

I.D.O.T. Update

- 2007 Version -

RUBBLIZATION

Rubblization with HMA Overlay

- Rehabilitation method for deteriorated concrete pavements
 - Alternative to extensive patching or reconstruction
- Pavement in effect becomes a high-quality aggregate base
- Eliminates virtually all reflective cracking

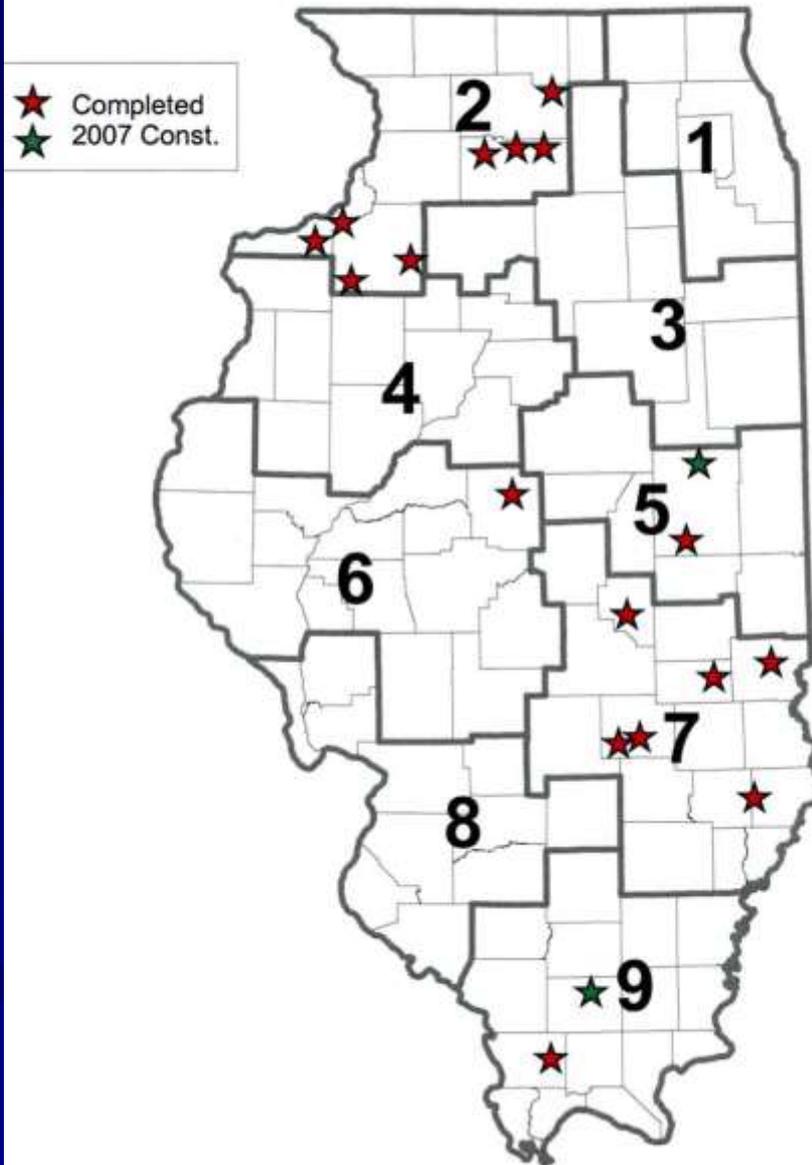


ANTIGO

Project History

- First project in 1990
 - I-57 south of Champaign
 - 6" & 8" thick
- Approximately 150 lane-miles
 - Used on local roads to high-volume interstate routes
 - Also used by Tollway
- 17 projects to date

Rubblization Projects



Performance

- Overall performance has been good
- Surface cracking is primary distress
- Rutting has been minimal on most projects
- Rubblization is both reliable and cost-effective

Future Efforts

- Rubblizing remains a specialized design requiring approval for use
- Two projects already planned for construction in 2007
 - One interstate and one local road project
- Future use is likely as system continues to deteriorate

PAVEMENT WARRANTIES

Pavement Warranties

- Mandated by the Legislature
 - "The Department shall implement a demonstration project, under which 20 of the contracts ... for fiscal years 2000 through 2004 shall have a performance-based warranty of at least 5 years..."
- Transfers risk from the Department to the contractor.

Warranty Specifications

- Full-depth Bituminous Pavements
- Bituminous Overlays
- Concrete Pavements (Jointed and CRC)
- Concrete Bridge Decks and Bridge Approach Pavement
- *Extended Life Pavement Specifications*

Warranty Projects by Project Type

Project Type	Number of Projects
Bituminous Overlay	3
Bituminous (20-yr.)	2
Bituminous (30-yr.)	7
Concrete (20-yr.)	3
Concrete (30-yr.)	12
Concrete (40-yr.)	1
TOTAL	28

Warranty Project Status

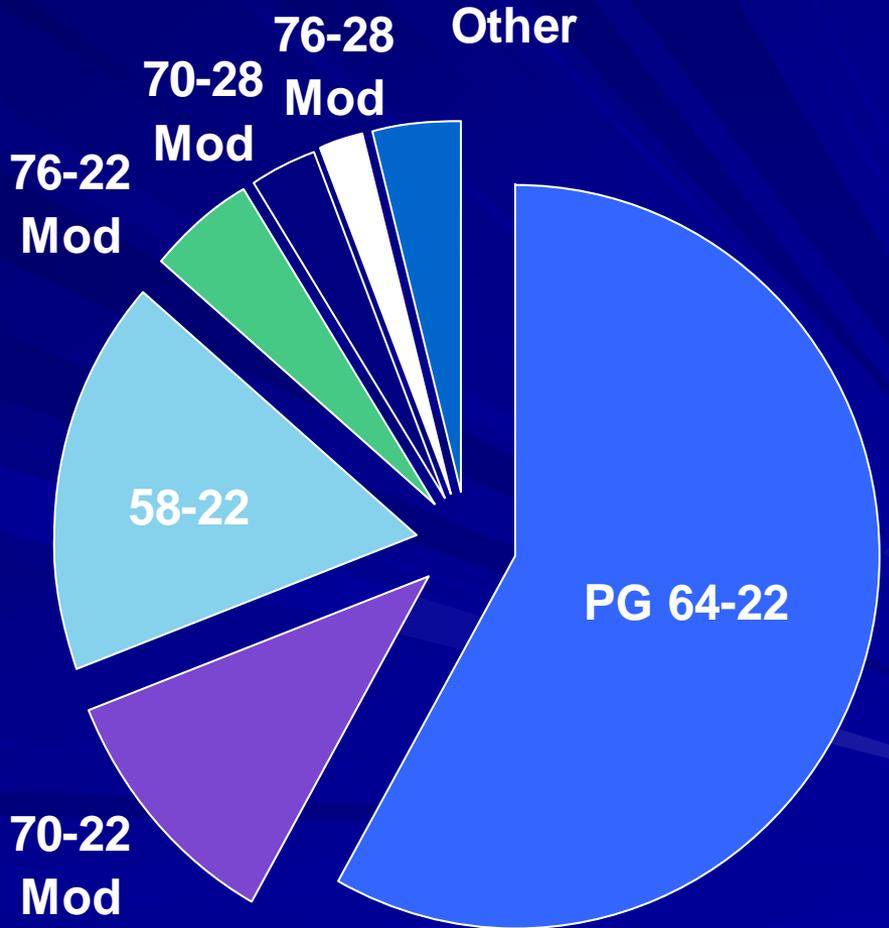
- Construction complete on all projects.
- 5 out of 28 (18%) projects have reached the end of the 5-year warranty period.
- 2 of the 5 required corrective action at the end of the warranty period.
 - Crack sealing done on one other project.
- Repair work also performed on other projects where warranty has not expired.

Future Efforts

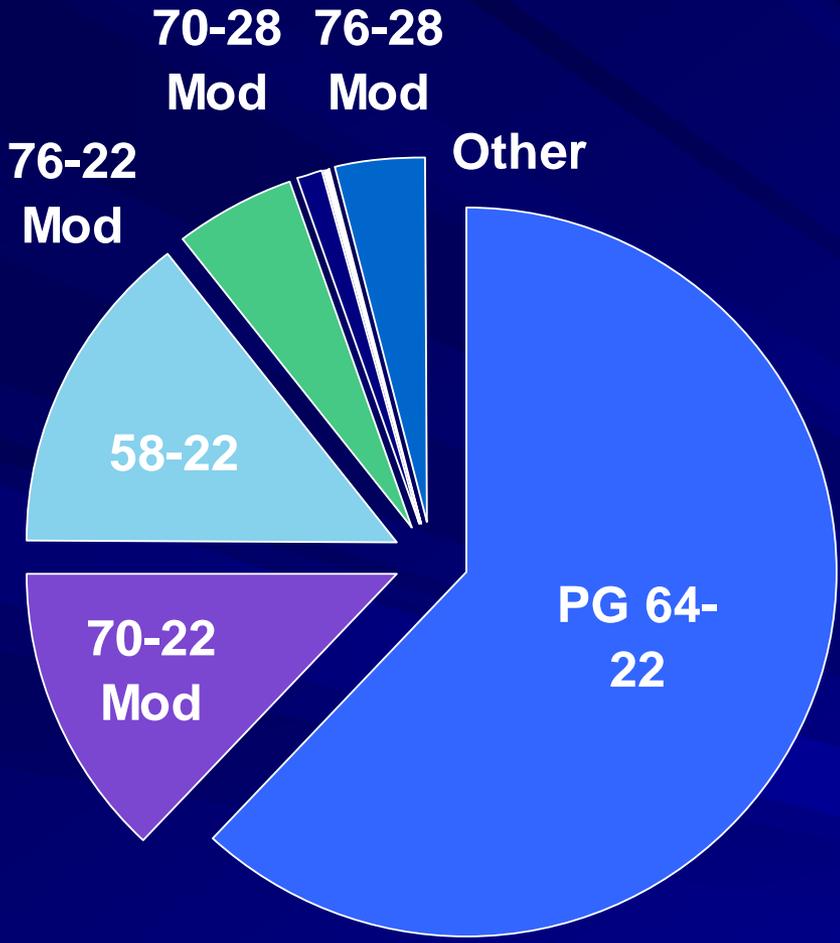
- Two projects with warranties expiring in 2007.
- Majority of warranties do not expire until 2010 or 2011.
- Examine the warranty specifications to see if any revisions need to be made.
- Future use dependent on results of this demonstration project.

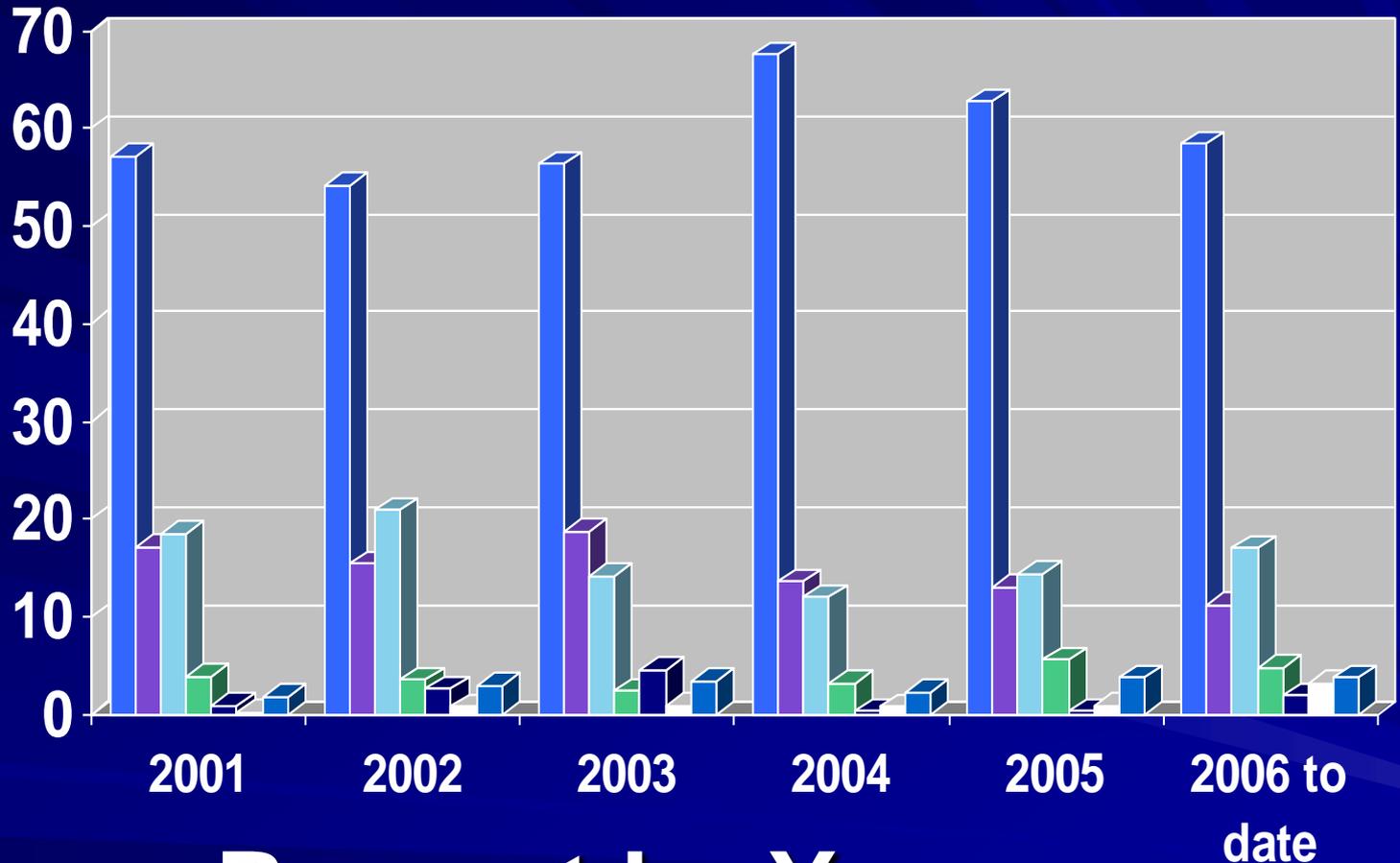
ASPHALT USAGE

2006



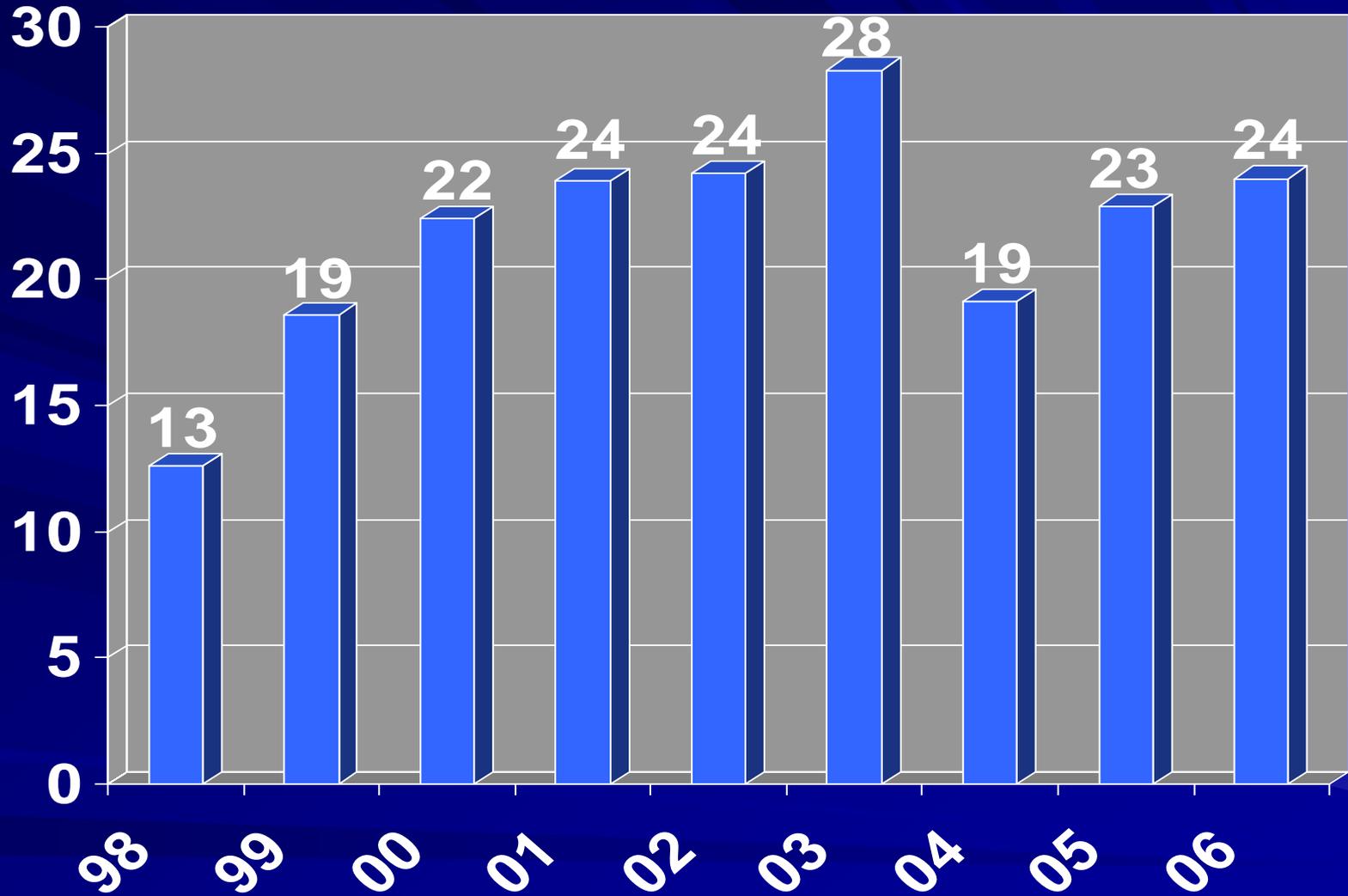
2005





Percent by Year

Percent Polymer



Other news....

Additional Certified Sources

- Emulsicoat at Saline Court, Urbana, IL (PG 64-22)
- BP at Lemont, IL (PG 64-22)

Loss of Sources/Products

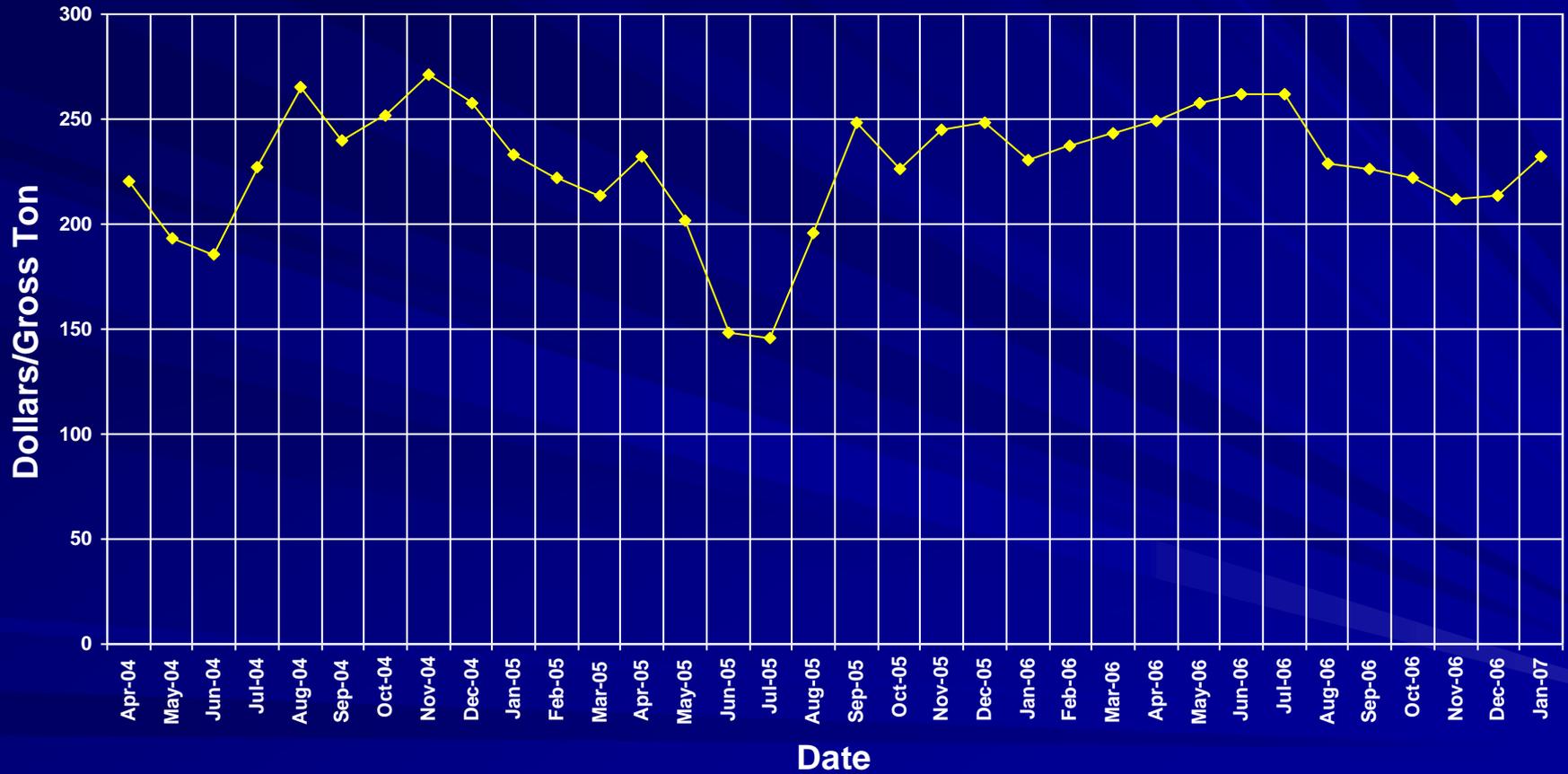
- Closed - SemMaterials, L.P. at Lemont, IL (PG 58-22 and PG 64-22)
- Closed - BP at Davenport, IA (PG 64-22, PG 58-22, PG 58-28, PG 46-28, and MC-30)
- Cutback asphalts no longer available from Flint Hills at Dubuque, IA

STEEL PRICE ADJUSTMENT

- Statewide 4/04 Letting
- Posted each month
 - Average of
 - No. 1 Heavy Melt
 - Shredded Scrap
- Contractor option

- Adjustment based on
 - Letting month
 - Steel invoice month

Monthly Scrap Index



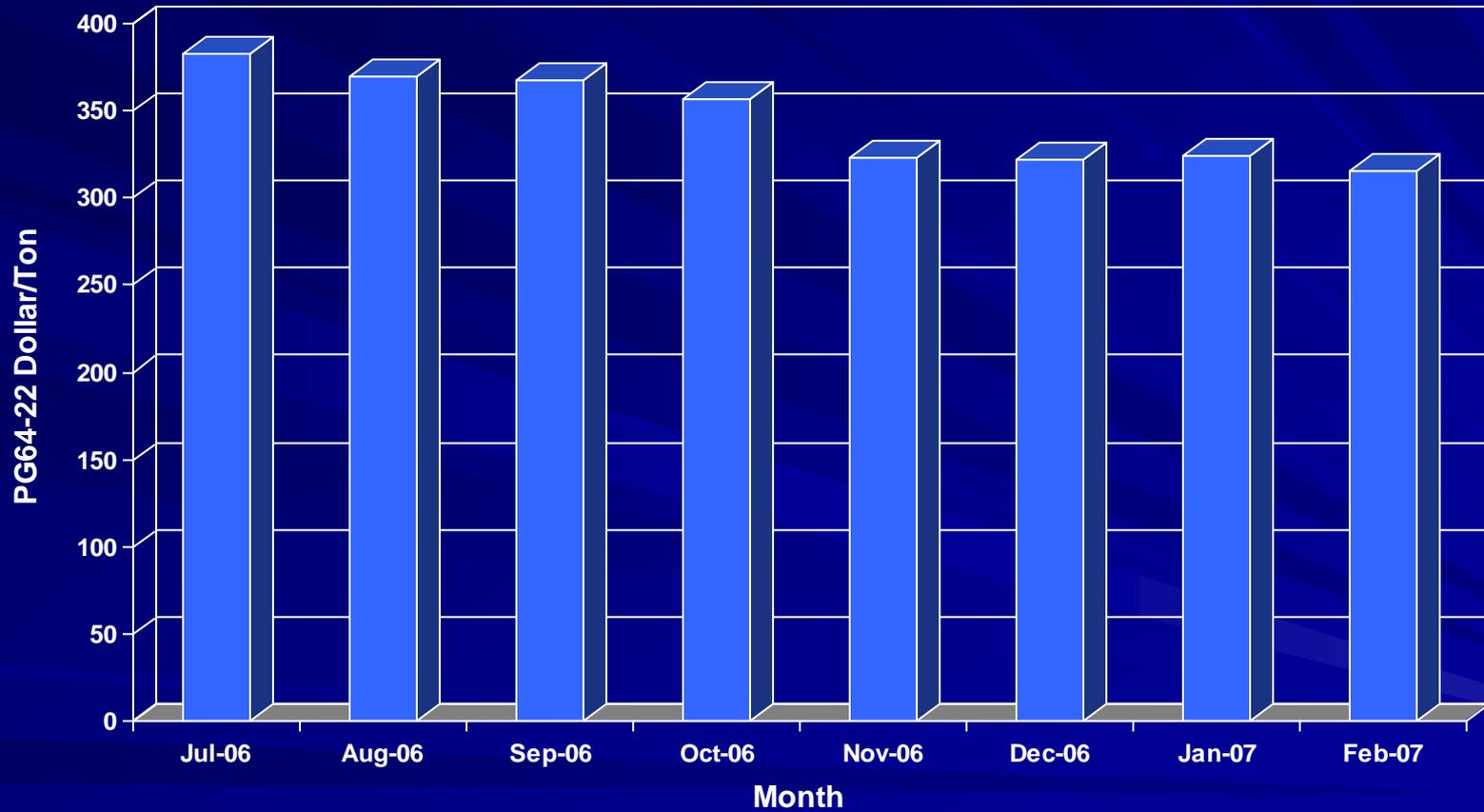
- Bid Items \geq \$10,000
- 674 eligible to date
 - 44 of 33 Nov. 2006
 - 0 of 46 Jan. 2007

History of Adjustment

	Contract \$	%
+ \$6,590	1.46 M	45
+ \$40,000	5.23 M	76
+ \$5,500	.67 M	82
+ \$4,100	.69 M	59

Bituminous Price Index

Bituminous Price Index



- Projects \geq 1,200 tons total mix
 - Contractor option
- Adjustment applied to months tonnage
- How many took option?
 - 2 of 21 Nov. 2006
 - 8 of 19 Jan. 2007

RAP

2007 Max RAP %

N-Design	Binder/ Level Binder	Surface	With Polymer
30	30	30	NA
50	25	15	10
70	15/25*	10/15*	10
90	10	10	10
105	10	10	10

Shoulders up to 50%

*RAP Max Percentage if Crushed to -3/8"

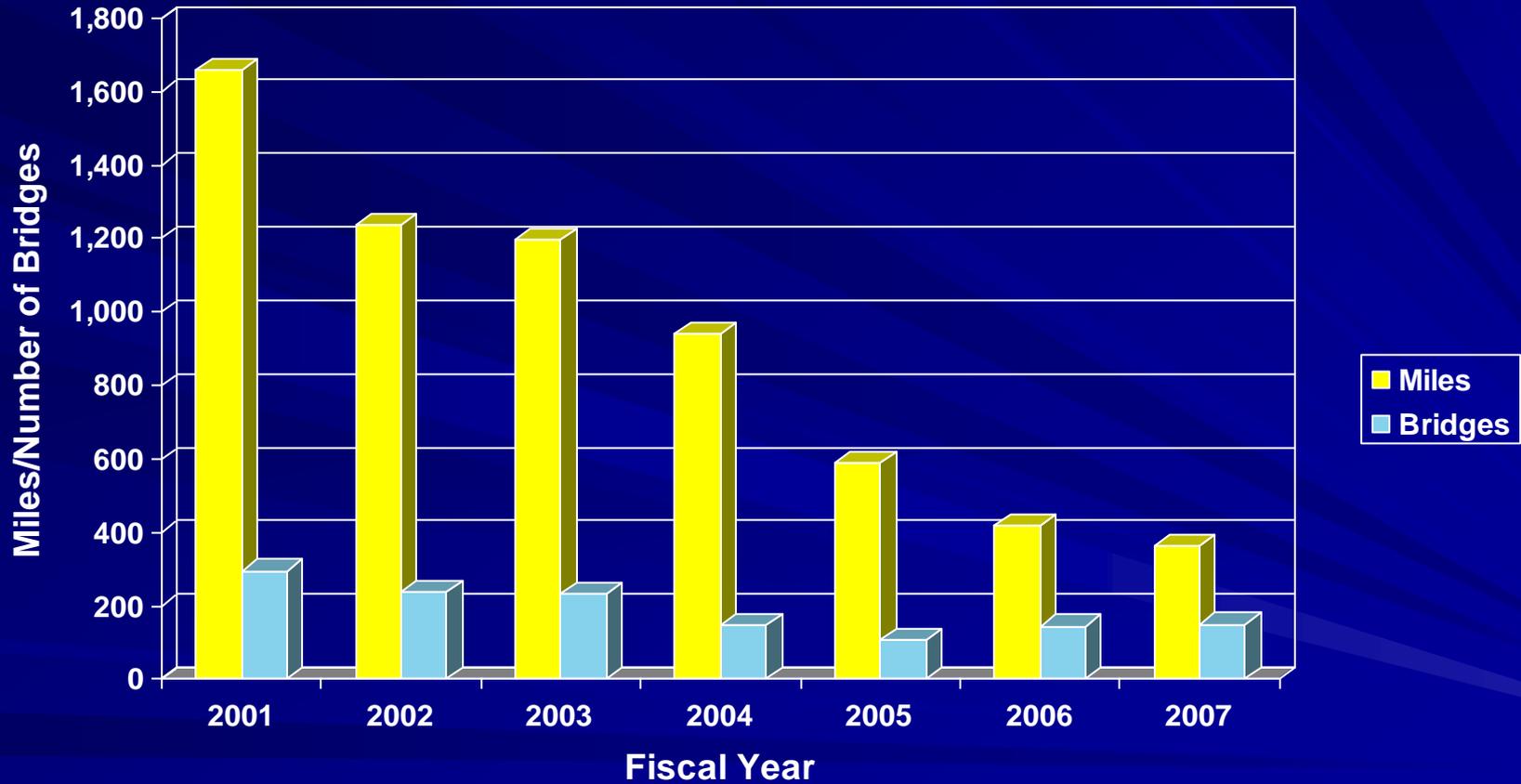
New for 2007

Piles of RAP = Milling – Reuse

- Need to look at all parts of the equation
 - Milling, Reuse and Existing Piles
- All agencies need to use RAP in mixes
 - Conserve Resources
 - Cost savings
- Training for locals on RAP usage thanks to joint industry/IDOT funding.

STATE HIGHWAY PROGRAM - History -

State Highway Program



HMA QUANTITIES

Summary of HMA Quantities

	HMA (tons)
2000	8,526,000
2001	9,229,000
2002	7,493,000
2003	7,410,000
2004	4,285,000
2005	5,112,000
2006	3,966,000

MANPOWER

Manpower

	Division of Highways		
Year	Technical DOH	Total DOH	Total IDOT
1991	3,144	6,296	7,428
2000	3,016	5,695	6,768
2003	2,865	5,441	6,337
2006	2,469	4,801	5,602

WARM MIX ASPHALT

Where Should We Go with Warm Mix Asphalt Technology



HOT
Is Not Always
BETTER

Goldilocks, circa 1850

What is WMA?

Allows reduction in

- production temps
- placement temps

How is it done?

- a) Two Component Asphalt
- b) Emulsion Technology
- c) Mix Additives
 - Mineral
 - Organic

Hot Mix Asphalt 275 - 325° F

Warm Mix Asphalt 200 - 275° F

Cold Mix Asphalt 60° F

Why Important?

Environment

- Reduced Energy
- Reduced Emissions



Environmentalists

- Heard About
- Read About
- Europe Using
- Want it now!

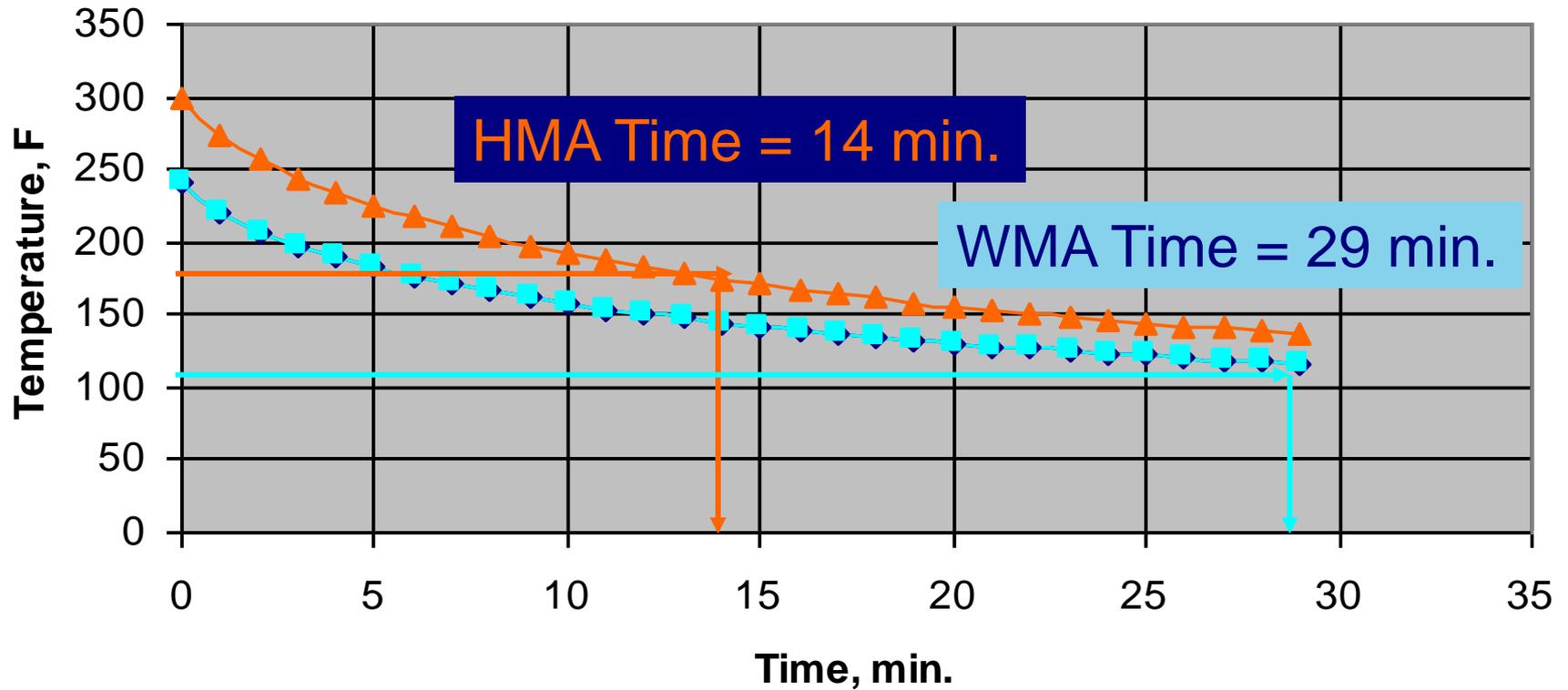


Contractor Perspective

- ↓ Heating Costs
- Favorable Zoning
- Longer Season
- Happier Employees



Late Season Paving



For $\Delta T = 125^\circ\text{F}$

DOT Perspective



Illinois Department
of Transportation

- Environmentally Sensitive
- Longer Season
- ↓ Project Costs
- Improved Product?

GOAL

Option



~~Mandate~~



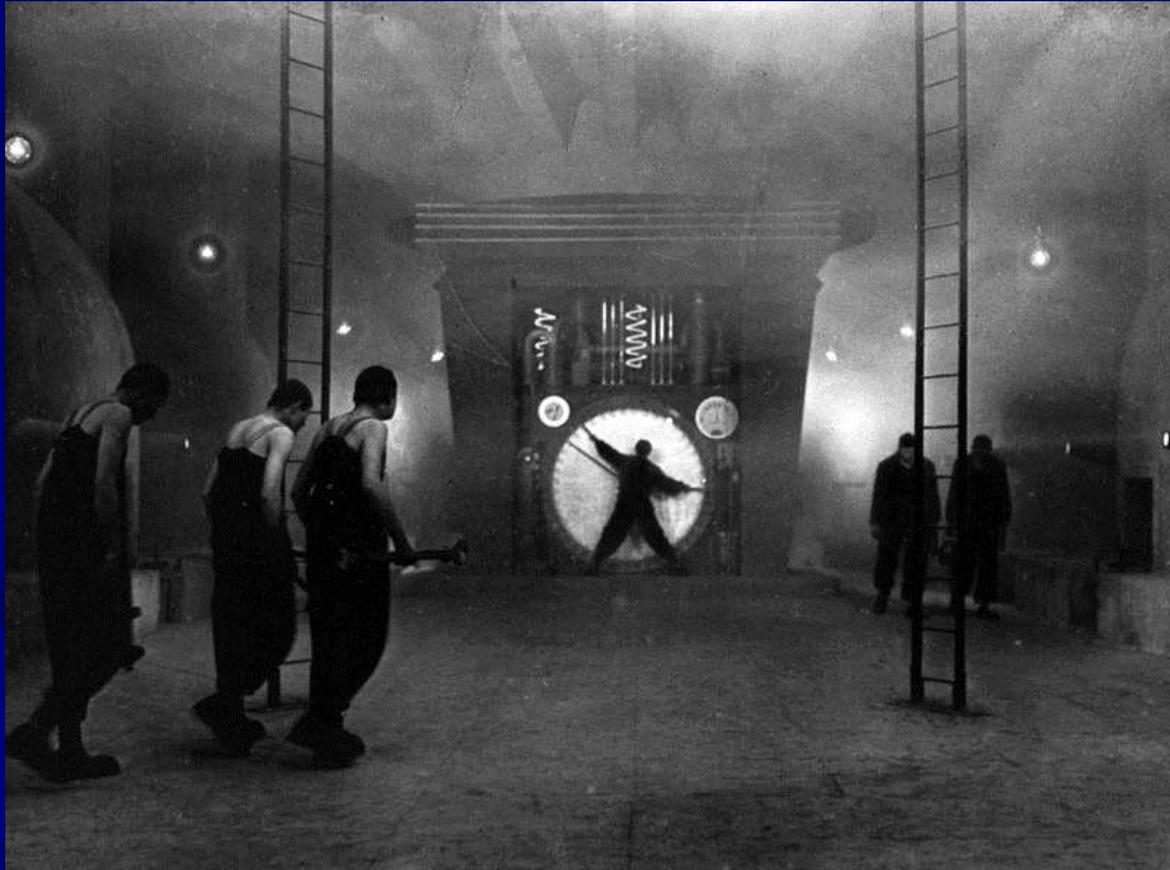
Hurdles (unknowns)

- Cost
- Correct Specs
- Mix Design
- Constructability
- Performance

Need to Look at

Control Our Own Destiny

Or Others Will Control It For Us



**BIG
BROTHER**



IS WATCHING

Status

Demo Projects

- State Initiated
- Contractor Initiated

Lab Studies

- Moisture Damage
- Rutting
- Hardening

Batch Plant of the FUTURE!



THANK YOU