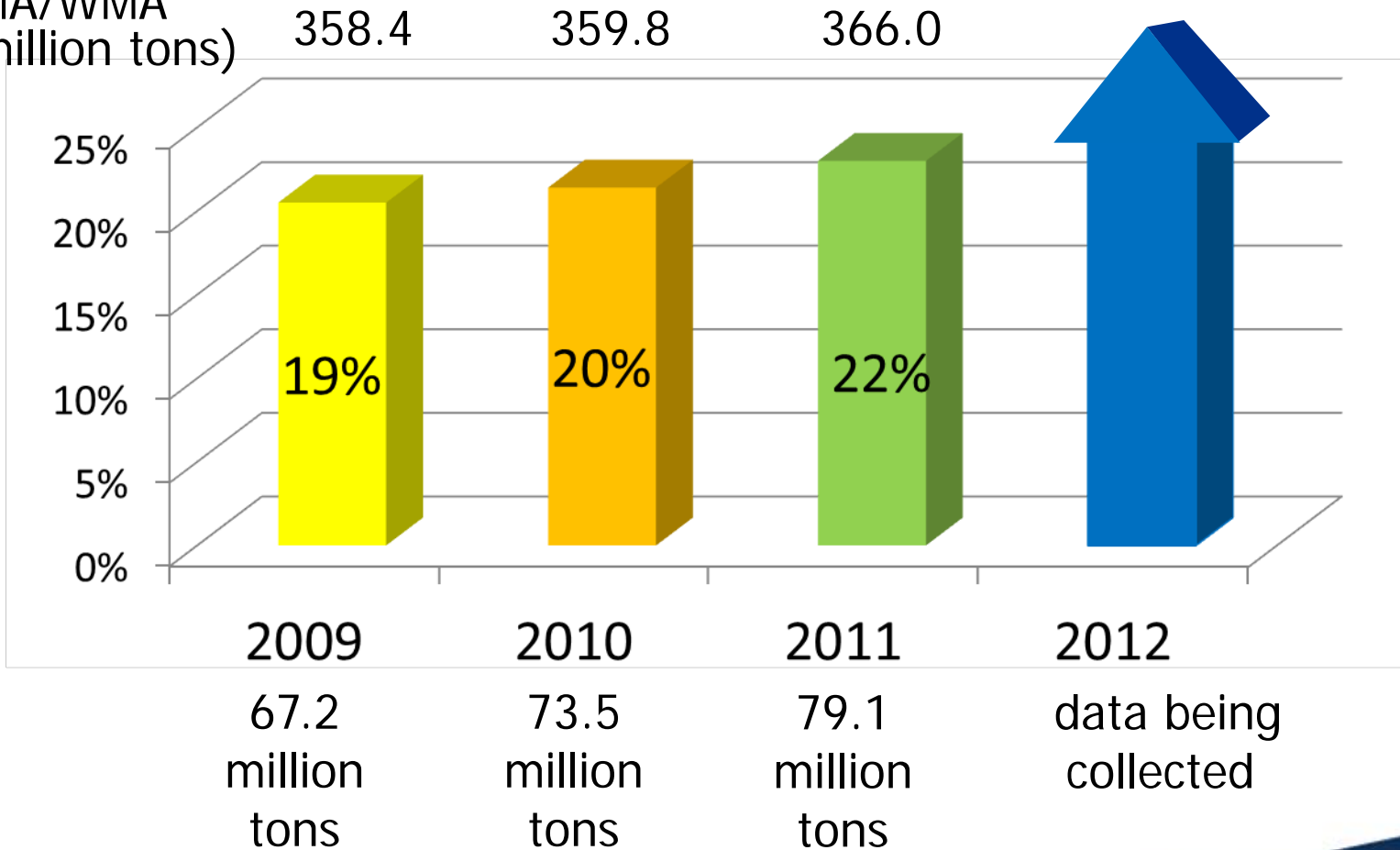
Website: www.moreRAP.us



RAP Usage in HMA/WMA

Percentage of Total Mix Production in

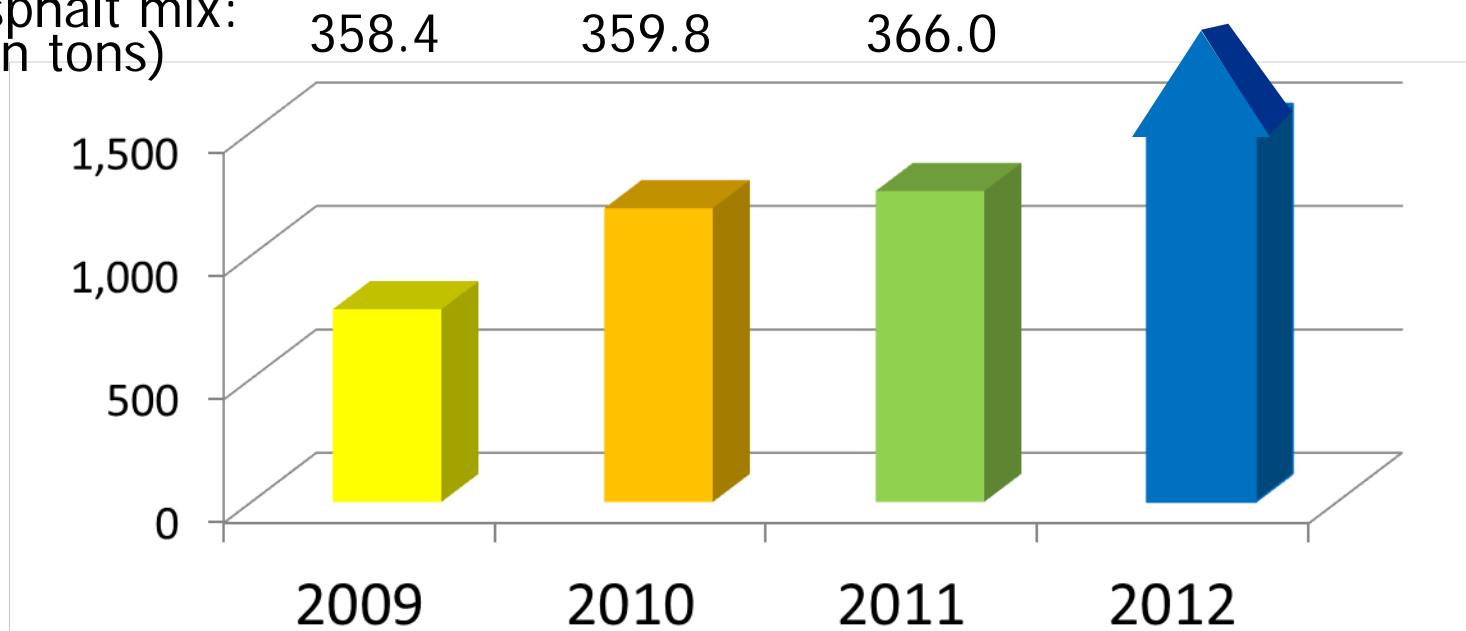
Total HMA/WMA
mix: (million tons)



RAS Usage in HMA/WMA

Total RAS tons used for mix production

Total asphalt mix:
(million tons)



701
thousand
tons

1,099
thousand
tons

1,192
thousand
tons

data
being
collected

Warm Mix Asphalt Initiatives

- Guidance on use of WMA
- Regional Training
- On-going and Proposed Research Needs
- Recommendation for AASHTO Test Standards
- EDC Technology and Industry Focus

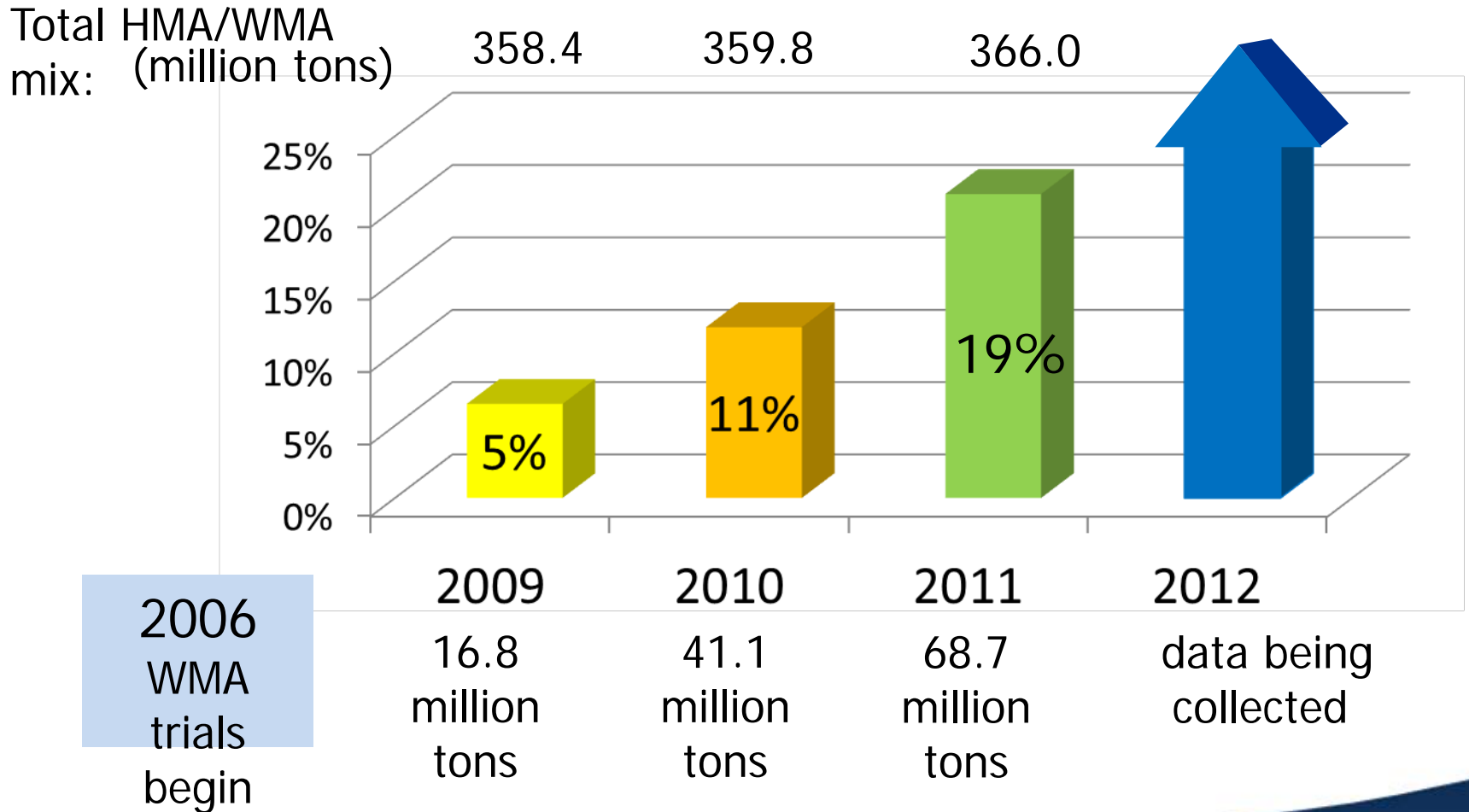
<http://warmmixasphalt.com>

- POC: Matt Corrigan



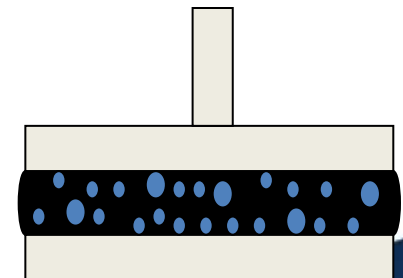
WMA Usage in HMA/WMA

Percentage of Total Mix Production in



Ground Tire Rubber, GTR

- GTR blending study – size, source, %
- Evaluate GTR modified binders to the Superpave Performance Grading system.
- GTR size will effect test results
- Careful formulation is needed to meet all current asphalt binder standards.
 - but it can be done successfully
- POC: John Bukowski



In-Place Recycling Technologies

- Basic Asphalt Recycling Manual (Currently being updated by FHWA and ARRA for release in 2013)
 - Hot In-Place Recycling (HIR)
 - Cold In-Place Recycling (CIR)
 - Full Depth Reclamation (FDR)



- FHWA-NHI Training Course # 131050 (Asphalt Pavement In-Place Recycling Technologies)
 - Web Based Training
 - Instructor Lead Training (2-days)
- POC: Lee Gallivan



Quality Assurance

- State Programmatic Stewardship Review
 - Title 23 CFR Part 637
 - Since 2003 – 39 States
- QA Assessment - Average index score nationwide for materials quality assurance systems – 2013 75% target
- Information - Technical Advisory T 6120.3, FHWA-RD-02-095, FHWA-HRT-04-046, NHI Course 134042, TB FHWA-HIF-12-045
- Lab Accreditation
- POC: Rafalowski/Dvorak

EDC2

- Accelerated Bridge Construction
- Slide in Bridge Construction
- 3D Modeling
- Intelligent Compaction

SHRP2

- RENEWAL
- R26 – Preservation on High Volume Roadways
- R05 – Precast Concrete
- R21 – two lift pavement
- R23 – extended life for existing pavements

Discussion / Comments / Questions

