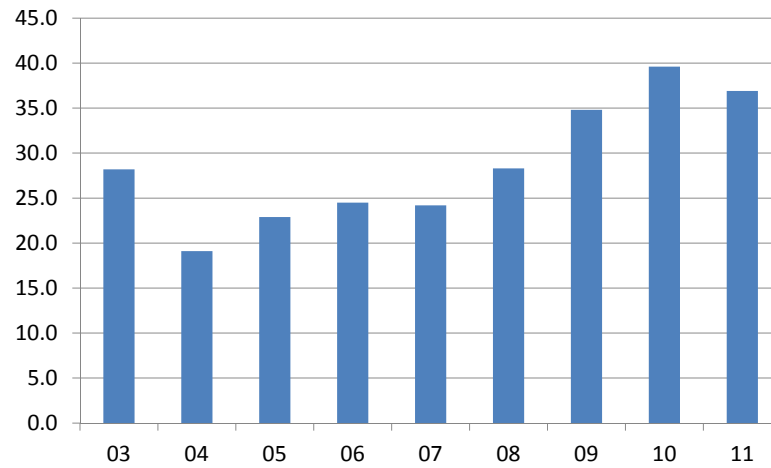
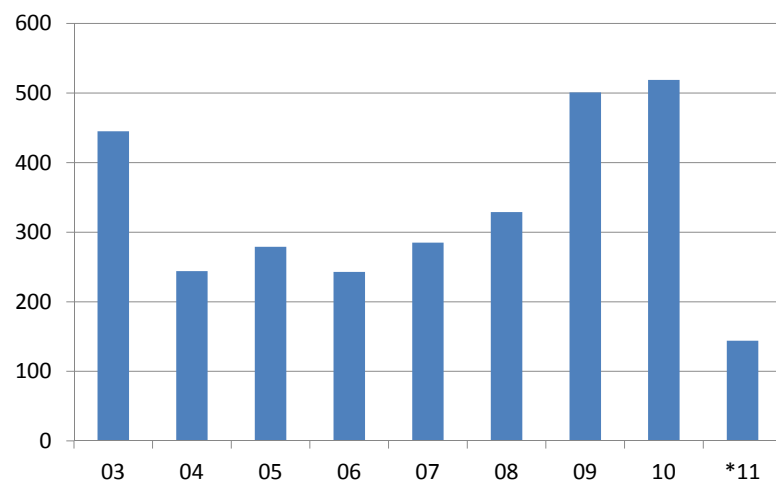
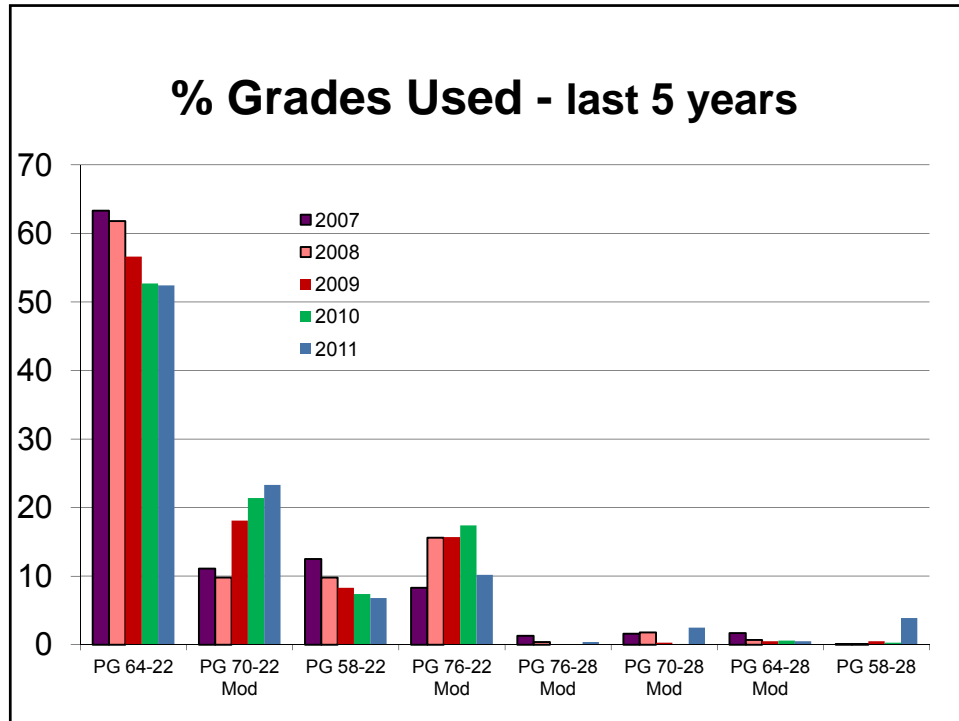


% Polymer Usage - 2003 to 2011



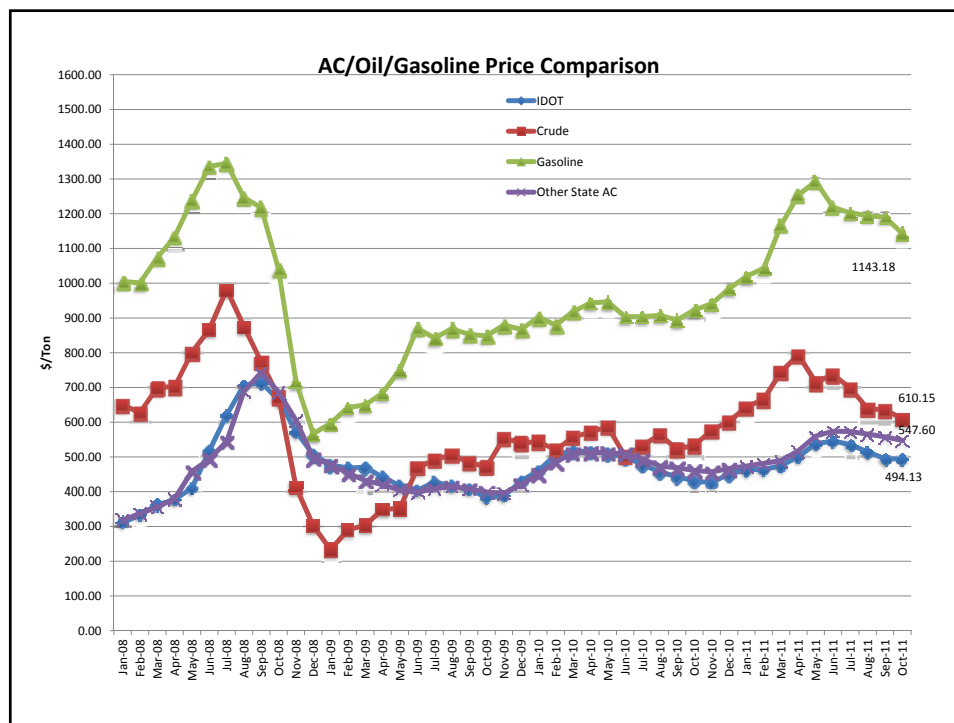
PG Asphalt Binder Used (in thousand tons)

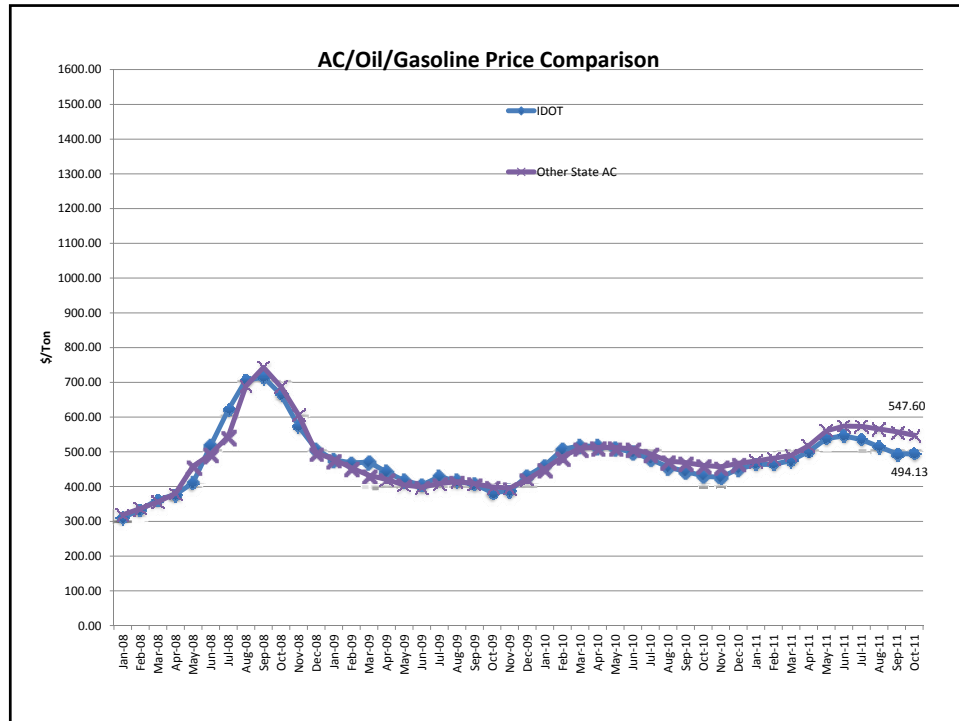


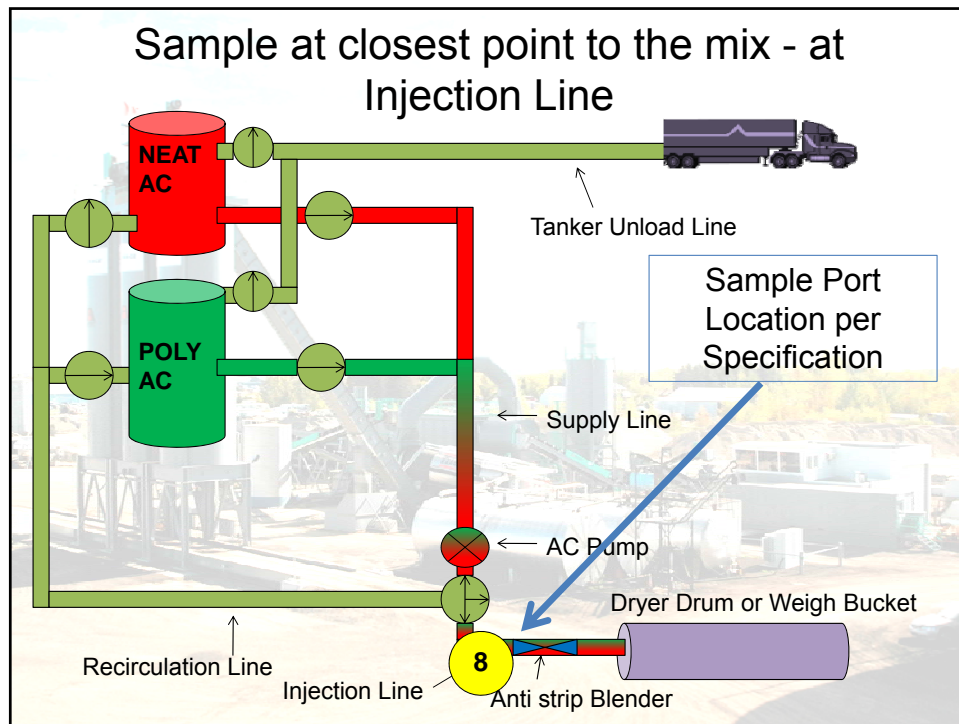


IDOT AC Price Index Bases

- Based upon largest suppliers of previous year
- Prices submitted as of first of each month
- Average = Index
- BMPR Policy Memo 1-08.0
 - PERFORMANCE GRADED ASPHALT BINDER ACCEPTANCE PROCEDURE







District PG INV Field Samples

As of 11/28/11

District	Sample Total	Off Test	% Off Test 2011
1	345	11	3.2
2	122	3	2.5
3	49	0	0
4	110	0	0
5	95	0	0
6	184	2	1.1
7	174	0	0
8	250	0	0
9	96	1	1.0
TOTAL	1425	17	1.2 %

District PG INV Field Samples

As of 11/28/11

District	Sample Total	Off Test	% Off Test 2011	% Off Test 2010
1	345	11	3.2	1.8
2	122	3	2.5	1.9
3	49	0	0	0.8
4	110	0	0	0
5	95	0	0	0
6	184	2	1.1	0.9
7	174	0	0	0.5
8	250	0	0	2.9
9	96	1	1.0	1.6
TOTAL	1425	17	1.2 %	1.3 %



Fine GRADED Asphalt MIX

Fine Mix HMA

- Less large stone on large stone
- Relies on crushed fine on fine fractions
- Larger stone floats in matrix
- Why?
 - Improved compatibility – Higher Joint Density
 - Less permeable
 - Longer life
 - Less Segregation

Future Roll Out Fine Graded

- Slow – more trials in 2012
- Collect data on lay down
 - Permeability
 - Density
 - Hamburg
- ICT Research Project Underway



WMA

- Embrace WMA with special provision
- Allow bidding up front
- Allow approved additives plus foam
- Currently starting with N_{70} and below

Future of WMA

- Permissive Special Provision Effective Jan. 1, 2012
- Hamburg Wheel to play a major role during production
- As we get more experienced with WMA will expand use and streamline process

Reclaimed Asphalt Shingles (RAS)



HB 1326 Now PA 97-0314

- CDD: Credit of 2 for 1 shingle tonnage recycled for 75% recycle goal
- Requires allowing shingles in all state asphalt pavement construction
- Maximize the use of RAS and other low cost constituents in the mix



More PA 97-0314

- Reduce carbon footprint
- IDOT to report at hearings annually
 - Usage
 - Cost savings
 - Performance

RAS Status

- Specifications issued by BDE for state wide use 1/1/12
 - Revised from previous BMPR specs
 - Two Specs work together
 - RAS <http://www.dot.il.gov/desenv/pdf/80282.pdf>
 - RAP <http://www.dot.il.gov/desenv/pdf/80172.pdf>
 - Will combine into single spec/review replacement percentages for 2013
- Policy revised issued August 2011
 - Link: <http://www.dot.il.gov/materials/pdf/28-10.2reclaimedasphaltshinglesources.pdf>

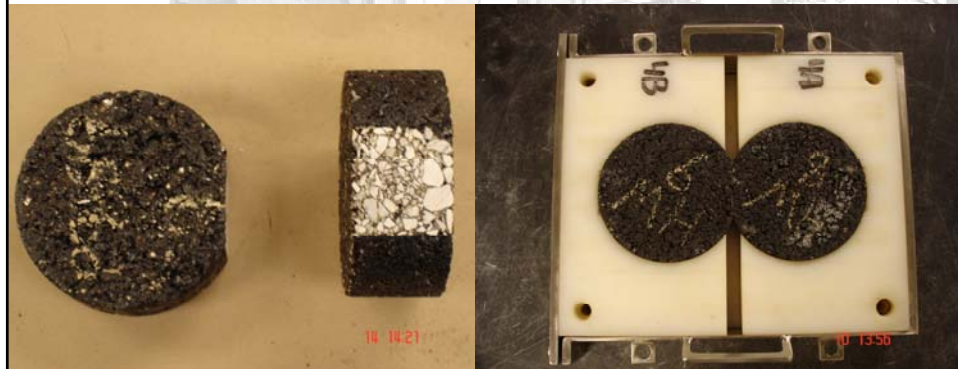
RAS Sources

Owner	Location	Type
Falcon Green Resources, Inc P.O. Box 638 Harvard, IL 60033	1200 N Rose Farm Rd Woodstock, IL 60098	Type 1
Southwind RAS, LLC 2250 Southwind Boulevard Bartlett, IL 60103	1950 Vulcan Blvd Bartlett, IL 60103	Type 2
Southwind RAS, LLC 2250 Southwind Boulevard Bartlett, IL 60103	6616 Darst Street Peoria, IL 60103	Type 2
Southwind RAS, LLC 2250 Southwind Boulevard Bartlett, IL 60103	4401 S. First Avenue Lyons, IL 60534	Type 2

Link: <http://www.dot.il.gov/materials/reclaimedasphaltshingles.pdf>



Specimen Prep



Hamburg Wheel

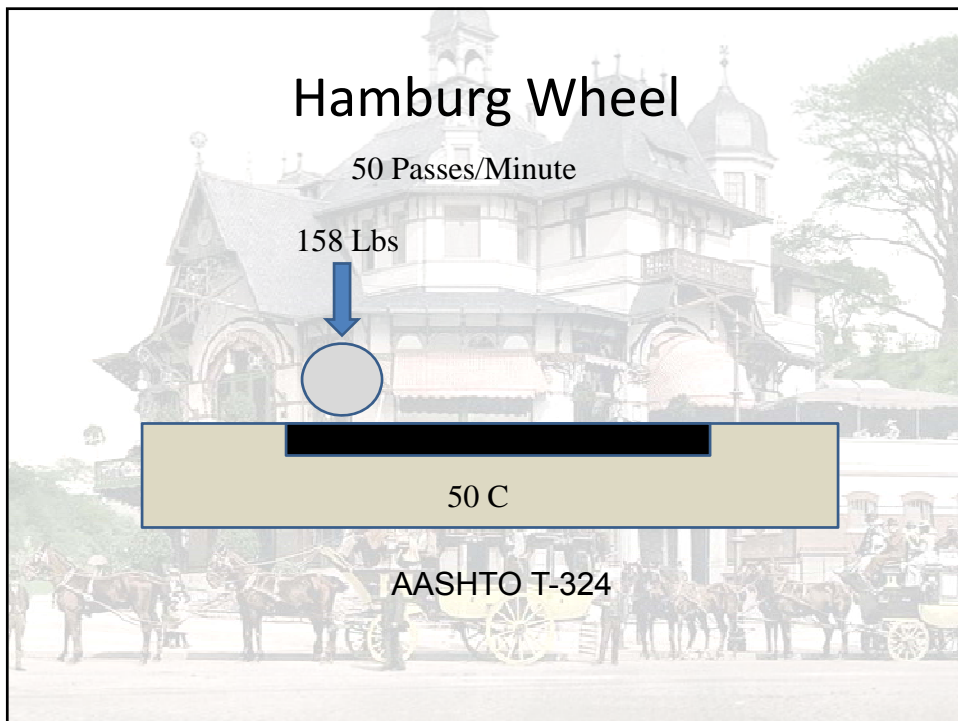
50 Passes/Minute

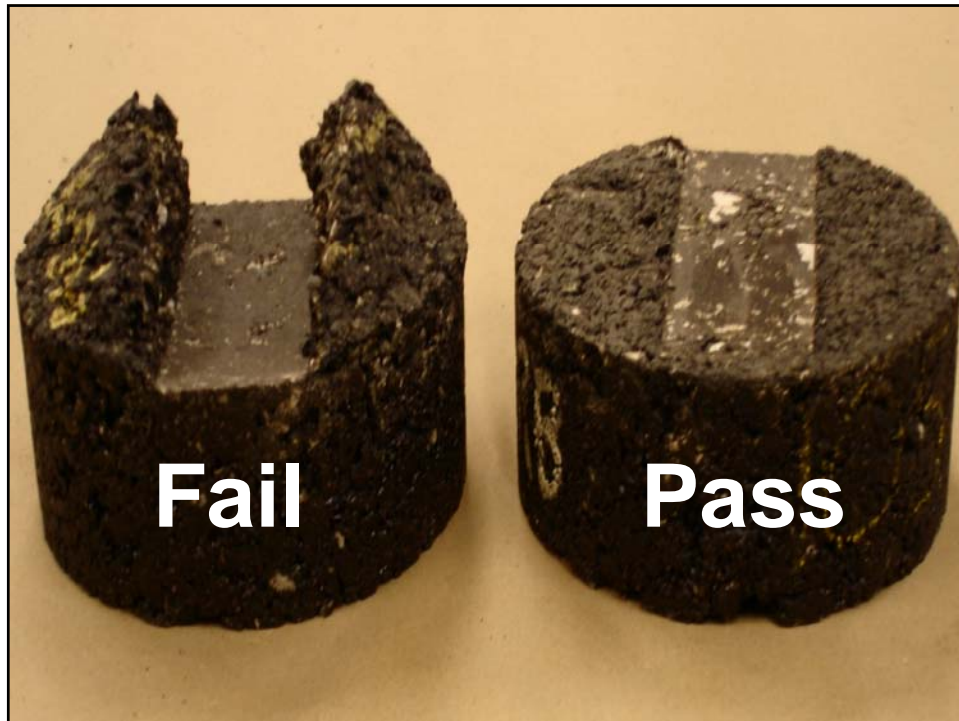
158 Lbs



50 C

AASHTO T-324





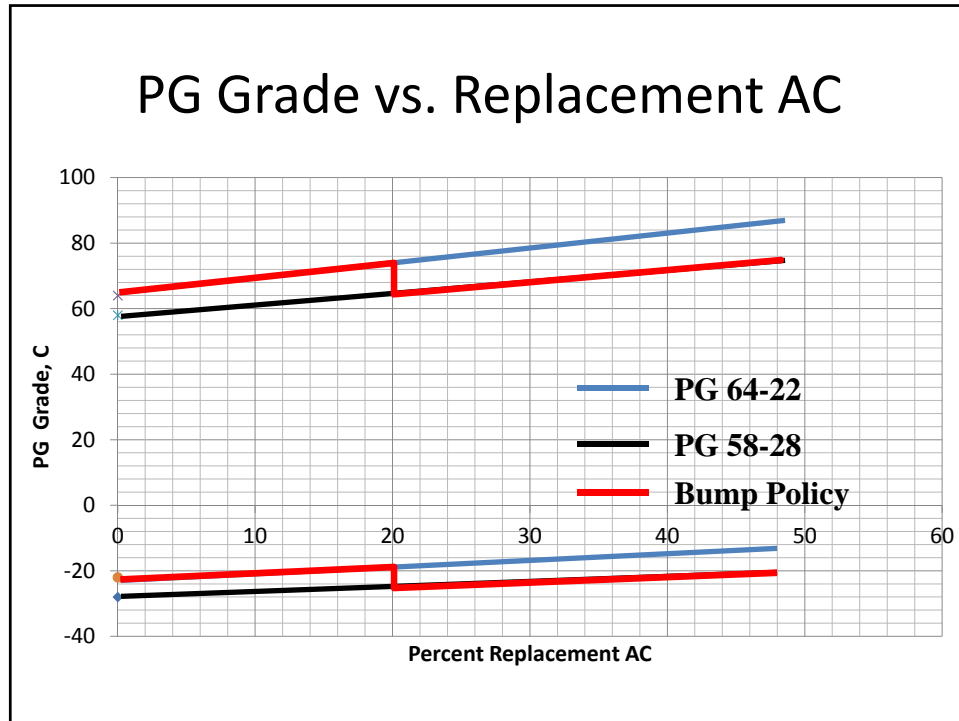
Implementation Schedule

- 2011
 - High Replacement RAP and RAS
 - Permissive use Warm Mix
- 2012 - 2013
 - Other New mixes (fine graded) and Renewals
- 2014 on
 - Full Implementation

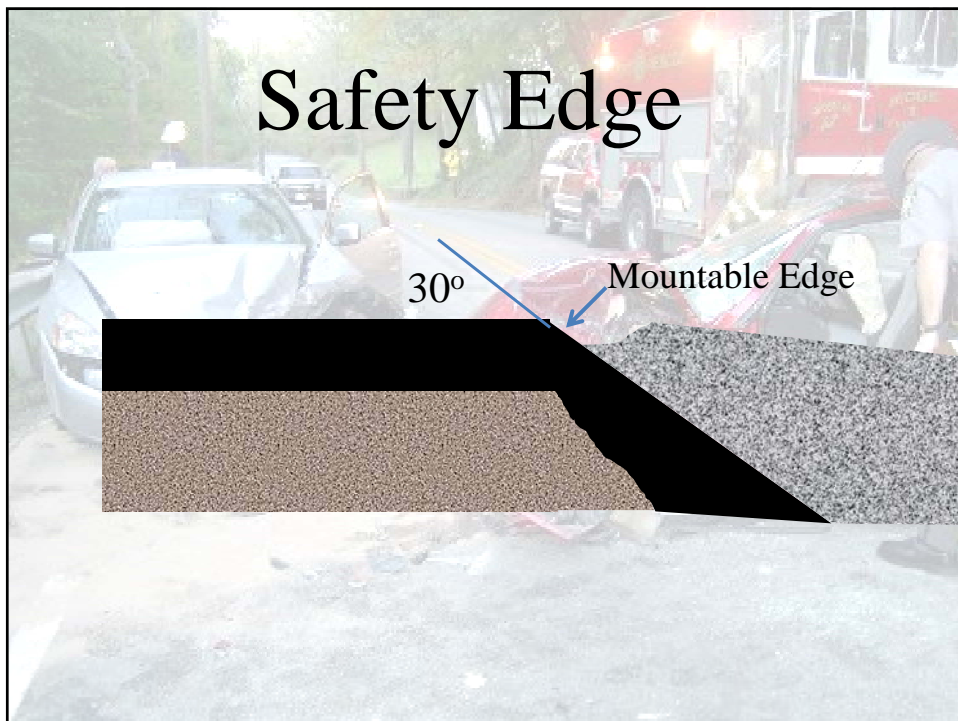


Grade Bumping is Critical

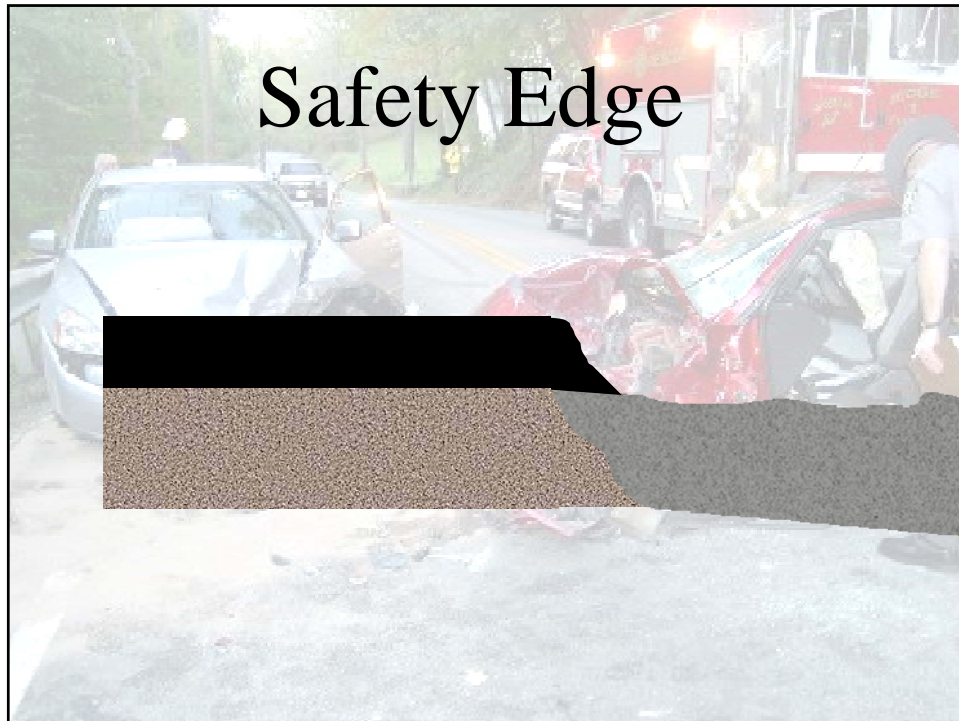
- Low amounts of AC replacement can be tolerated with little or no impact
- Around 20% replacement mix properties are impacted
 - Grade bumping policy
 - Above 20% - Double bump down
 - PG64-22 to PG 58-28
 - If not followed – shorter pavement life due to cracking









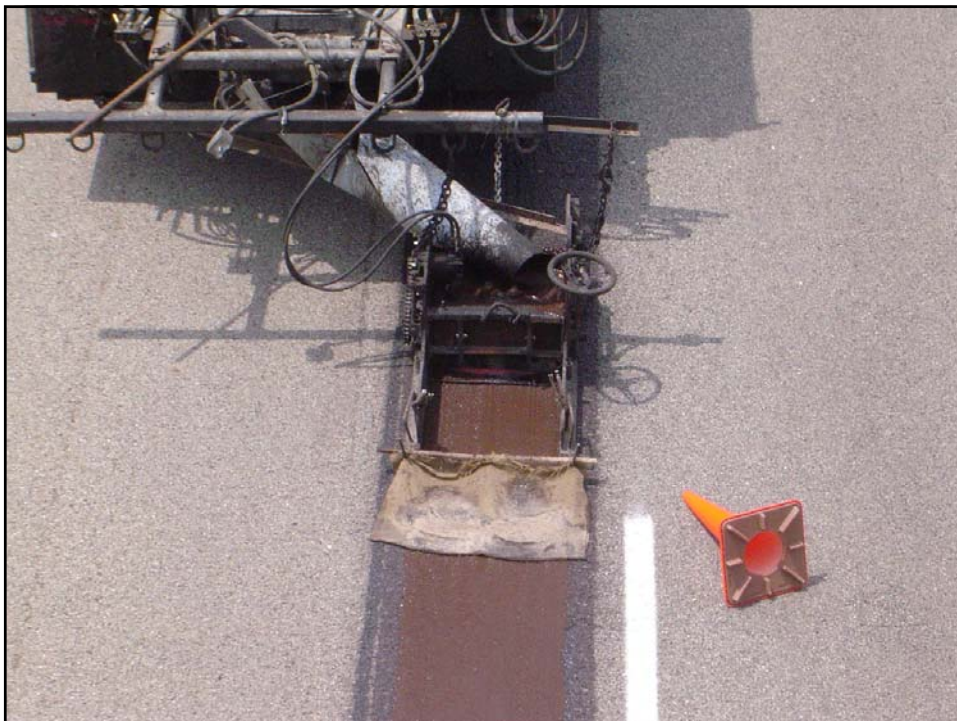


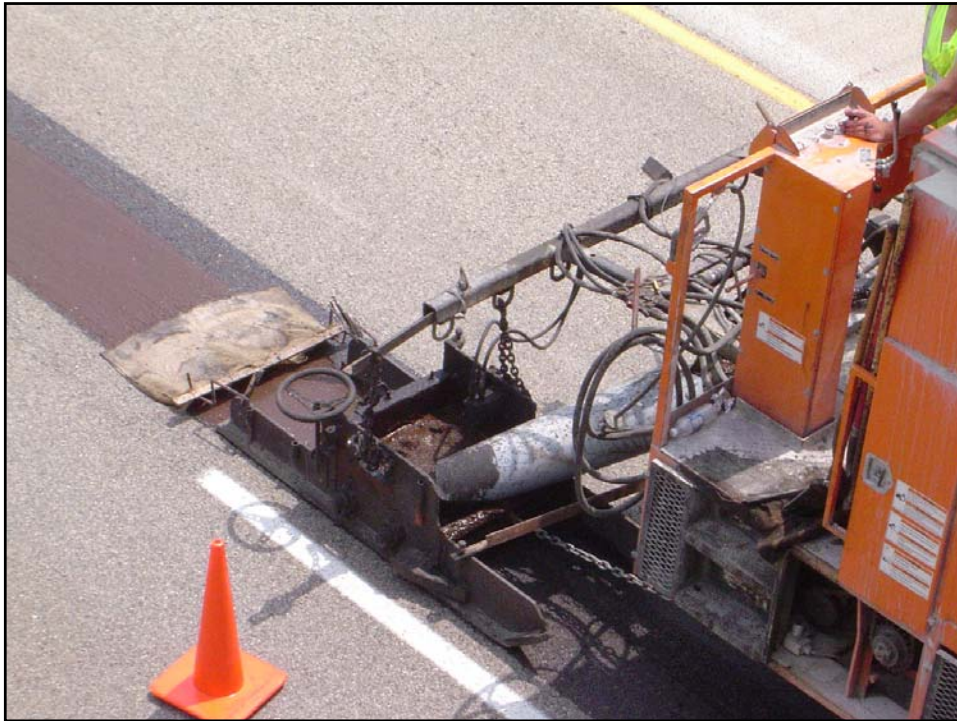


Safety Edge at IDOT

- Including in new contracts going forward
 - More work needed to get right
 - For pavements with no shoulder up to 3' shoulder
- Want to see proven devices used
 - Some “proven” devices seem to be better than others
 - Must compact and produce consistent edge







Pavement Design Update

April 2011

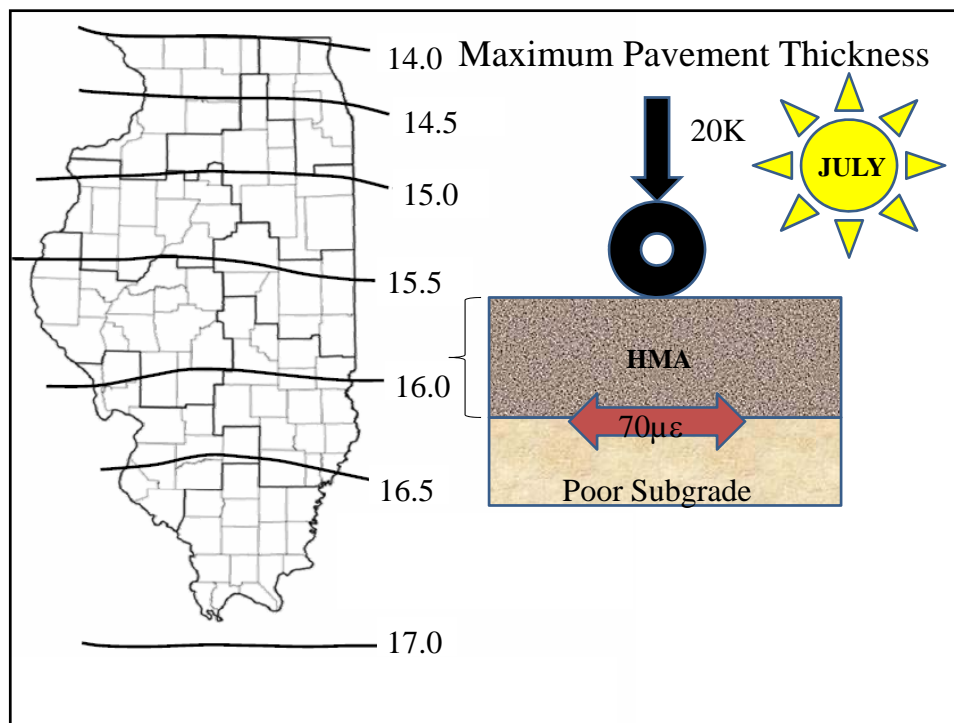
- ▣ Thickness Design
 - HMA
 - PCC (Jointed)
- ▣ Maintenance Models
 - HMA + Rubblizing
 - PCC (Jointed, CRC and Unbonded PCC Overlay)
- ▣ Alternate bids for projects within 10%

Common to Both Designs

- ▣ Additional Subgrade treatment
 - Added aggregate/lime combo
- ▣ Reduced Non-Interstate Minimum Design Traffic
- ▣ Complete Recheck of Design Theory
 - Compared to AASHTO - MEPDG
 - Outside Reviewers for Both Designs and Selection Process as a QA Check

Pavement Thickness

- ▣ PCC Thickness
 - Little change
- ▣ HMA Thickness
 - Revised fatigue algorithm
 - Updated pavement temperature data
 - PG asphalt grade
 - Included limiting strain criteria
 - ▣ Low strain = unlimited life



Life Cycle Cost Audit

Audit

- 20 ILCS 2705/2705-590
 - Requires Life Cycle Costing (LCC) on all *Pavement* projects over \$500,000
 - Award construction to lowest LCC
 - Models based upon data
 - If don't have data may use other similar states data
- Audit to determine if IDOT following law

PAY FOR PERFORMANCE

PFP Implementation Schedule

✓ 2010

✓ Min. One PFP project / District

✓ ≥ 8,000 tons individual mix

✓ 2011

✓ Min. 50% of all Interstate or Supplemental Expressway

✓ ≥ 8,000 tons / mix

• 2012

◦ All Interstate & Supplemental Expressway

• ≥ 8,000 tons / mix

2011 PFP Projects

District	Projects	Tons	% Jobsite Sampling
1	3 (4 w/ carryover)	29,011 (42,988)	0
2	(3 carryover)	(67,463)	100
3	N/A	N/A	N/A
4	2	20,000	100
5	2	31,300	100
6	(2)	36123	100
7	1	9,737	100
8	2	177,000	100
9	(1 carryover)	(12,946)	0
Total	10 (17)	267,048 (397,557)	

2011 PFP Project Disputes

District	Projects	Disputes	
		Mix	Cores
1	3 (4 w/ carryover)	30(34)	47
2	(3 carryover)	(1)	(2)
3	N/A	N/A	N/A
4	2	0	0
5	2	3	9
6	(2)	9	25
7	1	0	15
8	2	15	17
9	(1 carryover)	0	(1)
Total	10 (17)	57(62)	113(116)

2011 PFP Projects

Final Pay								
1	2	3	4	5	6	7	8	9
97.4%	101.2%	N/A	99.7%	93.4%	101.1%	100.6%	94.0%	97.1%
100.6%	102.6%		102.1%	101.5%	99.6%		95.8%	
98.5%	100.6%							
94.5%								
100.8%								
102.8%								
98.6%								
99.8%								
96.2%								
99.5%								
99.1%								
98.8%								
98.2%							Average=	99.0%

Spec Revisions for 2012

- Increase core/edge distance to 4-inches
- Disputes within precision limits will no longer be allowed
- Dispute cores taken with District cores
- Better filling of core holes
- Lab fees increased
 - Mix \$1,000
 - Core \$300

QUALITY CONTROL FOR PERFORMANCE

QCP Quality Control for Performance

- For use below PFP (8,000 tons) & other projects not suited for PFP
- Uses pay adjustment concept
- Pay based upon owner test
- Less effort for owner than PFP
- Roll out
 - 2012 - 2 state projects/district
 - 2013 - 50%
 - 2014 - Full implementation on state
 - 2014 - Start LR&S

PFP/QCP Implementation Schedule Revised

- 2013 & 2014

- ~~PFP will be expanded to include:~~

- ~~Interstate & Non Interstate projects \geq 4,000 tons~~
 - ~~50% in 2013~~
 - ~~100% in 2014~~

- PFP full implementation (above 8,000 tons)

- QCP for projects < 8,000 tons

- 2 Projects/District in 2012
 - 50% in 2013
 - 100% in 2014 – start LR&S jobs



