

# Asphalt Pavement Industry Survey on Recycled Materials and Warm-Mix Asphalt Usage 2016

Appendix B:  
State-by-State Use of  
Recycled Materials and Warm-Mix Asphalt  
In Asphalt Pavement Mixtures



7th Annual Survey

# Asphalt Pavement Industry Survey on Recycled Materials and Warm-Mix Asphalt Usage: 2016

## Appendix B

Appendix B to the seventh edition of the *Asphalt Pavement Industry Survey on Recycled Materials and Warm-Mix Asphalt Usage* (Hansen et al., 2017) covering the 2016 construction season survey provides details on the methodology used to collect and analyze the survey data, as well as reproduces the primary survey instruments used to collect data from asphalt mixture producers and from the State Asphalt Pavement Associations (SAPA).

### Introduction

This appendix provides a state-by-state breakdown of data reported in the main *Asphalt Pavement Industry Survey on Recycled Materials and Warm-Mix Asphalt Usage* report for the 2016 construction season survey, including information from Tables 4, 6, 7, 8, 12 and 25 in the main report. The accuracy of the state-level data and estimates will vary depending upon the number of companies participating in the survey in a given state and the tonnage produced by each respondent. Appendix A outlines the methodology used to collect and generate estimated data from reported data.

Appendix B reports data for all 50 U.S. states, as well as the District of Columbia and Puerto Rico. In instances where fewer than three companies in a state responded to the survey, only estimated total tonnages for the state are reported to protect proprietary company data. Estimates were not calculated for American Samoa, Guam, the Northern Mariana Islands, or the U.S. Virgin Islands due to a lack of producer input and other data sources. Table 1 in the main report, republished below, summarizes the number of respondents from each state and territory. A total of 229 companies representing 1,146 production plants responded to the 2016 construction season survey. Branches, subsidiaries, and operating units are counted as unique companies in Table 1 and throughout this report.

**Table 1: Number of Companies Completing 2016 Construction Season Survey by State/Territory**

| State                | Cos. | Prod. Plants | State               | Cos. | Prod. Plants | State               | Cos. | Prod. Plants |
|----------------------|------|--------------|---------------------|------|--------------|---------------------|------|--------------|
| Alabama              | 5    | 33           | Kentucky            | 5    | 34           | Ohio                | 5    | 66           |
| Alaska               | *    | *            | Louisiana           | 3    | 10           | Oklahoma            | 5    | 16           |
| American Samoa       | NCR  | NCR          | Maine               | 3    | 17           | Oregon              | 5    | 12           |
| Arizona              | 3    | 21           | Maryland            | 6    | 15           | Pennsylvania        | 10   | 50           |
| Arkansas             | 6    | 18           | Massachusetts       | 5    | 19           | Puerto Rico         | NCR  | NCR          |
| California           | 4    | 52           | Michigan            | 4    | 27           | Rhode Island        | *    | *            |
| Colorado             | 5    | 23           | Minnesota           | 5    | 19           | South Carolina      | 6    | 19           |
| Connecticut          | 3    | 15           | Mississippi         | 4    | 22           | South Dakota        | *    | *            |
| Delaware             | *    | *            | Missouri            | 4    | 24           | Tennessee           | 4    | 24           |
| District of Columbia | NCR  | NCR          | Montana             | *    | *            | Texas               | 7    | 46           |
| Florida              | 6    | 30           | Nebraska            | *    | *            | U.S. Virgin Islands | NCR  | NCR          |
| Georgia              | 5    | 45           | Nevada              | 3    | 4            | Utah                | 11   | 25           |
| Guam                 | NCR  | NCR          | New Hampshire       | 3    | 17           | Vermont             | *    | *            |
| Hawaii               | *    | *            | New Jersey          | 3    | 12           | Virginia            | 7    | 42           |
| Idaho                | 5    | 17           | New Mexico          | 4    | 8            | Washington          | 4    | 19           |
| Illinois             | 10   | 19           | New York            | 10   | 60           | West Virginia       | 5    | 18           |
| Indiana              | 3    | 33           | North Carolina      | 6    | 44           | Wisconsin           | 4    | 67           |
| Iowa                 | 7    | 23           | North Dakota        | *    | *            | Wyoming             | 6    | 6            |
| Kansas               | 4    | 19           | No. Mariana Islands | NCR  | NCR          | <b>Total†</b>       | 229  | 1,146        |

NCR = No Companies Responding

\* = Fewer than 3 Companies Reporting

† = Total includes companies/production plants from states with fewer than 3 companies reporting.

| ALABAMA   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 3.7                     | 3.8   | 7.5                     | 7.5   |
| DOT   | 2.5                     | 2.3   | 4.9                     | 4.6   |
| Other Agency  | 0.7                     | 0.7   | 1.5                     | 1.4   |
| Commercial & Residential  | 0.5                     | 0.7   | 1.1                     | 1.5   |
| Companies Reporting   | 4                       | 5     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.7                     | 0.9   | 1.4                     | 1.7   |
| Used in HMA/WMA Mixtures  | 0.9                     | 0.9   | 1.9                     | 1.8   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.92                    | 1.14  | 1.85                    | 2.28  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 26.9%                   | 25.1% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 21.7%                   | 21.7% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 30.6%                   | 25.2% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 25.1%                   | 24.4% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 45%                     | 13%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 19%                     | 0%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 1%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 27.3                    | 8.0   | 54.9                    | 16.0  |
| Processed Shingles Accepted   | 25.0                    | 10.0  | 50.3                    | 19.9  |
| Used in HMA/WMA Mixtures  | 61.9                    | 11.2  | 124.4                   | 22.4  |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 3.77%                   | 0.46% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 1.07%                   | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 0.64%                   | 0.10% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 1.66%                   | 0.30% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 100%                    | 60%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 3.4                     | 2.4   |
| DOT   | 48%                     | 34%   | 2.4                     | 1.6   |
| Other Agency  | 50%                     | 32%   | 0.7                     | 0.5   |
| Commercial & Residential  | 26%                     | 23%   | 0.3                     | 0.3   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 9%                      | 14%   |                         |       |
| Additive Foaming, %   | 3%                      | 0%    |                         |       |
| Plant Foaming, %  | 88%                     | 86%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 75%                     | 60%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| ALASKA  | Reported Values         |      | Estimated Values        |      |
|---|-------------------------|------|-------------------------|------|
|   | 2015                    | 2016 | 2015                    | 2016 |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |      | Tons, Millions          |      |
| Total   | *                       | *    | 4.7                     | 4.6  |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| Companies Reporting   | *                       | *    |                         |      |
| <b>RAP</b>  | Tons, Millions          |      | Tons, Millions          |      |
| Accepted  | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAP   | *                       | *    |                         |      |
| % of RAP Fractionated   | *                       | *    |                         |      |
| % of RAP Mixtures Using Softer Binders                                    | *                       | *    |                         |      |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | *    |                         |      |
| <b>RAS</b>  | Tons, Thousands         |      | Tons, Thousands         |      |
| Unprocessed Shingles Accepted   | *                       | *    | *                       | *    |
| Processed Shingles Accepted   | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAS   | *                       | *    |                         |      |
| % of RAS Mixtures Using Softer Binders                                    | †                       | *    |                         |      |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | *    |                         |      |
| <b>WMA</b>  | % of Total Production   |      | Tons, Millions          |      |
| Total   |                         |      | *                       | *    |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| <b>WMA Technologies</b>   | % of Market             |      |                         |      |
| Chemical Additive, %  | *                       | *    |                         |      |
| Additive Foaming, %   | *                       | *    |                         |      |
| Plant Foaming, %  | *                       | *    |                         |      |
| Organic Additive, %   | *                       | *    |                         |      |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Producing WMA                                       | *                       | *    |                         |      |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding



| ARIZONA   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | *                       | 2.4   | 6.8                     | 7.1   |
| DOT   | *                       | 0.4   | *                       | 1.1   |
| Other Agency  | *                       | 1.5   | *                       | 4.5   |
| Commercial & Residential  | *                       | 0.6   | *                       | 1.6   |
| Companies Reporting   | *                       | 3     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | *                       | 0.3   | *                       | 1.0   |
| Used in HMA/WMA Mixtures  | *                       | 0.2   | *                       | 0.6   |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.0   |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0   |
| Used in Other   | *                       | 0.0   | *                       | 0.0   |
| Landfilled  | *                       | 0.0   | *                       | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | 0.4   | *                       | 1.05  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 6.5%  |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 8.5%  |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 11.1% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 8.8%  |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | *                       | 100%  |                         |       |
| % of RAP Fractionated   | *                       | 0%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | *                       | 8.5%  |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | *                       | 0.0   | *                       | 0.0   |
| Processed Shingles Accepted   | *                       | 0.0   | *                       | 0.0   |
| Used in HMA/WMA Mixtures  | *                       | 0.0   | *                       | 0.0   |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.0   |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0   |
| Used in Other   | *                       | 0.0   | *                       | 0.0   |
| Landfilled  | *                       | 0.0   | *                       | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 0.00% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 0.00% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | *                       | 0%    |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | *                       | 0.05  |
| DOT   | *                       | 0%    | *                       | 0.00  |
| Other Agency  | *                       | 0.2%  | *                       | 0.01  |
| Commercial & Residential  | *                       | 2%    | *                       | 0.04  |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | *                       | 0%    |                         |       |
| Additive Foaming, %   | *                       | 0%    |                         |       |
| Plant Foaming, %  | *                       | 89%   |                         |       |
| Organic Additive, %   | *                       | 11%   |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | *                       | 100%  |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| ARKANSAS  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 1.9                     | 2.3   | 3.2                     | 5.5   |
| DOT   | 0.9                     | 1.3   | 1.6                     | 3.2   |
| Other Agency  | 0.5                     | 0.3   | 0.8                     | 0.8   |
| Commercial & Residential  | 0.5                     | 0.7   | 0.8                     | 1.6   |
| Companies Reporting   | 6                       | 6     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.2                     | 0.3   | 0.4                     | 0.7   |
| Used in HMA/WMA Mixtures  | 0.3                     | 0.2   | 0.5                     | 0.5   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.2                     | 0.2   | 0.34                    | 0.54  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 15.3%                   | 10.4% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 16.6%                   | 10.5% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 14.7%                   | 8.2%  |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 14.1%                   | 9.8%  |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 18%                     | 1%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 17%                     | 0%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 20.6                    | 5.3   | 35.3                    | 12.6  |
| Processed Shingles Accepted   | 19.0                    | 17.6  | 32.6                    | 42.0  |
| Used in HMA/WMA Mixtures  | 27.4                    | 25.0  | 47.0                    | 60.0  |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 1.20%                   | 0.87% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 1.37%                   | 1.49% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 2.35%                   | 1.30% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 1.47%                   | 1.08% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 67%                     | 67%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 0.7                     | 2.1   |
| DOT   | 10%                     | 30%   | 0.2                     | 0.9   |
| Other Agency  | 18%                     | 29%   | 0.1                     | 0.2   |
| Commercial & Residential  | 53%                     | 58%   | 0.4                     | 0.9   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 0%                      | 0%    |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 100%                    | 100%  |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 83%                     | 50%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| CALIFORNIA  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 9.3                     | 9.7   | 25.5                    | 25.0  |
| DOT   | 2.7                     | 1.9   | 7.4                     | 4.8   |
| Other Agency  | 2.9                     | 3.4   | 8.0                     | 8.8   |
| Commercial & Residential  | 3.7                     | 4.4   | 10.1                    | 11.4  |
| Companies Reporting   | 4                       | 4     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 2.1                     | 1.4   | 5.7                     | 3.6   |
| Used in HMA/WMA Mixtures  | 1.5                     | 1.4   | 4.0                     | 3.7   |
| Used in Aggregate   | 0.0                     | 0.2   | 0.0                     | 0.4   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.1                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 2.2                     | 1.6   | 5.93                    | 4.20  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 15.8%                   | 12.2% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 18.4%                   | 12.9% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 20.0%                   | 17.3% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 15.7%                   | 14.7% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 0%                      | 31%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 8%                      | 14%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 4%                      | 13%   |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Processed Shingles Accepted   | 0.7                     | 2.7   | 1.9                     | 7.0   |
| Used in HMA/WMA Mixtures  | 1.4                     | 2.3   | 3.8                     | 5.9   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.88%                   | 0.01% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.43%                   | 0.01% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 1.54%                   | 0.04% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.02%                   | 0.02% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 25%                     | 25%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 28%   |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 0.2                     | 2.7   |
| DOT   | 2%                      | 11%   | 0.2                     | 0.5   |
| Other Agency  | 0%                      | 9%    | 0.0                     | 0.8   |
| Commercial & Residential  | 0%                      | 13%   | 0.0                     | 1.4   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 41%                     | 11%   |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 59%                     | 89%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 100%                    | 100%  |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| COLORADO  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 1.5                     | 2.4   | 7.2                     | 7.5   |
| DOT   | 0.4                     | 1.1   | 2.1                     | 3.6   |
| Other Agency  | 0.7                     | 0.7   | 3.4                     | 2.2   |
| Commercial & Residential  | 0.3                     | 0.5   | 1.7                     | 1.7   |
| Companies Reporting   | 4                       | 5     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.8                     | 0.6   | 3.8                     | 1.9   |
| Used in HMA/WMA Mixtures  | 0.3                     | 0.6   | 1.4                     | 1.8   |
| Used in Aggregate   | 0.0                     | 0.1   | 0.0                     | 0.3   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.1                     | 0.0   | 0.4                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.2                     | 0.7   | 1.15                    | 2.28  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 13.8%                   | 22.1% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 24.3%                   | 24.5% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 27.1%                   | 26.4% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 20.1%                   | 23.8% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 26%                     | 71%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 23%                     | 44%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 3%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.4                     | 0.4   | 1.8                     | 1.3   |
| Processed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in HMA/WMA Mixtures  | 1.8                     | 0.0   | 8.6                     | 0.0   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.00%                   | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.00%                   | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 2.61%                   | 0.00% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.12%                   | 0.00% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 50%                     | 20%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 0.6                     | 1.1   |
| DOT   | 4%                      | 18%   | 0.1                     | 0.7   |
| Other Agency  | 11%                     | 17%   | 0.4                     | 0.1   |
| Commercial & Residential  | 12%                     | 5%    | 0.2                     | 1.1   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 56%                     | 15%   |                         |       |
| Additive Foaming, %   | 11%                     | 5%    |                         |       |
| Plant Foaming, %  | 33%                     | 74%   |                         |       |
| Organic Additive, %   | 0%                      | 7%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 75%                     | 80%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding



| CONNECTICUT   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | *                       | 2.5   | 3.1                     | 4.6   |
| DOT   | *                       | 1.0   | *                       | 1.8   |
| Other Agency  | *                       | 0.9   | *                       | 1.6   |
| Commercial & Residential  | *                       | 0.7   | *                       | 1.2   |
| Companies Reporting   | *                       | 3     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | *                       | 0.4   | *                       | 0.8   |
| Used in HMA/WMA Mixtures  | *                       | 0.5   | *                       | 1.0   |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.0   |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0   |
| Used in Other   | *                       | 0.0   | *                       | 0.0   |
| Landfilled  | *                       | 0.0   | *                       | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | 1.0   | *                       | 1.86  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 19%   |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 22%   |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 25%   |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 21.3% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | *                       | 67%   |                         |       |
| % of RAP Fractionated   | *                       | 0%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | *                       | 0%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | *                       | 0.0   | *                       | 0.0   |
| Processed Shingles Accepted   | *                       | 0.4   | *                       | 0.7   |
| Used in HMA/WMA Mixtures  | *                       | 0.4   | *                       | 0.7   |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.0   |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0   |
| Used in Other   | *                       | 0.0   | *                       | 0.0   |
| Landfilled  | *                       | 0.0   | *                       | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 0.06% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 0.02% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | *                       | 33%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | *                       | 2.6   |
| DOT   | *                       | 65%   | *                       | 1.2   |
| Other Agency  | *                       | 55%   | *                       | 0.9   |
| Commercial & Residential  | *                       | 46%   | *                       | 0.6   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | *                       | 5%    |                         |       |
| Additive Foaming, %   | *                       | 0%    |                         |       |
| Plant Foaming, %  | *                       | 94%   |                         |       |
| Organic Additive, %   | *                       | 1%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | *                       | 67%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| DELAWARE  | Reported Values         |      | Estimated Values        |      |
|---|-------------------------|------|-------------------------|------|
|   | 2015                    | 2016 | 2015                    | 2016 |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |      | Tons, Millions          |      |
| Total   | *                       | *    | 1.7                     | 1.6  |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| Companies Reporting   | *                       | *    |                         |      |
| <b>RAP</b>  | Tons, Millions          |      | Tons, Millions          |      |
| Accepted  | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAP   | *                       | *    |                         |      |
| % of RAP Fractionated   | *                       | *    |                         |      |
| % of RAP Mixtures Using Softer Binders                                    | *                       | *    |                         |      |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | *    |                         |      |
| <b>RAS</b>  | Tons, Thousands         |      | Tons, Thousands         |      |
| Unprocessed Shingles Accepted   | *                       | *    | *                       | *    |
| Processed Shingles Accepted   | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAS   | *                       | *    |                         |      |
| % of RAS Mixtures Using Softer Binders                                    | †                       | *    |                         |      |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | *    |                         |      |
| <b>WMA</b>  | % of Total Production   |      | Tons, Millions          |      |
| Total   |                         |      | *                       | *    |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| <b>WMA Technologies</b>   | % of Market             |      |                         |      |
| Chemical Additive, %  | *                       | *    |                         |      |
| Additive Foaming, %   | *                       | *    |                         |      |
| Plant Foaming, %  | *                       | *    |                         |      |
| Organic Additive, %   | *                       | *    |                         |      |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Producing WMA                                       | *                       | *    |                         |      |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| DISTRICT OF COLUMBIA  | Reported Values         |      | Estimated Values        |      |
|---|-------------------------|------|-------------------------|------|
|   | 2015                    | 2016 | 2015                    | 2016 |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |      | Tons, Millions          |      |
| Total   | NCR                     | NCR  | 1.7                     | 1.4  |
| DOT   | NCR                     | NCR  | NCR                     | NCR  |
| Other Agency  | NCR                     | NCR  | NCR                     | NCR  |
| Commercial & Residential  | NCR                     | NCR  | NCR                     | NCR  |
| Companies Reporting   | NCR                     | NCR  |                         |      |
| <b>RAP</b>  | Tons, Millions          |      | Tons, Millions          |      |
| Accepted  | NCR                     | NCR  | NCR                     | NCR  |
| Used in HMA/WMA Mixtures  | NCR                     | NCR  | NCR                     | NCR  |
| Used in Aggregate   | NCR                     | NCR  | NCR                     | NCR  |
| Used in Cold-Mix Asphalt  | NCR                     | NCR  | NCR                     | NCR  |
| Used in Other   | NCR                     | NCR  | NCR                     | NCR  |
| Landfilled  | NCR                     | NCR  | NCR                     | NCR  |
| Total Tons of RAP Stockpiled at Year-End                                  | NCR                     | NCR  | NCR                     | NCR  |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | NCR                     | NCR  |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | NCR                     | NCR  |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | NCR                     | NCR  |                         |      |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |      | NCR                     | NCR  |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAP   | NCR                     | NCR  |                         |      |
| % of RAP Fractionated   | NCR                     | NCR  |                         |      |
| % of RAP Mixtures Using Softer Binders                                    | NCR                     | NCR  |                         |      |
| % of RAP Mixtures Using Rejuvenators                                      | NCR                     | NCR  |                         |      |
| <b>RAS</b>  | Tons, Thousands         |      | Tons, Thousands         |      |
| Unprocessed Shingles Accepted   | NCR                     | NCR  | NCR                     | NCR  |
| Processed Shingles Accepted   | NCR                     | NCR  | NCR                     | NCR  |
| Used in HMA/WMA Mixtures  | NCR                     | NCR  | NCR                     | NCR  |
| Used in Aggregate   | NCR                     | NCR  | NCR                     | NCR  |
| Used in Cold-Mix Asphalt  | NCR                     | NCR  | NCR                     | NCR  |
| Used in Other   | NCR                     | NCR  | NCR                     | NCR  |
| Landfilled  | NCR                     | NCR  | NCR                     | NCR  |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | NCR                     | NCR  |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | NCR                     | NCR  |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | NCR                     | NCR  |                         |      |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |      | NCR                     | NCR  |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAS   | NCR                     | NCR  |                         |      |
| % of RAS Mixtures Using Softer Binders                                    | †                       | NCR  |                         |      |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | NCR  |                         |      |
| <b>WMA</b>  | % of Total Production   |      | Tons, Millions          |      |
| Total   |                         |      | NCR                     | NCR  |
| DOT   | NCR                     | NCR  | NCR                     | NCR  |
| Other Agency  | NCR                     | NCR  | NCR                     | NCR  |
| Commercial & Residential  | NCR                     | NCR  | NCR                     | NCR  |
| <b>WMA Technologies</b>   | % of Market             |      |                         |      |
| Chemical Additive, %  | NCR                     | NCR  |                         |      |
| Additive Foaming, %   | NCR                     | NCR  |                         |      |
| Plant Foaming, %  | NCR                     | NCR  |                         |      |
| Organic Additive, %   | NCR                     | NCR  |                         |      |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Producing WMA                                       | NCR                     | NCR  |                         |      |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| FLORIDA   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 6.0                     | 5.4   | 14.4                    | 15.0  |
| DOT   | 2.9                     | 2.2   | 6.8                     | 6.0   |
| Other Agency  | 1.1                     | 1.2   | 2.6                     | 3.2   |
| Commercial & Residential  | 2.1                     | 2.1   | 5.0                     | 5.7   |
| Companies Reporting   | 6                       | 6     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 2.1                     | 1.7   | 5.0                     | 4.7   |
| Used in HMA/WMA Mixtures  | 2.0                     | 1.7   | 4.8                     | 4.8   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.1                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.1   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 1.5                     | 1.1   | 3.68                    | 3.02  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 26.8%                   | 25.6% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 32.6%                   | 31.2% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 36.6%                   | 38.3% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 33.5%                   | 31.7% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 0%                      | 6%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 68%                     | 73%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 17%                     | 4%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 2.6                     | 0.0   | 6.1                     | 0.0   |
| Processed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in HMA/WMA Mixtures  | 2.8                     | 0.0   | 6.7                     | 0.0   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.00%                   | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 1.22%                   | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 0.73%                   | 0.00% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.05%                   | 0.00% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 17%                     | 0%    |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 1.3                     | 5.4   |
| DOT   | 16%                     | 30%   | 1.1                     | 1.8   |
| Other Agency  | 5%                      | 33%   | 0.1                     | 1.1   |
| Commercial & Residential  | 1%                      | 43%   | 0.0                     | 2.5   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 96%                     | 25%   |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 4%                      | 75%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 83%                     | 17%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| GEORGIA   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | *                       | 7.0   | 5.0                     | 10.0  |
| DOT   | *                       | 3.6   | *                       | 5.2   |
| Other Agency  | *                       | 1.6   | *                       | 2.4   |
| Commercial & Residential  | *                       | 1.7   | *                       | 2.4   |
| Companies Reporting   | *                       | 5     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | *                       | 3.1   | *                       | 4.4   |
| Used in HMA/WMA Mixtures  | *                       | 1.9   | *                       | 2.7   |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.0   |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0   |
| Used in Other   | *                       | 0.0   | *                       | 0.0   |
| Landfilled  | *                       | 0.0   | *                       | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | 5.3   | *                       | 7.58  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 26.7% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 27.0% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 29.7% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 27.4% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | *                       | 100%  |                         |       |
| % of RAP Fractionated   | *                       | 1%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | *                       | 0%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | *                       | 2.0   | *                       | 2.9   |
| Processed Shingles Accepted   | *                       | 2.0   | *                       | 2.9   |
| Used in HMA/WMA Mixtures  | *                       | 0.6   | *                       | 0.9   |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.0   |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0   |
| Used in Other   | *                       | 0.0   | *                       | 0.0   |
| Landfilled  | *                       | 0.0   | *                       | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 0.04% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 0.01% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | *                       | 40%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 1%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | *                       | 0.04  |
| DOT   | *                       | 0.2%  | *                       | 0.01  |
| Other Agency  | *                       | 0.4%  | *                       | 0.01  |
| Commercial & Residential  | *                       | 0.6%  | *                       | 0.01  |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | *                       | 100%  |                         |       |
| Additive Foaming, %   | *                       | 0%    |                         |       |
| Plant Foaming, %  | *                       | 0%    |                         |       |
| Organic Additive, %   | *                       | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | *                       | 20%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding



| HAWAII  | Reported Values         |      | Estimated Values        |      |
|---|-------------------------|------|-------------------------|------|
|   | 2015                    | 2016 | 2015                    | 2016 |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |      | Tons, Millions          |      |
| Total   | *                       | *    | 1.7                     | 1.1  |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| Companies Reporting   | *                       | *    |                         |      |
| <b>RAP</b>  | Tons, Millions          |      | Tons, Millions          |      |
| Accepted  | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAP   | *                       | *    |                         |      |
| % of RAP Fractionated   | *                       | *    |                         |      |
| % of RAP Mixtures Using Softer Binders                                    | *                       | *    |                         |      |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | *    |                         |      |
| <b>RAS</b>  | Tons, Thousands         |      | Tons, Thousands         |      |
| Unprocessed Shingles Accepted   | *                       | *    | *                       | *    |
| Processed Shingles Accepted   | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       |      |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       |      |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       |      |                         |      |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAS   | *                       | *    |                         |      |
| % of RAS Mixtures Using Softer Binders                                    | †                       | *    |                         |      |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | *    |                         |      |
| <b>WMA</b>  | % of Total Production   |      | Tons, Millions          |      |
| Total   |                         |      | *                       | *    |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| <b>WMA Technologies</b>   | % of Market             |      |                         |      |
| Chemical Additive, %  | *                       | *    |                         |      |
| Additive Foaming, %   | *                       | *    |                         |      |
| Plant Foaming, %  | *                       | *    |                         |      |
| Organic Additive, %   | *                       | *    |                         |      |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Producing WMA                                       | *                       | *    |                         |      |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| IDAHO   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 1.1                     | 1.3   | 3.0                     | 2.7   |
| DOT   | 0.4                     | 0.6   | 1.1                     | 1.3   |
| Other Agency  | 0.3                     | 0.3   | 0.8                     | 0.7   |
| Commercial & Residential  | 0.4                     | 0.3   | 1.1                     | 0.7   |
| Companies Reporting   | 6                       | 5     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.2                     | 0.3   | 0.5                     | 0.6   |
| Used in HMA/WMA Mixtures  | 0.3                     | 0.3   | 0.7                     | 0.6   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.3                     | 0.3   | 0.72                    | 0.73  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 40.3%                   | 17.2% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 22.6%                   | 18.2% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 31.1%                   | 31.9% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 25.0%                   | 21.3% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 8%                      | 12%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 53%                     | 76%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Processed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in HMA/WMA Mixtures  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.00%                   | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.00%                   | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 0.00%                   | 0.00% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.00%                   | 0.00% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 0%                      | 0%    |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 0.8                     | 0.6   |
| DOT   | 23%                     | 20%   | 0.3                     | 0.3   |
| Other Agency  | 15%                     | 21%   | 0.1                     | 0.2   |
| Commercial & Residential  | 39%                     | 27%   | 0.4                     | 0.2   |
| <b>WMA Technologies<sup>‡</sup></b>                                       | % of Market             |       |                         |       |
| Chemical Additive, %  | 31%                     | 53%   |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 69%                     | 67%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 83%                     | 80%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

‡ WMA Technologies use may exceed 100 due to the use of multiple WMA technologies in combination

Numbers may not add up exactly due to rounding

| ILLINOIS  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 5.2                     | 2.2   | 15.8                    | 14.1  |
| DOT   | 2.3                     | 0.8   | 7.1                     | 5.0   |
| Other Agency  | 1.6                     | 0.8   | 4.9                     | 5.0   |
| Commercial & Residential  | 1.3                     | 0.6   | 3.9                     | 4.2   |
| Companies Reporting   | 15                      | 10    |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 1.9                     | 0.5   | 5.8                     | 3.5   |
| Used in HMA/WMA Mixtures  | 1.3                     | 0.5   | 4.0                     | 3.3   |
| Used in Aggregate   | 0.7                     | 0.0   | 2.1                     | 0.2   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.1                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 1.1                     | 0.6   | 3.43                    | 3.79  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 19.3%                   | 14.4% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 24.0%                   | 25.5% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 27.4%                   | 31.0% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 25.1%                   | 23.2% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 90%   |                         |       |
| % of RAP Fractionated   | 56%                     | 89%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 42%                     | 58%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0.2%  |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.0                     | 12.0  | 0.0                     | 77.6  |
| Processed Shingles Accepted   | 111.5                   | 37.3  | 339.2                   | 241.5 |
| Used in HMA/WMA Mixtures  | 101.6                   | 38.0  | 309.1                   | 246.0 |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 2.26%                   | 1.24% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 2.83%                   | 2.85% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 3.30%                   | 1.03% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 1.96%                   | 1.74% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 60%                     | 60%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 64%   |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0.3%  |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 5.5                     | 2.2   |
| DOT   | 18%                     | 13%   | 1.2                     | 0.7   |
| Other Agency  | 54%                     | 30%   | 2.6                     | 1.5   |
| Commercial & Residential  | 43%                     | 3%    | 1.6                     | 0.1   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 14%                     | 25%   |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 86%                     | 75%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 33%                     | 50%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| INDIANA   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 5.1                     | 4.8   | 10.5                    | 10.0  |
| DOT   | 2.1                     | 2.4   | 4.3                     | 4.9   |
| Other Agency  | 1.7                     | 1.5   | 3.6                     | 3.2   |
| Commercial & Residential  | 1.3                     | 0.9   | 2.6                     | 1.9   |
| Companies Reporting   | 4                       | 3     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 1.2                     | 1.2   | 2.6                     | 2.5   |
| Used in HMA/WMA Mixtures  | 1.4                     | 1.0   | 2.9                     | 2.2   |
| Used in Aggregate   | 0.1                     | 0.0   | 0.2                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.1                     | 0.0   | 0.1                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 1.7                     | 1.8   | 3.51                    | 3.65  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 25.1%                   | 20.2% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 26.9%                   | 21.9% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 25.6%                   | 26.0% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 28.1%                   | 21.8% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 46%                     | 72%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 31%                     | 67%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 17.5                    | 3.5   | 36.3                    | 7.3   |
| Processed Shingles Accepted   | 5.0                     | 10.3  | 10.4                    | 21.5  |
| Used in HMA/WMA Mixtures  | 57.7                    | 32.4  | 119.8                   | 67.6  |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 2.55%                   | 0.41% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 2.96%                   | 0.91% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 2.48%                   | 0.97% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 1.14%                   | 0.68% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 75%                     | 100%  |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 9%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 5.7                     | 7.9   |
| DOT   | 56%                     | 79%   | 2.4                     | 3.9   |
| Other Agency  | 55%                     | 81%   | 2.0                     | 2.6   |
| Commercial & Residential  | 50%                     | 75%   | 1.3                     | 1.4   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 3%                      | 3%    |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 97%                     | 97%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 75%                     | 100%  |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| IOWA  | Reported Values         |       | Estimated Values        |        |
|---|-------------------------|-------|-------------------------|--------|
|   | 2015                    | 2016  | 2015                    | 2016   |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |        |
| Total   | 1.5                     | 2.2   | 3.6                     | 3.9    |
| DOT   | 0.7                     | 0.9   | 1.7                     | 1.7    |
| Other Agency  | 0.4                     | 0.9   | 1.1                     | 1.6    |
| Commercial & Residential  | 0.3                     | 0.4   | 0.8                     | 0.7    |
| Companies Reporting   | 6                       | 7     |                         |        |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |        |
| Accepted  | 0.2                     | 0.4   | 0.5                     | 0.7    |
| Used in HMA/WMA Mixtures  | 0.2                     | 0.3   | 0.5                     | 0.6    |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0    |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0    |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0    |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0    |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.2                     | 0.4   | 0.48                    | 0.76   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |        |
| Average % for DOT Mixtures <sup>1</sup>                                   | 14.6%                   | 12.6% |                         |        |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 15.0%                   | 15.6% |                         |        |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 17.5%                   | 14.4% |                         |        |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 13.3%                   | 14.12% |
|   | Other Reported Data     |       |                         |        |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |        |
| % of RAP Fractionated   | 0%                      | 3%    |                         |        |
| % of RAP Mixtures Using Softer Binders                                    | 74%                     | 8%    |                         |        |
| % of RAP Mixtures Using Rejuvenators                                      | 17%                     | 0.4%  |                         |        |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |        |
| Unprocessed Shingles Accepted   | 10.4                    | 7.0   | 25.4                    | 12.5   |
| Processed Shingles Accepted   | 13.7                    | 6.6   | 33.4                    | 11.8   |
| Used in HMA/WMA Mixtures  | 12.7                    | 5.0   | 30.9                    | 8.9    |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0    |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0    |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0    |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0    |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |        |
| Average % for DOT Mixtures <sup>1</sup>                                   | 1.34%                   | 0.21% |                         |        |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 1.66%                   | 0.19% |                         |        |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 1.67%                   | 0.36% |                         |        |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.86%                   | 0.23%  |
|   | Other Reported Data     |       |                         |        |
| % Companies Reporting Using RAS   | 50%                     | 57%   |                         |        |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 19%   |                         |        |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0.4%  |                         |        |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |        |
| Total   |                         |       | 0.2                     | 0.9    |
| DOT   | 3%                      | 11%   | 0.1                     | 0.2    |
| Other Agency  | 5%                      | 27%   | 0.1                     | 0.4    |
| Commercial & Residential  | 8%                      | 44%   | 0.1                     | 0.3    |
| <b>WMA Technologies</b>   | % of Market             |       |                         |        |
| Chemical Additive, %  | 62%                     | 23%   |                         |        |
| Additive Foaming, %   | 0%                      | 0%    |                         |        |
| Plant Foaming, %  | 38%                     | 77%   |                         |        |
| Organic Additive, %   | 0%                      | 0%    |                         |        |
|   | Other Reported Data     |       |                         |        |
| % Companies Reporting Producing WMA                                       | 67%                     | 43%   |                         |        |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding



| KANSAS  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 1.9                     | 1.7   | 4.0                     | 3.5   |
| DOT   | 0.7                     | 0.9   | 1.5                     | 2.0   |
| Other Agency  | 0.7                     | 0.4   | 1.4                     | 0.9   |
| Commercial & Residential  | 0.5                     | 0.3   | 1.0                     | 0.7   |
| Companies Reporting   | 4                       | 4     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.3                     | 0.3   | 0.6                     | 0.7   |
| Used in HMA/WMA Mixtures  | 0.3                     | 0.3   | 0.7                     | 0.7   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.1   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.1                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.5                     | 0.6   | 1.07                    | 1.19  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 18.1%                   | 19.3% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 18.6%                   | 21.6% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 23.3%                   | 22.5% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 17.5%                   | 20.5% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 0%                      | 3%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 46%                     | 73%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 1%                      | 2%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 10.5                    | 15.0  | 22.1                    | 31.9  |
| Processed Shingles Accepted   | 22.2                    | 24.5  | 46.8                    | 52.05 |
| Used in HMA/WMA Mixtures  | 24.1                    | 33.4  | 50.7                    | 70.96 |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 2.0   | 0.0                     | 4.3   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 4.61%                   | 3.15% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.00%                   | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 1.36%                   | 1.36% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 1.27%                   | 2.03% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 100%                    | 75%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 91%   |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 3.1                     | 2.5   |
| DOT   | 93%                     | 89%   | 1.4                     | 1.8   |
| Other Agency  | 69%                     | 50%   | 1.0                     | 0.4   |
| Commercial & Residential  | 68%                     | 44%   | 0.7                     | 0.3   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 47%                     | 74%   |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 53%                     | 26%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 100%                    | 50%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| <b>KENTUCKY</b>   | <b>Reported Values</b>  |       | <b>Estimated Values</b> |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 4.1                     | 3.2   | 6.5                     | 6.9   |
| DOT   | 2.8                     | 2.0   | 4.5                     | 4.2   |
| Other Agency  | 0.8                     | 0.7   | 1.2                     | 1.4   |
| Commercial & Residential  | 0.5                     | 0.6   | 0.8                     | 1.3   |
| Companies Reporting   | 6                       | 5     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.4                     | 0.5   | 0.6                     | 1.0   |
| Used in HMA/WMA Mixtures  | 0.6                     | 0.4   | 1.0                     | 0.9   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.7                     | 0.4   | 1.13                    | 0.94  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 16.2%                   | 12.6% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 17.4%                   | 13.3% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 18.0%                   | 13.2% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 15.1%                   | 12.8% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 50%                     | 75%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 17%                     | 2%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 16%   |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 2.0                     | 3.0   | 3.2                     | 6.4   |
| Processed Shingles Accepted   | 19.1                    | 3.3   | 30.3                    | 7.1   |
| Used in HMA/WMA Mixtures  | 29.5                    | 7.6   | 46.9                    | 16.2  |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 2.65%                   | 0.33% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 2.48%                   | 0.12% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 2.95%                   | 0.03% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.72%                   | 0.23% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 50%                     | 60%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 11%   |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 3.9                     | 4.0   |
| DOT   | 60%                     | 62%   | 2.7                     | 2.6   |
| Other Agency  | 67%                     | 67%   | 0.8                     | 0.9   |
| Commercial & Residential  | 50%                     | 36%   | 0.4                     | 0.5   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 8%                      | 37%   |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 92%                     | 63%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 100%                    | 80%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| LOUISIANA   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | *                       | 1.9   | 4.0                     | 2.7   |
| DOT   | *                       | 0.9   | *                       | 1.3   |
| Other Agency  | *                       | 0.4   | *                       | 0.6   |
| Commercial & Residential  | *                       | 0.5   | *                       | 0.8   |
| Companies Reporting   | *                       | 3     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | *                       | 0.5   | *                       | 0.7   |
| Used in HMA/WMA Mixtures  | *                       | 0.4   | *                       | 0.5   |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.0   |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0   |
| Used in Other   | *                       | 0.0   | *                       | 0.0   |
| Landfilled  | *                       | 0.0   | *                       | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | 0.2   | *                       | 0.25  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 21.7% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 15.1% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 18.6% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 19.4% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | *                       | 100%  |                         |       |
| % of RAP Fractionated   | *                       | 80%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | *                       | 15%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | *                       | 5.0   | *                       | 7.2   |
| Processed Shingles Accepted   | *                       | 0.0   | *                       | 0.0   |
| Used in HMA/WMA Mixtures  | *                       | 7.5   | *                       | 10.7  |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.0   |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0   |
| Used in Other   | *                       | 0.0   | *                       | 0.0   |
| Landfilled  | *                       | 0.0   | *                       | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 1.39% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 0.40% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | *                       | 33%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 27%   |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 14%   |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | *                       | 2.1   |
| DOT   | *                       | 79%   | *                       | 1.0   |
| Other Agency  | *                       | 65%   | *                       | 0.4   |
| Commercial & Residential  | *                       | 87%   | *                       | 0.7   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | *                       | 0%    |                         |       |
| Additive Foaming, %   | *                       | 0%    |                         |       |
| Plant Foaming, %  | *                       | 100%  |                         |       |
| Organic Additive, %   | *                       | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | *                       | 100%  |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| MAINE   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | *                       | 2.1   | 2.3                     | 1.6   |
| DOT   | *                       | 1.0   | *                       | 0.1   |
| Other Agency  | *                       | 0.4   | *                       | 0.3   |
| Commercial & Residential  | *                       | 0.6   | *                       | 0.5   |
| Companies Reporting   | *                       | 3     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | *                       | 0.4   | *                       | 0.3   |
| Used in HMA/WMA Mixtures  | *                       | 0.3   | *                       | 0.3   |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.0   |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0   |
| Used in Other   | *                       | 0.0   | *                       | 0.0   |
| Landfilled  | *                       | 0.0   | *                       | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | 0.4   | *                       | 0.34  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 16.5% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 13.8% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 15.5% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 15.6% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | *                       | 100%  |                         |       |
| % of RAP Fractionated   | *                       | 0%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | *                       | 4%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | *                       | 0.0   | *                       | 0.0   |
| Processed Shingles Accepted   | *                       | 7.9   | *                       | 6.1   |
| Used in HMA/WMA Mixtures  | *                       | 7.5   | *                       | 5.7   |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.0   |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0   |
| Used in Other   | *                       | 0.0   | *                       | 0.0   |
| Landfilled  | *                       | 0.0   | *                       | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 0.48% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 0.25% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 0.24% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 0.36% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | *                       | 33%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | *                       | 0.2   |
| DOT   | *                       | 18%   | *                       | 0.1   |
| Other Agency  | *                       | 8%    | *                       | 0.0   |
| Commercial & Residential  | *                       | 16%   | *                       | 0.1   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | *                       | 11%   |                         |       |
| Additive Foaming, %   | *                       | 0%    |                         |       |
| Plant Foaming, %  | *                       | 23%   |                         |       |
| Organic Additive, %   | *                       | 66%   |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | *                       | 67%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| MARYLAND  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 3.3                     | 3.3   | 7.5                     | 7.5   |
| DOT   | 1.0                     | 1.3   | 2.2                     | 2.9   |
| Other Agency  | 1.2                     | 0.8   | 2.7                     | 1.8   |
| Commercial & Residential  | 1.2                     | 1.2   | 2.7                     | 2.8   |
| Companies Reporting   | 6                       | 6     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 1.0                     | 1.3   | 2.3                     | 2.9   |
| Used in HMA/WMA Mixtures  | 0.8                     | 0.9   | 1.7                     | 2.0   |
| Used in Aggregate   | 0.2                     | 0.2   | 0.5                     | 0.3   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.8                     | 1.2   | 1.76                    | 2.64  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 20.1%                   | 24.2% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 22.5%                   | 24.9% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 30.1%                   | 29.3% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 23.0%                   | 26.2% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 0%                      | 0%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 3%                      | 12%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 8%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.4                     | 0.0   | 0.8                     | 0.0   |
| Processed Shingles Accepted   | 0.3                     | 0.0   | 0.7                     | 0.0   |
| Used in HMA/WMA Mixtures  | 3.1                     | 1.0   | 7.0                     | 2.3   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.52%                   | 0.05% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.00%                   | 0.01% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 0.43%                   | 0.02% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.09%                   | 0.03% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 33%                     | 17%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 3.9                     | 2.1   |
| DOT   | 44%                     | 16%   | 1.0                     | 0.5   |
| Other Agency  | 57%                     | 36%   | 1.5                     | 0.7   |
| Commercial & Residential  | 53%                     | 37%   | 1.4                     | 1.0   |
| <b>WMA Technologies<sup>‡</sup></b>                                       | % of Market             |       |                         |       |
| Chemical Additive, %  | 26%                     | 35%   |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 74%                     | 70%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 83%                     | 50%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

‡ WMA Technologies use may exceed 100 due to the use of multiple WMA technologies in combination

Numbers may not add up exactly due to rounding



| MASSACHUSETTS   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 2.9                     | 3.0   | 6.2                     | 6.4   |
| DOT   | 1.4                     | 1.3   | 3.1                     | 2.8   |
| Other Agency  | 0.5                     | 0.9   | 1.1                     | 1.9   |
| Commercial & Residential  | 0.9                     | 0.8   | 2.0                     | 1.7   |
| Companies Reporting   | 4                       | 5     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.4                     | 0.4   | 1.0                     | 0.9   |
| Used in HMA/WMA Mixtures  | 0.5                     | 0.5   | 1.1                     | 1.1   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.1                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.5                     | 1.0   | 1.10                    | 2.04  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 18.0%                   | 16.7% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 16.6%                   | 18.9% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 18.6%                   | 18.5% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 18.0%                   | 17.8% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 6%                      | 4%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 25%                     | 9%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0.4%  |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.8                     | 6.9   | 1.6                     | 14.9  |
| Processed Shingles Accepted   | 2.1                     | 2.6   | 4.5                     | 5.6   |
| Used in HMA/WMA Mixtures  | 2.1                     | 2.6   | 4.5                     | 5.6   |
| Used in Aggregate   | 0.0                     | 0.0   | 5.4                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.04%                   | 0.02% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.06%                   | 0.05% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 0.13%                   | 0.24% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.07%                   | 0.09% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 50%                     | 40%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 1.9                     | 3.0   |
| DOT   | 57%                     | 95%   | 1.8                     | 2.7   |
| Other Agency  | 14%                     | 16%   | 0.2                     | 0.3   |
| Commercial & Residential  | 1%                      | 3%    | 0.0                     | 0.0   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 53%                     | 65%   |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 6%                      | 0%    |                         |       |
| Organic Additive, %   | 41%                     | 35%   |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 75%                     | 100%  |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| MICHIGAN  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 7.1                     | 5.9   | 12.6                    | 14.0  |
| DOT   | 2.3                     | 1.1   | 4.1                     | 2.5   |
| Other Agency  | 1.6                     | 1.3   | 2.9                     | 3.2   |
| Commercial & Residential  | 3.2                     | 3.5   | 5.6                     | 8.4   |
| Companies Reporting   | 5                       | 4     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 2.1                     | 2.2   | 3.7                     | 5.3   |
| Used in HMA/WMA Mixtures  | 2.2                     | 1.9   | 4.0                     | 4.5   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 2.3                     | 1.8   | 4.14                    | 4.26  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 21.5%                   | 19.4% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 28.3%                   | 25.6% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 38.3%                   | 38.1% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 31.6%                   | 31.9% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 10%                     | 20%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 29%                     | 24%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.0                     | 2.0   | 0.0                     | 4.7   |
| Processed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in HMA/WMA Mixtures  | 3.2                     | 0.5   | 5.8                     | 1.2   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.00%                   | 0.02% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.00%                   | 0.01% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 0.00%                   | 0.00% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.05%                   | 0.01% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 0%                      | 25%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 4%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 7.1                     | 0.9   |
| DOT   | 62%                     | 2%    | 2.6                     | 0.0   |
| Other Agency  | 31%                     | 4%    | 0.9                     | 0.1   |
| Commercial & Residential  | 65%                     | 8%    | 3.7                     | 0.7   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 0%                      | 5%    |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 100%                    | 95%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 80%                     | 75%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| MINNESOTA   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 6.1                     | 4.6   | 13.5                    | 13.0  |
| DOT   | 1.4                     | 0.7   | 3.2                     | 2.1   |
| Other Agency  | 2.9                     | 2.4   | 6.5                     | 6.7   |
| Commercial & Residential  | 1.8                     | 1.5   | 3.9                     | 4.2   |
| Companies Reporting   | 7                       | 5     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 1.4                     | 1.1   | 3.0                     | 3.0   |
| Used in HMA/WMA Mixtures  | 1.3                     | 1.0   | 3.0                     | 2.7   |
| Used in Aggregate   | 0.0                     | 0.2   | 0.1                     | 0.5   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 1.6                     | 0.9   | 3.61                    | 2.61  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 20.7%                   | 20.9% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 23.5%                   | 21.2% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 23.0%                   | 21.0% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 21.9%                   | 21.1% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 0%                      | 3%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 16%                     | 5%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 3%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.0                     | 0.5   | 0.0                     | 1.4   |
| Processed Shingles Accepted   | 2.6                     | 2.3   | 5.6                     | 6.4   |
| Used in HMA/WMA Mixtures  | 5.5                     | 2.3   | 12.0                    | 14.9  |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.10%                   | 0.08% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 3.26%                   | 0.18% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 0.84%                   | 0.03% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.09%                   | 0.11% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 43%                     | 40%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 9.1                     | 10.4  |
| DOT   | 43%                     | 33%   | 1.3                     | 0.7   |
| Other Agency  | 77%                     | 89%   | 5.0                     | 6.0   |
| Commercial & Residential  | 73%                     | 89%   | 2.8                     | 3.7   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 3%                      | 1%    |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 97%                     | 99%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 100%                    | 80%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| MISSISSIPPI   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 2.1                     | 2.7   | 4.5                     | 4.7   |
| DOT   | 1.5                     | 1.8   | 3.1                     | 3.2   |
| Other Agency  | 0.4                     | 0.4   | 0.8                     | 0.7   |
| Commercial & Residential  | 0.3                     | 0.5   | 0.6                     | 0.9   |
| Companies Reporting   | 3                       | 4     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.4                     | 0.6   | 0.8                     | 1.1   |
| Used in HMA/WMA Mixtures  | 0.4                     | 0.5   | 0.8                     | 0.9   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.6                     | 0.5   | 1.22                    | 0.83  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 19.1%                   | 15.6% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 18.6%                   | 20.9% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 24.4%                   | 32.3% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 17.1%                   | 19.5% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 43%                     | 27%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 0%                      | 0%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.0                     | 1.0   | 0.0                     | 1.8   |
| Processed Shingles Accepted   | 7.3                     | 0.0   | 15.8                    | 0.0   |
| Used in HMA/WMA Mixtures  | 1.0                     | 0.9   | 2.1                     | 1.6   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.00%                   | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.00%                   | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 1.92%                   | 0.18% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.05%                   | 0.03% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 33%                     | 25%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 1.1                     | 3.2   |
| DOT   | 19%                     | 67%   | 0.6                     | 2.1   |
| Other Agency  | 36%                     | 95%   | 0.3                     | 0.7   |
| Commercial & Residential  | 30%                     | 43%   | 0.2                     | 0.4   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 0%                      | 0%    |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 100%                    | 100%  |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 100%                    | 75%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| MISSOURI  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 1.6                     | 1.8   | 6.0                     | 6.3   |
| DOT   | 1.1                     | 0.9   | 3.9                     | 3.2   |
| Other Agency  | 0.3                     | 0.3   | 1.0                     | 0.9   |
| Commercial & Residential  | 0.3                     | 0.7   | 1.0                     | 2.3   |
| Companies Reporting   | 4                       | 4     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.3                     | 0.4   | 1.3                     | 1.3   |
| Used in HMA/WMA Mixtures  | 0.4                     | 0.4   | 1.4                     | 1.5   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.2                     | 1.1   | 0.76                    | 3.84  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 22.3%                   | 23.3% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 20.3%                   | 20.5% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 18.2%                   | 23.6% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 23.5%                   | 23.0% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 0%                      | 32%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 35%                     | 4%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 19%                     | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 20.1                    | 0.5   | 74.9                    | 1.7   |
| Processed Shingles Accepted   | 2.0                     | 3.0   | 7.5                     | 10.5  |
| Used in HMA/WMA Mixtures  | 26.1                    | 6.6   | 97.4                    | 22.9  |
| Used in Aggregate   | 0.2                     | 0.0   | 0.6                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 1.02%                   | 0.43% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 2.28%                   | 0.21% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 2.63%                   | 0.33% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 1.62%                   | 0.36% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 100%                    | 75%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 2.3                     | 1.4   |
| DOT   | 37%                     | 36%   | 1.5                     | 1.1   |
| Other Agency  | 47%                     | 21%   | 0.5                     | 0.2   |
| Commercial & Residential  | 35%                     | 3%    | 0.4                     | 0.1   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 48%                     | 0%    |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 52%                     | 92%   |                         |       |
| Organic Additive, %   | 0%                      | 9%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 100%                    | 100%  |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding



| MONTANA   | Reported Values         |      | Estimated Values        |      |
|---|-------------------------|------|-------------------------|------|
|   | 2015                    | 2016 | 2015                    | 2016 |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |      | Tons, Millions          |      |
| Total   | *                       | *    | 4.1                     | 3.9  |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| Companies Reporting   | *                       | *    |                         |      |
| <b>RAP</b>  | Tons, Millions          |      | Tons, Millions          |      |
| Accepted  | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAP   | *                       | *    |                         |      |
| % of RAP Fractionated   | *                       | *    |                         |      |
| % of RAP Mixtures Using Softer Binders                                    | *                       | *    |                         |      |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | *    |                         |      |
| <b>RAS</b>  | Tons, Thousands         |      | Tons, Thousands         |      |
| Unprocessed Shingles Accepted   | *                       | *    | *                       | *    |
| Processed Shingles Accepted   | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAS   | *                       | *    |                         |      |
| % of RAS Mixtures Using Softer Binders                                    | †                       | *    |                         |      |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | *    |                         |      |
| <b>WMA</b>  | % of Total Production   |      | Tons, Millions          |      |
| Total   |                         |      | *                       | *    |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| <b>WMA Technologies</b>   | % of Market             |      |                         |      |
| Chemical Additive, %  | *                       | *    |                         |      |
| Additive Foaming, %   | *                       | *    |                         |      |
| Plant Foaming, %  | *                       | *    |                         |      |
| Organic Additive, %   | *                       | *    |                         |      |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Producing WMA                                       | *                       | *    |                         |      |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| NEBRASKA  | Reported Values         |      | Estimated Values        |      |
|---|-------------------------|------|-------------------------|------|
|   | 2015                    | 2016 | 2015                    | 2016 |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |      | Tons, Millions          |      |
| Total   | *                       | *    | 3.0                     | 2.7  |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| Companies Reporting   | *                       | *    |                         |      |
| <b>RAP</b>  | Tons, Millions          |      | Tons, Millions          |      |
| Accepted  | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAP   | *                       | *    |                         |      |
| % of RAP Fractionated   | *                       | *    |                         |      |
| % of RAP Mixtures Using Softer Binders                                    | *                       | *    |                         |      |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | *    |                         |      |
| <b>RAS</b>  | Tons, Thousands         |      | Tons, Thousands         |      |
| Unprocessed Shingles Accepted   | *                       | *    | *                       | *    |
| Processed Shingles Accepted   | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAS   | *                       | *    |                         |      |
| % of RAS Mixtures Using Softer Binders                                    | †                       | *    |                         |      |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | *    |                         |      |
| <b>WMA</b>  | % of Total Production   |      | Tons, Millions          |      |
| Total   |                         |      | *                       | *    |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| <b>WMA Technologies</b>   | % of Market             |      |                         |      |
| Chemical Additive, %  | *                       | *    |                         |      |
| Additive Foaming, %   | *                       | *    |                         |      |
| Plant Foaming, %  | *                       | *    |                         |      |
| Organic Additive, %   | *                       | *    |                         |      |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Producing WMA                                       | *                       | *    |                         |      |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| NEVADA  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | *                       | 1.0   | 3.5                     | 3.3   |
| DOT   | *                       | 0.1   | *                       | 0.5   |
| Other Agency  | *                       | 0.5   | *                       | 1.7   |
| Commercial & Residential  | *                       | 0.3   | *                       | 1.2   |
| Companies Reporting   | *                       | 3     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | *                       | 0.2   | *                       | 0.8   |
| Used in HMA/WMA Mixtures  | *                       | 0.2   | *                       | 0.7   |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.1   |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0   |
| Used in Other   | *                       | 0.0   | *                       | 0.0   |
| Landfilled  | *                       | 0.0   | *                       | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | 0.2   | *                       | 0.8   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 11.6% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 24.8% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 21.7% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 21.7% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | *                       | 100%  |                         |       |
| % of RAP Fractionated   | *                       | 0%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | *                       | 12%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | *                       | 0.3   | *                       | 0.9   |
| Processed Shingles Accepted   | *                       | 0.0   | *                       | 0.0   |
| Used in HMA/WMA Mixtures  | *                       | 0.0   | *                       | 0.0   |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.0   |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0   |
| Used in Other   | *                       | 0.0   | *                       | 0.0   |
| Landfilled  | *                       | 0.0   | *                       | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 0.00% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 0.00% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | *                       | 33%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | *                       | 0.1   |
| DOT   | *                       | 0%    | *                       | 0.0   |
| Other Agency  | *                       | 0%    | *                       | 0.0   |
| Commercial & Residential  | *                       | 9%    | *                       | 0.1   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | *                       | 0%    |                         |       |
| Additive Foaming, %   | *                       | 0%    |                         |       |
| Plant Foaming, %  | *                       | 100%  |                         |       |
| Organic Additive, %   | *                       | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | *                       | 100%  |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| NEW HAMPSHIRE   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 1.3                     | 1.5   | 1.8                     | 1.4   |
| DOT   | 0.4                     | 0.5   | 0.5                     | 0.4   |
| Other Agency  | 0.3                     | 0.4   | 0.4                     | 0.4   |
| Commercial & Residential  | 0.6                     | 0.7   | 0.8                     | 0.6   |
| Companies Reporting   | 3                       | 3     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.1                     | 0.3   | 0.1                     | 0.3   |
| Used in HMA/WMA Mixtures  | 0.2                     | 0.3   | 0.3                     | 0.3   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.1                     | 0.8   | 0.13                    | 0.08  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 22.8%                   | 19.0% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 22.1%                   | 20.3% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 23.8%                   | 21.8% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 18.5%                   | 20.6% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 0%                      | 0%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 0%                      | 0%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Processed Shingles Accepted   | 2.5                     | 3.8   | 3.4                     | 3.6   |
| Used in HMA/WMA Mixtures  | 2.5                     | 3.4   | 3.4                     | 3.2   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.00%                   | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 2.31%                   | 0.05% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 2.75%                   | 0.48% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.19%                   | 0.23% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 33%                     | 33%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 0.9                     | 0.4   |
| DOT   | 64%                     | 26%   | 0.3                     | 0.1   |
| Other Agency  | 38%                     | 40%   | 0.2                     | 0.1   |
| Commercial & Residential  | 46%                     | 23%   | 0.4                     | 0.1   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 20%                     | 0%    |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 70%                     | 55%   |                         |       |
| Organic Additive, %   | 10%                     | 45%   |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 33%                     | 67%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| NEW JERSEY  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | *                       | 2.7   | 8.7                     | 4.5   |
| DOT   | *                       | 0.3   | *                       | 0.5   |
| Other Agency  | *                       | 1.7   | *                       | 2.8   |
| Commercial & Residential  | *                       | 0.8   | *                       | 1.3   |
| Companies Reporting   | *                       | 3     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | *                       | 1.2   | *                       | 1.9   |
| Used in HMA/WMA Mixtures  | *                       | 0.5   | *                       | 0.9   |
| Used in Aggregate   | *                       | 0.1   | *                       | 0.2   |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0   |
| Used in Other   | *                       | 0.0   | *                       | 0.0   |
| Landfilled  | *                       | 0.0   | *                       | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | 2.33  | *                       | 3.84  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 19%   |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 17%   |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 23%   |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 19%   |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | *                       | 100%  |                         |       |
| % of RAP Fractionated   | *                       | 16%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | *                       | 7%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | *                       | 0.0   | *                       | 0.0   |
| Processed Shingles Accepted   | *                       | 0.0   | *                       | 0.0   |
| Used in HMA/WMA Mixtures  | *                       | 0.0   | *                       | 0.0   |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.0   |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0   |
| Used in Other   | *                       | 0.0   | *                       | 0.0   |
| Landfilled  | *                       | 0.0   | *                       | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 0.00% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 0.00% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | *                       | 0%    |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | *                       | 1.5   |
| DOT   | *                       | 10%   | *                       | 0.1   |
| Other Agency  | *                       | 41%   | *                       | 1.1   |
| Commercial & Residential  | *                       | 22%   | *                       | 0.3   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | *                       | 2%    |                         |       |
| Additive Foaming, %   | *                       | 0%    |                         |       |
| Plant Foaming, %  | *                       | 98%   |                         |       |
| Organic Additive, %   | *                       | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | *                       | 67%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| NEW MEXICO  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | NCR                     | 1.0   | 3.5                     | 3.5   |
| DOT   | NCR                     | 0.5   | NCR                     | 1.8   |
| Other Agency  | NCR                     | 0.2   | NCR                     | 0.8   |
| Commercial & Residential  | NCR                     | 0.2   | NCR                     | 0.8   |
| Companies Reporting   | NCR                     | 4     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | NCR                     | 0.4   | NCR                     | 1.2   |
| Used in HMA/WMA Mixtures  | NCR                     | 0.2   | NCR                     | 0.8   |
| Used in Aggregate   | NCR                     | 0.0   | NCR                     | 0.0   |
| Used in Cold-Mix Asphalt  | NCR                     | 0.0   | NCR                     | 0.0   |
| Used in Other   | NCR                     | 0.0   | NCR                     | 0.0   |
| Landfilled  | NCR                     | 0.0   | NCR                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | NCR                     | 0.1   | NCR                     | 0.35  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | NCR                     | 24%   |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | NCR                     | 17%   |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | NCR                     | 23%   |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | NCR                     | 22%   |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | NCR                     | 100%  |                         |       |
| % of RAP Fractionated   | NCR                     | 52%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | NCR                     | 28%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | NCR                     | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | NCR                     | 1.5   | NCR                     | 5.2   |
| Processed Shingles Accepted   | NCR                     | 0.0   | NCR                     | 0.0   |
| Used in HMA/WMA Mixtures  | NCR                     | 1.3   | NCR                     | 4.4   |
| Used in Aggregate   | NCR                     | 0.0   | NCR                     | 0.0   |
| Used in Cold-Mix Asphalt  | NCR                     | 0.0   | NCR                     | 0.0   |
| Used in Other   | NCR                     | 0.0   | NCR                     | 0.0   |
| Landfilled  | NCR                     | 0.0   | NCR                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | NCR                     | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | NCR                     | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | NCR                     | 0.53% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | NCR                     | 0.00% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | NCR                     | 25%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 2%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | NCR                     | 1.0   |
| DOT   | NCR                     | 40%   | NCR                     | 0.7   |
| Other Agency  | NCR                     | 22%   | NCR                     | 0.2   |
| Commercial & Residential  | NCR                     | 8%    | NCR                     | 0.1   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | NCR                     | 0%    |                         |       |
| Additive Foaming, %   | NCR                     | 0%    |                         |       |
| Plant Foaming, %  | NCR                     | 100%  |                         |       |
| Organic Additive, %   | NCR                     | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | NCR                     | 100%  |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding



| NEW YORK  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 7.2                     | 5.7   | 16.8                    | 17.0  |
| DOT   | 2.0                     | 1.7   | 4.7                     | 5.0   |
| Other Agency  | 3.0                     | 2.1   | 7.0                     | 6.2   |
| Commercial & Residential  | 2.2                     | 2.0   | 5.2                     | 5.8   |
| Companies Reporting   | 12                      | 10    |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 1.1                     | 0.9   | 2.5                     | 2.6   |
| Used in HMA/WMA Mixtures  | 1.2                     | 0.9   | 2.7                     | 2.8   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.1                     | 0.1   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 1.1                     | 1.4   | 2.58                    | 4.1   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 18.0%                   | 16%   |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 18.9%                   | 16%   |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 17.0%                   | 17%   |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 16.1%                   | 16.2% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 15%                     | 12%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 3%                      | 1%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 9%                      | 6%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Processed Shingles Accepted   | 0.3                     | 0.0   | 0.6                     | 0.0   |
| Used in HMA/WMA Mixtures  | 0.3                     | 0.0   | 0.6                     | 0.0   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.00%                   | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.00%                   | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 0.10%                   | 0.00% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.00%                   | 0.00% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 8%                      | 0%    |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 3.3                     | 4.2   |
| DOT   | 30%                     | 35%   | 1.4                     | 1.7   |
| Other Agency  | 20%                     | 23%   | 1.4                     | 1.3   |
| Commercial & Residential  | 11%                     | 19%   | 0.6                     | 1.1   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 49%                     | 28%   |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 51%                     | 72%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 83%                     | 100%  |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| NORTH CAROLINA  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 5.9                     | 4.8   | 11.0                    | 15.0  |
| DOT   | 3.8                     | 2.8   | 7.1                     | 8.6   |
| Other Agency  | 0.7                     | 0.6   | 1.3                     | 2.0   |
| Commercial & Residential  | 1.4                     | 1.4   | 2.6                     | 4.4   |
| Companies Reporting   | 8                       | 6     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 1.3                     | 1.1   | 2.4                     | 3.6   |
| Used in HMA/WMA Mixtures  | 1.6                     | 1.1   | 2.9                     | 3.4   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.1   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 1.6                     | 1.1   | 3.02                    | 3.5   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 26.6%                   | 21.1% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 20.5%                   | 22.7% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 30.6%                   | 25.8% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 26.3%                   | 22.7% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 34%                     | 39%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 30%                     | 49%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 37.0                    | 79.0  | 68.7                    | 248.2 |
| Processed Shingles Accepted   | 46.7                    | 51.0  | 86.6                    | 160.2 |
| Used in HMA/WMA Mixtures  | 73.7                    | 71.3  | 136.8                   | 223.9 |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 2.73%                   | 1.82% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.00%                   | 1.65% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 1.25%                   | 0.77% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 1.24%                   | 1.49% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 38%                     | 50%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 54%   |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 0.4                     | 0.0   |
| DOT   | 4%                      | 0.3%  | 0.3                     | 0.0   |
| Other Agency  | 0%                      | 0%    | 0.0                     | 0.0   |
| Commercial & Residential  | 5%                      | 0%    | 0.1                     | 0.0   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 36%                     | 100%  |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 64%                     | 0%    |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 63%                     | 17%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| NORTH DAKOTA  | Reported Values         |      | Estimated Values        |      |
|---|-------------------------|------|-------------------------|------|
|   | 2015                    | 2016 | 2015                    | 2016 |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |      | Tons, Millions          |      |
| Total   | *                       | *    | 3.0                     | 2.1  |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| Companies Reporting   | *                       | *    |                         |      |
| <b>RAP</b>  | Tons, Millions          |      | Tons, Millions          |      |
| Accepted  | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAP   | *                       | *    |                         |      |
| % of RAP Fractionated   | *                       | *    |                         |      |
| % of RAP Mixtures Using Softer Binders                                    | *                       | *    |                         |      |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | *    |                         |      |
| <b>RAS</b>  | Tons, Thousands         |      | Tons, Thousands         |      |
| Unprocessed Shingles Accepted   | *                       | *    | *                       | *    |
| Processed Shingles Accepted   | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAS   | *                       | *    |                         |      |
| % of RAS Mixtures Using Softer Binders                                    | †                       | *    |                         |      |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | *    |                         |      |
| <b>WMA</b>  | % of Total Production   |      | Tons, Millions          |      |
| Total   |                         |      | *                       | *    |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| <b>WMA Technologies</b>   | % of Market             |      |                         |      |
| Chemical Additive, %  | *                       | *    |                         |      |
| Additive Foaming, %   | *                       | *    |                         |      |
| Plant Foaming, %  | *                       | *    |                         |      |
| Organic Additive, %   | *                       | *    |                         |      |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Producing WMA                                       | *                       | *    |                         |      |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| OHIO  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 11.0                    | 10.4  | 17.4                    | 19.0  |
| DOT   | 5.7                     | 3.8   | 9.0                     | 6.9   |
| Other Agency  | 3.2                     | 3.5   | 5.1                     | 6.42  |
| Commercial & Residential  | 2.1                     | 3.1   | 3.3                     | 5.7   |
| Companies Reporting   | 4                       | 5     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 2.5                     | 2.8   | 4.0                     | 5.1   |
| Used in HMA/WMA Mixtures  | 3.1                     | 2.8   | 4.8                     | 5.2   |
| Used in Aggregate   | 0.1                     | 0.0   | 0.2                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.1   | 0.0                     | 0.2   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 2.0                     | 2.2   | 3.13                    | 3.96  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 33.2%                   | 28.3% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 27.3%                   | 26.5% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 30.6%                   | 27.0% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 27.8%                   | 27.3% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 19%                     | 6%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 24%                     | 24%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 12.0                    | 0.2   | 19.0                    | 0.4   |
| Processed Shingles Accepted   | 2.2                     | 0.8   | 3.5                     | 1.4   |
| Used in HMA/WMA Mixtures  | 14.9                    | 18.7  | 23.5                    | 34.1  |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 2.07%                   | 0.16% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 2.39%                   | 0.19% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 1.30%                   | 0.20% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.14%                   | 0.18% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 50%                     | 40%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 10.1                    | 11.1  |
| DOT   | 59%                     | 64%   | 5.3                     | 4.4   |
| Other Agency  | 55%                     | 54%   | 2.8                     | 3.4   |
| Commercial & Residential  | 59%                     | 58%   | 2.0                     | 3.3   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 0%                      | 0%    |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 100%                    | 100%  |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 100%                    | 80%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| OKLAHOMA  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 2.1                     | 2.2   | 6.3                     | 5.2   |
| DOT   | 1.0                     | 1.1   | 3.1                     | 2.6   |
| Other Agency  | 0.3                     | 0.4   | 0.9                     | 0.9   |
| Commercial & Residential  | 0.7                     | 0.7   | 2.3                     | 1.7   |
| Companies Reporting   | 5                       | 5     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.5                     | 0.2   | 1.6                     | 0.5   |
| Used in HMA/WMA Mixtures  | 0.4                     | 0.4   | 1.2                     | 0.9   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.5                     | 0.0   | 1.67                    | 0.91  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 18.1%                   | 14.3% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 18.1%                   | 16.8% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 24.5%                   | 20.4% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 19.6%                   | 16.7% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 83%                     | 50%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 7%                      | 5%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 35.0                    | 28.3  | 106.6                   | 66.7  |
| Processed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in HMA/WMA Mixtures  | 17.6                    | 8.7   | 53.6                    | 20.6  |
| Used in Aggregate   | 0.0                     | 0.0   | 0.3                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.00%                   | 0.05% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.94%                   | 0.05% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 3.09%                   | 1.11% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.85%                   | 0.40% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 40%                     | 40%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 39%   |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 3.1                     | 1.9   |
| DOT   | 49%                     | 38%   | 1.5                     | 1.0   |
| Other Agency  | 62%                     | 39%   | 0.6                     | 0.3   |
| Commercial & Residential  | 44%                     | 38%   | 1.0                     | 0.7   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 0%                      | 7%    |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 100%                    | 93%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 80%                     | 80%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| OREGON  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 1.7                     | 1.6   | 4.9                     | 5.4   |
| DOT   | 0.3                     | 0.5   | 0.7                     | 1.6   |
| Other Agency  | 0.5                     | 0.4   | 1.4                     | 1.2   |
| Commercial & Residential  | 0.9                     | 0.8   | 2.7                     | 2.7   |
| Companies Reporting   | 4                       | 5     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.5                     | 0.4   | 1.6                     | 1.2   |
| Used in HMA/WMA Mixtures  | 0.5                     | 0.4   | 1.3                     | 1.2   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.5                     | 0.7   | 1.51                    | 2.19  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 25.1%                   | 20.6% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 22.5%                   | 22.0% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 28.8%                   | 22.5% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 27.1%                   | 21.8% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 3%                      | 7%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 23%                     | 35%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 5%                      | 31%   |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 30.0                    | 20.0  | 87.2                    | 67.0  |
| Processed Shingles Accepted   | 2.8                     | 0.0   | 8.2                     | 0.0   |
| Used in HMA/WMA Mixtures  | 36.9                    | 12.0  | 107.3                   | 40.6  |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.00%                   | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.00%                   | 0.68% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 2.78%                   | 1.22% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 2.21%                   | 0.75% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 100%                    | 60%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 72%   |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 75%   |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 0.5                     | 0.8   |
| DOT   | 13%                     | 13%   | 0.1                     | 0.2   |
| Other Agency  | 12%                     | 27%   | 0.2                     | 0.3   |
| Commercial & Residential  | 10%                     | 11%   | 0.3                     | 0.3   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 0%                      | 2%    |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 100%                    | 98%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 75%                     | 60%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding



| PENNSYLVANIA  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 4.6                     | 7.3   | 19.4                    | 19.0  |
| DOT   | 2.4                     | 4.3   | 10.1                    | 11.1  |
| Other Agency  | 0.7                     | 1.1   | 2.8                     | 2.8   |
| Commercial & Residential  | 1.5                     | 1.2   | 6.5                     | 5.1   |
| Companies Reporting   | 8                       | 10    |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.6                     | 1.1   | 2.6                     | 2.8   |
| Used in HMA/WMA Mixtures  | 0.7                     | 1.1   | 2.9                     | 2.8   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.1                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 1.0                     | 1.6   | 4.11                    | 4.12  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 16.4%                   | 14.8% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 17.3%                   | 14.9% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 21.0%                   | 15.3% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 14.9%                   | 14.9% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 19%                     | 2%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 6%                      | 3%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 4%                      | 5%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 46.0                    | 37.5  | 194.3                   | 97.4  |
| Processed Shingles Accepted   | 0.0                     | 1.5   | 0.0                     | 3.9   |
| Used in HMA/WMA Mixtures  | 53.0                    | 5.4   | 223.9                   | 14.0  |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.2   | 0.0                     | 0.5   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 1.56%                   | 0.06% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 2.06%                   | 0.06% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 2.15%                   | 0.10% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 1.15%                   | 0.07% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 38%                     | 20%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 21%   |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 9.4                     | 8.3   |
| DOT   | 78%                     | 58%   | 7.8                     | 6.4   |
| Other Agency  | 18%                     | 29%   | 0.5                     | 0.8   |
| Commercial & Residential  | 17%                     | 20%   | 1.1                     | 1.0   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 70%                     | 36%   |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 30%                     | 65%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 88%                     | 100%  |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| PUERTO RICO   | Reported Values         |      | Estimated Values        |      |
|---|-------------------------|------|-------------------------|------|
|   | 2015                    | 2016 | 2015                    | 2016 |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |      | Tons, Millions          |      |
| Total   | *                       | NCR  | 1.0                     | 1.0  |
| DOT   | *                       | NCR  | *                       | NCR  |
| Other Agency  | *                       | NCR  | *                       | NCR  |
| Commercial & Residential  | *                       | NCR  | *                       | NCR  |
| Companies Reporting   | *                       | NCR  |                         |      |
| <b>RAP</b>  | Tons, Millions          |      | Tons, Millions          |      |
| Accepted  | *                       | NCR  | *                       | NCR  |
| Used in HMA/WMA Mixtures  | *                       | NCR  | *                       | NCR  |
| Used in Aggregate   | *                       | NCR  | *                       | NCR  |
| Used in Cold-Mix Asphalt  | *                       | NCR  | *                       | NCR  |
| Used in Other   | *                       | NCR  | *                       | NCR  |
| Landfilled  | *                       | NCR  | *                       | NCR  |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | NCR  | *                       | NCR  |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | NCR  |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | NCR  |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | NCR  |                         |      |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | NCR  |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAP   | *                       | NCR  |                         |      |
| % of RAP Fractionated   | *                       | NCR  |                         |      |
| % of RAP Mixtures Using Softer Binders                                    | *                       | NCR  |                         |      |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | NCR  |                         |      |
| <b>RAS</b>  | Tons, Thousands         |      | Tons, Thousands         |      |
| Unprocessed Shingles Accepted   | *                       | NCR  | *                       | NCR  |
| Processed Shingles Accepted   | *                       | NCR  | *                       | NCR  |
| Used in HMA/WMA Mixtures  | *                       | NCR  | *                       | NCR  |
| Used in Aggregate   | *                       | NCR  | *                       | NCR  |
| Used in Cold-Mix Asphalt  | *                       | NCR  | *                       | NCR  |
| Used in Other   | *                       | NCR  | *                       | NCR  |
| Landfilled  | *                       | NCR  | *                       | NCR  |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | NCR  |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | NCR  |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | NCR  |                         |      |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | NCR  |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAS   | *                       | NCR  |                         |      |
| % of RAS Mixtures Using Softer Binders                                    | †                       | NCR  |                         |      |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | NCR  |                         |      |
| <b>WMA</b>  | % of Total Production   |      | Tons, Millions          |      |
| Total   |                         |      | *                       | NCR  |
| DOT   | *                       | NCR  | *                       | NCR  |
| Other Agency  | *                       | NCR  | *                       | NCR  |
| Commercial & Residential  | *                       | NCR  | *                       | NCR  |
| <b>WMA Technologies</b>   | % of Market             |      |                         |      |
| Chemical Additive, %  | *                       | NCR  |                         |      |
| Additive Foaming, %   | *                       | NCR  |                         |      |
| Plant Foaming, %  | *                       | NCR  |                         |      |
| Organic Additive, %   | *                       | NCR  |                         |      |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Producing WMA                                       | *                       | NCR  |                         |      |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| RHODE ISLAND  | Reported Values         |      | Estimated Values        |      |
|---|-------------------------|------|-------------------------|------|
|   | 2015                    | 2016 | 2015                    | 2016 |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |      | Tons, Millions          |      |
| Total   | *                       | *    | 2.3                     | 1.9  |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| Companies Reporting   | *                       | *    |                         |      |
| <b>RAP</b>  | Tons, Millions          |      | Tons, Millions          |      |
| Accepted  | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAP   | *                       | *    |                         |      |
| % of RAP Fractionated   | *                       | *    |                         |      |
| % of RAP Mixtures Using Softer Binders                                    | *                       | *    |                         |      |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | *    |                         |      |
| <b>RAS</b>  | Tons, Thousands         |      | Tons, Thousands         |      |
| Unprocessed Shingles Accepted   | *                       | *    | *                       | *    |
| Processed Shingles Accepted   | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAS   | *                       | *    |                         |      |
| % of RAS Mixtures Using Softer Binders                                    | †                       | *    |                         |      |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | *    |                         |      |
| <b>WMA</b>  | % of Total Production   |      | Tons, Millions          |      |
| Total   |                         |      | *                       | *    |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| <b>WMA Technologies</b>   | % of Market             |      |                         |      |
| Chemical Additive, %  | *                       | *    |                         |      |
| Additive Foaming, %   | *                       | *    |                         |      |
| Plant Foaming, %  | *                       | *    |                         |      |
| Organic Additive, %   | *                       | *    |                         |      |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Producing WMA                                       | *                       | *    |                         |      |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| SOUTH CAROLINA  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 1.7                     | 3.1   | 5.5                     | 6.5   |
| DOT   | 1.0                     | 1.9   | 3.2                     | 4.0   |
| Other Agency  | 0.3                     | 0.5   | 1.0                     | 1.0   |
| Commercial & Residential  | 0.4                     | 0.8   | 1.3                     | 1.6   |
| Companies Reporting   | 5                       | 6     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.2                     | 0.7   | 0.7                     | 1.4   |
| Used in HMA/WMA Mixtures  | 0.3                     | 0.7   | 1.0                     | 1.5   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.1                     | 0.5   | 0.35                    | 0.95  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 17.4%                   | 22.6% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 17.5%                   | 21.7% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 23.0%                   | 23.2% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 18.8%                   | 22.6% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 24%                     | 63%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 0%                      | 0.5%  |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 8.0                     | 4.0   | 26.2                    | 8.4   |
| Processed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in HMA/WMA Mixtures  | 0.0                     | 0.5   | 0.0                     | 1.1   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.00%                   | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.00%                   | 0.05% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 0.00%                   | 0.04% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.00%                   | 0.02% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 20%                     | 33%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 1.7                     | 0.7   |
| DOT   | 53%                     | 14%   | 1.7                     | 0.5   |
| Other Agency  | 1%                      | 9%    | 0.0                     | 0.1   |
| Commercial & Residential  | 0%                      | 4%    | 0.0                     | 0.1   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 100%                    | 100%  |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 0%                      | 0%    |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 80%                     | 83%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| SOUTH DAKOTA  | Reported Values         |      | Estimated Values        |      |
|---|-------------------------|------|-------------------------|------|
|   | 2015                    | 2016 | 2015                    | 2016 |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |      | Tons, Millions          |      |
| Total   | NCR                     | *    | 2.1                     | 1.6  |
| DOT   | NCR                     | *    | NCR                     | *    |
| Other Agency  | NCR                     | *    | NCR                     | *    |
| Commercial & Residential  | NCR                     | *    | NCR                     | *    |
| Companies Reporting   | NCR                     | *    |                         |      |
| <b>RAP</b>  | Tons, Millions          |      | Tons, Millions          |      |
| Accepted  | NCR                     | *    | NCR                     | *    |
| Used in HMA/WMA Mixtures  | NCR                     | *    | NCR                     | *    |
| Used in Aggregate   | NCR                     | *    | NCR                     | *    |
| Used in Cold-Mix Asphalt  | NCR                     | *    | NCR                     | *    |
| Used in Other   | NCR                     | *    | NCR                     | *    |
| Landfilled  | NCR                     | *    | NCR                     | *    |
| Total Tons of RAP Stockpiled at Year-End                                  | NCR                     | *    | NCR                     | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | NCR                     | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | NCR                     | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | NCR                     | *    |                         |      |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |      | NCR                     | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAP   | NCR                     | *    |                         |      |
| % of RAP Fractionated   | NCR                     | *    |                         |      |
| % of RAP Mixtures Using Softer Binders                                    | NCR                     | *    |                         |      |
| % of RAP Mixtures Using Rejuvenators                                      | NCR                     | *    |                         |      |
| <b>RAS</b>  | Tons, Thousands         |      | Tons, Thousands         |      |
| Unprocessed Shingles Accepted   | NCR                     | *    | NCR                     | *    |
| Processed Shingles Accepted   | NCR                     | *    | NCR                     | *    |
| Used in HMA/WMA Mixtures  | NCR                     | *    | NCR                     | *    |
| Used in Aggregate   | NCR                     | *    | NCR                     | *    |
| Used in Cold-Mix Asphalt  | NCR                     | *    | NCR                     | *    |
| Used in Other   | NCR                     | *    | NCR                     | *    |
| Landfilled  | NCR                     | *    | NCR                     | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | NCR                     | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | NCR                     | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | NCR                     | *    |                         |      |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |      | NCR                     | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAS   | NCR                     | *    |                         |      |
| % of RAS Mixtures Using Softer Binders                                    | †                       | *    |                         |      |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | *    |                         |      |
| <b>WMA</b>  | % of Total Production   |      | Tons, Millions          |      |
| Total   |                         |      | NCR                     | *    |
| DOT   | NCR                     | *    | NCR                     | *    |
| Other Agency  | NCR                     | *    | NCR                     | *    |
| Commercial & Residential  | NCR                     | *    | NCR                     | *    |
| <b>WMA Technologies</b>   | % of Market             |      |                         |      |
| Chemical Additive, %  | NCR                     | *    |                         |      |
| Additive Foaming, %   | NCR                     | *    |                         |      |
| Plant Foaming, %  | NCR                     | *    |                         |      |
| Organic Additive, %   | NCR                     | *    |                         |      |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Producing WMA                                       | NCR                     | *    |                         |      |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| TENNESSEE   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 5.5                     | 2.4   | 7.8                     | 8.2   |
| DOT   | 2.6                     | 0.5   | 3.7                     | 1.7   |
| Other Agency  | 0.9                     | 0.4   | 1.3                     | 1.5   |
| Commercial & Residential  | 2.0                     | 1.4   | 2.8                     | 5.0   |
| Companies Reporting   | 8                       | 4     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 2.0                     | 0.6   | 2.8                     | 2.0   |
| Used in HMA/WMA Mixtures  | 1.2                     | 0.5   | 1.8                     | 1.7   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 2.0                     | 0.9   | 2.80                    | 2.98  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 18.4%                   | 18.6% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 22.9%                   | 20.8% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 24.5%                   | 21.8% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 22.6%                   | 18.6% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 88%                     | 100%  |                         |       |
| % of RAP Fractionated   | 20%                     | 22%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 2%                      | 0%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 18%                     | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.0                     | 15.0  | 0.0                     | 52.4  |
| Processed Shingles Accepted   | 23.0                    | 24.8  | 32.5                    | 86.6  |
| Used in HMA/WMA Mixtures  | 20.8                    | 22.0  | 29.4                    | 76.8  |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.58%                   | 0.95% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 1.65%                   | 0.72% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 1.65%                   | 0.99% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.38%                   | 0.93% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 50%                     | 50%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 2.5                     | 4.4   |
| DOT   | 20%                     | 49%   | 0.7                     | 0.8   |
| Other Agency  | 35%                     | 37%   | 0.4                     | 0.6   |
| Commercial & Residential  | 48%                     | 61%   | 1.3                     | 3.0   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 56%                     | 88%   |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 44%                     | 12%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 75%                     | 50%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding



| TEXAS   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 8.3                     | 8.0   | 20.0                    | 24.0  |
| DOT   | 4.5                     | 4.1   | 10.8                    | 12.3  |
| Other Agency  | 2.4                     | 2.1   | 5.8                     | 6.2   |
| Commercial & Residential  | 1.4                     | 1.8   | 3.3                     | 5.5   |
| Companies Reporting   | 8                       | 7     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.5                     | 0.9   | 1.2                     | 2.8   |
| Used in HMA/WMA Mixtures  | 1.0                     | 1.1   | 2.5                     | 3.2   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.1                     | 0.1   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 1.3                     | 0.5   | 3.13                    | 1.4   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 17.2%                   | 13.6% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 15.5%                   | 13.1% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 16.6%                   | 12.8% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 12.6%                   | 13.3% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 50%                     | 15%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 29%                     | 14%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 86.0                    | 35.0  | 208.1                   | 105.4 |
| Processed Shingles Accepted   | 26.6                    | 25.8  | 64.4                    | 77.8  |
| Used in HMA/WMA Mixtures  | 124.5                   | 71.0  | 301.2                   | 213.8 |
| Used in Aggregate   | 0.0                     | 0.0   | 2.9                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 2.98%                   | 0.94% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 2.54%                   | 0.64% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 2.30%                   | 1.07% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 1.51%                   | 0.89% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 75%                     | 71%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 17%   |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 5.4                     | 6.6   |
| DOT   | 42%                     | 34%   | 4.5                     | 1.0   |
| Other Agency  | 12%                     | 16%   | 0.7                     | 1.0   |
| Commercial & Residential  | 7%                      | 25%   | 0.2                     | 1.4   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 67%                     | 94%   |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 33%                     | 6%    |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 75%                     | 100%  |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| UTAH  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 3.3                     | 4.1   | 3.5                     | 3.6   |
| DOT   | 1.0                     | 1.1   | 1.1                     | 0.9   |
| Other Agency  | 0.8                     | 0.8   | 0.9                     | 0.7   |
| Commercial & Residential  | 1.4                     | 2.3   | 1.5                     | 2.0   |
| Companies Reporting   | 8                       | 11    |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.8                     | 1.0   | 0.9                     | 0.9   |
| Used in HMA/WMA Mixtures  | 0.8                     | 1.0   | 0.9                     | 0.9   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 1.7                     | 1.4   | 1.84                    | 1.25  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 21.2%                   | 15.8% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 23.7%                   | 18.6% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 35.1%                   | 32.2% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 25.3%                   | 25.4% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 91%   |                         |       |
| % of RAP Fractionated   | 6%                      | 13%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 56%                     | 50%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 19%                     | 2%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Processed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in HMA/WMA Mixtures  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.00%                   | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.00%                   | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 0.00%                   | 0.00% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.00%                   | 0.00% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 0%                      | 0%    |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 2.3                     | 1.9   |
| DOT   | 63%                     | 62%   | 0.4                     | 0.6   |
| Other Agency  | 49%                     | 43%   | 1.2                     | 0.3   |
| Commercial & Residential  | 79%                     | 51%   | 2.3                     | 1.0   |
| <b>WMA Technologies<sup>‡</sup></b>                                       | % of Market             |       |                         |       |
| Chemical Additive, %  | 13%                     | 8%    |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 87%                     | 97%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 89%                     | 82%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

‡ WMA Technologies use may exceed 100 due to the use of multiple WMA technologies in combination

Numbers may not add up exactly due to rounding

| VERMONT   | Reported Values         |      | Estimated Values        |      |
|---|-------------------------|------|-------------------------|------|
|   | 2015                    | 2016 | 2015                    | 2016 |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |      | Tons, Millions          |      |
| Total   | *                       | *    | 2.3                     | 1.7  |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| Companies Reporting   | *                       | *    |                         |      |
| <b>RAP</b>  | Tons, Millions          |      | Tons, Millions          |      |
| Accepted  | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAP   | *                       | *    |                         |      |
| % of RAP Fractionated   | *                       | *    |                         |      |
| % of RAP Mixtures Using Softer Binders                                    | *                       | *    |                         |      |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | *    |                         |      |
| <b>RAS</b>  | Tons, Thousands         |      | Tons, Thousands         |      |
| Unprocessed Shingles Accepted   | *                       | *    | *                       | *    |
| Processed Shingles Accepted   | *                       | *    | *                       | *    |
| Used in HMA/WMA Mixtures  | *                       | *    | *                       | *    |
| Used in Aggregate   | *                       | *    | *                       | *    |
| Used in Cold-Mix Asphalt  | *                       | *    | *                       | *    |
| Used in Other   | *                       | *    | *                       | *    |
| Landfilled  | *                       | *    | *                       | *    |
|   | Avg. % Used in Mixtures |      | Avg. % Used in Mixtures |      |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | *    |                         |      |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | *    |                         |      |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | *    |                         |      |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |      | *                       | *    |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Using RAS   | *                       | *    |                         |      |
| % of RAS Mixtures Using Softer Binders                                    | †                       | *    |                         |      |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | *    |                         |      |
| <b>WMA</b>  | % of Total Production   |      | Tons, Millions          |      |
| Total   |                         |      | *                       | *    |
| DOT   | *                       | *    | *                       | *    |
| Other Agency  | *                       | *    | *                       | *    |
| Commercial & Residential  | *                       | *    | *                       | *    |
| <b>WMA Technologies</b>   | % of Market             |      |                         |      |
| Chemical Additive, %  | *                       | *    |                         |      |
| Additive Foaming, %   | *                       | *    |                         |      |
| Plant Foaming, %  | *                       | *    |                         |      |
| Organic Additive, %   | *                       | *    |                         |      |
|   | Other Reported Data     |      |                         |      |
| % Companies Reporting Producing WMA                                       | *                       | *    |                         |      |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| VIRGINIA  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 6.8                     | 7.4   | 12.5                    | 12.0  |
| DOT   | 3.5                     | 2.9   | 6.5                     | 4.7   |
| Other Agency  | 1.1                     | 1.3   | 2.1                     | 2.0   |
| Commercial & Residential  | 2.1                     | 3.3   | 3.9                     | 5.3   |
| Companies Reporting   | 7                       | 7     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 1.9                     | 2.3   | 3.6                     | 3.7   |
| Used in HMA/WMA Mixtures  | 1.9                     | 2.1   | 3.6                     | 3.4   |
| Used in Aggregate   | 0.0                     | 0.1   | 0.1                     | 0.1   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.1                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 1.7                     | 2.2   | 3.06                    | 3.57  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 25.9%                   | 26.4% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 27.4%                   | 27.7% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 32.4%                   | 29.7% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 28.7%                   | 28.1% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 34%                     | 34%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 3%                      | 5%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0.5%  |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Processed Shingles Accepted   | 5.6                     | 2.0   | 10.4                    | 3.3   |
| Used in HMA/WMA Mixtures  | 5.5                     | 3.5   | 10.1                    | 5.7   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.79%                   | 0.08% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.41%                   | 0.04% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 0.15%                   | 0.02% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.08%                   | 0.05% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 29%                     | 14%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 10.3                    | 8.1   |
| DOT   | 75%                     | 64%   | 4.9                     | 3.0   |
| Other Agency  | 82%                     | 72%   | 1.8                     | 1.5   |
| Commercial & Residential  | 94%                     | 68%   | 3.6                     | 3.6   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 19%                     | 19%   |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 81%                     | 82%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 86%                     | 100%  |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| WASHINGTON  | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 3.5                     | 1.9   | 5.3                     | 5.8   |
| DOT   | 0.7                     | 0.3   | 1.1                     | 0.8   |
| Other Agency  | 1.3                     | 0.6   | 1.9                     | 1.9   |
| Commercial & Residential  | 1.5                     | 1.0   | 2.3                     | 3.2   |
| Companies Reporting   | 5                       | 4     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.7                     | 0.4   | 1.1                     | 1.3   |
| Used in HMA/WMA Mixtures  | 0.9                     | 0.5   | 1.3                     | 1.5   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.1   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.6                     | 0.5   | 0.87                    | 1.67  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 26.8%                   | 23.3% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 24.8%                   | 22.6% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 29.2%                   | 27.7% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 24.8%                   | 25.5% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 18%                     | 0%    |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 8%                      | 13%   |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 2.8                     | 0.0   | 4.3                     | 0.0   |
| Processed Shingles Accepted   | 4.2                     | 4.1   | 6.4                     | 12.9  |
| Used in HMA/WMA Mixtures  | 7.7                     | 0.0   | 11.8                    | 0.4   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.16%                   | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 1.81%                   | 0.01% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 1.20%                   | 0.01% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.22%                   | 0.01% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 60%                     | 25%   |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 53%   |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 1.1                     | 1.0   |
| DOT   | 9%                      | 15%   | 0.1                     | 0.1   |
| Other Agency  | 18%                     | 16%   | 0.3                     | 0.3   |
| Commercial & Residential  | 29%                     | 19%   | 0.7                     | 0.6   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 5%                      | 52%   |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 95%                     | 48%   |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 100%                    | 75%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| WEST VIRGINIA   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 1.7                     | 2.2   | 3.5                     | 4.1   |
| DOT   | 1.3                     | 1.5   | 2.6                     | 2.9   |
| Other Agency  | 0.2                     | 0.1   | 0.3                     | 0.2   |
| Commercial & Residential  | 0.3                     | 0.5   | 0.6                     | 1.0   |
| Companies Reporting   | 3                       | 5     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 0.2                     | 0.3   | 0.5                     | 0.5   |
| Used in HMA/WMA Mixtures  | 0.2                     | 0.3   | 0.5                     | 0.6   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.    | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 0.1                     | 0.1   | 0.11                    | 0.24  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 13.9%                   | 13.9% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 14.0%                   | 12.4% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 14.1%                   | 7.4%  |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 13.7%                   | 14.2% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 0%                      | 15%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 0%                      | 0%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 0%                      | 0%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Processed Shingles Accepted   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in HMA/WMA Mixtures  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 0.00%                   | 0.00% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 0.00%                   | 0.00% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 0.00%                   | 0.00% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.00%                   | 0.00% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 0%                      | 0%    |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 0.0                     | 0.1   |
| DOT   | 0%                      | 1%    | 0.0                     | 0.0   |
| Other Agency  | 0%                      | 6%    | 0.0                     | 0.0   |
| Commercial & Residential  | 0%                      | 1%    | 0.0                     | 0.0   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 0%                      | 0%    |                         |       |
| Additive Foaming, %   | 0%                      | 0%    |                         |       |
| Plant Foaming, %  | 0%                      | 100%  |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 0%                      | 20%   |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding



| WISCONSIN   | Reported Values         |       | Estimated Values        |       |
|---|-------------------------|-------|-------------------------|-------|
|   | 2015                    | 2016  | 2015                    | 2016  |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |       |
| Total   | 8.1                     | 7.1   | 11.0                    | 12.0  |
| DOT   | 4.2                     | 2.6   | 5.7                     | 4.3   |
| Other Agency  | 1.9                     | 2.3   | 2.5                     | 3.9   |
| Commercial & Residential  | 2.1                     | 2.3   | 2.8                     | 3.8   |
| Companies Reporting   | 3                       | 4     |                         |       |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |       |
| Accepted  | 1.1                     | 1.2   | 1.5                     | 2.0   |
| Used in HMA/WMA Mixtures  | 1.3                     | 1.5   | 1.8                     | 2.6   |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Total Tons of RAP Stockpiled at Year-End                                  | 1.3                     | 1.5   | 1.71                    | 2.45  |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 18.0%                   | 20.2% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 18.0%                   | 20.0% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 22.2%                   | 25.0% |                         |       |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | 16.1%                   | 21.6% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAP   | 100%                    | 100%  |                         |       |
| % of RAP Fractionated   | 2%                      | 14%   |                         |       |
| % of RAP Mixtures Using Softer Binders                                    | 30%                     | 7%    |                         |       |
| % of RAP Mixtures Using Rejuvenators                                      | 2%                      | 6%    |                         |       |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |       |
| Unprocessed Shingles Accepted   | 66.5                    | 66.5  | 89.8                    | 111.7 |
| Processed Shingles Accepted   | 13.5                    | 19.7  | 18.2                    | 33.1  |
| Used in HMA/WMA Mixtures  | 69.1                    | 77.6  | 93.3                    | 130.4 |
| Used in Aggregate   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Cold-Mix Asphalt  | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Used in Other   | 0.0                     | 0.0   | 0.0                     | 0.0   |
| Landfilled  | 0.0                     | 0.0   | 0.0                     | 0.0   |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |       |
| Average % for DOT Mixtures <sup>1</sup>                                   | 2.48%                   | 0.63% |                         |       |
| Average % for Other Agency Mixtures <sup>1</sup>                          | 2.69%                   | 1.19% |                         |       |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | 3.00%                   | 1.50% |                         |       |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | 0.85%                   | 1.09% |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Using RAS   | 100%                    | 100%  |                         |       |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 32%   |                         |       |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 29%   |                         |       |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |       |
| Total   |                         |       | 1.3                     | 1.3   |
| DOT   | 10%                     | 8%    | 0.5                     | 0.3   |
| Other Agency  | 14%                     | 18%   | 0.4                     | 0.7   |
| Commercial & Residential  | 13%                     | 7%    | 0.4                     | 0.3   |
| <b>WMA Technologies</b>   | % of Market             |       |                         |       |
| Chemical Additive, %  | 83%                     | 97%   |                         |       |
| Additive Foaming, %   | 13%                     | 0%    |                         |       |
| Plant Foaming, %  | 3%                      | 3%    |                         |       |
| Organic Additive, %   | 0%                      | 0%    |                         |       |
|   | Other Reported Data     |       |                         |       |
| % Companies Reporting Producing WMA                                       | 100%                    | 100%  |                         |       |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding

| WYOMING   | Reported Values         |       | Estimated Values        |        |
|---|-------------------------|-------|-------------------------|--------|
|   | 2015                    | 2016  | 2015                    | 2016   |
| <b>Tons of HMA/WMA Produced</b>   | Tons, Millions          |       | Tons, Millions          |        |
| Total   | *                       | 0.3   | 2.6                     | 2.2    |
| DOT   | *                       | 0.2   | *                       | 1.3    |
| Other Agency  | *                       | 0.1   | *                       | 0.4    |
| Commercial & Residential  | *                       | 0.1   | *                       | 0.5    |
| Companies Reporting   | *                       | 6     |                         |        |
| <b>RAP</b>  | Tons, Millions          |       | Tons, Millions          |        |
| Accepted  | *                       | 0.0   | *                       | 0.2    |
| Used in HMA/WMA Mixtures  | *                       | 0.0   | *                       | 0.2    |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.0    |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0    |
| Used in Other   | *                       | 0.0   | *                       | 0.0    |
| Landfilled  | *                       | 0.0   | *                       | 0.0    |
| Total Tons of RAP Stockpiled at Year-End                                  | *                       | 0.0   | *                       | 0.2    |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |        |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 8.9%  |                         |        |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 7.9%  |                         |        |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 14.7% |                         |        |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 10.11% |
|   | Other Reported Data     |       |                         |        |
| % Companies Reporting Using RAP   | *                       | 67%   |                         |        |
| % of RAP Fractionated   | *                       | 0%    |                         |        |
| % of RAP Mixtures Using Softer Binders                                    | *                       | 0%    |                         |        |
| % of RAP Mixtures Using Rejuvenators                                      | *                       | 0%    |                         |        |
| <b>RAS</b>  | Tons, Thousands         |       | Tons, Thousands         |        |
| Unprocessed Shingles Accepted   | *                       | 1.4   | *                       | 9.1    |
| Processed Shingles Accepted   | *                       | 1.4   | *                       | 9.1    |
| Used in HMA/WMA Mixtures  | *                       | 0.3   | *                       | 2.0    |
| Used in Aggregate   | *                       | 0.0   | *                       | 0.0    |
| Used in Cold-Mix Asphalt  | *                       | 0.0   | *                       | 0.0    |
| Used in Other   | *                       | 0.0   | *                       | 0.0    |
| Landfilled  | *                       | 0.0   | *                       | 0.0    |
|   | Avg. % Used in Mixtures |       | Avg. % Used in Mixtures |        |
| Average % for DOT Mixtures <sup>1</sup>                                   | *                       | 0.00% |                         |        |
| Average % for Other Agency Mixtures <sup>1</sup>                          | *                       | 0.14% |                         |        |
| Average % for Commercial & Residential Mixtures <sup>1</sup>              | *                       | 0.28% |                         |        |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup> |                         |       | *                       | 0.09%  |
|   | Other Reported Data     |       |                         |        |
| % Companies Reporting Using RAS   | *                       | 17%   |                         |        |
| % of RAS Mixtures Using Softer Binders                                    | †                       | 0%    |                         |        |
| % of RAS Mixtures Using Rejuvenators                                      | †                       | 0%    |                         |        |
| <b>WMA</b>  | % of Total Production   |       | Tons, Millions          |        |
| Total   |                         |       | *                       | 0.5    |
| DOT   | *                       | 29%   | *                       | 0.4    |
| Other Agency  | *                       | 9%    | *                       | 0.0    |
| Commercial & Residential  | *                       | 20%   | *                       | 0.1    |
| <b>WMA Technologies</b>   | % of Market             |       |                         |        |
| Chemical Additive, %  | *                       | 0%    |                         |        |
| Additive Foaming, %   | *                       | 0%    |                         |        |
| Plant Foaming, %  | *                       | 100%  |                         |        |
| Organic Additive, %   | *                       | 0%    |                         |        |
|   | Other Reported Data     |       |                         |        |
| % Companies Reporting Producing WMA                                       | *                       | 83%   |                         |        |

<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.

<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

† Information not requested in 2015

Numbers may not add up exactly due to rounding