

Asphalt Pavement Mix Production Survey  
On Reclaimed Asphalt Pavement,  
Reclaimed Asphalt Shingles,  
And Warm-mix Asphalt Usage: 2009-2010

Appendix A

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# RAP, RAS & WMA Survey

## Purpose

The National Asphalt Pavement Association is working with the Federal Highway Administration to determine the amount of Hot-Mix Asphalt (HMA), Warm-Mix Asphalt (WMA), Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS) being produced and used in each state. The following survey will be used to collect this data.

It is important to the industry that you complete this survey so we have accurate information regarding the use of RAP, RAS and Warm-Mix-Asphalt in order to identify areas needing assistance in implementation.

DATA FROM THIS SURVEY WILL BE CONFIDENTIAL AND WILL BE USED ONLY FOR THE PURPOSES OF DETERMINING THESE QUANTITIES AND WILL NOT BE USED FOR ANY OTHER PURPOSE. DATA WILL BE REPORTED BY STATE ONLY. NO COMPANY SPECIFIC INFORMATION WILL BE DISCLOSED OR USED FOR ANY OTHER PURPOSE.

This information will be shared with industry and agencies to help in the implementation of recycling and warm mix technologies.

By completing this survey you will be eligible to receive a complimentary copy of the report.

**FOR DATA COLLECTION ONLY!**  
Please fill out web survey at:  
<http://www.surveymonkey.com/s/XZ9NG3S>

# RAP, RAS & WMA Survey

## Contact Information

The following contact information will be used only to confirm that we do not get duplicate information from a company and to contact you if we have any questions on the survey.

Contact Kent Hansen, khansen@hotmail.org or Dave Newcomb, dnewcomb@hotmail.org at NAPA if you have any questions. 888-468-6499

\* **1. Company/Branch Name:**

\* **2. Contact Person's Name & Address**

\* **3. Contact Person's email**

\* **4. Contact Person's Phone Number**

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# RAP, RAS & WMA Survey

## State

Please select the state for which you are providing the information.

If your branch works in more than one state please complete a separate questionnaire for each state. If a plant provides mix for more than one state, please divide the tonnage accordingly using your best estimate if data is not available.

### \* 5. Which state is the information provided for?

- |                                      |   |   |
|--------------------------------------|---|---|
| <input type="checkbox"/> Alabama     | <input type="checkbox"/> Louisiana      | <input type="checkbox"/> Oklahoma       |
| <input type="checkbox"/> Alaska      | <input type="checkbox"/> Maine          | <input type="checkbox"/> Oregon         |
| <input type="checkbox"/> Arizona     | <input type="checkbox"/> Maryland       | <input type="checkbox"/> Pennsylvania   |
| <input type="checkbox"/> Arkansas    | <input type="checkbox"/> Massachusetts  | <input type="checkbox"/> Puerto Rico    |
| <input type="checkbox"/> California  | <input type="checkbox"/> Michigan       | <input type="checkbox"/> Rhode Island   |
| <input type="checkbox"/> Colorado    | <input type="checkbox"/> Minnesota      | <input type="checkbox"/> South Carolina |
| <input type="checkbox"/> Connecticut | <input type="checkbox"/> Mississippi    | <input type="checkbox"/> South Dakota   |
| <input type="checkbox"/> Delaware    | <input type="checkbox"/> Missouri       | <input type="checkbox"/> Tennessee      |
| <input type="checkbox"/> Florida     | <input type="checkbox"/> Montana        | <input type="checkbox"/> Texas          |
| <input type="checkbox"/> Georgia     | <input type="checkbox"/> Nebraska       | <input type="checkbox"/> Utah           |
| <input type="checkbox"/> Guam        | <input type="checkbox"/> Nevada         | <input type="checkbox"/> Vermont        |
| <input type="checkbox"/> Hawaii      | <input type="checkbox"/> New Hampshire  | <input type="checkbox"/> Virginia       |
| <input type="checkbox"/> Idaho       | <input type="checkbox"/> New Jersey     | <input type="checkbox"/> Washington     |
| <input type="checkbox"/> Illinois    | <input type="checkbox"/> New Mexico     | <input type="checkbox"/> Washington, DC |
| <input type="checkbox"/> Indiana     | <input type="checkbox"/> New York       | <input type="checkbox"/> West Virginia  |
| <input type="checkbox"/> Iowa        | <input type="checkbox"/> North Carolina | <input type="checkbox"/> Wisconsin      |
| <input type="checkbox"/> Kansas      | <input type="checkbox"/> North Dakota   | <input type="checkbox"/> Wyoming        |
| <input type="checkbox"/> Kentucky    | <input type="checkbox"/> Ohio           |   |

### \* 6. How many plants does this survey response cover?

Number of plants

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# RAP, RAS & WMA Survey

## Total Asphalt Tonnage for 2009

Please complete the following information for the total tonnage of all asphalt production in 2009.

\* **7. What was your total tonnage of asphalt mixes in 2009 for the following categories?**

**(Use best estimate if data is not available)**

State DOT

Other Agencies (city, county, FAA, military)

Commercial & residential

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## RAP Supply and Use 2009

Please complete the following information on the amount of RAP received and used for 2009.

\* 8. Did you accept, process or use RAP in this state in 2009?

Yes

No

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# RAP, RAS & WMA Survey

## RAP Supply and Use 2009

Please complete the following information on the amount of RAP received and used for 2009.

- \* **9. How many tons of removed asphalt pavement and asphalt millings were accepted/delivered to your facilities in the state in 2009?**

Tons:

- \* **10. How many tons of RAP were used in 2009 for the following purposes? (Use best estimate if data not available)**

Recycled back into HMA/WMA mixes:   
Aggregate base:   
Cold mix:   
Other:   
Landfilled:

- \* **11. What was average RAP percentage used in asphalt mixes in 2009 for the following categories? (Use best estimate if data not available)**

State DOT   
Other Agencies (city, county, FAA, military)   
Commercial & residential

- \* **12. At the end of the year 2009 did you have excess RAP (processed or unprocessed) in inventory?**

Yes

No

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## Reclaimed Asphalt Shingles (RAS) Supply and Use for 2009

Please complete the following information on the amount of waste shingles received (processed and unprocessed) and used for 2009.

\* **13. Did you accept waste shingles and/or process or use Reclaimed Asphalt Shingles (RAS) in 2009?**

Yes

No

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# RAP, RAS & WMA Survey

## Reclaimed Asphalt Shingles (RAS) Supply and Use for 2009

Please complete the following information on the amount of waste shingles received (processed and unprocessed) and used for 2009.

- \* **14. How many tons of unprocessed shingles (manufacturers waste and tear-offs) were accepted/delivered to your facilities in the state in 2009?**

Tons:

- \* **15. How many tons of reclaimed asphalt shingles (RAS) were used for the following purposes in 2009? (Use best estimate if data not available)**

Recycled into HMA/WMA mixes:

Aggregate base:

Cold mix:

Other:

Landfilled:

- \* **16. What was average RAS percentage used in asphalt mixes in 2009 for the following categories? (Use best estimate if data is not available)**

State DOT

Other Agencies (city, county, FAA, military)

Commercial & residential

- \* **17. At the end of the year 2009 did you have excess RAS? (include processed and unprocessed shingles)**

Yes

No

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## Warm Mix Asphalt Production for 2009

Warm-mix asphalt is the generic term for a variety of technologies that allow the producers of hot-mix asphalt pavement material to lower the temperatures at which the material is mixed and placed on the road between 10 and 100 degrees F.

\* **18. Did any of your plants in this state use Warm-Mix Asphalt technologies in 2009?**

Yes

No

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# RAP, RAS & WMA Survey

## Warm Mix Asphalt Production for 2009

Warm-mix asphalt is the generic term for a variety of technologies that allow the producers of hot-mix asphalt pavement material to lower the temperatures at which the material is mixed and placed on the road between 10 and 100 degrees F.

\* **19. What was average percent of mix produced using Warm-Mix-Asphalt technologies in 2009 for the different categories? (Use best estimate if data not available)**

State DOT

Other Agencies (city, county, FAA, military)

Commercial & residential

\* **20. What percentage of the total warm-mix asphalt (WMA) for 2009 was produced using the following technologies? (Use best estimate if data not available)**

Chemical admixture

Additive (zeolite) foaming

Plant foaming

Organic (wax) additive

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## 2010 Tonnage

Please complete the following information for the total estimated tonnage of all asphalt production in 2010.

\* **21. What is your total estimated tonnage of asphalt mixes in 2010 for the following categories?**

State DOT

Local agencies (city, county, FAA, military)

Commercial & residential

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## RAP Supply and Use 2010

Please complete the following information on the estimated amount of RAP received and used for 2010.

\* 22. Did you accept, process or use RAP in this state in 2010?

Yes

No

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# RAP, RAS & WMA Survey

## RAP Supply and Use 2010

Please complete the following information on the estimated amount of RAP received and used for 2010.

- \* **23. How many tons of removed asphalt pavement and asphalt millings do you anticipate to be accepted/delivered to your facilities in the state in 2010?**

Tons:

- \* **24. How many tons of RAP do you anticipate will be used in 2010 for the following purposes?**

Recycled back into HMA/WMA mixes:   
Aggregate base:   
Cold mix:   
Other:   
Landfilled:

- \* **25. What do you anticipate the average RAP percentage in asphalt mixes in 2010 will be used for the following categories**

State DOT   
Other Agencies (city, county, FAA, military)   
Commercial & residential

- \* **26. At the end of the year 2010 do you anticipate having excess RAP (processed or unprocessed) in inventory?**

Yes

No

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## Reclaimed Asphalt Shingles (RAS) Supply and Use for 2010

Please complete the following information on the estimated amount of waste shingles received (processed and unprocessed) and used for 2010.

\* **27. Did you accept waste shingles and/or process or use Reclaimed Asphalt Shingles (RAS) in 2010?**

Yes

No

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# RAP, RAS & WMA Survey

## Reclaimed Asphalt Shingles (RAS) Supply and Use for 2010

Please complete the following information on the estimated amount of waste shingles received (processed and unprocessed) and used for 2010.

- \* **28. How many tons of unprocessed shingles (manufacturers waste and tear-offs) do you anticipate will be accepted/delivered to your facilities in the state in 2010?**

Tons:

- \* **29. How many tons of reclaimed asphalt shingles (RAS) do you anticipate will be used for the following purposes in 2010?**

Recycled back into HMA/WMA mixes:

Aggregate base:

Cold mix:

Other:

Landfilled:

- \* **30. What do you anticipate the average RAS percentage in asphalt mixes in 2010 will be used for the following categories?**

State DOT

Other Agencies (city, county, FAA, military)

Commercial & residential

- \* **31. At the end of the year 2010 do you anticipate an excess of RAS?**

Yes

No

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## Warm Mix Asphalt Production for 2010

Warm-mix asphalt is the generic term for a variety of technologies that allow the producers of hot-mix asphalt pavement material to lower the temperatures at which the material is mixed and placed on the road between 10 and 100 degrees F.

\* **32. Did any of your plants in this state use Warm-Mix Asphalt technologies in 2010?**

Yes

No

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## Warm Mix Asphalt Production for 2010

Warm-mix asphalt is the generic term for a variety of technologies that allow the producers of hot-mix asphalt pavement material to lower the temperatures at which the material is mixed and placed on the road between 10 and 100 degrees F.

★ **33. What do you anticipate the average percent of mix produced using Warm-Mix-Asphalt technologies will be in 2010 for the different categories?**

|  |                      |
|--|----------------------|
| State DOT                                    | <input type="text"/> |
| Other agencies (city, county, FAA, military) | <input type="text"/> |
| Commercial & residential                     | <input type="text"/> |

★ **34. What percentage of the total Warm-Mix-Asphalt is anticipated for the following technologies in 2010?**

|                            |                      |
|----------------------------|----------------------|
| Chemical admixture         | <input type="text"/> |
| Additive (zeolite) foaming | <input type="text"/> |
| Plant foaming              | <input type="text"/> |
| Organic (wax) additive     | <input type="text"/> |

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Thank You

35. Would you like a complimentary copy of the final report?

Yes

No

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