



Modified Asphalt Market Survey 2004 - 2005

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The Association of Modified Asphalt Producers Meeting

February 1, 2005



Modified Asphalt Survey



- Review DOT Survey & Results
- Actual Reported Usage in 2004
- Forecast 2005 Modified Usage

The Survey

Department of Transportation Questionnaire
The Association of Modified Asphalt Producers
2004 Year End Market Survey

Name:	Place:	
Title:	Fax:	
Mailing Address:	E-Mail:	
City:	State:	Zip:

1. Asphalt Binder Use

- How much **Binder** was let in 2004? _____ **PG** liquid tons, 2004 tons, gallons
[Circle appropriate units of measure] _____ **AC** liquid tons, 2004 tons, gallons
- How much was **MODIFIED BINDER**? _____ **PG** liquid tons, 2004 tons, gallons
_____ **AC** liquid tons, 2004 tons, gallons
- Was this **more** or **less Modified** from 2003? _____ more _____ less
- Do you expect **more** or **less Modified** in 2005? _____ more* _____ less*
* Estimated percent change? _____ %
- Do you expect to use **more** or **less Binder** in 2005? _____ more* _____ less*
* Estimated percent change? _____ %

2. Does your State specify modifier and/or percentage of modifier to be included in the binder?

_____ Yes _____ No

and/or

To meet a specified grade is modification required? _____ Yes _____ No

3. Check all the Modifiers used in your State?

- a. SBS _____
- b. SB _____
- c. SBR Latex _____ [If known list type(s)]
- d. Other Polymer Modifier _____ Type: _____
- e. Chemical Modifier _____ Type: _____
- f. Other Modifier _____ Type: _____

4. Does your State test for stability or separation? _____ Yes* _____ No

* If Yes, which test(s) do you use? _____

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5. What are the most common Asphalt grades used in your State?

- a. _____
- b. _____
- c. _____
- d. _____

6. Does your State include, or plan to include, additional tests for PG Binder Specifications (typically referred to as PG Plus or SHRP Plus) to ensure Modifiers are used to improve asphalt binder performance? _____ Yes* _____ No

* If YES ... Check all that apply (please describe specification)

- a. DSR Phase Angle _____
- b. Direct Tension _____
- c. Elastic Recovery _____
- d. Forced Ductility _____
- e. Toughness & Tenacity _____
- f. Other _____

7. Does your State have now or expect to have within the next 2 years a Direct Tension Specification? _____ Yes* _____ No

- * If Yes; to better design for thermal cracking? _____ Yes _____ No
- to better identify use of modifier? _____ Yes _____ No
- to better distinguish modifier types? _____ Yes _____ No

8. Does your State use now or expect to use within the next 2 years AASHTO M320-Table 2 (Table 2 is MPA requiring Direct Tension)? _____ Yes* _____ No

* If YES; do you ... _____ Use Now _____ Expect to use

9. Would you be interested in and consider adopting a new test to any of the following:

- to better predict mix & compaction temperature? _____ Yes _____ No
- reduce rutting? _____ Yes _____ No
- reduce fatigue cracking? _____ Yes _____ No

10. Is the 2005 paving spending expected to be up, down or same from 2004?

2004 State DOT in Review

33 States participated in the Survey or 66%

- 17 States did not respond, which are:
 - Alaska, Arizona, Arkansas, California, Georgia, Hawaii, Kansas, Maryland, Michigan, Minnesota, New Hampshire, New Mexico, North Dakota, Oklahoma, Vermont, Wyoming



2004 DOT in Review

Total Binders: Reported: **25,668,025** liquid tons

- 70% of responses used **More** in 2004 vs 2003
- 21% of responses used **Less** in 2004 vs 2003
- 64% of responses Expect to use **More** in 2005
- 15% of responses Expect to use **Less** in 2005

2004 DOT in Review

Total Modified reported:

Reported: **5,840,000** liquid tons

- **23%** of Binder reported was Modified

~300% over Last Years Forecast for the same States



Modifiers Used (of the respondents)

- 67% SBS Modified
- 48% SB Modified
- 39% SBR Latex Modified
- 3% Other Polymer Modified
- 12% Chemical Modified
- 18% Other (generally GTR; Oils)

Most Common Binders Reported

- 54% PG 76-22
- 51% PG 64-22
- 36% PG 70-22
- 36% PG 64-28
- 21% PG 70-28
- 18% PG 58-34

2004 DOT in Review

- 43% specify for Modification
- 67% must be Modified to Meet Spec.
- 20% have a Stability Specification

2004 DOT in Review

Plus Specifications

- 94% of those responded have *Plus* Specs

However:

- 62% of **ALL** States have *Plus* Specs



Plus Specifications & the DOTs

- 94% have *Plus* Specifications
 - 42% are Elastic Recovery
 - 20% are Dynamic Shear Rheometer
 - 10% are Direct Tension
 - 10% are Forced Ductility
 - 10% are Toughness & Tenacity
 - 20% are Other (Ring & Ball; FTIR; etc)

Direct Tension vs. MP1A

- 27% of responses are using the DT
 - 55% to better predict Thermal Cracking
 - 77% to identify Modification
 - 44% to identify Modification Type
- 16% of responses are/intending to go MP1A
(M320 Table 2)

Would Consider Specifications...

To Improve or Reduce:

- 54% Compaction
- 57% Rutting Resistance
- 57% Fatigue Cracking

2005 DOT Spending Expectation

- 52% Expect to Spend **More** on Paving
- 36% Expect to Spend the **Same** on Paving
- 12% Expect to Spend **Less** on Paving

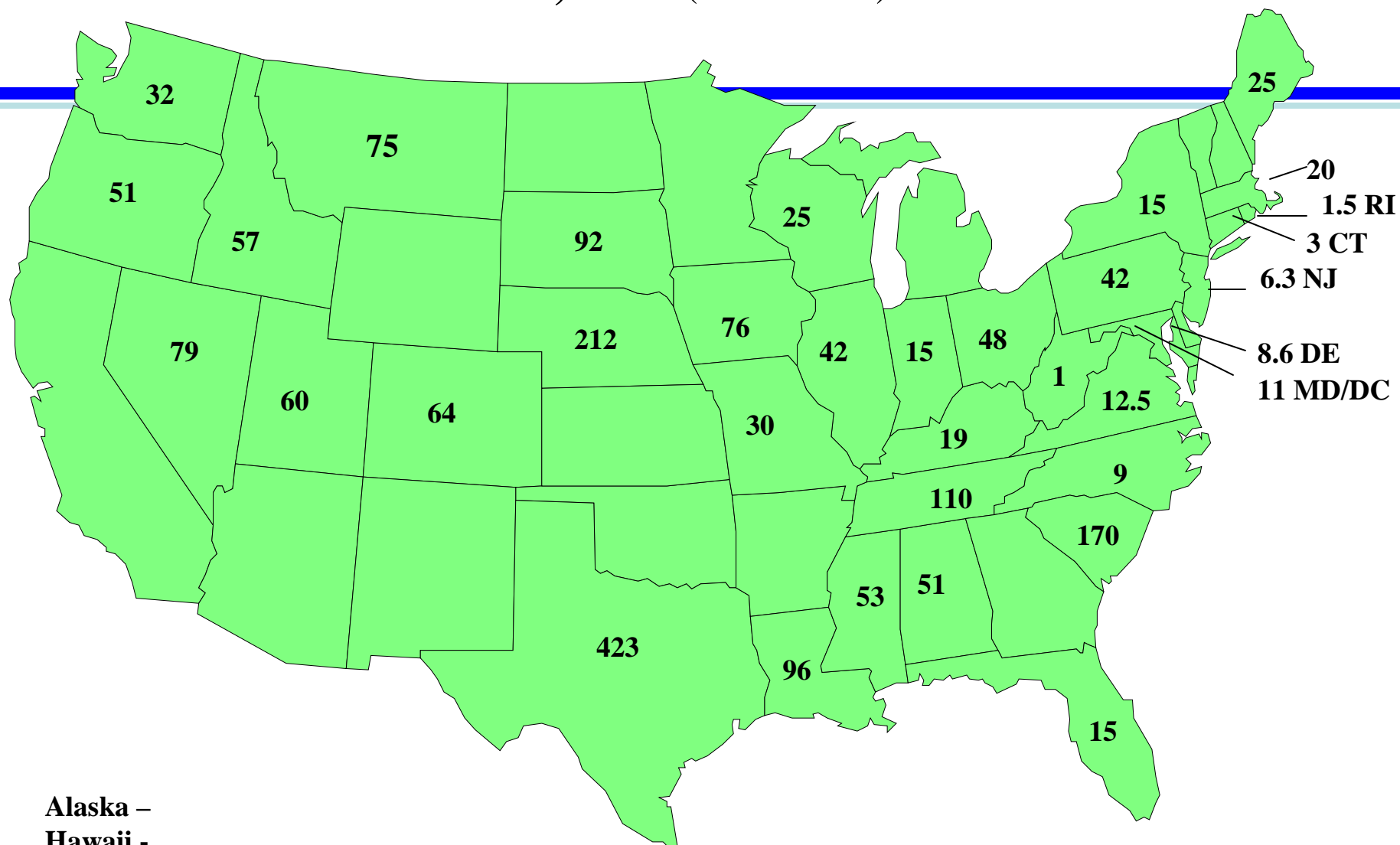
2005 Forecast Summary

- **64%** Expect to Use **More** Binder in 2005
- **18%** Expect to Use **Less** Binder in 2005
- Total Binder: **26,353,763**
- Modified Binder: **6,022,216** or **23%** of total
- Volume **Binder Increase** from 2004: **2.7%**
- Volume **Modified Increase** from 2004: **3.1%**



Reported Modified Asphalt Usage

2004, DOT(000 TONS)



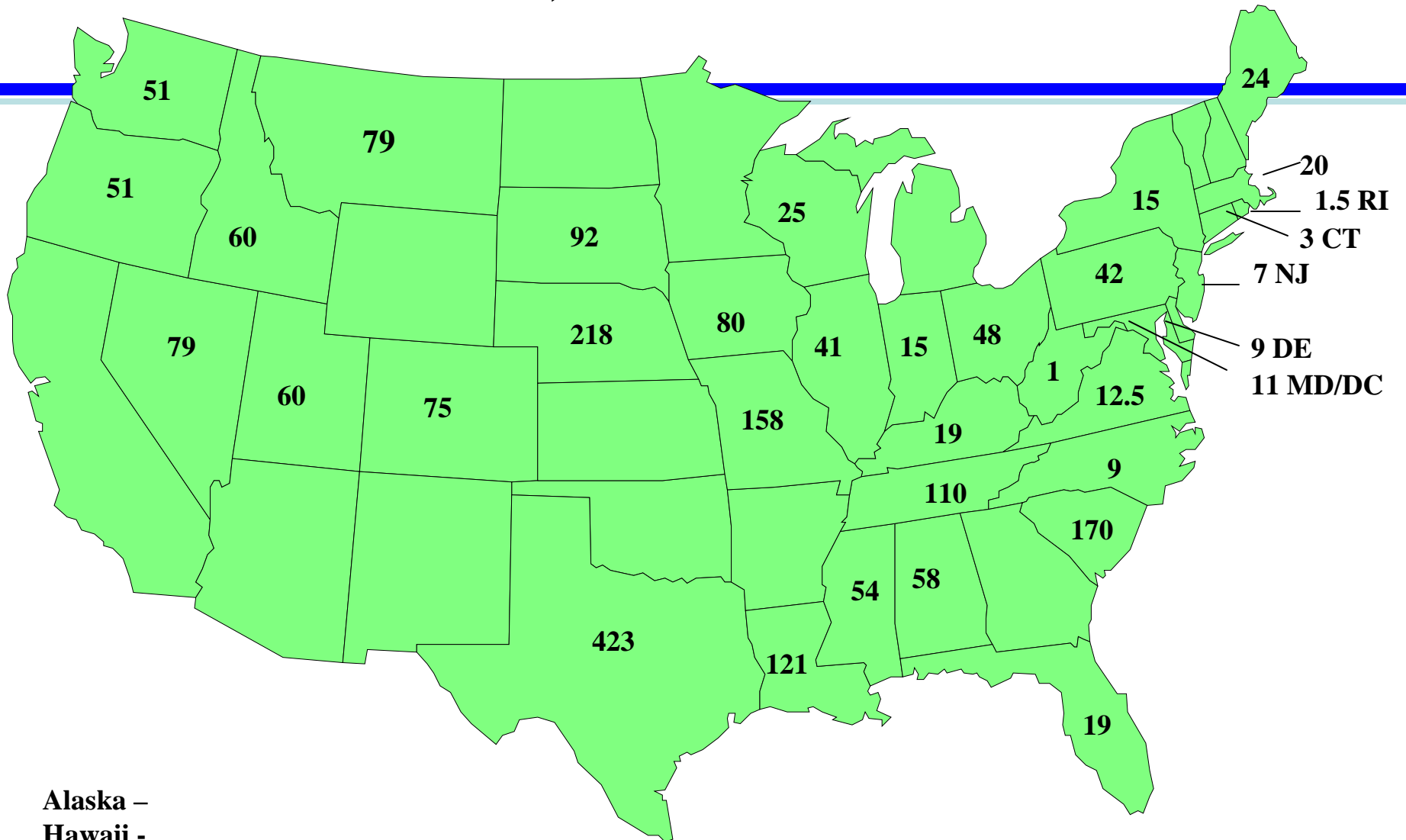
Alaska –
Hawaii -

Total 5,840,000



Forecast Modified Asphalt Usage

2005, DOT(000 TONS)



Alaska –
Hawaii -

Total 6,022,216



The Actual Results...

- will be made available to Members.
- will be presented Live via WebCast.
 - Date to be announced next week
 - Webcast to take place over the next month
- will be updated as additional information is received.

Tabulated Data will be posted on the AMAP website for Members

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	
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Who is AMAP?

A not-for-profit organization comprised of a diverse collection of industry leaders involved in all aspects of the modified asphalt market.

Asphalt suppliers, modified asphalt producers, additives suppliers, contractors, lab equipment & testing services, consultants, even some DOT Engineers comprise the AMAP membership.

www.modifiedasphalt.org





What is our mission?

An association committed to informing owners, contractors and all specifying agencies of the performance and economic benefits of modified asphalt binders for bituminous pavements

www.modifiedasphalt.org





AMAP Provides Industry Solutions

Information: Modified Asphalt technology Clearinghouse.

Support: Industry experts are available to answer questions.

Education: Provide training courses, workshops and seminars specific to Modified Asphalt..

www.modifiedasphalt.org

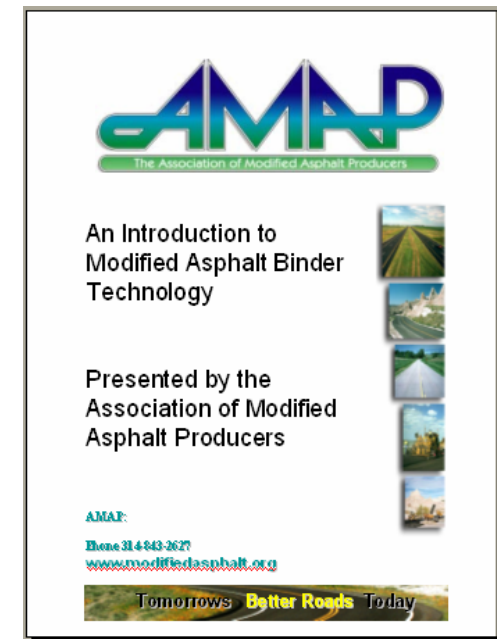




Workshops:

An Introduction to Modified Asphalt Binder Technology

Covers all the basics from chemistry, asphalt rheology, testing, specifications, handling, and background to life cycle cost analysis.



www.modifiedasphalt.org



Visit our website...



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