IDOT
HMA
Issues
And
More!!!
FHWA Technical Advisory
As a result of some recent Contractor Fraud in other states, FHWA released a T.A. on August 9th titled:

“Use of Contractor Test Results in the Acceptance Decision, Recommended Quality Measures, and the Identification of Contractor/Department Risks”
Key Points

- Sampling/testing for verification by state
- Contractor tests used if independently verified
- Split samples should not be used for verification
- Single test to test comparison is not recommended
- Moving averages are not recommended
- PWL recommended for determining pay
What it Means to Illinois

- IL currently not meeting code for independent sampling & testing.
- Much of Illinois QC/QA program is recommended against
  - test to test comparisons
  - moving average
- Opportunity to address QC/QA complaints
Now What?

- Initial Survey revealed 14 States also rely on Contractor Results for Acceptance

- I.D.O.T sent a more detailed Survey – No Help!

- Extent of Illinois’ compliance has yet to be determined.
Projects to Date

- 33 Projects completed since 2000
  - 46 Mixtures

- More slated for 2005

- No disincentives given to date
### Average Pay Since Disincentive (Using 2004 Specification)

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Currently

- **Usage District Option**
  - D1 SMA Project for 2005
  - D9 No projects to date

- **BMPR Still Involved**
Potential Spec. Changes

- Parameter weight adjustment?
- Increase binder PWL LL?
- Expansion to smaller projects
- Plate samples
- Clean up wording/clarity
Future

- TA Outcome
  - Meets many of TA recommendations
- IDOT and Industry Expansion Efforts
Expansion Effort Goals

- Reward the better contractor
- Increase quality
- Lower costs by eliminating unnecessary method specs.

While....

- Not delaying the traveling public
- Not overburdening testing staff
What’s the next step???

- Discussions with IDOT and Industry
Paver Anti-Segregation Kit Specifications
Background

- Illinois discovered paver induced Segregation/Cracking in 1993 Crack Investigation of I-72 & I-155

- CO & other States began seeing same phenomenon

- CO recently developed Spec requiring pavers to have Anti-Segregation Kits installed
US 36/I-72 4 Yrs. Old
Barber Green BG-265 Full Width Screed
Discussion with Industry

• Reps from each of following manufacturers:
  – Blaw Knox
  – Caterpillar / Barber Green
  – Cedarapids
  – Vogelle’ / Champion
  – RoadTec

• One Contractor / User of each Brand
• Several District Reps
Outcome

• Identified need for education.
  – Manufacturers to put together training.

• IDOT Spec requiring Anti-Segregation Kits be installed when factory kit available

• Paver Manufacturers to provide a check sheet for Contractor & RE to fill out prior to paving
New Specification

• New Special Provision will be inserted in all HMA Contracts beginning with January 21, 2005 Letting, which Requires:
  – Paver Manufacturer’s Anti-Segregation Kits be installed if available
  – Contractor submit written Cert. kit has been installed as viable & operational
  – Contractor/RE paver inspection prior to paving using Manufacturer Checklist
  – Completed Checklist be provided to RE
# Anti-Segregation Devices
## Inspection Sheet

**Inspector’s Name:** 

**Inspection Date:** 

### Paver Information
- **Tractor Hours:** 
- **Tractor Model #:** 
- **Tractor s/n:** 
- **Screed Model #:** 
- **Screed s/n:** 

### Owner Information
- **Company Name:** 
- **Address:** 
- **City:** 
- **State:** 
- **Zip:** 

### Check the boxes as marked:
- [ ] Pass
- [ ] Repair

### Anti-Segregation Chute
- [ ] Ensure the anti-segregation chute is securely mounted to the paver’s main-frame at the rear of the conveyor tunnels.
- [ ] Replace chute if it is worn or damaged.

### Reversed Quarter Auger Flights
- [ ] Ensure there are two quarter reversed auger flights (one steel and one cast) mounted immediately to the right of the auger box.
- [ ] Replace auger flight if it is worn to a “knife edge” or if it is broken.

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![Anti-Segregation Chute](image)

Maintains material consistency by directing the material into the augers.

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![Reversed Quarter Auger Flights](image)

Conveyor delivery point closer to augers; enhances material consistency.
Adjustable Height Auger Assembly
- Ensure the auger raise/lower function operates properly. (The auger raise/lower switch is located at the operator's console.)

Flow-Gates
- Ensure the left and right flow-gates, which are located at the rear of the hopper, operate properly. (Flow-gate level scale indicators are located at the front of the engine cowl.) (Flow-gate switches are located at the operator's console and the screed control box.)

Automatic Proportional Feeder Control System
- Ensure the sonic sensor is in its proper holder and can be easily adjusted and securely mounted.
- Ensure the left and right feeder control systems operate properly:
  - Place screed on ground.
  - Aim sonic sensor eye between the augers and the fender at an angle of 15° away from the end-gate.
  - Place parking brake switch in the On (down) position.
  - Place stop/resume switch in the RESUME (up) position.
  - Place travel control handle in the F (forward) position.
  - Turn pile height control dial fully counter-clockwise (minimum).
  - Position all three left or right feeder switches to the AUTO position.
  - Slowly turn the pile height control dial clockwise; the auger speed should proportionately increase from minimum to maximum as the dial is fully turned clockwise, and vice-versa.
Better Communication

- Manufacturers
- Equipment Suppliers
- Contractors
- Resident Engineers
Subcontractor Issues

Commitment of Administration
Race neutral initiatives

Increase capacity
Subcontractor Mobilization

Prequalification rule changes

Retention of subcontractor bid records

Complaint form
- The bar is raised
- Your effort has to raise
- Waivers still exist
Either we address

or

legislators will
Tollway Specifications Harmonization
Tollway Initiative

- IDOT specs/standards
- 2007 spec book
- Small supplemental spec book
Web Based MISTIC

- Input
- Updated CARE-AC
- PCC & Aggregate also
Also Include

• Standards
• Specs
• Bid items
• Approved lists
Issues

- Format
- Cost
- Optional???
- Security
- Volume
Goal

- Tollway Compatible
- Adds Value
- No Problems
- Demo 2005
Scope

- No scope creep
- Plain projects
- Down scope
Schedule

• *Projects to letting*

• *Projects completed*
Budget

Program $$ = Construction $$$
Starting Dialogue

- **Major Railroads**
- **Master Agreements**
- **Umbrella Insurance**
Goal

- **Insurance Pre-Approval**
- **Minimize Delays**
- **Insurance Policy with IDOT**
When?

- Work in progress

- 2006 Projects?
Asphalt Binder Update
Polymer Modified Binder Usage

![Graph showing the usage of polymer modified binders from 1998 to 2004. The usage percentage increases from 12.6% in 1998 to 28.5% in 2003, before decreasing to 22.6% in 2004.]
Grades Used (2004 to Date)

- PG 64-22: 64%
- PG 70-22 Mod: 17%
- Other: 3%
- PG 76-22 Mod: 4%
- PG 76-28 Mod: 1%
- PG 58-22: 11%
2004 Perpetual Pavement Award
Asphalt Pavement Alliance
Honor Outstanding
HMA Design / Construction

- Long life HMA
- Excellence in design
- Quality of construction
- Value to public
Criteria

- ≥ 35 yrs.
- Rehab ≤ 4” OL
- OL intervals ≥ 13 yrs.
Illinois Award

- I-180
- 2 miles
- 1969
- 15” HMA
- Granular Subbase
Rehabs

- No FD patching
- 1987 1”mill / 1.5” OL
- 2001 2” OL
Shows concept Works

35 yr. old pavement

Marshall Mixtures

Old Construction Techniques
What Next ???

- Use it!
  - Fatigue design
  - Final x-sect
  - $ for projects
Thank You