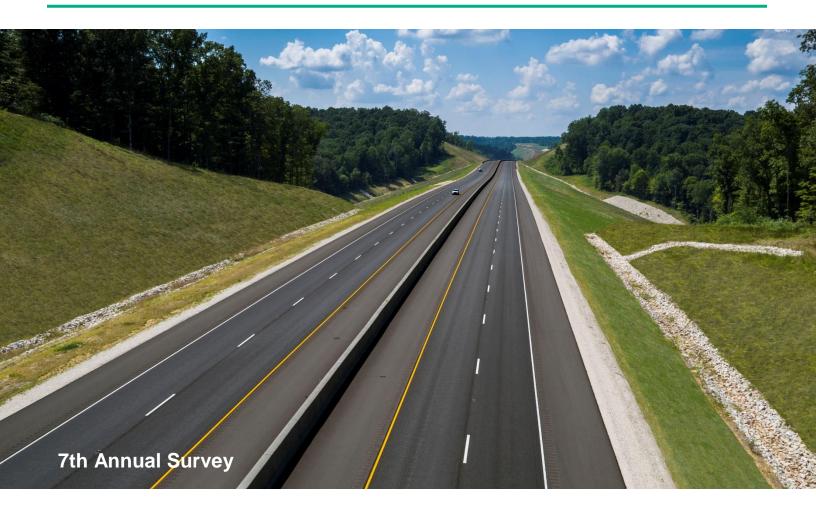


Asphalt Pavement Industry Survey on

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



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 2015 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.

| 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 |
| lowa | 7 | 23 | North Dakota | * | * | Wyoming | 6 | 6 |
| Kansas | 4 | 19 | No. Mariana Islands | NCR | NCR | Total [†] | 229 | 1,146 |

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

NCR = No Companies Responding

* = Fewer than 3 Companies Reporting

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

| ALABAMA | Reporte | d Values | Estimate | d Values |
|---|----------------------------|------------|----------------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Tons of HMA/WMA Produced | Tons, I | Villions | Tons. | Villions |
| 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 | | |
| RAP | Tons, I | Ailliona | Topo | Villions |
| Accepted | 0.7 | 0.9 | 1.4 | 1.7 |
| Used in HMA/WMA Mixtures | 0.9 | 0.9 | 1.4 | 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 |
| | Mixt | | Mixt | |
| Average % for DOT Mixtures ¹ | 26.9% | 25.1% | | |
| Average % for Other Agency Mixtures ¹ | 20.9% | 21.7% | | |
| Average % for Commercial & Residential Mixtures ¹ | 30.6% | 25.2% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 00.070 | 20.270 | 25.1% | 24.4% |
| | Other Rep | orted Data | 20:170 | 21.170 |
| % 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% | • | |
| | | | | |
| RAS | Tons, Th | | | ousands |
| 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. % Mixt | |
| Average % for DOT Mixtures ¹ | 3.77% | 0.46% | Ινιιχι | ules |
| Average % for Other Agency Mixtures ¹ | 1.07% | 0.00% | | |
| Average % for Commercial & Residential Mixtures ¹ | 0.64% | 0.10% | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 0.0170 | 0.1070 | 1.66% | 0.30% |
| | Other Rep | orted Data | 1.0070 | 0.0070 |
| % Companies Reporting Using RAS | 100% | 60% | | |
| % of RAS Mixtures Using Softer Binders | + | 0% | | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | | |
| * . | | | | A.11. |
| WMA Total | % of Total | Production | | Villions |
| Total | 400/ | 0.40/ | 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 |
| WMA Technologies | | /larket | | |
| Chemical Additive, % | 9% | 14% | | |
| enerhour i duitre, 70 | | 00/ | | |
| Additive Foaming, % | 3% | 0% | | |
| | <u>3%</u> 88% | 86% | | |
| Additive Foaming, % Plant Foaming, % | 88% | 86% | | |
| Additive Foaming, % | | 86% 0% | | |

 % Companies Reporting Producing WMA
 75%
 60%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | d Values | Estimate | d Values |
|---|-----------------|------------|----------------------------|---------------|
| ALAONA | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, N | lillions | Tons | Millions |
| Total | * | * | 4.7 | 4.6 |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| Companies Reporting | * | * | | |
| | | | | |
| RAP | Tons, N | Aillions | Tons, I | Villions |
| 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 | Avg. % | Used in |
| | Mixte | ures | Mixt | ures |
| Average % for DOT Mixtures ¹ | * | * | | |
| Average % for Other Agency Mixtures ¹ | * | * | | |
| Average % for Commercial & Residential Mixtures ¹ | * | * | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | * | * |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAP | * | * | | |
| % of RAP Fractionated | * | * | - | |
| % of RAP Mixtures Using Softer Binders | * | * | | |
| % of RAP Mixtures Using Rejuvenators | * | * | | |
| | | | | |
| RAS | Tons, Th | ousands | Ions, Ir | ousands |
| Unprocessed Shingles Accepted | * | * | * | * |
| Processed Shingles Accepted | * | * | * | * |
| Used in HMA/WMA Mixtures | * | * | * | * |
| Used in Aggregate | | * | * | |
| Used in Cold-Mix Asphalt | * | | | * |
| Used in Other | * | * | * | * |
| Landfilled | * | * | * | * |
| | Avg. % Mixte | | Avg. % Used in Mixtures | |
| Average % for DOT Mixtures ¹ | * | * | | |
| Average % for Other Agency Mixtures ¹ | * | * | | |
| Average % for Commercial & Residential Mixtures ¹ | * | * | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | * | * |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAS | * | * | - | |
| % of RAS Mixtures Using Softer Binders | + | * | - | |
| % of RAS Mixtures Using Rejuvenators | + | * | | |
| WMA | | Production | Tono | Villiona |
| | % of Total | FIGUICION | * | Villions * |
| Total | * | * | * | * |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | | | | ~ |
| WMA Technologies | % of N | larket | | |
| Chemical Additive, % | * | * | | |
| Additive Foaming, % | * | * | | |
| Plant Foaming, % | * | * | | |
| Organic Additive, % | * | * | | |
| | | orted Data | | |
| | ()thor Don | | | |

¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 ² 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 | Reporte | d Values | Estimate | d Values |
|---|----------------------------|--------------|----------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons | Villions | 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 | | 1.0 |
| · · · · | | - | _ | |
| RAP | lons, l | Millions | lons, | 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 |
| | | Used in | | Used in |
| | Mixt | | Mix | tures |
| Average % for DOT Mixtures ¹ | * | 6.5% | | |
| Average % for Other Agency Mixtures ¹ | * | 8.5% | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 11.1% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | * | 8.8% |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAP | * | 100% | | |
| % of RAP Fractionated | * | 0% | | |
| % of RAP Mixtures Using Softer Binders | * | 8.5% | | |
| % of RAP Mixtures Using Rejuvenators | * | 0% | | |
| RAS | Tons, Th | ousands | Tons, Th | nousands |
| 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 |
| Editorinod | Ανα % | | Ανα % | Used in |
| | Avg. % Used in Mixtures | | Mixtures | |
| Average % for DOT Mixtures ¹ | * | 0.00% | | |
| Average % for Other Agency Mixtures ¹ | * | 0.00% | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 0.00% | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | 0.0070 | * | 0.00% |
| | Other Rep | eported Data | | |
| % Companies Reporting Using RAS | * | 0% | | |
| % of RAS Mixtures Using Softer Binders | + | 0% | | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | | |
| | 0/ - 5 - 5 - 1 | | T | Millions |
| | % of Total | Production | ions, | Millions |
| Total | * | 00/ | * | 0.05 |
| DOT | * | 0% | * | 0.00 |
| Other Agency | * | 0.2% | * | 0.01 |
| Commercial & Residential | | 2% | * | 0.04 |
| WMA Technologies | % of M | Market | | |
| Chemical Additive, % | * | 0% | | |
| Additive Foaming, % | * | 0% | | |
| Plant Foaming, % | * | 89% | | |
| Organic Additive, % | * | 11% | | |
| | Other Rep | orted Data | | |
| % Companies Reporting Producing WMA | * | 100% | | |
| | | 10070 | | |

 % Companies Reporting Producing WMA
 *
 100%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 *
 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

| 2015 Tons, M 3.2 1.6 0.8 0.8 | 2016 Millions 5.5 3.2 0.8 1.6 |
|---|---|
| 3.2 1.6 0.8 | 5.5 3.2 0.8 |
| 3.2 1.6 0.8 | 5.5 3.2 0.8 |
| 1.6 0.8 | 3.2 0.8 |
| 0.8 | 0.8 |
| | |
| | 0.1 |
| | |
| Tana I | |
| Tons, N 0.4 | 0.7 |
| | - |
| 0.5 | 0.5 |
| | 0.0 |
| | 0.0 |
| | 0.0 |
| | 0.0 |
| | |
| | |
| | 0165 |
| | |
| | |
| | 9.8% |
| | 9.070 |
| | |
| | |
| | |
| | |
| | |
| | |
| | 12.6 |
| | 42.0 |
| | 60.0 |
| | 0.0 |
| | 0.0 |
| | 0.0 |
| | 0.0 |
| | |
| | ures |
| | |
| | |
| | 4.000/ |
| | 1.08% |
| <u>a</u> | |
| | |
| | |
| | |
| , | |
| | 2.1 |
| | 0.9 |
| | 0.2 |
| 0.4 | 0.9 |
| | |
| | |
| | |
| | |
| | |
| | |
| , a | |
| | 0.0 0.0 0.0 0.34 Avg. % Mixt % 14.1% 14.1% 14.1% 14.1% 14.1% 0.0 0.147% 0.2 |

 % Companies Reporting Producing WMA
 83%
 50%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | Reporte | d Values | Estimate | d Values |
|---|------------|----------------------------|------------------|-----------------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | Aillions | Tons. I | Villions |
| 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 | | |
| RAP | Tons, N | lillions | Tons | Villions |
| 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 | 0.0 | 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 | 2.2 | 1.6 | 5.93 | 4.20 |
| | Avg. % | | | Used in |
| | Mixt | | Mixt | |
| Average % for DOT Mixtures ¹ | 15.8% | 12.2% | | |
| Average % for Other Agency Mixtures ¹ | 18.4% | 12.9% | | |
| Average % for Commercial & Residential Mixtures ¹ | 20.0% | 17.3% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 20.070 | 11.070 | 15.7% | 14.7% |
| | Other Rep | orted Data | 1011 / 0 | 1 111 /0 |
| % 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% | | |
| | | | T a a a T | |
| RAS | Tons, Th | | | ousands |
| 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 | | Used in ures |
| Average % for DOT Mixtures ¹ | 0.88% | 0.01% | Ινιιχι | ules |
| Average % for Other Agency Mixtures ¹ | 0.43% | 0.01% | | |
| Average % for Commercial & Residential Mixtures ¹ | 1.54% | 0.01% | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 1.5478 | 0.0478 | 0.02% | 0.02% |
| State Average All Mixtures Dased of TAS Tons Osed in Third WinA | Other Rep | Other Reported Data | | 0.0270 |
| % Companies Reporting Using RAS | 25% | 25% | | |
| % of RAS Mixtures Using Softer Binders | + | 28% | | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | | |
| * * | | | | |
| WMA | % of Total | Production | | Villions |
| 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 |
| WMA Technologies | % of N | /larket | | |
| Chemical Additive, % | 41% | 11% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 59% | 89% | | |
| Organic Additive, % | 0% | 0% | | |
| | Other Rep | | | |
| 0/ Componing Departing Producing \/\/\/ | | | | |
| % Companies Reporting Producing WMA | 100% | 100% | | |

 % Companies Reporting Producing WMA
 100%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 100%

 ² Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
 1 Information not requested in 2015

 Numbers may not add up exactly due to rounding
 100%
 100%

| COLORADO | Reported | d Values | Estimate | d Values |
|---|----------------|----------------------------|------------|-----------------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | Villions | 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 | | |
| RAP | | 4:11:0:00 | Tana | |
| Accepted | Tons, M 0.8 | 0.6 | 3.8 | Millions 1.9 |
| Used in HMA/WMA Mixtures | 0.8 | 0.6 | 3.0 1.4 | 1.9 |
| Used in Aggregate | 0.3 | 0.6 | 0.0 | 0.3 |
| Used in Cold-Mix Asphalt | 0.0 | 0.1 | 0.0 | 0.3 |
| Used in Other | 0.0 | 0.0 | 0.0 | 0.0 |
| Landfilled | 0.1 | 0.0 | 0.4 | 0.0 |
| Total Tons of RAP Stockpiled at Year-End | 0.0 | 0.0 | 1.15 | 2.28 |
| | Avg. % | ÷ | | Used in |
| | Avg. % | | | ures |
| Average % for DOT Mixtures ¹ | 13.8% | 22.1% | IVIIX | 0165 |
| Average % for Other Agency Mixtures ¹ | 24.3% | 24.5% | | |
| Average % for Commercial & Residential Mixtures ¹ | 27.1% | 24.5% | - | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 27.170 | 20.4 /0 | 20.1% | 23.8% |
| State Average Air Mixtures Dased of TAAL Tons Osed in ThinA/WIMA | Other Rep | orted Data | 20.178 | 20.070 |
| % 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% | - | |
| - · | | | | |
| RAS | Tons, Th | | | ousands |
| 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 | | Used in ures |
| Average % for DOT Mixtures ¹ | 0.00% | 0.00% | IVIIX | ules |
| Average % for Other Agency Mixtures ¹ | 0.00% | 0.00% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 2.61% | 0.00% | - | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 2.0170 | 0.0078 | 0.12% | 0.00% |
| State Average All Millates Dased of TAO TONS Osed IT HIMA WINA | Other Rep | Other Reported Data | | 0.0070 |
| % Companies Reporting Using RAS | 50% | 20% | | |
| % of RAS Mixtures Using Softer Binders | + | 0% | - | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | | |
| | | | | |
| WMA | % of Total | Production | | Millions |
| Total | | 1000 | 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 |
| WMA Technologies | % of N | | | |
| Chemical Additive, % | 56% | 15% | | |
| Additive Foaming, % | 11% | 5% | | |
| Plant Foaming, % | 33% | 74% | | |
| Organic Additive, % | 0% | 7% | | |
| | Other Rep | | | |
| % Companies Reporting Producing WMA | 75% | 80% | | |
| | 1570 | 00 /0 | | |

 % Companies Reporting Producing WMA
 75%
 80%

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

 ² 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 | Reporte | d Values | Estimate | d Values |
|---|------------|------------|----------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| ons of HMA/WMA Produced | Tons, I | Villions | 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 | | 1.2 |
| | | - | _ | |
| RAP | Tons, I | | I ons, I | 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 |
| | | Used in | | Used in |
| | Mixt | | Mixt | ures |
| Average % for DOT Mixtures ¹ | * | 19% | | |
| Average % for Other Agency Mixtures ¹ | * | 22% | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 25% | · | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | * | 21.3% |
| | | orted Data | | |
| % Companies Reporting Using RAP | * | 67% | | |
| % of RAP Fractionated | * | 0% | | |
| % of RAP Mixtures Using Softer Binders | * | 0% | | |
| % of RAP Mixtures Using Rejuvenators | * | 0% | | |
| RAS | Tons, Th | ousands | Tons, Th | nousands |
| 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 | Avg. % | Used in |
| | Mixt | | Mixtures | |
| Average % for DOT Mixtures ¹ | * | 0.00% | | |
| Average % for Other Agency Mixtures ¹ | * | 0.00% | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 0.06% | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | * | 0.02% |
| | Other Rep | | | |
| % Companies Reporting Using RAS | * | 33% | | |
| % of RAS Mixtures Using Softer Binders | t – | 0% | | |
| % of RAS Mixtures Using Rejuvenators | t – | 0% | | |
| NMA | % of Total | Production | Tons. | Millions |
| Total | | | * | 2.6 |
| DOT | * | 65% | * | 1.2 |
| Other Agency | * | 55% | * | 0.9 |
| Commercial & Residential | * | 46% | * | 0.6 |
| WMA Technologies | % of M | Market | | 0.0 |
| | * | | | |
| Chemical Additive, % | * | 5% | | |
| Additive Foaming, % | | 0% | | |
| Plant Foaming, % | * | 94% | | |
| Organic Additive, % | * | 1% | | |
| | Other Rep | orted Data | | |
| % Companies Reporting Producing WMA | * | 67% | | |

% Companies Reporting Producing WMA
 67%
 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 ² 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 | d Values | Estimate | d Values |
|---|----------------------------|-----------------|----------|--------------|
| | 2015 | 2016 | 2015 | 2016 |
| ons of HMA/WMA Produced | Tons, I | Aillions | Tons, N | /illions |
| Total | * | * | 1.7 | 1.6 |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| Companies Reporting | * | * | | |
| · · · · | | | | |
| RAP | Tons, M | Aillions | Tons, N | /lillions |
| 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. % | | Avg. % | Used in |
| | Mixt | | Mixt | ures |
| Average % for DOT Mixtures ¹ | * | * | | |
| Average % for Other Agency Mixtures ¹ | * | * | | |
| Average % for Commercial & Residential Mixtures ¹ | * | * | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | * | * |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAP | * | * | | |
| % of RAP Fractionated | * | * | | |
| % of RAP Mixtures Using Softer Binders | * | * | | |
| % of RAP Mixtures Using Rejuvenators | * | * | | |
| RAS | Tana Th | e v e e e e e e | Tana Th | e ve e e ele |
| | Tons, Th | ousands | Tons, Th | |
| 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. % | |
| Average % for DOT Mixtures1 | * | ures * | Mixt | ures |
| Average % for DOT Mixtures ¹ | * | * | | |
| Average % for Other Agency Mixtures ¹ | * | * | | |
| Average % for Commercial & Residential Mixtures ¹ | ^ | ^ | * | * |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | â | ^ |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAS | | * | | |
| % of RAS Mixtures Using Softer Binders | | * | | |
| % of RAS Mixtures Using Rejuvenators | | * | | |
| NMA | % of Total | Production | Tons, N | /lillions |
| Total | | | * | * |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| WMA Technologies | % of N | larket | | |
| | * | * | | |
| Chemical Additive, % | * | * | | |
| Additive Foaming, % | | | | |
| Plant Foaming, % | * | * | | |
| Organic Additive, % | * | * | | |
| | | anta d Data | | |
| | Other Rep | oned Data | | |

ing

¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 ² 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 | d Values | Estimate | d Values |
|---|-------------|------------|----------|-----------------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, I | lillions | 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 | NOR | NOR |
| | | | | |
| RAP | Tons, M | | | 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 |
| | Mixt | | Mixt | tures |
| Average % for DOT Mixtures ¹ | NCR | NCR | | |
| Average % for Other Agency Mixtures ¹ | NCR | NCR | | |
| Average % for Commercial & Residential Mixtures ¹ | NCR | NCR | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | NCR | NCR |
| | Other Rep | | | |
| % 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 | _ | |
| RAS | Tons, Th | ousands | Tons, Th | nousands |
| 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 |
| Euronitou | Avg. % | | | Used in |
| | Mixt | | | |
| Average % for DOT Mixtures ¹ | NCR | NCR | | |
| Average % for Other Agency Mixtures ¹ | NCR | NCR | - | |
| Average % for Commercial & Residential Mixtures ¹ | NCR | NCR | - | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | NCR | NCR |
| | Other Rep | orted Data | _ | _ |
| % Companies Reporting Using RAS | NCR | NCR | | |
| % of RAS Mixtures Using Softer Binders | + | NCR | - | |
| % of RAS Mixtures Using Rejuvenators | + | NCR | | |
| | 0/ of Total | | Topo | Milliono |
| WMA Total | % of Total | FIGULCTION | NCR | Millions NCR |
| Total | NOD | NCD | | |
| DOT | NCR | NCR | NCR | NCR |
| Other Agency | NCR | NCR | NCR | NCR |
| Commercial & Residential | NCR | NCR | NCR | NCR |
| WMA Technologies | % of N | | | |
| Chemical Additive, % | NCR | NCR | | |
| Additive Foaming, % | NCR | NCR | | |
| Plant Foaming, % | NCR | NCR | | |
| Organic Additive, % | NCR | NCR | | |
| | Other Rep | | | |
| % Companies Reporting Producing WMA | NCR | NCR | | |
| | | NON | | |

 % Companies Reporting Producing WMA
 NCR
 NCR

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.

 ¹ Information not requested in 2015
 Numbers may not add up exactly due to rounding

| FLORIDA | Reporte | d Values | Estimate | d Values |
|---|----------------------------|------------|----------------------------|-----------------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons | Villions | Tons | Villions |
| 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 | 0.0 | 0.11 |
| RAP | | 4:11:0:00 | Tana | |
| Accepted | <u> </u> | 1.7 | 5.0 | Villions 4.7 |
| Used in HMA/WMA Mixtures | 2.1 | 1.7 | | |
| Used in Aggregate | 0.0 | 0.0 | 4.8 0.1 | 4.8 |
| 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 | 1.5 | 1.1 | 3.68 | 3.02 |
| | | Used in | | Used in |
| | Mixt | | Mixt | |
| Average % for DOT Mixtures ¹ | 26.8% | 25.6% | | 000 |
| Average % for Other Agency Mixtures ¹ | 32.6% | 31.2% | | |
| Average % for Commercial & Residential Mixtures ¹ | 36.6% | 38.3% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 00.070 | 00.070 | 33.5% | 31.7% |
| | Other Rep | orted Data | 00.070 | 01117 |
| % 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% | - | |
| - · | | | | |
| RAS | | ousands | Tons, Th | |
| 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 | |
| Used in Other Landfilled | 0.0 | 0.0 | 0.0 | 0.0 |
| Lanuilleu | | | | |
| | Avg. % Used in Mixtures | | Avg. % Used in Mixtures | |
| Average % for DOT Mixtures ¹ | 0.00% | 0.00% | IVIIX | ales |
| Average % for Other Agency Mixtures ¹ | 1.22% | 0.00% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 0.73% | 0.00% | - | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 011 070 | 010070 | 0.05% | 0.00% |
| | Other Rep | orted Data | 010070 | 0.0070 |
| % Companies Reporting Using RAS | 17% | 0% | - | |
| % of RAS Mixtures Using Softer Binders | + | 0% | - | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | - | |
| WMA | 0/ of Total | Production | Tong | Villiona |
| | % 01 10181 | FIGUICTION | 1.3 | Millions |
| Total DOT | 16% | 30% | 1.3 | 5.4 1.8 |
| | 5% | 30% | | |
| Other Agency Commercial & Residential | <u> </u> | 43% | 0.1 | 1.1 2.5 |
| | | | 0.0 | 2.0 |
| WMA Technologies | | Market | | |
| Chemical Additive, % | 96% | 25% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 4% | 75% | | |
| Organic Additive, % | 0% | 0% | | |
| | Other Rep | orted Data | | |
| | | 17% | | |

 % Companies Reporting Producing WMA
 83%
 17%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | d Values | Estimate | d Values |
|---|----------------------------|------------|----------------------------|----------|
| SLOKGIA | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | Villions | 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 | | |
| RAP | Tons, N | - | Tone | 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 |
| | Mixt | | | tures |
| Average % for DOT Mixtures ¹ | * | 26.7% | IVIIX | ules |
| Average % for Other Agency Mixtures ¹ | * | 27.0% | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 29.7% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | 23.170 | * | 27.4% |
| | Other Rep | orted Data | | 21.470 |
| % Companies Reporting Using RAP | * | 100% | | |
| % of RAP Fractionated | * | 1% | | |
| % of RAP Mixtures Using Softer Binders | * | 0% | | |
| % of RAP Mixtures Using Rejuvenators | * | 0% | | |
| | | | | |
| RAS | Tons, Th | | Ions, Ir | nousands |
| 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 ¹ | * | 0.00% | | aloo |
| Average % for Other Agency Mixtures ¹ | * | 0.00% | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 0.04% | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | 010170 | * | 0.01% |
| | Other Reported Data | | | 0.0.70 |
| % Companies Reporting Using RAS | * | 40% | | |
| % of RAS Mixtures Using Softer Binders | + | 0% | | |
| % of RAS Mixtures Using Rejuvenators | + | 1% | | |
| | 0(- (T- (-) | | Τ | N 4:11: |
| | % of Total | FIGUL | * | Millions |
| Total DOT | * | 0.00/ | * | 0.04 |
| | * | 0.2% | * | 0.01 |
| Other Agency | * | 0.4% | * | 0.01 |
| Commercial & Residential | | 0.6% | | 0.01 |
| WMA Technologies | % of N | | | |
| Chemical Additive, % | * | 100% | | |
| Additive Foaming, % | * | 0% | | |
| Plant Foaming, % | * | 0% | | |
| Organic Additive, % | * | 0% | | |
| | Other Rep | | | |
| % Companies Reporting Producing WMA | * | 20% | | |
| | · | 2070 | | |

 % Companies Reporting Producing WMA
 *
 20%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 *
 20%

 ² Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
 *
 1

 * Information not requested in 2015
 Numbers may not add up exactly due to rounding
 *
 1

| HAWAII | Reported | Values | Estimate | d Values |
|---|------------|----------------------------|----------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, N | /illions | Tons, N | Aillions |
| Total | * | * | 1.7 | 1.1 |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| Companies Reporting | * | * | | |
| | | I | _ | |
| RAP | Tons, N | Aillions | Tons, N | Aillions |
| 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. % | | Avg. % | |
| | Mixt | | Mixt | ures |
| Average % for DOT Mixtures ¹ | * | * | | |
| Average % for Other Agency Mixtures ¹ | * | * | | |
| Average % for Commercial & Residential Mixtures ¹ | * | * | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | * | * |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAP | * | * | | |
| % of RAP Fractionated | * | * | | |
| % of RAP Mixtures Using Softer Binders | * | * | | |
| % of RAP Mixtures Using Rejuvenators | * | * | | |
| - · | TT | | Taura Th | |
| RAS | Tons, Th | ousands | Tons, Th | ousands |
| 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 | | Used in |
| Average % for DOT Mixtures ¹ | * | Jres | Mixt | ures |
| Average % for Other Agency Mixtures ¹ | * | | | |
| | * | | | |
| Average % for Commercial & Residential Mixtures ¹ | | | * | * |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | Other Der | anta d Data | | |
| 0/ Ocean action Llain a DAO | Other Rep | | | |
| % Companies Reporting Using RAS | | * | | |
| % of RAS Mixtures Using Softer Binders | <u>†</u> | * | | |
| % of RAS Mixtures Using Rejuvenators | | <u> </u> | | |
| NMA | % of Total | Production | Tons, N | Aillions |
| Total | | | * | * |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| WMA Technologies | % of N | larket | | |
| Chemical Additive, % | * | * | | |
| | * | * | | |
| Additive Foaming, % | | | | |
| Plant Foaming, % | * | * | | |
| Organic Additive, % | * | * | | |
| | Other Rep | orted Data | | |
| | | | | |

% Companies Reporting Producing WMA
 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 ² 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 | Reporte | d Values | Estimate | d Values |
|---|----------------|------------|----------------------------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, I | Villions | 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 | | 0.1 |
| | | 1 - | | |
| RAP | Tons, I | | | Millions |
| | 0.2 | 0.3 | 0.5 | 0.6 |
| Used in HMA/WMA Mixtures | 0.3 | 0.3 | 0.7 | 0.6 |
| Used in Aggregate 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 |
| Total Tons of RAP Stockpiled at Year-End | 0.0 | 0.0 | 0.0 | 0.0 |
| | | Used in | | Used in |
| | Mixt | | | ures |
| Average % for DOT Mixtures ¹ | 40.3% | 17.2% | IVIIX | 0100 |
| Average % for Other Agency Mixtures ¹ | 22.6% | 18.2% | | |
| Average % for Commercial & Residential Mixtures ¹ | 31.1% | 31.9% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 51.170 | 51.970 | 25.0% | 21.3% |
| | Other Rep | orted Data | 20.070 | 21.07 |
| % 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% | - | |
| × · | | | | |
| RAS | | ousands | | nousands |
| 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. % Mixt | Used in | Avg. % Used in Mixtures | |
| Average % for DOT Mixtures ¹ | 0.00% | 0.00% | IVIIX | ules |
| Average % for Other Agency Mixtures ¹ | 0.00% | 0.00% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 0.00% | 0.00% | - | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 0.0078 | 0.0078 | 0.00% | 0.00% |
| | Other Rep | orted Data | 0.0078 | 0.0076 |
| % Companies Reporting Using RAS | 0% | 0% | | |
| % of RAS Mixtures Using Softer Binders | + | 0% | - | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | - | |
| | | | _ | |
| | % of Total | Production | | Millions |
| Total | 000/ | 000/ | 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 |
| WMA Technologies [‡] | | /larket | | |
| Chemical Additive, % | 31% | 53% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 69% | 67% | | |
| Organic Additive, % | 0% | 0% | | |
| | | orted Data | | |
| % Companies Reporting Producing WMA | 83% | 80% | | |

 % Companies Reporting Producing WMA
 83%
 80%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | Reporte | d Values | Estimate | d Values |
|---|-------------------|----------------|----------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, I | Villions | Tons | Villions |
| 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 | 0.0 | |
| | | 1 | - | A-11- |
| RAP | Tons, I | | | Villions |
| | 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 | |
| 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 | | | 3.43 | 3.79 |
| | Avg. % | | | Used in |
| Average % for DOT Mixtures1 | Mixt 19.3% | ures 14.4% | Mixt | ules |
| Average % for DOT Mixtures ¹ Average % for Other Agency Mixtures ¹ | 24.0% | 25.5% | | |
| Average % for Commercial & Residential Mixtures ¹ | 24.0% | 31.0% | - | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 27.4% | 31.0% | 25.1% | 23.2% |
| State Average All Mixtures Dased on RAP Tons Used in HMA/WIMA- | Other Dep | arted Data | 25.1% | 23.270 |
| % Companies Reporting Using RAP | Other Rep 100% | 90% | | |
| % of RAP Fractionated | 56% | 89% | - | |
| % of RAP Mixtures Using Softer Binders | 42% | 58% | - | |
| % of RAP Mixtures Using Rejuvenators | 0% | 0.2% | - | |
| | | | | |
| RAS | | ousands | Tons, Th | |
| 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 | | Used in |
| | Mixt | 1 | Mixt | ures |
| Average % for DOT Mixtures ¹ | 2.26% | 1.24% | - | |
| Average % for Other Agency Mixtures ¹ | 2.83% | 2.85% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 3.30% | 1.03% | 1.000/ | 4 = 40/ |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | 1.96% | 1.74% |
| | Other Rep | | | |
| % Companies Reporting Using RAS | 60% | 60% | - | |
| % of RAS Mixtures Using Softer Binders | | 64% | - | |
| % of RAS Mixtures Using Rejuvenators | Ť | 0.3% | | |
| WMA | % of Total | Production | Tons, I | Villions |
| 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 |
| WMA Technologies | % of M | Aarket | | |
| Chemical Additive, % | 14% | 25% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 86% | 75% | | |
| | | | | |
| Organic Additive, % | 0% | 0% | | |
| | | orted Data | | |
| % Companies Reporting Producing WMA | 33% | 50% | | |

 % Companies Reporting Producing WMA
 33%
 50%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | Reporte | d Values | Estimate | d Values |
|---|------------|-----------------|----------------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, I | Villions | Tons, I | 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 | | |
| RAP | Tana | Ailliono | Topo | Villions |
| Accepted | 1.2 | Villions 1.2 | 2.6 | 2.5 |
| Used in HMA/WMA Mixtures | | 1.2 | 2.0 | 2.3 |
| Used in Aggregate | <u> </u> | 0.0 | 0.2 | 0.0 |
| Used in Cold-Mix Asphalt | 0.0 | 0.0 | 0.2 | 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 | 1.8 | 3.51 | 3.65 |
| | | Used in | | Used in |
| | | ures | Avg. % | |
| Average % for DOT Mixtures ¹ | 25.1% | 20.2% | IVIIX | 0105 |
| Average % for Other Agency Mixtures ¹ | 25.1% | 20.2% | | |
| Average % for Commercial & Residential Mixtures ¹ | 25.6% | 26.0% | - | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 23.076 | 20.076 | 28.1% | 21.8% |
| State Average Air Mixtures Dased of TAI Toris Used in ThinA/WIMA | Other Rep | orted Data | 20.170 | 21.070 |
| % 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% | - | |
| | | | | |
| RAS | | ousands | | ousands |
| 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 |
| | | Used in | Avg. % Used in | |
| Average 0/ for DOT Mixtures1 | 2.55% | ures 0.41% | Mixt | ures |
| Average % for DOT Mixtures ¹ | 2.55% | 0.41% | - | |
| Average % for Other Agency Mixtures ¹ | 2.96% | 0.91% | - | |
| Average % for Commercial & Residential Mixtures ¹ State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 2.40% | 0.97% | 1.14% | 0.68% |
| | Other Ben | orted Data | 1.14% | 0.00% |
| % Companies Reporting Using RAS | 75% | 100% | | |
| % of RAS Mixtures Using Softer Binders | + | | - | |
| % of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators | Ť | 9% 0% | | |
| | I | | | |
| WMA | % of Total | Production | | Villions |
| 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 |
| WMA Technologies | % of M | Market | | |
| Chemical Additive, % | 3% | 3% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 97% | 97% | | |
| Organic Additive, % | 0% | 0% | | |
| | | orted Data | | |
| 0/ Companies Departing Draduaing \0/\04 | | | | |
| % Companies Reporting Producing WMA | 75% | 100% | | |

 % Companies Reporting Producing WMA
 75%
 100%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | d Values | Estimate | d Values |
|---|----------------|------------|----------|-----------------|
| | 2015 | 2016 | 2015 | 2016 |
| Tons of HMA/WMA Produced | Tons, M | Villions | 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 | 0.0 | 0.11 |
| RAP | | | Tana | |
| Accepted | Tons, M 0.2 | 0.4 | 0.5 | Millions 0.7 |
| Used in HMA/WMA Mixtures | 0.2 | | 0.5 | - |
| | | 0.3 | | 0.6 |
| Used in Aggregate | 0.0 | 0.0 | 0.0 | 0.0 |
| Used in Cold-Mix Asphalt 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 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Toris of RAP Stockpiled at Tear-End | Avg. % | - · · | | Used in |
| | Mixt | | | ures |
| Average % for DOT Mixtures ¹ | 14.6% | 12.6% | IVIIX | 0105 |
| Average % for Other Agency Mixtures ¹ | 14.0% | 15.6% | | |
| Average % for Commercial & Residential Mixtures ¹ | 17.5% | 14.4% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 17.570 | 14.470 | 13.3% | 14.12% |
| | Other Rep | orted Data | 10.070 | 14.1270 |
| % 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% | | |
| | | | | |
| RAS | Tons, Th | | | nousands |
| 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. % Mixt | | | |
| Average % for DOT Mixtures ¹ | 1.34% | 0.21% | IVIIX | ules |
| Average % for Other Agency Mixtures ¹ | 1.66% | 0.21% | | |
| Average % for Commercial & Residential Mixtures ¹ | 1.67% | 0.36% | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 1.0770 | 0.3070 | 0.86% | 0.23% |
| Otale Average Air Mixtures Dased on NAO Tons Osed in ThinA WinA | Other Rep | orted Data | 0.0070 | 0.2370 |
| % Companies Reporting Using RAS | 50% | 57% | | |
| % of RAS Mixtures Using Softer Binders | + | 19% | | |
| % of RAS Mixtures Using Rejuvenators | + | 0.4% | | |
| * . | | | | |
| WMA | % of Total | Production | | Millions |
| Total | | 4.4.5.4 | 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 |
| WMA Technologies | % of N | /larket | | |
| Chemical Additive, % | 62% | 23% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 38% | 77% | | |
| Organic Additive, % | 0% | 0% | | |
| | Other Rep | | | |
| % Companies Reporting Producing WMA | 67% | 43% | | |
| | 01/0 | 40/0 | | |

 % Companies Reporting Producing WMA
 67%
 43%

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

 ² 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

| Cons of HMAWMA Produced 2015 2016 2015 2015 2015 2015 2015 2015 2015 2015 2015 2015 2015 2015 2016 2015 2015 2015 2015 2015 2015 2015 2015 2015 2015 2016 2017 200 2016 2017 2016 2016 2017 2016 2016 2017 2016 2016 2017 2016 2016 2017 2016 2016 2016 2017 2016 2016 2017 2016 2016 2017 2017 2017 2017 2017 2017 2017 2017 2017 2017 2017 2017 2016 201 | KANSAS | Reporte | d Values | Estimate | ed Values |
|---|--|----------------|------------|----------|-----------|
| Total 1.9 1.7 4.0 3 DOT 0.7 0.4 1.4 0.0 Comparies Reporting 0.7 0.4 1.4 0.0 Comparies Reporting 4 4 4 4 CAP Tons, Millions Tons, Millions Tons, Millions Tons, Millions Comparies Reporting 0.3 0.3 0.3 0.6 0 Used in Aggregate 0.0 | | 2015 | 2016 | 2015 | 2016 |
| Total 1.9 1.7 4.0 3 DOT 0.7 0.4 1.4 1.0 Comparies Reporting 0.7 0.4 1.4 1.0 Comparies Reporting 4 4 4 4 RAP Tons, Millions Tons, Millions Tons, Millions Tons, Millions Comparies Reporting 0.3 0.3 0.3 0.6 0 Used in Aggregate 0.0 | Cons of HMA/WMA Produced | Tons | Villions | Tons | Millions |
| DOT 0.7 0.9 1.5 2 Other Agency 0.7 0.4 1.4 0 Commercial & Residential 0.5 0.3 1.0 0 Companies Reporting 4 4 4 4 RAP Tons, Millions Tons, Millions Tons, Millions Tons, Millions Accepted 0.3 0.3 0.7 0 0 0.0 | | | 1 | | 3.5 |
| Other Agency 0.7 0.4 1.4 0 Commercial & Residential 0.5 0.3 1.0 0 Companies Reporting 4 4 4 0 RAP Tons, Millions Tons, Millions Tons, Millions Tons, Millions Accepted 0.3 0.3 0.6 0 0 Used in Agregate 0.0 0.0 0.0 0.0 0 Used in Cold-Mix Asphalt 0.0 0.0 0.0 0.0 0 Used in Cold-Mix Asphalt 0.0 0.0 0.0 0.0 0.0 0.0 Total Tons of RAP Stockpiled at Year-End 0.5 0.6 1.07 1.1 Average % for DOT Mixtures' Naverage % for ODT Mixtures' 18.6% 21.6% 24.6% 24.6% 24.6% 25.% 17.5% 20.5% State Average & Mor ODT Mixtures' 18.6% 11.6% 19.3% 75% 2% 75% 2% 75% 2% 75% 2% 75% 20.5% 17.5% 20.1 | | | | - | 2.0 |
| Commercial & Residential 0.5 0.3 1.0 0 Companies Reporting 4 4 4 RAP Tons, Millions Tons, Millions Tons, Millions Accepted 0.3 0.3 0.6 0 Used in HMAWMA Mixtures 0.0 | | | | | 0.9 |
| RAP Tons, Millions Tons, Millions Accepted 0.3 0.3 0.6 0 Used in HMA/WMA Mixtures 0.3 0.3 0.7 0 Used in Aggregate 0.0 0.0 0.0 0 0 Used in CM+Mx Asphalt 0.0 0.0 0.0 0.0 0 0 Landfilled 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 Average % for DOT Mixtures' 18.1% 19.3% Mixtures May 9, % Used in Mixtures | | | | | 0.7 |
| RAP Tons, Millions Tons, Millions Accepted 0.3 0.3 0.6 0 Used in HMA/WMA Mixtures 0.3 0.3 0.3 0.7 0 Used in Aggregate 0.0 0.0 0.0 0.0 0.0 0 Used in Cher 0.0 | | | | | 1 |
| Accepted 0.3 0.3 0.6 0 Used in HMAVWMA Mixtures 0.3 0.3 0.7 0 Used in HMAVWMA Asphalt 0.0 | | Tons | Millions | Tone | Millione |
| Used in HMA/WMA Mixtures 0.3 0.7 0 Used in Cold-Mix Asphalt 0.0 0.0 0.0 0.0 Used in Cold-Mix Asphalt 0.0 0.0 0.0 0.0 0.0 Landfilled 0.0 0.0 0.0 0.0 0.0 0.0 Average % for DOT Mixtures1 18.1% 19.3% 22.5% Mixtures State Average % for Commercial & Residential Mixtures1 18.6% 21.6% Mixtures Average % for Commercial & Residential Mixtures1 23.3% 22.5% 22.5% State Average All Mixtures Dased on RAP Tons Used in HMA/WMA2 Other Reported Data 10.5 15.0 22.1 % Companies Reporting Using RAP 100% 100% 100% 10.5 15.0 22.1 37 Yorcessed Shingles Accepted 22.2 24.5 46.8 52 17.7 Unprocessed Shingles Accepted 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 <td></td> <td></td> <td></td> <td></td> <td>0.7</td> | | | | | 0.7 |
| Used in Cold-Mix Asphalt 0.0 <td></td> <td></td> <td></td> <td></td> <td>0.7</td> | | | | | 0.7 |
| Used in Cold-Mix Asphalt 0.0 0.0 0.0 0.0 Landfilled 0.0 0.0 0.1 0 Total Tons of RAP Stockpiled at Year-End 0.5 0.6 1.07 1. Average % for DOT Mixtures1 18.1% 19.3% Average % for Other Agency Mixtures1 23.3% 22.5% State Average % for COmmercial & Residential Mixtures1 23.3% 22.5% 21.5% State Average % for Commercial & Residential Mixtures1 23.3% 22.5% 22.5% State Average All Mixtures Using Softer Binders 46% 73% 6 73% % of RAP Mixtures Using Softer Binders 46% 73% 73% 70% % of RAP Mixtures Using Softer Binders 10.5 15.0 22.1 3 Processed Shingles Accepted 10.5 15.0 22.1 3 Processed Shingles Accepted 0.0 0.0 0.0 0.0 Uprocessed Shingles Accepted 0.0 0.0 0.0 0.0 0.0 Used in Other 0.0 0.0 0.0 0.0 | | | | | 0.1 |
| Used in Other 0.0 0.0 0.1 0.0 Landfilled 0.0 0.0 0.0 0.0 0.0 Total Tons of RAP Stockpiled at Year-End 0.5 0.6 1.07 1. Average % for DOT Mixtures1 18.1% 19.3% Average % for Other Agency Mixtures1 18.6% 21.6% Average % for Other Agency Mixtures1 18.6% 21.6% 23.3% 22.5% State Average % for Other Agency Mixtures1 23.3% 22.5% 17.5% 20. % companies Reporting Using RAP 100% 100% 3% 6 17.5% 20. % of RAP Mixtures Using Rejuvenators 1% 2% 7% 7% 7% RAS Tons, Thousands Tons, Thousands Tons, Thousands 50.7 70 Used in Agregate 0.0 | | | | | 0.0 |
| Landfilled 0.0 | | | | | 0.0 |
| Total Tons of RAP Stockpiled at Year-End 0.5 0.6 1.07 1. Average % for DOT Mixtures' 18.1% 19.3% Average % for Other Agency Mixtures' 18.6% 21.6% Average % for Other Agency Mixtures' 18.6% 21.6% 22.5% Mixtures State Average % for Other Agency Mixtures' 23.3% 22.5% 17.5% 20. State Average % for Commercial & Residential Mixtures' 00% 100% 100% 10.5% 20. % of RAP Mixtures Using Softer Binders 4% 73% 4% 22. 24.5 46.6 52 Wead in Mixtures Using Rejuvenators 1% 2% Tons, Thousards Tons, Thousards Tons, Thousards 50.7 70 Upprocessed Shingles Accepted 22.2 24.1 33.4 50.7 70 10.6 0.0 0. | | | | | 0.0 |
| Avg. % Used in Mixtures Avg. % Used in Mixtures Average % for DOT Mixtures ¹ 18.1% 19.3% Average % for Cherr Agency Mixtures ¹ 18.6% 21.6% Average % for Commercial & Residential Mixtures ¹ 23.3% 22.5% State Average All Mixtures Based on RAP Tons Used in HMAWMA ² 17.5% 20. % Companies Reporting Using RAP 100% 100% 6% % of RAP Fractionated 0% 3% 46% 73% % of RAP Mixtures Using Softer Binders 1% 2% 70ns, Thousands Unprocessed Shingles Accepted 10.5 15.0 22.1 33.4 Processed Shingles Accepted 24.1 33.4 50.7 70 Used in Aggregate 0.0 0.0 0.0 0.0 0.0 Used in Cold-Mix Asphalt 0.0 </td <td></td> <td></td> <td></td> <td></td> <td>1.19</td> | | | | | 1.19 |
| Average % for DOT Mixtures' Ibitures Mixtures Average % for Other Agency Mixtures' 18.1% 19.3% Average % for Other Agency Mixtures' 23.3% 22.5% State Average All Mixtures Based on RAP Tons Used in HMAWMA2 0ther Reported Data % Companies Reporting Using RAP 100% 100% % of RAP Mixtures Using Softer Binders 46% 73% % of RAP Mixtures Using Rejuvenators 1% 22.1 Processed Shingles Accepted 10.5 15.0 22.1 Processed Shingles Accepted 10.5 15.0 22.1 3 Processed Shingles Accepted 0.0 0.0 0.0 0.0 Used in MAWMA Mixtures 24.1 33.4 50.7 70 Used in Other 0.0 | | | | | |
| Average % for DOT Mixtures' 18.1% 19.3% Average % for Other Agency Mixtures' 18.6% 21.6% Average % for Commercial & Residential Mixtures' 23.3% 22.5% State Average All Mixtures Based on RAP Tons Used in HMAWMA2 17.5% 20. Companies Reporting Using RAP 100% 100% 6% % of RAP Fractionated 0% 3% 46% 73% % of RAP Mixtures Using Softer Binders 10.5 16.0 22.1 3 Mixtures Using Rejuvenators 10.5 16.0 22.1 3 Processed Shingles Accepted 22.2 24.5 46.8 52 Used in Aggregate 0.0 0.0 0.0 0.0 0.0 Used in Other 0.0 < | | | | | |
| Average % for Other Agency Mixtures1 18.6% 21.6% Average % for Commercial & Residential Mixtures1 23.3% 22.5% State Average All Mixtures Based on RAP Tons Used in HMA/WMA2 17.5% 20. % Companies Reporting Using RAP 100% 3% % of RAP Fractionated 0% 3% % of RAP Mixtures Using Softer Binders 46% 73% % of RAP Mixtures Using Rejuvenators 1% 22.2 RAS Tons, Thousands Tons, Thousands Unprocessed Shingles Accepted 10.5 15.0 22.1 Processed Shingles Accepted 22.2 24.5 46.8 52 Used in Adgregate 0.0 0.0 0.0 0.0 0.0 Used in Cold-Mix Asphalt 0.0 0.0 0.0 0.0 0.0 0.0 Landfilled 0.0 0. | Average % for DOT Mixtures ¹ | 18.1% | 19.3% | | |
| Average % for Commercial & Residential Mixtures ¹ 23.3% 22.5% State Average All Mixtures Based on RAP Tons Used in HMA/VMA2 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 Rape 10.5 15.0 22.1 RAS Tons, Thousands Tons, Thousands Tons, Thousands Upprocessed Shingles Accepted 22.2 24.5 46.8 50.7 Used in Aggregate 0.0 0.0 0.0 0.0 0.0 Used in Aggregate 0.0 0.0 0.0 0.0 0.0 Used in Cold-Mix Asphalt 0.0 0.0 0.0 0.0 0.0 Used in Other Average % for DOT Mixtures ¹ 1.36% 1.36% Mixtures Average % for Commercial & Residential Mixtures ¹ 0.00% 0.00% 4 Average % for Commercial & Residential Mixtures ¹ 1.36% 1.27% 2.0 Markit average % for Commercial & Residential Mixtures ¹ 1.36% 1.27% 2.0 | | | | | |
| State Äverage All Mixtures Based on RAP Tons Used in HMAWMA ² 0ther Reported Data 00% 17.5% 20. % Companies Reporting Using RAP 100% 100% 00% 3% % of RAP Fractionated 0% 3% 3% % of RAP Mixtures Using Softer Binders 46% 73% % of RAP Mixtures Using Rejuvenators 1% 2% Tons, Thousands Tons, Thousands Tons, Thousands Unprocessed Shingles Accepted 22.2 24.5 46.8 52 Used in Adgregate 0.0 0. | Average % for Commercial & Residential Mixtures ¹ | | | | |
| % 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% RAS Tons, Thousands Tons, Thousands Unprocessed Shingles Accepted 22.2 24.5 46.8 52 Used in HMAVWMA Mixtures 24.1 33.4 50.7 70 Used in Aggregate 0.0 | | | | 17.5% | 20.5% |
| % 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% RAS Tons, Thousands Tons, Thousands Unprocessed Shingles Accepted 22.2 24.5 46.8 52 Used in HMAVWMA Mixtures 24.1 33.4 50.7 70 Used in Aggregate 0.0 | | | orted Data | | |
| % of RAP Mixtures Using Softer Binders 46% 73% % of RAP Mixtures Using Rejuvenators 1% 2% RAS Tons, Thousands Tons, Thousands Unprocessed Shingles Accepted 10.5 15.0 22.1 3 Processed Shingles Accepted 22.2 24.5 46.8 52 Used in HMAWMA Mixtures 24.1 33.4 50.7 70 Used in Cold-Mix Asphalt 0.0 0 | % Companies Reporting Using RAP | 100% | 100% | | |
| % of RAP Mixtures Using Rejuvenators 1% 2% RAS Tons, Thousands Tons, Thousands Unprocessed Shingles Accepted 22.2 24.5 46.8 52 Used in HMA/WMA Mixtures 24.1 33.4 50.7 70 Used in Aggregate 0.0 0.0 0.0 0.0 0.0 Used in Cold-Mix Asphalt 0.0 0.0 0.0 0.0 0.0 Used in Other 0.0 0.0 0.0 0.0 0.0 0.0 Landfilled Aver 36 Vsed in Mixtures May.9 Vsed in Mixtures May.9 Vsed in Mixtures Average % for DOT Mixtures1 0.00% 0.00% 0.00% May.9 Vsed in Mixtures Average % for Commercial & Residential Mixtures1 1.36% 1.36% 1.27% 2.0 % Companies Reporting Using RAS 100% 75% 0 75% 0 75% % of RAS Mixtures Using Softer Binders 1 91% 3.1 2 DOT 93% 89% 1.4 1 3.1 2 DOT 93% 68% | | | | | |
| RAS Tons, Thousands Tons, Thousands Unprocessed Shingles Accepted 10.5 15.0 22.1 3' Processed Shingles Accepted 22.2 24.5 46.8 50.7 Used in HMAWMM Mixtures 24.1 33.4 50.7 70 Used in Aggregate 0.0< | | 46% | 73% | | |
| Unprocessed Shingles Accepted 10.5 15.0 22.1 3 Processed Shingles Accepted 22.2 24.5 46.8 52 Used in HMAVWMA Mixtures 24.1 33.4 50.7 70 Used in Aggregate 0.0 <td>% of RAP Mixtures Using Rejuvenators</td> <td>1%</td> <td>2%</td> <td></td> <td></td> | % of RAP Mixtures Using Rejuvenators | 1% | 2% | | |
| Unprocessed Shingles Accepted 10.5 15.0 22.1 3 Processed Shingles Accepted 22.2 24.5 46.8 52 Used in HMAWMM Mixtures 24.1 33.4 50.7 70 Used in Cold-Mix Asphalt 0.0 0 | RAS | Tons Th | ousands | Tons T | nousands |
| Processed Shingles Accepted 22.2 24.5 46.8 52 Used in HMA/WMA Mixtures 24.1 33.4 50.7 70 Used in Aggregate 0.0 0.0 0.0 0.0 0 Used in Cold-Mix Asphalt 0.0 | | | | | 31.9 |
| Used in HMA/WMA Mixtures 24.1 33.4 50.7 70 Used in Aggregate 0.0 0.0 0.0 0.0 0 Used in Cold-Mix Asphalt 0.0 0.0 0.0 0.0 0 Used in Cold-Mix Asphalt 0.0 4 Average % for COmmercial & Residential Mixtures ¹ 4.61% 3.15% Average % for Commercial & Residential Mixtures ¹ 1.36% 1.27% 2.0 1.27% 2.0 1.27% 2.0 1.27% 2.0 1.27% 3.1 1.2 1.27% 3.1 1.2 | | | | | 52.05 |
| Used in Aggregate 0.0 0.0 0.0 0.0 Used in Cold-Mix Asphalt 0.0 0.0 0.0 0.0 0.0 Used in Other 0.0 0.0 0.0 0.0 0.0 0.0 Used in Other 0.0 0.0 0.0 0.0 0.0 0.0 Landfilled 0.0 2.0 0.0 4 Average % for DOT Mixtures1 Average % for Other Agency Mixtures1 0.00% 0.00% Mixtures Average % for Commercial & Residential Mixtures1 1.36% 1.36% 1.27% 2.0 % Companies Reporting Using RAS 100% 75% 1.27% 2.0 % Companies Reporting Using RAS 100% 75% 1.27% 2.0 WMA % of Total Production 3.1 2 2 3.1 2 DOT 93% 89% 1.4 1 1 0 0 Chemical Additive, % 47% 74% 0% 0% 0% 0% WMA 69% 50%< | | | | | 70.96 |
| Used in Cold-Mix Asphalt 0.0 Mixtures | | | | | 0.0 |
| Used in Other 0.0 4 Aver age % for DOT Mixtures 1 4.61% 3.15% 0.00% | | | | | 0.0 |
| Avg. % Used in Mixtures Avg. % Used in Mixtures Average % for DOT Mixtures ¹ 4.61% 3.15% Average % for Other Agency Mixtures ¹ 0.00% 0.00% Average % for Commercial & Residential Mixtures ¹ 1.36% 1.36% State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² 1.27% 2.0 % Companies Reporting Using RAS 100% 75% % of RAS Mixtures Using Softer Binders 1 91% % of RAS Mixtures Using Rejuvenators 1 0% WMA % of Total Production Tons, Million Total 3.1 2 DOT 93% 89% 1.4 Other Agency 69% 50% 1.0 0 Commercial & Residential 68% 44% 0.7 0 WMA Technologies % of Market 0% 0% 0% Chemical Additive, % 47% 74% 40% Additive Foaming, % 0% 0% 0% Organic Additive, % 0% 0% 0% Organic Additive, % 0% 0% 0% WMA Fechnologies 0% 0% 0% 0ranic Additive, % 53% 26% 0rganic Additive, % 0% 0% <td></td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> | | 0.0 | 0.0 | 0.0 | 0.0 |
| MixturesMixturesAverage % for DOT Mixtures14.61%3.15%Average % for Other Agency Mixtures10.00%0.00%Average % for Commercial & Residential Mixtures11.36%1.36%State Average All Mixtures Based on RAS Tons Used in HMA/WMA21.27%2.0Companies Reporting Using RAS100%75%% of RAS Mixtures Using Softer Binders†91%% of RAS Mixtures Using Rejuvenators†0%WMA% of Total ProductionTons, MillionTotal3.12DOT93%89%1.4Other Agency69%50%1.0Commercial & Residential68%44%0.7WMA Technologies% of Market68%47%Chemical Additive, %47%74%Additive Foaming, %0%0%Organic Additive, %0%0%Matter Exported Data0%0%% Companies Reporting Producing WMA100%50% | | | | | 4.3 |
| Average % for DOT Mixtures1 4.61% 3.15% Average % for Other Agency Mixtures1 0.00% 0.00% Average % for Commercial & Residential Mixtures1 1.36% 1.36% State Average All Mixtures Based on RAS Tons Used in HMA/WMA2 1.27% 2.0 % Companies Reporting Using RAS 100% 75% % of RAS Mixtures Using Softer Binders 1 91% % of RAS Mixtures Using Rejuvenators 1 00% WMA % of Total Production Tons, Million Total 3.1 2 DOT 93% 89% 1.4 Other Agency 69% 50% 1.0 0 Commercial & Residential 68% 44% 0.7 0 WMA Technologies % of Market 47% 74% Chemical Additive, % 0% 0% 0% Additive Foaming, % 0% 0% 0% Other Reported Data 53% 26% 0% Organic Additive, % 0% 0% 0% MA Technologies 0% 0% 0% WMA Technologies | | Avg. % Used in | | Avg. % | Used in |
| Average % for Other Agency Mixtures10.00%0.00%Average % for Commercial & Residential Mixtures11.36%1.36%State Average All Mixtures Based on RAS Tons Used in HMA/WMA21.27%2.0Companies Reporting Using RAS00%75%% of RAS Mixtures Using Softer Binders191%% of RAS Mixtures Using Rejuvenators10%WMA% of Total ProductionTons, MillionTotal3.12DOT93%89%1.4Other Agency69%50%1.0Commercial & Residential68%44%0.7Other Reported Data% of Market0%0%Plant Foaming, %0%0%0%Organic Additive, %0%0%0%Organic Additive, %0%0%0%MA Technologies0%0%0%Organic Additive, %0%0%0%Organic Additive, %0%0%0%Organic Additive, %0%0%0%Organic Additive, %0%0%0%Organic Additive, %0%0%0%Organic Additive, %0%0%0%Other Reported Data0%0%0%MA Companies Reporting Producing WMA100%50% | | | ures | Mix | tures |
| Average % for Commercial & Residential Mixtures ¹ 1.36% 1.36% State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² 1.27% 2.0 Øreal of the companies Reporting Using RAS 100% 75% % of RAS Mixtures Using Softer Binders 1 91% % of RAS Mixtures Using Rejuvenators 1 0% WMA % of Total Production Tons, Million Total 3.1 2 DOT 93% 89% 1.4 Other Agency 69% 50% 1.0 0 Commercial & Residential 68% 44% 0.7 0 WMA Technologies % of Market 0% 0% 0% Chemical Additive, % 47% 74% Additive Foaming, % 26% Organic Additive, % 0% 0% 0% 0% 0% Organic Additive, % 0% 0% 0% 0% 0% Organic Additive, % 00% 0% 0% 0% 0% Organic Additive, % 00% 0% 0% 0% 0% Organic Additive, % <t< td=""><td></td><td></td><td></td><td></td><td></td></t<> | | | | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² 1.27% 2.0 What Companies Reporting Using RAS 100% 75% % of RAS Mixtures Using Softer Binders † 91% % of RAS Mixtures Using Rejuvenators † 0% WMA % of Total Production Tons, Million Total 3.1 2 DOT 93% 89% 1.4 Other Agency 69% 50% 1.0 0 Commercial & Residential 68% 44% 0.7 0 WMA Technologies % of Market 47% 74% Additive Foaming, % 0% 0% 0% Organic Additive, % 0% 0% 0% Organic Additive, % 100% 50% 10 | Average % for Other Agency Mixtures ¹ | | | | |
| Other Reported Data% Companies Reporting Using RAS100%75%% of RAS Mixtures Using Softer Binders†91%% of RAS Mixtures Using Rejuvenators†0%WMA% of Total ProductionTons, MillionTotal | | 1.36% | 1.36% | | |
| % Companies Reporting Using RAS100%75%% of RAS Mixtures Using Softer Binders†91%% of RAS Mixtures Using Rejuvenators†0%WMA% of Total ProductionTons, MillionTotal | State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | 1.27% | 2.03% |
| % of RAS Mixtures Using Softer Binders † 91% % of RAS Mixtures Using Rejuvenators † 0% WMA % of Total Production Tons, Million Total 3.1 2 DOT 93% 89% 1.4 1 Other Agency 69% 50% 1.0 0 Commercial & Residential 68% 44% 0.7 0 WMA Technologies % of Market 47% 74% Additive Foaming, % 0% 0% 0% Plant Foaming, % 53% 26% 0% Organic Additive, % 0% 0% 0% WMA Feopreted Data 0% 0% 0% | | | | | |
| % of RAS Mixtures Using Rejuvenators†0%WMA% of Total ProductionTons, MillionTotal3.12DOT93%89%1.41Other Agency69%50%1.00Commercial & Residential68%44%0.70WMA Technologies% of Market47%74%Chemical Additive, %47%74%0%0%Plant Foaming, %0%0%0%0%Organic Additive, %0%0%0%0%Market0%0%0%0%00%0%0%0%0%00%0%0%0%0%00%0%0%0%0%00%0%0%0%0%00%0%0%0%0%00%0%0%0%0%000%0%0%0%0%000%0%0%0%0%00%0%0%0%0%000%0%0%0%0%000%0%0%0%0%000%0%0%0%0%000%0%0%0%0%000%0%0%0%0%000%0%0%0%0%000%0%0%0%000%0%0% | | 100% | | | |
| WMA % of Total Production Tons, Million Total 3.1 2 DOT 93% 89% 1.4 1 Other Agency 69% 50% 1.0 0 Commercial & Residential 68% 44% 0.7 0 WMA Technologies % of Market Chemical Additive, % 47% 74% Additive Foaming, % 0% 0% 0% Plant Foaming, % 53% 26% 0% Organic Additive, % 0% 0% 0% Vother Reported Data 100% 50% 50% | | | | | |
| Total 3.1 2 DOT 93% 89% 1.4 1 Other Agency 69% 50% 1.0 0 Commercial & Residential 68% 44% 0.7 0 WMA Technologies % of Market Chemical Additive, % 47% 74% Additive Foaming, % 0% 0% 0% Plant Foaming, % 53% 26% </td <td>% of RAS Mixtures Using Rejuvenators</td> <td>t</td> <td>0%</td> <td></td> <td></td> | % of RAS Mixtures Using Rejuvenators | t | 0% | | |
| Total 3.1 2 DOT 93% 89% 1.4 1 Other Agency 69% 50% 1.0 0 Commercial & Residential 68% 44% 0.7 0 WMA Technologies % of Market ************************************ | WMA | % of Total | Production | Tons, | Millions |
| DOT 93% 89% 1.4 1 Other Agency 69% 50% 1.0 0 Commercial & Residential 68% 44% 0.7 0 WMA Technologies % of Market 47% 74% Additive Foaming, % 0% 0% 0% Plant Foaming, % 53% 26% 0% Organic Additive, % 0% 0% 0% Chemical Reporting Producing WMA 100% 50% 50% | | | | | 2.5 |
| Other Agency 69% 50% 1.0 0 Commercial & Residential 68% 44% 0.7 0 WMA Technologies % of Market 47% 74% Chemical Additive, % 0% 0% 0% Plant Foaming, % 0% 0% 0% Organic Additive, % 0% 0% 0% Vother Reported Data 100% 50% 50% | | 93% | 89% | 1.4 | 1.8 |
| Commercial & Residential68%44%0.70WMA Technologies% of MarketChemical Additive, %47%74%Additive Foaming, %0%0%Plant Foaming, %53%26%Organic Additive, %0%0%Other Reported Data0%% Companies Reporting Producing WMA100%50% | | | | | 0.4 |
| WMA Technologies% of MarketChemical Additive, %47%Additive Foaming, %0%Plant Foaming, %53%Organic Additive, %0%Other Reported Data% Companies Reporting Producing WMA100% | | 68% | | | 0.3 |
| Chemical Additive, %47%74%Additive Foaming, %0%0%Plant Foaming, %53%26%Organic Additive, %0%0%Other Reported Data% Companies Reporting Producing WMA100%50% | | % of I | Market | | |
| Additive Foaming, %0%Plant Foaming, %53%Organic Additive, %0%Organic Additive, %0%Other Reported Data% Companies Reporting Producing WMA100% | | | | | |
| Plant Foaming, %53%26%Organic Additive, %0%0%Other Reported Data% Companies Reporting Producing WMA100%50% | | | | | |
| Organic Additive, % 0% Other Reported Data % Companies Reporting Producing WMA 100% | | | | | |
| Other Reported Data % Companies Reporting Producing WMA 100% 50% | | | | | |
| % Companies Reporting Producing WMA 100% 50% | | | | | |
| 20 Companies reporting roudoing whith 100% 30% | % Companies Reporting Producing WMA | | | | |
| | Average percent based on contractor's reported percentage for each sector, adjusted ba | | | | |

| KENTUCKY | Reported | d Values | Estimate | d Values |
|--|----------------|-------------|----------------------------|------------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | Villions | Tons I | Villions |
| 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 | 0.0 | |
| RAP | | 4:11: | Tana | |
| | Tons, M 0.4 | | Tons, I 0.6 | |
| Accepted Used in HMA/WMA Mixtures | | 0.5 0.4 | 1.0 | 1.0 0.9 |
| Used in Aggregate | 0.6 | 0.4 | 0.0 | 0.9 |
| 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 | 0.0 | 0.0 | 1.13 | 0.0 |
| | 0.7 Avg. % | - · · | Avg. % | |
| | Avg. % | | Avg. % Mixt | |
| Average % for DOT Mixtures ¹ | 16.2% | 12.6% | IVIIXL | ules |
| Average % for Other Agency Mixtures ¹ | 17.4% | 13.3% | | |
| Average % for Commercial & Residential Mixtures ¹ | 17.4% | 13.3% | - | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 10.0% | 13.2% | 15.1% | 12.8% |
| | Other Rep | orted Data | 13.176 | 12.070 |
| % 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% | | |
| - · | | | | |
| RAS | Tons, Th | | Tons, Th | |
| 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. % | | Avg. % Used ir Mixtures | |
| | Mixt | | Mixt | ures |
| Average % for DOT Mixtures ¹ | 2.65% | 0.33% | - | |
| Average % for Other Agency Mixtures ¹ | 2.48% | 0.12% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 2.95% | 0.03% | 0.70% | 0.000/ |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | Other Der | anta d Data | 0.72% | 0.23% |
| % Companies Departing Using DAS | Other Rep | | - | |
| % Companies Reporting Using RAS | 50% | 60% | - | |
| % of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators | <u>†</u> | 0% 11% | - | |
| | | | | |
| WMA | % of Total | Production | Tons, I | |
| 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 |
| WMA Technologies | % of N | /larket | | |
| Chemical Additive, % | 8% | 37% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 92% | 63% | | |
| Organic Additive, % | 0% | 0% | | |
| | Other Rep | | | |
| % Companies Penerting Producing WMA | | | | |
| % Companies Reporting Producing WMA | 100% | 80% | | |

 % Companies Reporting Producing WMA
 100%
 80%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | Reporte | d Values | Estimate | d Values |
|---|----------------------------|------------|----------------------------|-----------------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, I | Villions | 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 | | |
| RAP | T | A:11: | Tana | A:11: |
| Accepted | Tons, N | 0.5 | ions, | Millions 0.7 |
| | * | | * | - |
| Used in HMA/WMA Mixtures Used in Aggregate | * | 0.4 | * | 0.5 |
| Used in Cold-Mix Asphalt | * | 0.0 | * | 0.0 |
| Used in Other | * | 0.0 | * | 0.0 |
| Landfilled | * | 0.0 | * | 0.0 |
| | * | 0.0 | * | 0.0 |
| Total Tons of RAP Stockpiled at Year-End | | | | |
| | Avg. % Mixt | | | Used in ures |
| Average % for DOT Mixtures ¹ | * | 21.7% | IVIIX | ules |
| Average % for Other Agency Mixtures ¹ | * | 15.1% | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 18.6% | - | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | 10.076 | * | 19.4% |
| State Average Air Mixtures Dased on KAP Tons Osed in ThinA/WIMA | Other Rep | orted Data | | 19.47 |
| % Companies Reporting Using RAP | | 100% | | |
| % of RAP Fractionated | * | 80% | | |
| % of RAP Mixtures Using Softer Binders | * | 15% | | |
| % of RAP Mixtures Using Rejuvenators | * | 0% | | |
| * · | | | | |
| RAS | Tons, Th | | Tons, Th | ousands |
| 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 ¹ | * | 0.00% | | ules |
| Average % for Other Agency Mixtures ¹ | * | 0.00% | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 1.39% | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | 1.0070 | * | 0.40% |
| | Other Rep | orted Data | | 0.1070 |
| % Companies Reporting Using RAS | * | 33% | | |
| % of RAS Mixtures Using Softer Binders | + | 27% | | |
| % of RAS Mixtures Using Rejuvenators | + | 14% | | |
| | I | | - | |
| NMA | % of Total | Production | lons, | Millions |
| Total | * | 700/ | * | 2.1 |
| DOT | * | 79% | * | 1.0 |
| Other Agency | * | 65% | | 0.4 |
| Commercial & Residential | | 87% | * | 0.7 |
| WMA Technologies | % of N | | | |
| Chemical Additive, % | * | 0% | | |
| Additive Foaming, % | * | 0% | | |
| Plant Foaming, % | * | 100% | | |
| Organic Additive, % | * | 0% | | |
| | Other Rep | | | |
| % Companies Reporting Producing WMA | * | 100% | | |
| | | 10070 | | |

 % Companies Reporting Producing WMA
 *
 100%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 *
 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 | d Values | Estimate | d Values |
|---|------------|----------------------------|----------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | Villions | Tons. I | 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 | | 0.0 |
| | | 1 - | | |
| RAP | Tons, M | | lons, l | 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. % | | Avg. % | Used in |
| | Mixt | | Mixt | ures |
| Average % for DOT Mixtures ¹ | * | 16.5% | | |
| Average % for Other Agency Mixtures ¹ | * | 13.8% | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 15.5% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | * | 15.6% |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAP | * | 100% | | |
| % of RAP Fractionated | * | 0% | | |
| % of RAP Mixtures Using Softer Binders | * | 4% | | |
| % of RAP Mixtures Using Rejuvenators | * | 0% | | |
| RAS | Tana Th | | Tana Th | |
| | Tons, Th | | | ousands |
| 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 | | Used in |
| Average % for DOT Mixtures ¹ | * | 0.48% | IVIIXL | ures |
| Average % for Other Agency Mixtures ¹ | * | 0.46% | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 0.23% | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | 0.24 /0 | * | 0.36% |
| State Average Air Mixtures Dased of RAS Tons Used in HimA/WIMA- | Other Dep | arted Data | | 0.30% |
| 0/ Companies Departing Using DAS | Other Rep | | | |
| % Companies Reporting Using RAS | | 33% | | |
| % of RAS Mixtures Using Softer Binders | Ť | 0% | | |
| % of RAS Mixtures Using Rejuvenators | Ť | 0% | | |
| WMA | % of Total | Production | Tons, I | Villions |
| Total | | | * | 0.2 |
| DOT | * | 18% | * | 0.1 |
| Other Agency | * | 8% | * | 0.0 |
| Commercial & Residential | * | 16% | * | 0.1 |
| WMA Technologies | % of N | | | |
| Chemical Additive, % | * | 11% | | |
| | * | | | |
| Additive Foaming, % | * | 0% | | |
| Plant Foaming, % | | 23% | | |
| Organic Additive, % | * | 66% | | |
| | Other Rep | 1 | | |
| % Companies Reporting Producing WMA | * | 67% | | |
| | | | | |

ing

¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 ² 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 | d Values | Estimate | d Values |
|--|-----------------------|------------|----------------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | Villions | Tons. | Villions |
| 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 | | |
| RAP | | | Topo | Villions |
| Accepted | <u>Tons, N</u> 1.0 | 1.3 | 2.3 | 2.9 |
| Used in HMA/WMA Mixtures | 0.8 | 0.9 | 1.7 | 2.9 |
| Used in Aggregate | 0.8 | 0.9 | 0.5 | 0.3 |
| Used in Cold-Mix Asphalt | 0.2 | 0.2 | 0.0 | 0.0 |
| Used in Other | | 0.0 | 0.0 | 0.0 |
| Landfilled | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Tons of RAP Stockpiled at Year-End | 0.0 | 1.2 | 1.76 | 2.64 |
| | 0.8 Avg. % | | | Used in |
| | Avg. % | | Avg. % | |
| Average % for DOT Mixtures ¹ | 20.1% | 24.2% | IVIIX | 0165 |
| Average % for Other Agency Mixtures ¹ | 22.5% | 24.2% | | |
| Average % for Commercial & Residential Mixtures ¹ | 30.1% | 24.9% | - | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 30.1% | 29.37 | 23.0% | 26.2% |
| State Average All Mixtures Dased Of TAAL TORS Osed IT TIMA WIMA | Other Rep | orted Data | 23.078 | 20.270 |
| % 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% | - | |
| · · | | | | |
| RAS | Tons, Th | | | ousands |
| 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. % | | Avg. % Used in | |
| Average % for DOT Mixtures1 | 0.52% | | IVIIX | ures |
| Average % for DOT Mixtures ¹ | | 0.05% | - | |
| Average % for Other Agency Mixtures ¹ | 0.00% | 0.01% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 0.43% | 0.02% | 0.00% | 0.020/ |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | Other Ben | arted Data | 0.09% | 0.03% |
| % Companies Reporting Lising RAS | Other Rep 33% | | | |
| % Companies Reporting Using RAS % of RAS Mixtures Using Softer Binders | 33% | 17% 0% | | |
| % of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators | T | 0% | | |
| | | | | |
| NMA | % of Total | Production | | Villions |
| 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 |
| WMA Technologies [‡] | % of N | /larket | | |
| Chemical Additive, % | 26% | 35% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 74% | 70% | | |
| Organic Additive, % | 0% | 0% | | |
| | Other Rep | | | |
| 0/ Companies Departing Draducing M/MA | | | | |
| % Companies Reporting Producing WMA | 83% | 50% | | |

 % Companies Reporting Producing WMA
 83%
 50%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | Reporte | d Values | Estimate | d Values |
|---|----------------|------------|----------------------------|------------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | Villions | Tons, I | Aillions |
| 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 | | |
| RAP | | | Tana | 1:11:0:00 |
| | Tons, M 0.4 | | Tons, I 1.0 | |
| Accepted Used in HMA/WMA Mixtures | 0.4 | 0.4 | 1.0 | 0.9 1.1 |
| Used in Aggregate | 0.0 | 0.5 | 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 | 0.0 | 1.0 | 1.10 | 2.04 |
| | Avg. % | - | Avg. % | |
| | Mixt | | Mixt | |
| Average % for DOT Mixtures ¹ | 18.0% | 16.7% | IVIIAL | |
| Average % for Other Agency Mixtures ¹ | 16.6% | 18.9% | | |
| Average % for Commercial & Residential Mixtures ¹ | 18.6% | 18.5% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 10.070 | 10.070 | 18.0% | 17.8% |
| | Other Rep | orted Data | 10.070 | 11.070 |
| % 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% | | |
| RAS | | | Taura Th | |
| | Tons, Th | | Tons, Th | |
| 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 0.0 | 4.5 5.4 | 5.6 0.0 |
| Used in Aggregate Used in Cold-Mix Asphalt | 0.0 | 0.0 | 0.0 | 0.0 |
| Used in Other | | 0.0 | 0.0 | 0.0 |
| Landfilled | 0.0 | 0.0 | 0.0 | 0.0 |
| Landilleu | 0.0 | | | |
| | Avg. % | | Avg. % Used in Mixtures | |
| Average % for DOT Mixtures ¹ | 0.04% | 0.02% | WIXC | |
| Average % for Other Agency Mixtures ¹ | 0.06% | 0.05% | | |
| Average % for Commercial & Residential Mixtures ¹ | 0.13% | 0.24% | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 0.1070 | 0.2170 | 0.07% | 0.09% |
| | Other Rep | orted Data | 0.0170 | 0.0070 |
| % Companies Reporting Using RAS | 50% | 40% | | |
| % of RAS Mixtures Using Softer Binders | + | 0% | | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | | |
| WMA | % of Total | | Tona | Ailliona |
| Total | 70 01 TOTAL | FIGUICION | Tons, I 1.9 | 3.0 |
| DOT | 57% | 05% | 1.9 | 2.7 |
| Other Agency | 14% | 95% 16% | 0.2 | 0.3 |
| Commercial & Residential | 14% | 3% | 0.2 | 0.3 |
| | | | 0.0 | 0.0 |
| WMA Technologies | % of N | 1 | | |
| Chemical Additive, % | 53% | 65% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 6% | 0% | | |
| Organic Additive, % | 41% | 35% | | |
| | Other Rep | orted Data | | |
| % Companies Reporting Producing WMA | 75% | 100% | | |

 % Companies Reporting Producing WMA
 75%
 100%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | Reporte | d Values | Estimate | d Values |
|---|--------------|----------------------------|----------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Tons of HMA/WMA Produced | Tons, I | Villions | 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 | | - |
| RAP | Tons, I | Ailliona | Topo | Villions |
| Accepted | 2.1 | 2.2 | 3.7 | 5.3 |
| Used in HMA/WMA Mixtures | 2.1 | 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 |
| | Mixt | | Mixt | |
| Average % for DOT Mixtures ¹ | 21.5% | 19.4% | | |
| Average % for Other Agency Mixtures ¹ | 28.3% | 25.6% | | |
| Average % for Commercial & Residential Mixtures ¹ | 38.3% | 38.1% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 00.070 | 001170 | 31.6% | 31.9% |
| | Other Rep | orted 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% | - | |
| RAS | Tons, Th | ousands | Tons, Th | oueande |
| 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 |
| Editorinod | | | Avg. % | |
| | | Avg. % Used in Mixtures | | ures |
| Average % for DOT Mixtures ¹ | 0.00% | 0.02% | | |
| Average % for Other Agency Mixtures ¹ | 0.00% | 0.01% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 0.00% | 0.00% | - | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | 1 | 0.05% | 0.01% |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAS | 0% | 25% | | |
| % of RAS Mixtures Using Softer Binders | † | 4% | | |
| % of RAS Mixtures Using Rejuvenators | † | 0% | | |
| WMA | % of Total | Production | Tons | Millions |
| Total | 70 01 1 0tal | | 7.1 | 0.9 |
| DOT | 62% | 2% | 2.6 | 0.9 |
| Other Agency | 31% | 4% | 0.9 | 0.0 |
| Commercial & Residential | 65% | 8% | 3.7 | 0.7 |
| WMA Technologies | | /arket | 0.7 | 0.7 |
| | | | | |
| Chemical Additive, % | 0% | 5% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 100% | 95% | | |
| Organic Additive, % | 0% | 0% | | |
| | Other Rep | orted Data | | |
| % Companies Reporting Producing WMA | 80% | 75% | | |

 % Companies Reporting Producing WMA
 80%
 75%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | d Values | Estimate | d Values |
|--|----------------|----------------------------|----------|-----------------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, I | Villions | Tons | Villions |
| 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 | | |
| RAP | | 4:11:0:00 | Tana | |
| Accepted | Tons, M 1.4 | 1.1 | 3.0 | Millions 3.0 |
| Used in HMA/WMA Mixtures | 1.4 | 1.1 | 3.0 | 2.7 |
| Used in Aggregate | 0.0 | 0.2 | 0.1 | 0.5 |
| Used in Cold-Mix Asphalt | 0.0 | 0.2 | 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 | 0.0 | 3.61 | 2.61 |
| | Avg. % | | | Used in |
| | Mixt | | | ures |
| Average % for DOT Mixtures ¹ | 20.7% | 20.9% | IVIIXL | 0165 |
| Average % for Other Agency Mixtures ¹ | 23.5% | 20.9% | | |
| Average % for Commercial & Residential Mixtures ¹ | 23.0% | 21.2% | - | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 23.078 | 21.0% | 21.9% | 21.1% |
| | Other Rep | orted Data | 21.370 | 21.170 |
| % 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% | | |
| - · · | | | | |
| RAS | Tons, Th | | | ousands |
| 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 | | Used in |
| Average 0/ fer DOT Misturgel | | | Mixt | ures |
| Average % for DOT Mixtures ¹ | 0.10% | 0.08% | - | |
| Average % for Other Agency Mixtures ¹ | 3.26% | 0.18% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 0.84% | 0.03% | 0.00% | 0.440/ |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | Other Der | arted Data | 0.09% | 0.11% |
| 0/ Componing Departing Llaing DAS | Other Rep | | - | |
| % Companies Reporting Using RAS | 43% | 40% | | |
| % of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators | <u>†</u> | 0% 0% | | |
| | | | | |
| WMA | % of Total | Production | | Villions |
| 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 |
| WMA Technologies | % of N | /larket | | |
| Chemical Additive, % | 3% | 1% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 97% | 99% | | |
| Organic Additive, % | 0% | 0% | | |
| | Other Rep | | | |
| 0/ Companies Departing Draducing 14/144 | | | | |
| % Companies Reporting Producing WMA | 100% | 80% | | |

 % Companies Reporting Producing WMA
 100%
 80%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | Reporte | d Values | Estimate | d Values |
|---|----------------|------------|----------------------------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Tons of HMA/WMA Produced | Tons. | Villions | Tons. I | Villions |
| 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 | | |
| RAP | Tons, I | Villiona | Topo | Villions |
| 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 | 0.4 | 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 | 0.0 | 1.22 | 0.83 |
| | | Used in | | Used in |
| | | ures | Mixt | |
| Average % for DOT Mixtures ¹ | 19.1% | 15.6% | IVIIX | |
| Average % for Other Agency Mixtures ¹ | 18.6% | 20.9% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 24.4% | 32.3% | - | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 24.470 | 02.070 | 17.1% | 19.5% |
| | Other Rep | orted Data | 17.170 | 10.070 |
| % 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% | - | |
| | | | | |
| RAS | | ousands | | ousands |
| 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. % Mixt | Used in | Avg. % Used in Mixtures | |
| Average % for DOT Mixtures ¹ | 0.00% | 0.00% | IVIIX | ules |
| Average % for Other Agency Mixtures ¹ | 0.00% | 0.00% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 1.92% | 0.18% | - | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 110270 | 0.1070 | 0.05% | 0.03% |
| | Other Rep | orted Data | 0.0070 | 0.0070 |
| % Companies Reporting Using RAS | 33% | 25% | | |
| % of RAS Mixtures Using Softer Binders | + | 0% | | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | - | |
| × · | | | Tana | Villions |
| WMA Total | % or rotal | Production | | |
| Total DOT | 19% | 670/ | 1.1 0.6 | 3.2 |
| Other Agency | 36% | 67% 95% | | 2.1 |
| | | | 0.3 | 0.7 |
| Commercial & Residential | 30% | 43% | 0.2 | 0.4 |
| WMA Technologies | | Market | | |
| Chemical Additive, % | 0% | 0% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 100% | 100% | | |
| Organic Additive, % | 0% | 0% | | |
| | | orted Data | | |
| % Companies Reporting Producing WMA | 100% | 75% | | |

 % Companies Reporting Producing WMA
 100%
 75%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | Reporte | d Values | Estimate | d Values | |
|---|----------------|----------------------------|----------|----------------------------|--|
| | 2015 | 2016 | 2015 | 2016 | |
| Fons of HMA/WMA Produced | Tons, I | Villions | 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 | | | |
| RAP | | 4:11:0:00 | Tana | | |
| | Tons, I 0.3 | 0.4 | 1.3 | Millions | |
| Accepted Used in HMA/WMA Mixtures | 0.3 | 0.4 | 1.3 | 1.3 1.5 | |
| Used in Aggregate | 0.4 | 0.4 | 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 | 0.0 | 1.1 | 0.76 | 3.84 | |
| | Avg. % | | | Used in | |
| | Mixt | | | ures | |
| Average % for DOT Mixtures ¹ | 22.3% | 23.3% | | ules | |
| Average % for Other Agency Mixtures ¹ | 20.3% | 20.5% | | | |
| Average % for Commercial & Residential Mixtures ¹ | 18.2% | 23.6% | | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 10.270 | 23.078 | 23.5% | 23.0% | |
| | Other Rep | orted Data | 20.070 | 20.070 | |
| % 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% | | | |
| | | | | | |
| RAS | Tons, Th | | | nousands | |
| 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 ¹ | 1.02% | 0.43% | IVIIX | ures | |
| Average % for Other Agency Mixtures ¹ | 2.28% | 0.43% | - | | |
| Average % for Commercial & Residential Mixtures ¹ | 2.63% | 0.21% | - | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 2.0370 | 0.3378 | 1.62% | 0.36% | |
| State Average Air Mixtures Dased on NAS Tons Osed in ThinA WIMA | Other Rep | orted Data | 1.02 /0 | 0.3076 | |
| % Companies Reporting Using RAS | 100% | 75% | | | |
| % of RAS Mixtures Using Softer Binders | + | 0% | | | |
| % of RAS Mixtures Using Rejuvenators | | 0% | | | |
| | | | | | |
| WMA | % of Total | Production | | 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 | |
| WMA Technologies | % of N | /larket | | | |
| Chemical Additive, % | 48% | 0% | | | |
| Additive Foaming, % | 0% | 0% | | | |
| Plant Foaming, % | 52% | 92% | | | |
| Organic Additive, % | 0% | 9% | | | |
| | Other Rep | | | | |
| % Companies Reporting Producing WMA | 100% | 100% | | | |
| | 100 /0 | 100 /0 | | | |

 % Companies Reporting Producing WMA
 100%

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

 ² 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 | d Values | Estimate | d Values |
|---|------------------------------------|----------------------------|----------------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | Villions | Tons. | Millions |
| Total | * | * | 4.1 | 3.9 |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| Companies Reporting | * | * | | |
| | | | | |
| RAP | Tons, M | Villions | Tons, I | Villions |
| 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 | Avg. % Used in | |
| | Mixt | | Mixt | |
| Average % for DOT Mixtures ¹ | * | * | | |
| Average % for Other Agency Mixtures ¹ | * | * | | |
| Average % for Commercial & Residential Mixtures ¹ | * | * | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | * | * |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAP | * | * | | |
| % of RAP Fractionated | * | * | - | |
| % of RAP Mixtures Using Softer Binders | * | * | - | |
| | * | * | - | |
| % of RAP Mixtures Using Rejuvenators | | | | |
| RAS | Tons, Th | ousands | Tons, Th | ousands |
| Unprocessed Shingles Accepted | * | * | * | * |
| Processed Shingles Accepted | * | * | * | * |
| Used in HMA/WMA Mixtures | * | * | * | * |
| Used in Aggregate | * | * | * | * |
| Used in Cold-Mix Asphalt | * | * | * | * |
| Used in Other | * | * | * | * |
| Landfilled | * | * | * | * |
| | Ava % | Used in | Avg. % | Used in |
| | | Avg. % Used in Mixtures | | |
| Average % for DOT Mixtures ¹ | * | * | Mixt | ulco |
| Average % for Other Agency Mixtures ¹ | * | * | - | |
| Average % for Commercial & Residential Mixtures ¹ | * | * | - | |
| | | | * | * |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | A ² Other Reported Data | | | |
| | Other Rep | | | |
| % Companies Reporting Using RAS | ^ | * | - | |
| % of RAS Mixtures Using Softer Binders | † | * | | |
| % of RAS Mixtures Using Rejuvenators | † | * | | |
| NMA | % of Total | Production | Tons. I | Villions |
| Total | , | | * | * |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| | | | | |
| WMA Technologies | % of N | harket | | |
| Chemical Additive, % | * | * | | |
| Additive Foaming, % | * | * | | |
| Plant Foaming, % | * | * | | |
| Organic Additive, % | * | * | | |
| | Other Rep | orted Data | | |
| 0/ Ocean anian Descenting Descharing 10/040 | | | | |
| % Companies Reporting Producing WMA | * | * | | |

% Companies Reporting Producing WMA
 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 ² 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 | Reporte | d Values | Estimate | d Values |
|---|-----------------------------------|------------|----------------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| ons of HMA/WMA Produced | Tons, I | Aillions | Tons | Villions |
| Total | * | * | 3.0 | 2.7 |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| Companies Reporting | * | * | | |
| | | | | |
| RAP | Tons, I | Villions | Tons, I | Villions |
| 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 | | Avg. % Used in | |
| | Mixt | ures | Mixt | ures |
| Average % for DOT Mixtures ¹ | * | * | | |
| Average % for Other Agency Mixtures ¹ | * | * | | |
| Average % for Commercial & Residential Mixtures ¹ | * | * | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | * | * |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAP | * | * | - | |
| % of RAP Fractionated | * | * | | |
| % of RAP Mixtures Using Softer Binders | * | * | - | |
| % of RAP Mixtures Using Rejuvenators | * | * | | |
| RAS | T T | | Taura Th | |
| | Tons, Th | ousands | | ousands |
| 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 | | Avg. % | |
| | Mixt | ures * | Mixt | ures |
| Average % for DOT Mixtures ¹ | * | * | - | |
| Average % for Other Agency Mixtures ¹ | * | * | - | |
| Average % for Commercial & Residential Mixtures ¹ | * | * | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | * | * |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAS | * | * | | |
| % of RAS Mixtures Using Softer Binders | † | * | | |
| % of RAS Mixtures Using Rejuvenators | † | * | | |
| WMA | % of Total | Production | Tons. | Villions |
| Total | | | * | * |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| WMA Technologies | 0/ of M | /larket | | l |
| | * | | | |
| Chemical Additive, % | | | | |
| Additive Foaming, % | * | * | | |
| Plant Foaming, % | * | * | | |
| Organic Additive, % | * | * | | |
| | Other Rep | orted Data | | |
| % Companies Reporting Producing WMA | * | * | | |
| | · · · · · · · · · · · · · · · · · | 1 | | |

% Companies Reporting Producing WMA
 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 ² 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 | Reporte | d Values | Estimate | d Values |
|--|---------------------|----------------------------|----------|-----------------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, I | Villions | 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 | | 1.2 |
| | | 1 - | Τ | A:11: |
| RAP | Tons, I | 0.2 | Tons, | Millions 0.8 |
| Accepted Used in HMA/WMA Mixtures | * | 0.2 | * | |
| | * | | * | 0.7 |
| Used in Aggregate Used in Cold-Mix Asphalt | * | 0.0 | * | 0.1 |
| Used in Other | * | 0.0 | * | 0.0 |
| Landfilled | * | | * | 0.0 |
| | * | 0.0 | * | 0.0 |
| Total Tons of RAP Stockpiled at Year-End | Avg. % | - | | Used in |
| | Mixt | | | ures |
| Average % for DOT Mixtures ¹ | * | 11.6% | IVIIX | ules |
| Average % for Other Agency Mixtures ¹ | * | 24.8% | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 24.8% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | 21.770 | * | 21.7% |
| | Other Rep | orted Data | | 21.77 |
| % Companies Reporting Using RAP | | 100% | | |
| % of RAP Fractionated | * | 0% | | |
| % of RAP Mixtures Using Softer Binders | * | 12% | | |
| % of RAP Mixtures Using Rejuvenators | * | 0% | | |
| | | | | |
| RAS | Tons, Th | | Tons, Th | nousands |
| 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 | | Used in |
| Average % for DOT Mixtures ¹ | IVIIXt | | IVIIXI | ures |
| | * | 0.00% | | |
| Average % for Other Agency Mixtures ¹ | * | 0.00% | | |
| Average % for Commercial & Residential Mixtures ¹ | | 0.00% | * | 0.000/ |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | Other Reported Data | | | 0.00% |
| % Companies Reporting Using RAS | | 33% | | |
| | | | | |
| % of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators | T | 0% 0% | | |
| | I | | | |
| NMA | % of Total | Production | Tons, | Millions |
| Total | | , | * | 0.1 |
| DOT | * | 0% | * | 0.0 |
| Other Agency | * | 0% | * | 0.0 |
| Commercial & Residential | * | 9% | * | 0.1 |
| WMA Technologies | % of N | /larket | | |
| Chemical Additive, % | * | 0% | | |
| Additive Foaming, % | * | 0% | | |
| Plant Foaming, % | * | 100% | | |
| Organic Additive, % | * | 0% | | |
| | Other Rep | | | |
| 0/ Companies Departing Draduaing \A/\\AA | | 1 | | |
| % Companies Reporting Producing WMA | ^ | 100% | | |

 % Companies Reporting Producing WMA
 *
 100%

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

 2 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 HAMPSIRE | Reported | d Values | Estimate | d Values |
|---|----------------|----------------|----------------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | Villions | Tons, I | Villions |
| 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 | | |
| RAP | Tons, N | Ailliana | Tons, I | Villiana |
| Accepted | 0.1 | 0.3 | 0.1 | 0.3 |
| Used in HMA/WMA Mixtures | 0.1 | 0.3 | 0.1 | 0.3 |
| Used in Aggregate | 0.2 | 0.0 | 0.3 | 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 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Avg. % Used in | | | Used in |
| | Avg. % | | Avg. % Mixt | |
| Average % for DOT Mixtures ¹ | 22.8% | 19.0% | IVIIXU | 0100 |
| Average % for Other Agency Mixtures ¹ | 22.0% | 20.3% | | |
| Average % for Commercial & Residential Mixtures ¹ | 23.8% | 20.3% | - | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 23.07 | 21.070 | 18.5% | 20.6% |
| State Average All Mixtures Dased of TAIL Tons Osed IT HMA/WIMA | Other Rep | orted Data | 10.576 | 20.076 |
| % 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% | | |
| | | | | |
| RAS | Tons, Th | 1 | | ousands |
| 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 | | Used in |
| Automatic Of fear DOT Minterest | Mixt | | Mixt | ures |
| Average % for DOT Mixtures ¹ | 0.00% | 0.00% | | |
| Average % for Other Agency Mixtures ¹ | 2.31% | 0.05% | | |
| Average % for Commercial & Residential Mixtures ¹ | 2.75% | 0.48% | 0.40% | 0.000/ |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | Other Der | auta d Data | 0.19% | 0.23% |
| 0/ Companies Departing Llaing DAS | Other Rep | | | |
| % Companies Reporting Using RAS | 33% | 33% | | |
| % of RAS Mixtures Using Softer Binders | <u>†</u> | 0% | | |
| % of RAS Mixtures Using Rejuvenators | | 0% | | |
| WMA | % of Total | Production | | Villions |
| 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 |
| WMA Technologies | % of N | /larket | | |
| Chemical Additive, % | 20% | 0% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 70% | 55% | | |
| Organic Additive, % | 10% | 45% | | |
| | Other Rep | | | |
| 0/ Companies Departing Producting 10/040 | | 1 | | |
| % Companies Reporting Producing WMA | 33% | 67% | | |

 % Companies Reporting Producing WMA
 33%
 67%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | d Values | Estimate | d Values |
|---|----------------------------|------------|----------------------------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | Villions | 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 | | _ |
| RAP | Tons, N | Ailliono | Topo | Millions |
| Accepted | * | 1.2 | * | 1.9 |
| Used in HMA/WMA Mixtures | * | 0.5 | * | 0.9 |
| Used in Aggregate | * | 0.5 | * | 0.9 |
| Used in Cold-Mix Asphalt | * | 0.0 | * | 0.2 |
| 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 |
| | Avg. % | | | ures |
| Average % for DOT Mixtures ¹ | * | 19% | IVIIX | 0165 |
| Average % for Other Agency Mixtures ¹ | * | 19% | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 23% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | 23% | * | 19% |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA- | Other Ben | artad Data | | 1970 |
| % Companies Reporting Using RAP | Other Rep | 100% | | |
| % of RAP Fractionated | * | 16% | - | |
| % of RAP Mixtures Using Softer Binders | * | 7% | | |
| | * | 0% | | |
| % of RAP Mixtures Using Rejuvenators | | | | |
| RAS | Tons, Th | | Tons, Th | ousands |
| 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 ¹ | * | 0.00% | | |
| Average % for Other Agency Mixtures ¹ | * | 0.00% | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 0.00% | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | ł | * | 0.00% |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAS | * | 0% | | |
| % of RAS Mixtures Using Softer Binders | + | 0% | | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | | |
| WMA | % of Total | Braduction | Topo | Millions |
| Total | 76 UT TUIAI | | * | 1.5 |
| DOT | * | 10% | * | 0.1 |
| Other Agency | * | 41% | * | 1.1 |
| Commercial & Residential | * | 22% | * | 0.3 |
| | | | | 0.3 |
| WMA Technologies | <u>% of N</u> | | | |
| Chemical Additive, % | * | 2% | | |
| Additive Foaming, % | * | 0% | | |
| Plant Foaming, % | * | 98% | | |
| Organic Additive, % | * | 0% | | |
| | Other Rep | orted Data | | |
| % Companies Reporting Producing WMA | * | 67% | | |
| | | 0.70 | | |

% Companies Reporting Producing WMA
 67%
 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 ² 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 | l Values | Estimate | d Values |
|---|---------------|-----------------|----------|-----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, N | lillions | Tons, I | 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 | Horr | 0.0 |
| | | | _ | |
| RAP | Tons, N | | Tons, I | |
| 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. % | | Avg. % | |
| | Mixtu | | Mixt | ures |
| Average % for DOT Mixtures ¹ | NCR | 24% | | |
| Average % for Other Agency Mixtures ¹ | NCR | 17% | | |
| Average % for Commercial & Residential Mixtures ¹ | NCR | 23% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | NCR | 22% |
| | Other Repo | | | |
| % 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% | | |
| RAS | Tons, Th | Tons, Thousands | | ousands |
| 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 |
| Editoritod | Avg. % | | Avg. % | |
| | | Mixtures | | ures |
| Average % for DOT Mixtures ¹ | NCR | 0.00% | | |
| Average % for Other Agency Mixtures ¹ | NCR | 0.00% | | |
| Average % for Commercial & Residential Mixtures ¹ | NCR | 0.53% | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | NCR | 0.00% |
| | Other Repo | orted Data | | |
| % Companies Reporting Using RAS | NCR | 25% | | |
| % of RAS Mixtures Using Softer Binders | + | 2% | | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | | |
| | 0/ of Total I | • | Tana | 1:11:0:00 |
| WMA | % of Total I | roduction | | Villions |
| Total | | 400/ | NCR | 1.0 |
| DOT | NCR | 40% | NCR | 0.7 |
| Other Agency | NCR | 22% | NCR | 0.2 |
| Commercial & Residential | NCR | 8% | NCR | 0.1 |
| WMA Technologies | % of N | | | |
| Chemical Additive, % | NCR | 0% | | |
| Additive Foaming, % | NCR | 0% | | |
| Plant Foaming, % | NCR | 100% | | |
| Organic Additive, % | NCR | 0% | | |
| | Other Repo | | | |
| % Companies Reporting Producing WMA | NCR | 100% | | |
| | NUK | 100 /0 | | |

 % Companies Reporting Producing WMA
 NCR
 100%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | Reporte | d Values | Estimate | d Values | |
|---|-----------------------|----------------------------|-------------|----------------------------|--|
| | 2015 | 2016 | 2015 | 2016 | |
| Fons of HMA/WMA Produced | Tons, I | Villions | Tons, I | 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 | | | |
| RAP | Tana | Ailliana | Tana | | |
| | <u>Tons, I</u> 1.1 | 0.9 | 2.5 | Villions 2.6 | |
| Accepted | | | | | |
| Used in HMA/WMA Mixtures Used in Aggregate | <u> </u> | 0.9 | 2.7 0.1 | 2.8 0.1 | |
| Used in Cold-Mix Asphalt | 0.0 | 0.0 | 0.1 | 0.1 | |
| Used in Other | 0.0 | 0.0 | 0.0 | 0.0 | |
| Landfilled | | | | 0.0 | |
| Total Tons of RAP Stockpiled at Year-End | 0.0 | 0.0 | 0.0 2.58 | 4.1 | |
| Total Tons of RAP Stockpiled at Year-End | Avg. % | | | Used in | |
| | Mixt | | Avg. % | | |
| Average % for DOT Mixtures ¹ | 18.0% | 16% | IVIIX | 0105 | |
| Average % for Other Agency Mixtures ¹ | 18.9% | 16% | | | |
| Average % for Commercial & Residential Mixtures ¹ | 17.0% | 17% | - | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 17.070 | 17/0 | 16.1% | 16.2% | |
| State Average All Mixtures Dased of TAAL Tons Osed in LimA WMA | Other Rep | orted Data | 10.178 | 10.270 | |
| % Companies Reporting Using RAP | 100% | 100% | | | |
| % of RAP Fractionated | 15% | 12% | - | | |
| % of RAP Mixtures Using Softer Binders | 3% | 12 // | - | | |
| % of RAP Mixtures Using Rejuvenators | 9% | 6% | - | | |
| | | | | | |
| RAS | | ousands | | ousands | |
| 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 ¹ | 0.00% | 0.00% | IVIIX | ules | |
| Average % for Other Agency Mixtures ¹ | 0.00% | 0.00% | | | |
| Average % for Commercial & Residential Mixtures ¹ | 0.10% | 0.00% | - | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 0:1070 | 0.0070 | 0.00% | 0.00% | |
| | Other Rep | orted Data | 0:0070 | 0.0070 | |
| % Companies Reporting Using RAS | 8% | 0% | | | |
| % of RAS Mixtures Using Softer Binders | + | 0% | - | | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | - | | |
| | | | _ | | |
| | % of Total | Production | | Millions | |
| Total | 0.001 | 050/ | 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 | |
| WMA Technologies | | /larket | | | |
| Chemical Additive, % | 49% | 28% | | | |
| Additive Foaming, % | 0% | 0% | | | |
| Plant Foaming, % | 51% | 72% | | | |
| Organic Additive, % | 0% | 0% | | | |
| | | orted Data | | | |
| % Companies Reporting Producing WMA | 83% | 100% | | | |
| | 03% | 100% | | | |

 % Companies Reporting Producing WMA
 83%
 100%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | d Values | Estimate | d Values |
|---|-----------------|------------|----------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Tons of HMA/WMA Produced | Tons, M | Villions | 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 | 2.0 | |
| | | <u></u> | | |
| RAP | Tons, M | | | 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 3.02 | 0.0 |
| Total Tons of RAP Stockpiled at Year-End | 1.6 | | | 3.5 |
| | Avg. % | | | Used in |
| | Mixt | | Mixt | ures |
| Average % for DOT Mixtures ¹ | 26.6% | 21.1% | | |
| Average % for Other Agency Mixtures ¹ | 20.5% | 22.7% | | |
| Average % for Commercial & Residential Mixtures ¹ | 30.6% | 25.8% | | 00 70/ |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | 26.3% | 22.7% |
| | Other Rep | | | |
| % 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% | | |
| RAS | Tons, Th | ousands | Tons. Th | nousands |
| 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. % | | Ava. % | Used in |
| | Mixt | | Mixtures | |
| Average % for DOT Mixtures ¹ | 2.73% | 1.82% | | |
| Average % for Other Agency Mixtures ¹ | 0.00% | 1.65% | | |
| Average % for Commercial & Residential Mixtures ¹ | 1.25% | 0.77% | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | 1.24% | 1.49% |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAS | 38% | 50% | | |
| % of RAS Mixtures Using Softer Binders | † | 54% | | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | | |
| WMA | % of Total | | Topo | Millions |
| Total | 76 UT TULAT | | 0.4 | 0.0 |
| DOT | 4% | 0.3% | 0.4 | 0.0 |
| | | 0.3% | | |
| Other Agency | 0% 5% | 0% | 0.0 | 0.0 |
| Commercial & Residential | | | 0.1 | 0.0 |
| WMA Technologies | % of N | | | |
| Chemical Additive, % | 36% | 100% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 64% | 0% | | |
| riant realining, 70 | | | | |
| Organic Additive, % | 0% | 0% | | |
| | 0% Other Rep | | | |

 % Companies Reporting Producing WMA
 63%
 17%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | Reporte | d Values | Estimate | d Values |
|---|------------|------------|----------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| ons of HMA/WMA Produced | Tons | Millions | Tons | Millions |
| Total | * | * | 3.0 | 2.1 |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| Companies Reporting | * | * | | |
| | | | | |
| RAP | Tons, I | Millions | Tons, I | Villions |
| 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 | Avg. % | Used in |
| | | ures | Mixt | |
| Average % for DOT Mixtures ¹ | * | * | | |
| Average % for Other Agency Mixtures ¹ | * | * | | |
| Average % for Commercial & Residential Mixtures ¹ | * | * | - | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | * | * |
| | Other Ren | orted Data | | |
| % Companies Reporting Using RAP | * | | | |
| % of RAP Fractionated | * | * | - | |
| % of RAP Mixtures Using Softer Binders | * | * | - | |
| | * | * | - | |
| % of RAP Mixtures Using Rejuvenators | | | | |
| RAS | Tons, Th | nousands | Tons, Th | ousands |
| Unprocessed Shingles Accepted | * | * | * | * |
| Processed Shingles Accepted | * | * | * | * |
| Used in HMA/WMA Mixtures | * | * | * | * |
| Used in Aggregate | * | * | * | * |
| Used in Cold-Mix Asphalt | * | * | * | * |
| Used in Other | * | * | * | * |
| Landfilled | * | * | * | * |
| Euronioa | Δνα % | Used in | Δνα % | Used in |
| | Mixt | Mixtures | | |
| Average % for DOT Mixtures ¹ | * | * | I IIIX | |
| Average % for Other Agency Mixtures ¹ | * | * | - | |
| Average % for Commercial & Residential Mixtures ¹ | * | * | - | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | * | * |
| State Average All Mixtures Dased of KAS Toris Osed in ThinAvvinA | Other Ben | ortod Data | | |
| 0/ Componing Departing Lloing DAS | | orted Data | | |
| % Companies Reporting Using RAS | | * | - | |
| % of RAS Mixtures Using Softer Binders | <u>†</u> | * | | |
| % of RAS Mixtures Using Rejuvenators | Ť | Ŷ | | |
| NMA | % of Total | Production | Tons, I | Villions |
| Total | | | * | * |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| WMA Technologies | % of 1 | Market | | |
| | /0 UT | * | | |
| Chemical Additive, % | ^ | ^ | | |
| Additive Foaming, % | * | * | | |
| Plant Foaming, % | * | * | | |
| Organic Additive, % | * | * | | |
| | Other Rep | orted Data | | |
| % Companies Reporting Producing WMA | * | * | | |
| | | 1 | | |

% Companies Reporting Producing WMA
 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 ² 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

| ОНЮ | Reported | d Values | Estimate | d Values |
|---|------------|----------------------------|----------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Tons of HMA/WMA Produced | Tons, M | Aillions | 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 | | |
| RAP | Tons, N | Ailliona | Topo | 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 | 0.2 | 0.0 |
| Used in Other | 0.0 | 0.0 | 0.0 | 0.0 |
| Landfilled | 0.0 | 0.0 | 0.0 | 0.2 |
| Total Tons of RAP Stockpiled at Year-End | 2.0 | 2.2 | 3.13 | 3.96 |
| | Avg. % | | | Used in |
| | Mixt | | Mixt | |
| Average % for DOT Mixtures ¹ | 33.2% | 28.3% | IVIIAL | ules |
| Average % for Other Agency Mixtures ¹ | 27.3% | 26.5% | | |
| Average % for Commercial & Residential Mixtures ¹ | 30.6% | 27.0% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 30.070 | 21.070 | 27.8% | 27.3% |
| | Other Rep | orted Data | 21.070 | 21.070 |
| % 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% | | |
| | | | | |
| RAS | Tons, Th | | | ousands |
| 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 | | Used in |
| | | | Mixt | ures |
| Average % for DOT Mixtures ¹ | 2.07% | 0.16% | | |
| Average % for Other Agency Mixtures ¹ | 2.39% | 0.19% | | |
| Average % for Commercial & Residential Mixtures ¹ | 1.30% | 0.20% | 0.4.49/ | 0.4.00/ |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | 0.14% | 0.18% |
| 0/ Ocean entire Departie e Using DAO | Other Rep | | | |
| % Companies Reporting Using RAS | 50% | 40% | | |
| % of RAS Mixtures Using Softer Binders | <u>†</u> | 0% | | |
| % of RAS Mixtures Using Rejuvenators | Ť | 0% | | |
| WMA | % of Total | Production | Tons, I | Villions |
| 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 |
| WMA Technologies | % of N | /larket | | |
| Chemical Additive, % | 0% | 0% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 100% | 100% | | |
| | | | | |
| Organic Additive, % | 0% | 0% | | |
| | Other Rep | | | |
| % Companies Reporting Producing WMA | 100% | 80% | | |

 % Companies Reporting Producing WMA
 100%
 80%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | d Values | Estimate | d Values |
|---|----------------|------------|----------------------------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Tons of HMA/WMA Produced | Tons, M | Aillions | 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 | | |
| RAP | Tons, N | | Topo | Villions |
| Accepted | 0.5 | 0.2 | 1.6 | 0.5 |
| Used in HMA/WMA Mixtures | 0.3 | 0.2 | 1.0 | 0.9 |
| Used in Aggregate | 0.0 | 0.4 | 0.0 | 0.9 |
| 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 | 0.0 |
| | Avg. % | | Avg. % | |
| | Mixt | | Mixt | |
| Average % for DOT Mixtures ¹ | 18.1% | 14.3% | IVIIAL | |
| Average % for Other Agency Mixtures ¹ | 18.1% | 16.8% | | |
| Average % for Commercial & Residential Mixtures ¹ | 24.5% | 20.4% | - | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 24.070 | 20.470 | 19.6% | 16.7% |
| | Other Rep | orted Data | 10.070 | 10.170 |
| % 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% | - | |
| | | | | |
| RAS | Tons, Th | | Tons, Th | |
| 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. % Mixt | | Avg. % Used in Mixtures | |
| Average % for DOT Mixtures ¹ | 0.00% | 0.05% | Ινιιχι | ules |
| Average % for Other Agency Mixtures ¹ | 0.94% | 0.05% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 3.09% | 1.11% | - | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 0.0070 | 1.1170 | 0.85% | 0.40% |
| | Other Rep | orted Data | 0.0070 | 0.4070 |
| % Companies Reporting Using RAS | 40% | 40% | | |
| % of RAS Mixtures Using Softer Binders | + | 39% | - | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | - | |
| | | | _ | |
| WMA | % of Total | Production | | Millions |
| Total | 4004 | 000/ | 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 |
| WMA Technologies | % of N | | | |
| Chemical Additive, % | 0% | 7% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 100% | 93% | | |
| Organic Additive, % | 0% | 0% | | |
| | Other Rep | | | |
| % Companies Reporting Producing WMA | 80% | 80% | | |
| | 00 /0 | 0070 | | |

 % Companies Reporting Producing WMA
 80%

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

 ² 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 | Reporte | d Values | Estimate | d Values |
|---|----------------|------------|----------------------------|-----------------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, I | Villions | 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 | | |
| RAP | | Aillione | Tana | |
| Accepted | Tons, I 0.5 | 0.4 | 1.6 | Millions 1.2 |
| Used in HMA/WMA Mixtures | | 0.4 | 1.0 | 1.2 |
| Used in Aggregate | 0.5 | 0.4 | 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 | 1.51 | 2.19 |
| | Avg. % | | | Used in |
| | Mixt | | | ures |
| Average % for DOT Mixtures ¹ | 25.1% | 20.6% | | ules |
| Average % for Other Agency Mixtures ¹ | 22.5% | 20.0% | | |
| Average % for Commercial & Residential Mixtures ¹ | 28.8% | 22.5% | - | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 20.078 | 22.370 | 27.1% | 21.8% |
| | Other Rep | orted Data | 27.170 | 21.070 |
| % 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% | - | |
| | | | | |
| RAS | Tons, Th | | | ousands |
| 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. % | | Avg. % Used in Mixtures | |
| Average % for DOT Mixtures ¹ | 0.00% | 0.00% | IVIIX | ures |
| Average % for Other Agency Mixtures ¹ | 0.00% | 0.68% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 2.78% | 1.22% | - | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 2.70% | 1.2270 | 2.21% | 0.75% |
| State Average All Mixtures Dased of TAS Tons Osed in ThinA WIMA | Other Rep | orted Data | 2.21/0 | 0.7576 |
| % Companies Reporting Using RAS | 100% | 60% | | |
| % of RAS Mixtures Using Softer Binders | + | 72% | - | |
| % of RAS Mixtures Using Rejuvenators | + | 75% | - | |
| | | | | |
| WMA | % of Total | Production | | 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 |
| WMA Technologies | % of M | Market | | |
| Chemical Additive, % | 0% | 2% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 100% | 98% | | |
| Organic Additive, % | 0% | 0% | | |
| | | orted Data | | |
| % Companies Reporting Producing WMA | 75% | 60% | | |
| | 13% | 00% | | |

 % Companies Reporting Producing WMA
 75%
 60%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | d Values | Estimate | d Values |
|--|-------------------|------------------|----------|-----------------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | <i>l</i> illions | 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 | 0.0 | 0.1 |
| | | | - | A.111 |
| RAP | Tons, M | | | Millions |
| | 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. % | | Avg. % | Used in ures |
| Average % for DOT Mixtures ¹ | Mixt 16.4% | 14.8% | IVIIX | ules |
| Average % for DOT Mixtures ¹ Average % for Other Agency Mixtures ¹ | 16.4% | 14.8% | | |
| Average % for Other Agency Mixtures ¹ Average % for Commercial & Residential Mixtures ¹ | 21.0% | 14.9% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 21.0% | 15.3% | 14.9% | 14.9% |
| State Average All Mixtures Dased on KAP Tons Used in ThinA/WIMA | Other Ben | orted Data | 14.9% | 14.970 |
| % Companies Reporting Using RAP | Other Rep 100% | 100% | | |
| % of RAP Fractionated | 19% | 2% | - | |
| % of RAP Mixtures Using Softer Binders | 6% | 3% | - | |
| % of RAP Mixtures Using Rejuvenators | 4% | 5% | - | |
| - · | | | | |
| RAS | Tons, Th | | Tons, Th | |
| 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 | | Used in |
| Average 0/ for DOT Mixturee1 | Mixt 1.56% | 1 | IVIIX | ures |
| Average % for DOT Mixtures ¹ Average % for Other Agency Mixtures ¹ | 2.06% | 0.06% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 2.06% | 0.08% | - | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 2.1370 | 0.10% | 1.15% | 0.07% |
| State Average All Mixtures Dased on KAS Tons Used in ThMA/WMA | Other Rep | orted Data | 1.15% | 0.07 /d |
| % Companies Reporting Using RAS | 38% | 20% | | |
| % of RAS Mixtures Using Softer Binders | | 0% | - | |
| % of RAS Mixtures Using Rejuvenators | + | 21% | | |
| | | | | |
| NMA | % of Total | Production | | Millions |
| Total | | 1 | 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 |
| WMA Technologies | % of N | larket | | |
| Chemical Additive, % | 70% | 36% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 30% | 65% | | |
| Organic Additive, % | 0% | 0% | | |
| | Other Rep | | | |
| % Companies Reporting Producing WMA | 88% | 100% | | |
| | 00 70 | 100% | | |

 % Companies Reporting Producing WMA
 88%
 100%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | d Values | Estimate | d Values |
|---|----------------------------|-------------|----------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | Villions | Tons | Millions |
| Total | * | NCR | 1.0 | 1.0 |
| DOT | * | NCR | * | NCR |
| Other Agency | * | NCR | * | NCR |
| Commercial & Residential | * | NCR | * | NCR |
| Companies Reporting | * | NCR | | NCK |
| | | NCR | | |
| RAP | Tons, M | | Tons, I | 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. % | | Ava % | Used in |
| | Mixt | | | ures |
| Average % for DOT Mixtures ¹ | * | NCR | | |
| Average % for Other Agency Mixtures ¹ | * | NCR | | |
| Average % for Commercial & Residential Mixtures ¹ | * | NCR | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | NCK | * | NCR |
| State Average All Mixtures based on RAP Tons Used in HMA/WMA- | Oth an Dan | anta d Data | | NCK |
| | Other Rep | | | |
| % Companies Reporting Using RAP | * | NCR | | |
| % of RAP Fractionated | | NCR | | |
| % of RAP Mixtures Using Softer Binders | * | NCR | | |
| % of RAP Mixtures Using Rejuvenators | * | NCR | | |
| RAS | Tons, Th | ousands | Tons. Th | nousands |
| 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 |
| Landined | Δια 9/ | | Aug 9/ | Used in |
| | Avg. % Used in Mixtures | | | ures |
| Average % for DOT Mixtures ¹ | * | NCR | IVIIX | ules |
| | * | NCR | | |
| Average % for Other Agency Mixtures ¹ | * | | | |
| Average % for Commercial & Residential Mixtures ¹ | | NCR | * | NOD |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | * | NCR |
| | Other Rep | | | |
| % Companies Reporting Using RAS | * | NCR | | |
| % of RAS Mixtures Using Softer Binders | † | NCR | | |
| % of RAS Mixtures Using Rejuvenators | † | NCR | | |
| WMA | % of Total | Production | Tons | Millions |
| Total | 70 01 10101 | rioddelloll | * | NCR |
| DOT | * | NCR | * | NCR |
| | * | NCR | * | NCR |
| Other Agency | * | | * | |
| Commercial & Residential | | NCR | | NCR |
| WMA Technologies | % of N | 1 | | |
| Chemical Additive, % | * | NCR | | |
| Additive Foaming, % | * | NCR | | |
| Plant Foaming, % | * | NCR | | |
| Organic Additive, % | * | NCR | | |
| | Other Rep | | | |
| | | 1 | | |
| % Companies Reporting Producing WMA | * | NCR | | |

ing

¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 ² 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 | Reporte | d Values | Estimate | d Values |
|---|----------------------------|------------|----------------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| ons of HMA/WMA Produced | Tons, I | Villions | Tons, M | Aillions |
| Total | * | * | 2.3 | 1.9 |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| Companies Reporting | * | * | | |
| | | | | |
| RAP | Tons, I | Millions | Tons, M | Aillions |
| 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 | Avg. % | Used in |
| | Mixt | | Mixt | |
| Average % for DOT Mixtures ¹ | * | * | | |
| Average % for Other Agency Mixtures ¹ | * | * | | |
| Average % for Commercial & Residential Mixtures ¹ | * | * | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | * | * |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAP | * | * | | |
| % of RAP Fractionated | * | * | | |
| % of RAP Mixtures Using Softer Binders | * | * | - | |
| % of RAP Mixtures Using Rejuvenators | * | * | - | |
| - · | | 1 | | |
| RAS | Tons, Th | ousands | Tons, Th | ousands |
| 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. % Mixt | |
| Average % for DOT Mixtures ¹ | * | * | IVIIXU | ules |
| Average % for Other Agency Mixtures ¹ | * | * | - | |
| Average % for Commercial & Residential Mixtures ¹ | * | * | - | |
| | | | * | * |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | Other Den | arted Data | | |
| 0/ Companies Departing Using DAC | Other Rep | orted Data | | |
| % Companies Reporting Using RAS | | * | | |
| % of RAS Mixtures Using Softer Binders | <u>†</u> | * | | |
| % of RAS Mixtures Using Rejuvenators | 1 | * | | |
| WMA | % of Total | Production | Tons, M | Aillions |
| Total | | | * | * |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| WMA Technologies | % of M | /larket | | |
| | /o UI I | * | | |
| Chemical Additive, % | | | | |
| Additive Foaming, % | * | * | | |
| Plant Foaming, % | * | * | | |
| Organic Additive, % | * | * | | |
| | Other Rep | orted Data | | |
| % Companies Reporting Producing WMA | * | * | | |
| | · | 1 | | |

% Companies Reporting Producing WMA
 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 ² 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 | d Values | Estimate | d Values |
|---|--------------|----------------|----------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | Aillions | Tons, N | 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 | 110 | 1.0 |
| | | | | |
| | Tons, M | | Tons, N | 1 |
| 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. % | | Avg. % | |
| | Mixt | | Mixt | ures |
| Average % for DOT Mixtures ¹ | 17.4% | 22.6% | | |
| Average % for Other Agency Mixtures ¹ | 17.5% | 21.7% | | |
| Average % for Commercial & Residential Mixtures ¹ | 23.0% | 23.2% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | 18.8% | 22.6% |
| | Other Rep | | | |
| % 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% | | |
| RAS | Tons, Th | ousands | Tons, Th | ousands |
| 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 |
| Euroniou | Avg. % | | Avg. % | |
| | | Mixtures | | ures |
| Average % for DOT Mixtures ¹ | 0.00% | 0.00% | | |
| Average % for Other Agency Mixtures ¹ | 0.00% | 0.05% | | |
| Average % for Commercial & Residential Mixtures ¹ | 0.00% | 0.04% | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | 0.00% | 0.02% |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAS | 20% | 33% | | |
| % of RAS Mixtures Using Softer Binders | + | 0% | | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | | |
| | 0/ of Tatal | | Terrer | Villiona |
| WMA Total | % of Total | FIGULCTION | | Villions |
| Total | E0 0/ | 4 40/ | 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 |
| WMA Technologies | % of N | | | |
| | 4000/ | 100% | | |
| Chemical Additive, % | 100% | | | |
| | 0% | 0% | | |
| Chemical Additive, % Additive Foaming, % | | | | |
| Chemical Additive, % Additive Foaming, % Plant Foaming, % | 0% 0% | 0% 0% | | |
| Chemical Additive, % Additive Foaming, % | 0% | 0% 0% 0% | | |

 % Companies Reporting Producing WMA
 80%
 83%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | d Values | Estimate | d Values |
|---|----------------|----------------------------|----------------|----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | Aillions | Tons, N | lillions |
| Total | NCR | * | 2.1 | 1.6 |
| DOT | NCR | * | NCR | * |
| Other Agency | NCR | * | NCR | * |
| Commercial & Residential | NCR | * | NCR | * |
| Companies Reporting | NCR | * | | |
| RAP | | 4:11: | Tana N | 1:11:000 |
| Accepted | Tons, M NCR | * | Tons, M 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. % | l leod in | Avg. % | lead in |
| | Mixt | | Mixtu | |
| Average % for DOT Mixtures ¹ | NCR | * | IVIIXIU | 100 |
| Average % for Other Agency Mixtures ¹ | NCR | * | | |
| Average % for Commercial & Residential Mixtures ¹ | NCR | * | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | NOR | | NCR | * |
| | Other Rep | orted Data | NOR | |
| % Companies Reporting Using RAP | NCR | * | | |
| % of RAP Fractionated | NCR | * | - | |
| % of RAP Mixtures Using Softer Binders | NCR | * | - | |
| % of RAP Mixtures Using Rejuvenators | NCR | * | - | |
| | | | | |
| RAS | Tons, Th | ousands | Tons, The | ousands |
| 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 | | Used in |
| Average % for DOT Mixtures ¹ | NCR | * | Mixtu | lles |
| Average % for Other Agency Mixtures ¹ | NCR | * | - | |
| Average % for Commercial & Residential Mixtures ¹ | NCR | * | - | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | NOR | | NCR | * |
| State Average All Mixtures Dased of TAO TONS Osed IT HMA/WMA | Other Rep | orted Data | NOR | |
| % Companies Reporting Using RAS | NCR | * | | |
| % of RAS Mixtures Using Softer Binders | + | * | - | |
| % of RAS Mixtures Using Rejuvenators | + | * | - | |
| | | | | |
| WMA | % of Total | Production | Tons, N | lillions |
| Total | | | NCR | * |
| DOT | NCR | * | NCR | * |
| Other Agency | NCR | * | NCR | * |
| Commercial & Residential | NCR | * | NCR | * |
| WMA Technologies | | /larket | | |
| Chemical Additive, % | NCR | * | | |
| Additive Foaming, % | NCR | * | | |
| Plant Foaming, % | NCR | * | | |
| Organic Additive, % | NCR | * | | |
| | Other Rep | orted Data | | |
| % Companies Reporting Producing WMA | NCR | * | | |
| | | I | | |

 % Companies Reporting Producing WMA
 NCR
 *

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 *

 ² 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 | d Values | Estimate | d Values |
|---|----------------|----------------|----------------|------------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, M | Villions | Tons I | Villions |
| 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 | | |
| RAP | | 4:11:0:00 | Tana | Alliana |
| | Tons, M 2.0 | | Tons, I 2.8 | |
| Accepted Used in HMA/WMA Mixtures | 1.2 | 0.6 | 1.8 | 2.0 1.7 |
| Used in Aggregate | 0.0 | 0.5 | 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 | 0.0 | 2.80 | 2.98 |
| | 2.0 Avg. % | | 2.80 Avg. % | |
| | Mixt | | Avg. % Mixt | |
| Average % for DOT Mixtures ¹ | 18.4% | 18.6% | IVIIXL | uies |
| Average % for Other Agency Mixtures ¹ | 22.9% | 20.8% | | |
| Average % for Commercial & Residential Mixtures ¹ | 24.5% | 20.8% | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 24.37 | 21.070 | 22.6% | 18.6% |
| | Other Rep | orted Data | 22.070 | 10.070 |
| % Companies Reporting Using RAP | 88% | 100% | | |
| % of RAP Fractionated | 20% | 22% | | |
| % of RAP Mixtures Using Softer Binders | 20 % | 0% | | |
| % of RAP Mixtures Using Rejuvenators | 18% | 0% | | |
| | | | | |
| RAS | Tons, Th | | Tons, Th | |
| 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 | | Used in |
| | Mixt | | Mixt | ures |
| Average % for DOT Mixtures ¹ | 0.58% | 0.95% | - | |
| Average % for Other Agency Mixtures ¹ | 1.65% | 0.72% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 1.65% | 0.99% | 0.000/ | 0.000/ |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | 0.38% | 0.93% |
| | Other Rep | | | |
| % Companies Reporting Using RAS | 50% | 50% | - | |
| % of RAS Mixtures Using Softer Binders | | 0% | | |
| % of RAS Mixtures Using Rejuvenators | Ť | 0% | | |
| WMA | % of Total | Production | Tons, I | Villions |
| 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 |
| WMA Technologies | % of N | | | |
| Chemical Additive, % | 56% | 88% | | |
| Additive Foaming, % | 0% | 0% | | |
| | | | | |
| Plant Foaming, % | 44% | 12% | | |
| Organic Additive, % | 0% | 0% | | |
| | Other Rep | | | |
| % Companies Reporting Producing WMA | 75% | 50% | | |

 % Companies Reporting Producing WMA
 75%
 50%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | d Values | Estimated Values | |
|---|------------|----------------------------|------------------|-----------------|
| ILARU | 2015 | 2016 | 2015 | 2016 |
| Tons of HMA/WMA Produced | Tons, M | Villions | Tons, I | Villions |
| 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 | | |
| RAP | Tana M | 4:11: | Tana | Alliana |
| Accepted | | 0.9 | 1.2 | Villions 2.8 |
| | | 1.1 | 2.5 | 3.2 |
| Used in HMA/WMA Mixtures Used in Aggregate | 1.0 | 0.0 | 0.1 | 0.1 |
| Used in Cold-Mix Asphalt | 0.0 | 0.0 | 0.0 | 0.1 |
| 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 | 0.0 | 3.13 | 1.4 |
| Total Toris of RAP Stockpiled at Teal-End | Avg. % | | 3.13 Avg. % | |
| | Mixt | | Avg. % | |
| Average % for DOT Mixtures ¹ | 17.2% | 13.6% | Ινιιχι | ules |
| Average % for Other Agency Mixtures ¹ | 17.2% | 13.0% | | |
| Average % for Commercial & Residential Mixtures ¹ | 16.6% | 12.8% | - | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 10.0 % | 12.0 /0 | 12.6% | 13.3% |
| State Average Air Mixtures Dased of TAI Toris Osed in ThinAveraiA | Other Rep | orted Data | 12.076 | 15.570 |
| % Companies Reporting Using RAP | 100% | 100% | | |
| % of RAP Fractionated | 50% | 15% | - | |
| % of RAP Mixtures Using Softer Binders | 29% | 13% | - | |
| % of RAP Mixtures Using Rejuvenators | 0% | 0% | - | |
| | | | | |
| RAS | Tons, Th | | | ousands |
| 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 | | Used in |
| Average % for DOT Mixtures ¹ | 2.98% | | Mixt | ures |
| | 2.54% | 0.94% | | |
| Average % for Other Agency Mixtures ¹ | 2.30% | 0.64% | - | |
| Average % for Commercial & Residential Mixtures ¹ State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 2.30% | 1.07% | 1 5 1 9/ | 0.000/ |
| | Other Rep | orted Data | 1.51% | 0.89% |
| % Companies Reporting Using RAS | 75% | 71% | | |
| % of RAS Mixtures Using Softer Binders | 15% | | - | |
| % of RAS Mixtures Using Rejuvenators | + | 17% 0% | - | |
| | | | | |
| WMA | % of Total | Production | | Villions |
| 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 |
| WMA Technologies | % of N | /larket | | |
| Chemical Additive, % | 67% | 94% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 33% | 6% | | |
| Organic Additive, % | 0% | 0% | | |
| | Other Rep | | | |
| 0/ Componing Departing Producing \0/\04 | | | | |
| % Companies Reporting Producing WMA | 75% | 100% | | |

 % Companies Reporting Producing WMA
 75%
 100%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | Reporte | d Values | Estimate | ed Values |
|---|-------------------|------------|----------|-----------|
| | 2015 | 2016 | 2015 | 2016 |
| Tons of HMA/WMA Produced | Tons | Villions | 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 | | - |
| RAP | Topo | Villions | Topo | 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 | 0.9 | 0.9 |
| 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 |
| | | Used in | - | Used in |
| | | ures | | ures |
| Average % for DOT Mixtures ¹ | 21.2% | 15.8% | | |
| Average % for Other Agency Mixtures ¹ | 23.7% | 18.6% | | |
| Average % for Commercial & Residential Mixtures ¹ | 35.1% | 32.2% | - | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | 25.3% | 25.4% |
| | Other Rep | orted 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% | - | |
| RAS | Tone Th | ousands | Tone Th | nousands |
| 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 |
| Editatilou | | Used in | | Used in |
| | Mixtures Mixtures | | | |
| Average % for DOT Mixtures ¹ | 0.00% | 0.00% | | |
| Average % for Other Agency Mixtures ¹ | 0.00% | 0.00% | - | |
| Average % for Commercial & Residential Mixtures ¹ | 0.00% | 0.00% | - | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | 0.00% | 0.00% |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAS | 0% | 0% | | |
| % of RAS Mixtures Using Softer Binders | † | 0% | - | |
| % of RAS Mixtures Using Rejuvenators | † | 0% | | |
| WMA | % of Total | Production | Tone | Millions |
| Total | 78 UT T ULAT | | 2.3 | 1.9 |
| DOT | 63% | 62% | 0.4 | 0.6 |
| Other Agency | 49% | 43% | 1.2 | 0.0 |
| Commercial & Residential | 79% | 43% 51% | 2.3 | 1.0 |
| | | | 2.0 | 1.0 |
| WMA Technologies [‡] | | Market | | |
| Chemical Additive, % | 13% | 8% | | |
| Additive Foaming, % | 0% | 0% | | |
| Plant Foaming, % | 87% | 97% | | |
| Organic Additive, % | 0% | 0% | | |
| | Other Rep | orted Data | | |
| % Companies Reporting Producing WMA | 89% | 82% | | |

¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage. ² 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 | Reporte | d Values | Estimate | d Values |
|---|----------------------------|------------|----------------------------|-----------|
| | 2015 | 2016 | 2015 | 2016 |
| Fons of HMA/WMA Produced | Tons, I | Villions | Tons, N | /illions |
| Total | * | * | 2.3 | 1.7 |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| Companies Reporting | * | * | | |
| | | | | |
| RAP | Tons, I | Villions | Tons, N * | /lillions |
| 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. % | | Avg. % | Used in |
| | Mixt | | Mixtures | |
| Average % for DOT Mixtures ¹ | * | * | | |
| Average % for Other Agency Mixtures ¹ | * | * | | |
| Average % for Commercial & Residential Mixtures ¹ | * | * | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | | * | * |
| | Other Rep | orted Data | | |
| % Companies Reporting Using RAP | * | * | | |
| % of RAP Fractionated | * | * | | |
| % of RAP Mixtures Using Softer Binders | * | * | | |
| % of RAP Mixtures Using Rejuvenators | * | * | | |
| RAS | T | | Tana Th | |
| | Tons, Th | | Tons, Th | ousands |
| 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 ¹ | * | wies * | IVIIXU | lies |
| Average % for Other Agency Mixtures ¹ | * | * | | |
| Average % for Commercial & Residential Mixtures ¹ | * | * | - | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | * | * |
| | Other Rep | orted Data | | |
| % Companies Reporting Lloing RAS | | | | |
| % Companies Reporting Using RAS | + | * | | |
| % of RAS Mixtures Using Softer Binders | | * | | |
| % of RAS Mixtures Using Rejuvenators | | | | |
| WMA | % of Total | Production | Tons, N | /lillions |
| Total | | | * | * |
| DOT | * | * | * | * |
| Other Agency | * | * | * | * |
| Commercial & Residential | * | * | * | * |
| WMA Technologies | % of M | /larket | | |
| Chemical Additive, % | * | * | | |
| | * | * | | |
| Additive Foaming, % | | * | | |
| Plant Foaming, % | * | * | | |
| Organic Additive, % | * | * | | |
| | Other Rep | orted Data | | |
| | | | | |

% Companies Reporting Producing WMA
 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 ² 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 | Reporte | Reported Values | | Estimated Values | |
|---|------------------------|----------------------------|----------------|----------------------------|--|
| | 2015 | 2016 | 2015 | 2016 | |
| Fons of HMA/WMA Produced | Tons, I | Villions | Tons, I | 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 | | 0.0 | |
| RAP | | 4:11:0:00 | Tana | | |
| Accepted | Tons, I 1.9 | 2.3 | Tons, M 3.6 | 3.7 | |
| Used in HMA/WMA Mixtures | | 2.3 | 3.6 | 3.4 | |
| Used in Aggregate | 1.9 | 0.1 | 0.1 | 0.1 | |
| Used in Cold-Mix Asphalt | 0.0 | 0.1 | 0.0 | 0.1 | |
| 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 | 2.2 | 3.06 | 3.57 | |
| | Avg. % | | Avg. % | | |
| | Avg. % | | Avg. % | | |
| Average % for DOT Mixtures ¹ | 25.9% | 26.4% | IVIIXL | 0165 | |
| Average % for Other Agency Mixtures ¹ | 25.9% | 26.4% | | | |
| Average % for Commercial & Residential Mixtures ¹ | 32.4% | 29.7% | | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 32.4% | 29.1% | 28.7% | 28.1% | |
| State Average All Mixtures Dased of TAAL TONS Osed IT HMA WIMA | Other Rep | orted Data | 20.770 | 20.170 | |
| % 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% | · | | |
| | | | | | |
| RAS | Tons, Th | | Tons, Th | | |
| 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 ¹ | 0.79% | 0.08% | IVIIXL | ures | |
| Average % for Other Agency Mixtures ¹ | 0.41% | 0.03% | - | | |
| Average % for Commercial & Residential Mixtures ¹ | 0.15% | 0.04% | - | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 0.1378 | 0.0278 | 0.08% | 0.05% | |
| State Average All Mixtures Dased of TAS Toris Osed in Third WinA | Other Reported Data | | 0.0078 | 0.0376 | |
| % Companies Reporting Using RAS | 29% | 14% | | | |
| % of RAS Mixtures Using Softer Binders | 2370 | 0% | · | | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | · | | |
| | | | | | |
| WMA | % of Total | Production | Tons, I | | |
| 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 | |
| WMA Technologies | % of N | 1 | | | |
| Chemical Additive, % | 19% | 19% | | | |
| Additive Foaming, % | 0% | 0% | | | |
| | | | | | |
| | 81% | 82% | | | |
| Plant Foaming, % | <u>81%</u> | 82% 0% | | | |
| | 81% 0% Other Rep | 0% | | | |

 % Companies Reporting Producing WMA
 86%
 100%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | Reporte | d Values | Estimate | d Values | |
|---|-------------|----------------------------|----------|----------------------------|--|
| WASHINGTON | 2015 | 2016 | 2015 | 2016 | |
| Fons of HMA/WMA Produced | Tons | Villions | 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 | | | |
| RAP | | | Tana | Alliana | |
| Accepted | | 0.4 | 1.1 | Millions 1.3 | |
| | | | | | |
| Used in HMA/WMA Mixtures Used in Aggregate | 0.9 | 0.5 | 1.3 | 1.5 | |
| Used in Cold-Mix Asphalt | 0.0 | 0.0 | 0.0 | 0.1 | |
| 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 | | 0.0 | 0.0 | 1.67 | |
| | 0.6 | Used in | | Used in | |
| | Mixt | | | ures | |
| Average % for DOT Mixtures ¹ | 26.8% | 23.3% | IVIX | | |
| Average % for Other Agency Mixtures ¹ | 20.8% | 23.3% | | | |
| Average % for Commercial & Residential Mixtures ¹ | 29.2% | 27.7% | - | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 29.270 | 21.170 | 24.8% | 25.5% | |
| | Other Rep | orted Data | 24.070 | 20.07 | |
| % 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% | - | | |
| - · · | | | | | |
| RAS | Tons, Th | | | nousands | |
| 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 ¹ | 0.16% | 0.00% | | uies | |
| Average % for Other Agency Mixtures ¹ | 1.81% | 0.01% | - | | |
| Average % for Commercial & Residential Mixtures ¹ | 1.20% | 0.01% | - | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | 1.2070 | 0.0170 | 0.22% | 0.01% | |
| | Other Rep | orted Data | 0.2270 | 0.0170 | |
| % Companies Reporting Using RAS | 60% | 25% | | | |
| % of RAS Mixtures Using Softer Binders | + | 53% | - | | |
| % of RAS Mixtures Using Rejuvenators | + | 0% | | | |
| | 0(af Tatal | | Τ | A:11: | |
| WMA | % of Total | Production | | Millions | |
| Total | 00/ | 150/ | 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 | |
| WMA Technologies | | Market | | | |
| Chemical Additive, % | 5% | 52% | | | |
| Additive Foaming, % | 0% | 0% | | | |
| Plant Foaming, % | 95% | 48% | | | |
| Organic Additive, % | 0% | 0% | | | |
| | | orted Data | | | |
| % Companies Reporting Producing WMA | | | | | |
| | 0% | 0% | | | |

 % Companies Reporting Producing WMA
 100%
 75%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2

 ² 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

| Reported | d Values | Estimate | d Values | |
|----------------------------------|---|--|---|--|
| 2015 | 2016 | 2015 | 2016 | |
| Tons. | Villions | Tons. N | Villions | |
| 1.7 | | | 4.1 | |
| | | | 2.9 | |
| | 0.1 | | 0.2 | |
| | 0.5 | | 1.0 | |
| | 5 | | - | |
| | Ailliana | Tono N | Ailliona | |
| | | , | 0.5 | |
| | | | 0.5 | |
| | | | 0.0 | |
| | | | 0.0 | |
| | | | 0.0 | |
| | ÷. | | 0.0 | |
| | | | 0.0 | |
| | | | | |
| | | | | |
| | | IVIIXL | 0100 | |
| | | | | |
| | | | | |
| 14.170 | 7.4 /0 | 13 7% | 14.2% | |
| Other Rep | orted Data | 13.776 | 14.270 | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | 1 | | | |
| | | | 0.0 | |
| | | | 0.0 | |
| | | | 0.0 | |
| | | | 0.0 | |
| | | | 0.0 | |
| | | | 0.0 | |
| | | | 0.0 | |
| | | | Avg. % Used in | |
| | | IVIIXI | ures | |
| | | | | |
| | | | | |
| 0.0078 | 0.0078 | 0.00% | 0.00% | |
| Other Rep | orted Data | 0.0078 | 0.0078 | |
| | | | | |
| | | | | |
| + | | | | |
| | 070 | | | |
| | D | L Lons M | Aillions | |
| % of Total | Production | | ~ . | |
| | | 0.0 | 0.1 | |
| 0% | 1% | 0.0 0.0 | 0.0 | |
| 0% 0% | 1% 6% | 0.0 0.0 0.0 | 0.0 0.0 | |
| 0% 0% 0% | 1% 6% 1% | 0.0 0.0 | 0.0 | |
| 0% 0% 0% % of N | 1% 6% 1% /arket | 0.0 0.0 0.0 | 0.0 0.0 | |
| 0% 0% 0% % of N 0% | 1% 6% 1% Market 0% | 0.0 0.0 0.0 | 0.0 0.0 | |
| 0% 0% 0% % of N | 1% 6% 1% /arket | 0.0 0.0 0.0 | 0.0 0.0 | |
| 0% 0% 0% % of N 0% | 1% 6% 1% Market 0% | 0.0 0.0 0.0 | 0.0 0.0 | |
| 0% 0% 0% 0% 0% 0% | 1% 6% 1% Aarket 0% 0% 100% | 0.0 0.0 0.0 | 0.0 0.0 | |
| 0% 0% 0% 0% 0% | 1% 6% 1% Aarket 0% 0% 100% 0% | 0.0 0.0 0.0 | 0.0 0.0 | |
| | 2015 Tons, N 1.7 1.3 0.2 0.3 3 Tons, N 0.2 0.2 0.2 0.0 0.0 0.0 0.0 0.0 | Tons, Millions 1.7 2.2 1.3 1.5 0.2 0.1 0.3 0.5 3 5 Tons, Millions 0.2 0.2 0.3 0.2 0.3 0.2 0.3 0.2 0.3 0.2 0.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1 Avg. % Used in Mixtures 13.9% 13.9% 14.0% 12.4% 14.1% 7.4% Other Reported Data 100% 0% 0% 0% 0% 0% 0% 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 | 2015 2016 2015 Tons, Millions Tons, N 1.7 2.2 3.5 1.3 1.5 2.6 0.2 0.1 0.3 0.3 0.5 0.6 3 5 5 Tons, Millions Tons, N 0.2 0.3 0.5 0.2 0.3 0.5 0.2 0.3 0.5 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1 0.11 Avg. % Used in Mixtures Avg. % Mixtures 13.9% 13.9% 14.0% 12.4% 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 | |

 % Companies Reporting Producing WMA
 0%
 20%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 2 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 | Reporte | d Values | Estimate | d Values | |
|---|-----------------|-----------------------------------|----------|-----------------|--|
| | 2015 | 2016 | 2015 | 2016 | |
| Fons of HMA/WMA Produced | Tons, I | Villions | 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 | | | |
| RAP | | Ailliona | Topo | Milliono | |
| Accepted | <u> </u> | 1.2 | 1.5 | Millions 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 | |
| | Mixt | | | ures | |
| Average % for DOT Mixtures ¹ | 18.0% | 20.2% | | 0100 | |
| Average % for Other Agency Mixtures ¹ | 18.0% | 20.2% | | | |
| Average % for Commercial & Residential Mixtures ¹ | 22.2% | 25.0% | - | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | 22.270 | 23.076 | 16.1% | 21.6% | |
| | Other Rep | orted Data | 10.170 | 21.070 | |
| % 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% | - | | |
| × · | | | | | |
| RAS | Tons, Th | | | nousands | |
| 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 | | Avg. % Used in | |
| | Mixt | | Mixt | ures | |
| Average % for DOT Mixtures ¹ | 2.48% | 0.63% | - | | |
| Average % for Other Agency Mixtures ¹ | 2.69% | 1.19% | - | | |
| Average % for Commercial & Residential Mixtures ¹ | 3.00% | 1.50% | 0.05% | 1.09% | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | Other Den | 0.85% 1.09 Other Reported Data | | | |
| % Companies Departing Using DAS | | | | | |
| % Companies Reporting Using RAS | 100% | 100% | - | | |
| % of RAS Mixtures Using Softer Binders | † | 32% 29% | - | | |
| % of RAS Mixtures Using Rejuvenators | | 29% | | | |
| WMA | % of Total | Production | | 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 | |
| WMA Technologies | % of M | <i>l</i> arket | | | |
| Chemical Additive, % | 83% | 97% | | | |
| Additive Foaming, % | 13% | 0% | | | |
| Plant Foaming, % | 3% | 3% | | | |
| Organic Additive, % | 0% | 0% | | | |
| | O% Other Rep | | | | |
| | | | | | |
| % Companies Reporting Producing WMA | 100% | 100% | | | |

 % Companies Reporting Producing WMA
 100%

 ¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 100%

 ² Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
 1 Information not requested in 2015

 Numbers may not add up exactly due to rounding
 100%
 100%

| WYOMING | Reporte | Reported Values | | Estimated Values | |
|---|----------------------------|-----------------|----------------------------|------------------|--|
| | 2015 | 2016 | 2015 | 2016 | |
| Tons of HMA/WMA Produced | Tons, I | 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 | | | |
| RAP | Tana | Aillione | Tana | Millione | |
| | 1001S, 1 | Millions | tons, | Millions 0.2 | |
| Accepted Used in HMA/WMA Mixtures | * | 0.0 | * | - | |
| Used in Aggregate | * | 0.0 | * | 0.2 | |
| Used in Cold-Mix Asphalt | * | | * | 0.0 | |
| Used in Other | * | 0.0 | * | 0.0 | |
| Landfilled | * | | * | | |
| | * | 0.0 | * | 0.0 | |
| Total Tons of RAP Stockpiled at Year-End | | | | | |
| | | Used in ures | | Used in tures | |
| Average % for DOT Mixtures | * | | IVIIX | lures | |
| Average % for DOT Mixtures ¹ Average % for Other Agency Mixtures ¹ | * | 8.9% 7.9% | | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 14.7% | | | |
| State Average All Mixtures Based on RAP Tons Used in HMA/WMA ² | | 14.770 | * | 10.11% | |
| State Average All Mixtures based on KAP Tons Osed in ThinA/WIMA | Other Ben | orted Data | | 10.117 | |
| % Companies Reporting Using RAP | | 67% | | | |
| % of RAP Fractionated | * | 0% | | | |
| % of RAP Mixtures Using Softer Binders | * | 0% | | | |
| % of RAP Mixtures Using Rejuvenators | * | 0% | | | |
| - · · | | | | | |
| RAS | Tons, Th | ousands | Tons, Tl | nousands | |
| 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 ¹ | * | 0.00% | | | |
| Average % for Other Agency Mixtures ¹ | * | 0.14% | | | |
| Average % for Commercial & Residential Mixtures ¹ | * | 0.28% | | | |
| State Average All Mixtures Based on RAS Tons Used in HMA/WMA ² | | | * | 0.09% | |
| | Other Rep | orted Data | | | |
| % Companies Reporting Using RAS | * | 17% | | | |
| % of RAS Mixtures Using Softer Binders | † | 0% | | | |
| % of RAS Mixtures Using Rejuvenators | † | 0% | | | |
| WMA | % of Total | Production | Tons | Millions | |
| Total | | | * | 0.5 | |
| DOT | * | 29% | * | 0.4 | |
| Other Agency | * | 9% | * | 0.0 | |
| Commercial & Residential | * | 20% | * | 0.1 | |
| WMA Technologies | % of M | Varket | | | |
| Chemical Additive, % | * | 0% | | | |
| | * | | | | |
| Additive Foaming, % | * | 0% | | | |
| Plant Foaming, % | | 100% | | | |
| Organic Additive, % | * | 0% | | | |
| | Other Rep | orted Data | | | |
| % Companies Reporting Producing WMA | * | 83% | | | |

¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
 ² 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