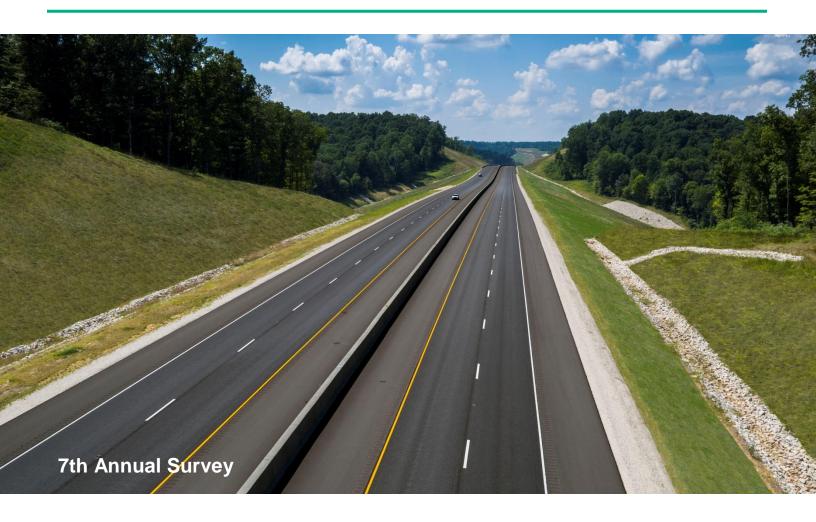


## **Asphalt Pavement Industry Survey on**

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.

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

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

NCR = No Companies Responding

<sup>\* =</sup> Fewer than 3 Companies Reporting

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

ALABAMA	Reported	d Values	Estimate	d Values
ALADAIVIA	2015 2016		2015	2016
Tons of HMA/WMA Produced	Tons, N	Millions	ions Tons, Million	
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, N	Villions	Tons	Millions
Accepted	0.7	0.9	1.4	1.7
Used in HMA/WMA Mixtures	0.9	0.9	1.9	1.8
Used in Aggregate	0.0	0.0	0.0	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	0.92	1.14	1.85	2.28
·	Avg. %	Used in	Avg. %	Used in
	Mixt	ures	Mixt	ures
Average % for DOT Mixtures <sup>1</sup>	26.9%	25.1%		
Average % for Other Agency Mixtures <sup>1</sup>	21.7%	21.7%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	30.6%	25.2%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			25.1%	24.4%
	Other Rep			
% 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	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. % Mixt		Avg. % Used in Mixtures	
Average % for DOT Mixtures <sup>1</sup>	3.77%	0.46%	IVIIAU	uies
Average % for Other Agency Mixtures <sup>1</sup>	1.07%	0.00%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	0.64%	0.10%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>	0.0.77		1.66%	0.30%
	Other Rep	orted Data		
% Companies Reporting Using RAS	100%	60%		
% of RAS Mixtures Using Softer Binders	†	0%		
% of RAS Mixtures Using Rejuvenators	Ť	0%		
WMA	% of Total	Production	Tons.	Millions
Total	70 01 10141	roddollori	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	% of N			
Chemical Additive, %	9%	14%		
Additive Foaming, %	3%	0%		
Plant Foaming, %	88%	86%		
Organic Additive, %	0%	0%		
0/ Occasion Deposition Depole to a NA/AAA	Other Rep			
% Companies Reporting Producing WMA  Average percent based on contractor's reported percentage for each sector, adjusted by	75%	60%		

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

ALASKA	Reported	d Values	Estimate	d Values
ALASKA	2015	2015 2016		
Tons of HMA/WMA Produced	Tons, N	2016	Tons, Millions	
Total	*	*	4.7	4.6
DOT	*	*	*	*
Other Agency	*	*	*	*
Commercial & Residential	*	*	*	*
Companies Reporting	*	*		
RAP	Tona N	/illiana	Tone A	lilliono
Accepted	Tons, N	*	Tons, N	*
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	*	*	*	*
Total Total Of Total Clockpilod at Total End	Avg. %	Used in	Avg. %	Used in
	Mixto		Mixtu	
Average % for DOT Mixtures <sup>1</sup>	*	*		
Average % for Other Agency Mixtures <sup>1</sup>	*	*		
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	*		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			*	*
	Other Rep	orted Data		
% Companies Reporting Using RAP	*	*		
% of RAP Fractionated	*	*		
% of RAP Mixtures Using Softer Binders	*	*		
% of RAP Mixtures Using Rejuvenators	*	*		
RAS	Tons, Th	oueande	Tons, Th	nueande
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. % Used in			
	Mixto	Mixtu	ıres	
Average % for DOT Mixtures <sup>1</sup>	*	*		
Average % for Other Agency Mixtures <sup>1</sup>	*	*		
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	*		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			*	*
	Other Rep	orted Data		
% Companies Reporting Using RAS	*	*		
% of RAS Mixtures Using Softer Binders	<u> </u>	*		
% of RAS Mixtures Using Rejuvenators		*		
<b>WMA</b>	% 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, %	*	*		
Organio Additive, 70	Other Rep	orted Data		
	- Omerkeo	기타다 다리다		

<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
Numbers may not add up exactly due to rounding

ARIZONA	Reported	d Values	Estimate	ed Values
ARIZUNA	2015	2015 2016		
Tons of HMA/WMA Produced	Tons, N	/illions	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		
RAP	Tons, N	Aillione	Tons	Millions
Accepted	*	0.3	*	1.0
Used in HMA/WMA Mixtures	*	0.2	*	0.6
Used in Aggregate	*	0.0	*	0.0
Used in Cold-Mix Asphalt	*	0.0	*	0.0
Used in Other	*	0.0	*	0.0
Landfilled	*	0.0	*	0.0
Total Tons of RAP Stockpiled at Year-End	*	0.4	*	1.05
Total Total Of Total Clookpilou at Total End	Avg. %	_	Ava %	Used in
	Mixto			tures
Average % for DOT Mixtures <sup>1</sup>	*	6.5%	TVII)	
Average % for Other Agency Mixtures <sup>1</sup>	*	8.5%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	11.1%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>		, , ,	*	8.8%
	Other Rep	orted Data		0.070
% Companies Reporting Using RAP	*	100%		
% of RAP Fractionated	*	0%		
% of RAP Mixtures Using Softer Binders	*	8.5%		
% of RAP Mixtures Using Rejuvenators	*	0%		
RAS	Tama Th	I.	Tana Ti	
	Tons, Th		rons, ir	nousands
Unprocessed Shingles Accepted	*	0.0	*	0.0
Processed Shingles Accepted 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
Landilled	Avg. %		Λνα %	
	Avg. 76 Mixto		Avg. % Used i Mixtures	
Average % for DOT Mixtures <sup>1</sup>	*	0.00%	IVIIX	aico
Average % for Other Agency Mixtures <sup>1</sup>	*	0.00%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	0.00%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>		0.0070	*	0.00%
Clate / trotage / in minitares Based of three Forte Cook in thin (17) in the	Other Rep	orted Data		0.0070
% Companies Reporting Using RAS	*	0%		
% of RAS Mixtures Using Softer Binders	+	0%		
% of RAS Mixtures Using Rejuvenators	+	0%		
•	0/ -f.T-4-1		Т	N A:11:
WMA	% of Total	Production	Ions,	Millions
Total	*	00/	*	0.05
DOT Other A report	*	0%	*	0.00
Other Agency	*	0.2%	*	0.01
Commercial & Residential		2%	•	0.04
WMA Technologies	% of N	1		
Chemical Additive, %	*	0%		
Additive Foaming, %	*	0%		
Plant Foaming, %	*	89%		
Organic Additive, %	*	11%		
- 0	Other Ren	orted Data		

<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
Numbers may not add up exactly due to rounding

ADVANCAC	Reported	d Values	Estimate	d Values	
ARKANSAS	2015	2016	2015	2016	
Tons of HMA/WMA Produced	Tons, N	/illions	Tons, Millions		
Total	1.9	2.3	3.2	5.5	
DOT	0.9	1.3	1.6	3.2	
Other Agency	0.5	0.3	0.8	0.8	
Commercial & Residential	0.5	0.7	0.8	1.6	
Companies Reporting	6	6			
RAP	Tons, N	/lillions	Tons	Millions	
Accepted	0.2	0.3	0.4	0.7	
Used in HMA/WMA Mixtures	0.3	0.2	0.5	0.5	
Used in Aggregate	0.0	0.0	0.0	0.0	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.0	0.0	0.0	0.0	
Landfilled	0.0	0.0	0.0	0.0	
Total Tons of RAP Stockpiled at Year-End	0.2	0.2	0.34	0.54	
	Avg. %			Used in	
	Mixtu		Mixt	ures	
Average % for DOT Mixtures <sup>1</sup>	15.3%	10.4%			
Average % for Other Agency Mixtures <sup>1</sup>	16.6%	10.5%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	14.7%	8.2%	44.40/	0.00/	
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	Oth ar Dan	awto al Doto	14.1%	9.8%	
% Companies Reporting Using RAP	Other Repo	100%			
% of RAP Fractionated	18%	1%			
% of RAP Mixtures Using Softer Binders	17%	0%			
% of RAP Mixtures Using Rejuvenators	0%	0%			
RAS	Tons, Th		Tons, Thousands		
Unprocessed Shingles Accepted	20.6	5.3	35.3	12.6	
Processed Shingles Accepted Used in HMA/WMA Mixtures	19.0 27.4	17.6 25.0	32.6	42.0 60.0	
Used in Aggregate	0.0	0.0	47.0 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	
	Mixtu		Mixtures		
Average % for DOT Mixtures <sup>1</sup>	1.20%	0.87%			
Average % for Other Agency Mixtures <sup>1</sup>	1.37%	1.49%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	2.35%	1.30%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			1.47%	1.08%	
	Other Repo				
% Companies Reporting Using RAS	67%	67%			
% of RAS Mixtures Using Softer Binders		0%			
% of RAS Mixtures Using Rejuvenators	<u>†</u> Ť	0%			
WMA	% of Total	Production	Tons, I	Millions	
Total		ı	0.7	2.1	
DOT	10%	30%	0.2	0.9	
Other Agency	18%	29%	0.1	0.2	
Commercial & Residential	53%	58%	0.4	0.9	
WMA Technologies	% of N				
Chemical Additive, %	0%	0%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	100%	100%			
Organic Additive, %	0%	0%			
	Other Repo	orted Data			
% Companies Reporting Producing WMA	83%	50%			
1 Average percent based on contractor's reported percentage for each sector, adjusted by	and upon reported to	nnago			

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

CALIFORNIA	Reported	d Values	Estimate	ed Values
CALIFORNIA	2015 2016		2015	2016
Tons of HMA/WMA Produced	Tons, N	•		Millions
Total	9.3	9.7	25.5	25.0
DOT	2.7	1.9	7.4	4.8
Other Agency	2.9	3.4	8.0	8.8
Commercial & Residential	3.7	4.4	10.1	11.4
Companies Reporting	4	4		
RAP	Tons, N	Millions	Tons	Millions
Accepted	2.1	1.4	5.7	3.6
Used in HMA/WMA Mixtures	1.5	1.4	4.0	3.7
Used in Aggregate	0.0	0.2	0.0	0.4
Used in Cold-Mix Asphalt	0.0	0.0	0.1	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	2.2	1.6	5.93	4.20
	Avg. %	Used in		Used in
	Mixt		Mixt	ures
Average % for DOT Mixtures <sup>1</sup>	15.8%	12.2%		
Average % for Other Agency Mixtures <sup>1</sup>	18.4%	12.9%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	20.0%	17.3%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			15.7%	14.7%
	Other Rep			
% 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%		
RAS	Tons, Th	ousands	Tons, Th	nousands
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. %		Avg. % Used in	
	Mixt		Mixt	ures
Average % for DOT Mixtures <sup>1</sup>	0.88%	0.01%		
Average % for Other Agency Mixtures <sup>1</sup>	0.43%	0.01%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	1.54%	0.04%	0.000/	0.000/
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>	Other Rep	artad Data	0.02%	0.02%
% Companies Reporting Using RAS	25%	25%		
% of RAS Mixtures Using Softer Binders	†	28%		
% of RAS Mixtures Using Rejuvenators	+ +	0%		
<u> </u>		L.	_	
WMA	% of Total	Production		Millions
Total	201	4.404	0.2	2.7
DOT Others A seed seed	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			
		11%		
Chemical Additive, %	41%			
Additive Foaming, %	41% 0%	0%		
Additive Foaming, %	0%	0%		
Additive Foaming, % Plant Foaming, %	0% 59%	0% 89% 0%		

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

COLORADO	Reported	d Values	Estimate	d Values	
COLORADO	2015	2016	2015	2016	
Tons of HMA/WMA Produced	Tons, N	/illions	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	Tons, N	/lillions	Tons. I	Millions	
Accepted	0.8	0.6	3.8	1.9	
Used in HMA/WMA Mixtures	0.3	0.6	1.4	1.8	
Used in Aggregate	0.0	0.1	0.0	0.3	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.1	0.0	0.4	0.0	
Landfilled	0.0	0.0	0.0	0.0	
Total Tons of RAP Stockpiled at Year-End	0.2	0.7	1.15	2.28	
	Avg. %			Used in	
Average 0/ for DOT Mixtures1	Mixtu		Mixt	ures	
Average % for DOT Mixtures <sup>1</sup> Average % for Other Agency Mixtures <sup>1</sup>	13.8% 24.3%	22.1% 24.5%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	27.1%	26.4%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	21.170	20.4 //	20.1%	23.8%	
State / Worage / III Wilktares Basea off for it Toris osea in Fill Wilk Wilk in the	Other Repo	orted Data	20.170	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	oueande	Tone 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. %		Avg. %	Used in	
	Mixtu		Mixtures		
Average % for DOT Mixtures <sup>1</sup>	0.00%	0.00%			
Average % for Other Agency Mixtures <sup>1</sup>	0.00%	0.00%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	2.61%	0.00%	0.400/	0.000/	
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>	Other Repo	orted Data	0.12%	0.00%	
% Companies Reporting Using RAS	50%	20%			
% of RAS Mixtures Using Softer Binders	†	0%			
% of RAS Mixtures Using Rejuvenators	+	0%			
WMA	% of Total		Tono	Milliona	
Total	% 01 10tai	Production	0.6	Millions 1.1	
DOT	4%	18%	0.0	0.7	
Other Agency	11%	17%	0.4	0.1	
Commercial & Residential	12%	5%	0.4	1.1	
WMA Technologies	% of N				
Chemical Additive, %	56%	15%			
Additive Foaming, %	11%	5%			
Plant Foaming, %	33%	74%			
Organic Additive, %	0%	74%			
Organic Additive, 70	Other Repo				
9/ Companies Poporting Producing M/MA	75%	80%			
% Companies Reporting Producing WMA					

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

CONNECTICUT	Reported	d Values	Estimate	d Values	
CONNECTION	2015	2016	2015 2016		
Tons of HMA/WMA Produced	Tons, N	/illions	ions Tons, Millior		
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			
RAP	Tons, N	Millione	Tone	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	
Total Total Of Total Clockpilod at Total End	Avg. %		Ava %	Used in	
	Mixt			ures	
Average % for DOT Mixtures <sup>1</sup>	*	19%	171174		
Average % for Other Agency Mixtures <sup>1</sup>	*	22%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	25%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>		2070	*	21.3%	
The state of the s	Other Rep	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	Tona Th		Tono Th	ou o o o do	
	Tons, Th		rons, rr	ousands	
Unprocessed Shingles Accepted Processed Shingles Accepted	*	0.0	*	0.0	
Used in HMA/WMA Mixtures	*	0.4 0.4	*	0.7	
Used in Aggregate	*	0.4	*	0.7	
Used in Cold-Mix Asphalt	*	0.0	*	0.0	
Used in Other	*	0.0	*	0.0	
Landfilled	*	0.0	*	0.0	
Landilled	Avg. %		Λνα %	Used in	
	Avg. 76 Mixto			ures	
Average % for DOT Mixtures <sup>1</sup>	*	0.00%	TVIIX		
Average % for Other Agency Mixtures <sup>1</sup>	*	0.00%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	0.06%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>		0.0070	*	0.02%	
	Other Rep	orted Data		0.00_,0	
% Companies Reporting Using RAS	*	33%			
% of RAS Mixtures Using Softer Binders	†	0%			
% of RAS Mixtures Using Rejuvenators	†	0%			
• .	0/ of Total		Tono	Milliono	
WMA Total	% of Total	rioduction	rons,	Millions 2.6	
	*	CE0/	*		
DOT Other Agency	*	65% 55%	*	1.2	
Other Agency Commercial & Residential	*	46%	*	0.9	
				0.6	
WMA Technologies	% of N				
Chemical Additive, %	*	5%			
Additive Foaming, %	*	0%			
Plant Foaming, %	*	94%			
Organic Additive, %	*	1%			
	Other Rep				

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

DELAWARE	Reported	d Values	Estimate	d Values
DELAWARE	2015	2016	2015	
Tons of HMA/WMA Produced	Tons, N	•	Tons, N	
Total	*	*	1.7	1.6
DOT	*	*	*	*
Other Agency	*	*	*	*
Commercial & Residential	*	*	*	*
Companies Reporting	*	*		
RAP	Tons, N	Millione	Tons, N	/illions
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
	Mixtu		Mixtu	
Average % for DOT Mixtures <sup>1</sup>	*	*		
Average % for Other Agency Mixtures <sup>1</sup>	*	*		
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	*		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			*	*
	Other 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	*	*	*	*
	Avg. % Used in Avg. % Used in			
	Mixto	ures	Mixtu	ures
Average % for DOT Mixtures <sup>1</sup>	*	*		
Average % for Other Agency Mixtures <sup>1</sup>	*	*		
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	*		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			*	*
	Other Rep	orted Data		
% Companies Reporting Using RAS	*	*		
% of RAS Mixtures Using Softer Binders		*		
% of RAS Mixtures Using Rejuvenators	<u> </u>	*		
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, %	*	*		
Organic Additive, 70	Other Rep			

<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
Numbers may not add up exactly due to rounding

DISTRICT OF COLUMBIA	Reported	l Values	Estimated Values		
DISTRICT OF COLUMBIA	2015	2016	2015	2016	
Tons of HMA/WMA Produced	Tons, N	Millions	Tons, Millions		
Total	NCR	NCR	1.7	1.4	
DOT	NCR	NCR	NCR	NCR	
Other Agency	NCR	NCR	NCR	NCR	
Commercial & Residential	NCR	NCR	NCR	NCR	
Companies Reporting	NCR	NCR			
RAP	Tons, N	Millions	Tons	Millions	
Accepted	NCR	NCR	NCR	NCR	
Used in HMA/WMA Mixtures	NCR	NCR	NCR	NCR	
Used in Aggregate	NCR	NCR	NCR	NCR	
Used in Cold-Mix Asphalt	NCR	NCR	NCR	NCR	
Used in Other	NCR	NCR	NCR	NCR	
Landfilled	NCR	NCR	NCR	NCR	
Total Tons of RAP Stockpiled at Year-End	NCR	NCR	NCR	NCR	
Total Total of Tall Gloonpiled at Total End	Avg. %			Used in	
	Mixtu			ures	
Average % for DOT Mixtures <sup>1</sup>	NCR	NCR			
Average % for Other Agency Mixtures <sup>1</sup>	NCR	NCR			
Average % for Commercial & Residential Mixtures <sup>1</sup>	NCR	NCR			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			NCR	NCR	
•	Other Repo	orted Data			
% Companies Reporting Using RAP	NCR	NCR			
% of RAP Fractionated	NCR	NCR			
% of RAP Mixtures Using Softer Binders	NCR	NCR			
% of RAP Mixtures Using Rejuvenators	NCR	NCR			
RAS	Tons, The	ousands	Tons Th	ousands	
Unprocessed Shingles Accepted	NCR	NCR	NCR	NCR	
Processed Shingles Accepted	NCR	NCR	NCR	NCR	
Used in HMA/WMA Mixtures	NCR	NCR	NCR	NCR	
Used in Aggregate	NCR	NCR	NCR	NCR	
Used in Cold-Mix Asphalt	NCR	NCR	NCR	NCR	
Used in Other	NCR	NCR	NCR	NCR	
Landfilled	NCR	NCR	NCR	NCR	
	Avg. % Used in		Avg. % Used in		
	Mixtu				
Average % for DOT Mixtures <sup>1</sup>	NCR	NCR			
Average % for Other Agency Mixtures <sup>1</sup>	NCR	NCR			
Average % for Commercial & Residential Mixtures <sup>1</sup>	NCR	NCR			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			NCR	NCR	
	Other Repo	orted Data			
% Companies Reporting Using RAS	NCR	NCR			
% of RAS Mixtures Using Softer Binders	†	NCR			
% of RAS Mixtures Using Rejuvenators	†	NCR			
WMA	% of Total I	Production	Tons.	Millions	
Total			NCR	NCR	
DOT	NCR	NCR	NCR	NCR	
Other Agency	NCR	NCR	NCR	NCR	
Commercial & Residential	NCR	NCR	NCR	NCR	
WMA Technologies	% of M				
Chemical Additive, %	NCR	NCR			
Additive Foaming, %	NCR	NCR			
		NCR			
Plant Foaming, %	NCR				
Organic Additive, %	NCR	NCR			
0/ 0	Other Repo				
% Companies Reporting Producing WMA  1 Average percent based on contractor's reported percentage for each sector, adjusted based on contractor's reported percentage for each sector, adjusted based on contractor's reported percentage for each sector, adjusted based on contractor's reported percentage for each sector.	NCR	NCR			

<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
Numbers may not add up exactly due to rounding

Tons of HMA/WMA Produced  Total  DOT  Other Agency Commercial & Residential Companies Reporting	2015 Tons, M	2016 Millions	2015 Tons. I	2016 Millions
Total DOT Other Agency Commercial & Residential	Tons, N 6.0	Millions		•
Total DOT Other Agency Commercial & Residential	6.0		s Tons, Million	
DOT Other Agency Commercial & Residential		5.4	14.4	15.0
Other Agency Commercial & Residential	2.9	2.2	6.8	6.0
Commercial & Residential	1.1	1.2	2.6	3.2
	2.1	2.1	5.0	5.7
Companior Reporting	6	6		
RAP	Tons, N	dillione	Tone	Millions
Accepted	2.1	1.7	5.0	4.7
Used in HMA/WMA Mixtures	2.0	1.7	4.8	4.8
Used in Aggregate	0.0	0.0	0.1	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.1
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	1.5	1.1	3.68	3.02
Total Total Strike Stoomphous at Tour End	Avg. %			Used in
	Mixtu			tures
Average % for DOT Mixtures <sup>1</sup>	26.8%	25.6%		
Average % for Other Agency Mixtures <sup>1</sup>	32.6%	31.2%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	36.6%	38.3%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			33.5%	31.7%
	Other Repo	orted Data		
% Companies Reporting Using RAP	100%	100%		
% of RAP Fractionated	0%	6%		
% of RAP Mixtures Using Softer Binders	68%	73%		
% of RAP Mixtures Using Rejuvenators	17%	4%		
RAS	Tons, Th	ousands	Tons Tr	nousands
Unprocessed Shingles Accepted	2.6	0.0	6.1	0.0
Processed Shingles Accepted	0.0	0.0	0.0	0.0
Used in HMA/WMA Mixtures	2.8	0.0	6.7	0.0
Used in Aggregate	0.0	0.0	0.0	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
	Avg. %	Used in	Avg. %	Used in
	Mixtu		Mixtures	
Average % for DOT Mixtures <sup>1</sup>	0.00%	0.00%		
Average % for Other Agency Mixtures <sup>1</sup>	1.22%	0.00%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	0.73%	0.00%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			0.05%	0.00%
	Other Repo			
% Companies Reporting Using RAS	17%	0%		
% of RAS Mixtures Using Softer Binders	<u> </u>	0%		
% of RAS Mixtures Using Rejuvenators	<u> </u>	0%		
WMA	% of Total	Production	Tons,	Millions
Total			1.3	5.4
DOT	16%	30%	1.1	1.8
Other Agency	5%	33%	0.1	1.1
Commercial & Residential	1%	43%	0.0	2.5
WMA Technologies	% of N	/larket		
Chemical Additive, %	96%	25%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	4%	75%		
i lanci Gaming, 70	0%	0%		
		U 70		
Organic Additive, %	Other Repo			

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

GEORGIA	Reported	d Values	Estimate	ed Values
GEORGIA	2015	2015 2016		
Tons of HMA/WMA Produced	Tons, N	/illions	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	Millione	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	Avg. %	Used in
	Mixt	ures	Mix	tures
Average % for DOT Mixtures <sup>1</sup>	*	26.7%		
Average % for Other Agency Mixtures <sup>1</sup>	*	27.0%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	29.7%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			*	27.4%
	Other Rep			
% 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	ousands	Tons, Th	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			Used in
Access to 0/ for DOT Mintons 1	Mixto		Mix	tures
Average % for DOT Mixtures <sup>1</sup>	*	0.00%		
Average % for Other Agency Mixtures <sup>1</sup>	*	0.00%		
Average % for Commercial & Residential Mixtures <sup>1</sup> State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>	"	0.04%	*	0.040/
State Average All Mixtures based on RAS Tons Used in HimAVVIMA-	Other Rep	orted Data		0.01%
% Companies Reporting Using RAS	Viner Rep	40%		
% of RAS Mixtures Using Softer Binders	+	0%		
% of RAS Mixtures Using Rejuvenators	+	1%		
<u> </u>	I			
WMA	% of Total	Production	Tons,	Millions
Total			*	0.04
DOT	*	0.2%	*	0.01
Other Agency	*	0.4%	*	0.01
Commercial & Residential		0.6%	*	0.01
WMA Technologies	% of N	1		
	*	100%		
Chemical Additive, %				
Chemical Additive, % Additive Foaming, %	*	0%		
	*	0% 0%		
Additive Foaming, %				
Additive Foaming, % Plant Foaming, %	*	0% 0%		

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

HAWAII	Reported	d Values	Estimate	d Values
TAWAII	2015			2016
Tons of HMA/WMA Produced	Tons, N	•	2015 Tons, N	
Total	*	*	1.7	1.1
DOT	*	*	*	*
Other Agency	*	*	*	*
Commercial & Residential	*	*	*	*
Companies Reporting	*	*		
RAP	Tons, N	Millione	Tons, N	Millione
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. %	Jsed in
	Mixtu		Mixtu	
Average % for DOT Mixtures <sup>1</sup>	*	*		
Average % for Other Agency Mixtures <sup>1</sup>	*	*		
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	*		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			*	*
	Other Repo	orted Data		
% Companies Reporting Using RAP	*	*		
% of RAP Fractionated	*	*		
% of RAP Mixtures Using Softer Binders	*	*		
% of RAP Mixtures Using Rejuvenators	*	*		
RAS	Tons, Th	oueande	Tons, Th	nucando
Unprocessed Shingles Accepted	*	*	*	*
Processed Shingles Accepted  Processed Shingles Accepted	*	*	*	*
Used in HMA/WMA Mixtures	*	*	*	*
Used in Aggregate	*	*	*	*
Used in Cold-Mix Asphalt	*	*	*	*
Used in Other	*	*	*	*
Landfilled	*	*	*	*
Eartamod	Avg. %	l Ised in	Avg. %	Ised in
	Mixtu		Mixtu	
Average % for DOT Mixtures <sup>1</sup>	*	 		
Average % for Other Agency Mixtures <sup>1</sup>	*			
Average % for Commercial & Residential Mixtures <sup>1</sup>	*			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			*	*
	Other Repo	orted Data		
% Companies Reporting Using RAS	*	*		
% of RAS Mixtures Using Softer Binders	+	*		
% of RAS Mixtures Using Rejuvenators	†	*		
WMA	% of Total	Production	Tons, N	Millions
Total	/0 UI TUIAI	TOUUCION	*	*
DOT	*	*	*	*
Other Agency	*	*	*	*
Commercial & Residential	*	*	*	*
WMA Technologies	% of N	l Narket		
	% OF IV	#   *		
Chemical Additive, %				
Additive Foaming, %	*	*		
Plant Foaming, %	*	*		
Organic Additive, %	*	*		
	Other Repo	orted Data		
% Companies Reporting Producing WMA	*	*		
Average percent based on contractor's reported percentage for each sector, adjusted by	sed upon reported to	nnage		

<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
Numbers may not add up exactly due to rounding

IDAHO	Reported	Reported Values		Estimated Values		
TDAILO"	2015	2016	2015	2016		
Tons of HMA/WMA Produced	Tons, N	Millions	Tons, I	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				
RAP	Tons, N	Millions	Tons, I	Millions		
Accepted	0.2	0.3	0.5	0.6		
Used in HMA/WMA Mixtures	0.3	0.3	0.7	0.6		
Used in Aggregate	0.0	0.0	0.0	0.0		
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0		
Used in Other	0.0	0.0	0.0	0.0		
Landfilled	0.0	0.0	0.0	0.0		
Total Tons of RAP Stockpiled at Year-End	0.3	0.3	0.72	0.73		
	Avg. %			Used in		
	Mixtu		Mixt	ures		
Average % for DOT Mixtures <sup>1</sup>	40.3%	17.2%				
Average % for Other Agency Mixtures <sup>1</sup>	22.6%	18.2%				
Average % for Commercial & Residential Mixtures <sup>1</sup>	31.1%	31.9%	05.00/	04.00/		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	0.1		25.0%	21.3%		
0/ Companies Deporting Hains DAD	Other Repo					
% Companies Reporting Using RAP % of RAP Fractionated	100%	100%				
	8%	12% 76%				
% of RAP Mixtures Using Softer Binders	53% 0%	0%				
% of RAP Mixtures Using Rejuvenators						
RAS	Tons, The			ousands		
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. % Mixtu			Used in ures		
Average % for DOT Mixtures <sup>1</sup>	0.00%	0.00%	IVIIX	uics		
Average % for Other Agency Mixtures <sup>1</sup>	0.00%	0.00%				
Average % for Commercial & Residential Mixtures <sup>1</sup>	0.00%					
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			0.00%	0.00%		
	Other Repo	orted Data				
% Companies Reporting Using RAS	0%	0%				
% of RAS Mixtures Using Softer Binders	†	0%				
% of RAS Mixtures Using Rejuvenators	†	0%				
WMA	% of Total I	Production	Tons, I	Millions		
Total			0.8	0.6		
DOT	23%	20%	0.3	0.3		
Other Agency	15%	21%	0.1	0.2		
Commercial & Residential	39%	27%	0.4	0.2		
WMA Technologies <sup>‡</sup>	% of M	1arket				
Chemical Additive, %	31%	53%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	69%	67%				
	0%	0%				
Organic Additive, %						
0/ Companies Paparting Producing M/MA	Other Repo					
% Companies Reporting Producing WMA  Average percent based on contractor's reported percentage for each sector, adjusted based.	83%	80%				

<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
‡ WMA Technologies use may exceed 100 due to the use of multiple WMA technologies in combination Numbers may not add up exactly due to rounding

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

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

INIDIANIA	Reported	d Values	Estimate	ed Values
INDIANA	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	Millions		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	Tons, N	/lillions	Tons.	Millions
Accepted	1.2	1.2	2.6	2.5
Used in HMA/WMA Mixtures	1.4	1.0	2.9	2.2
Used in Aggregate	0.1	0.0	0.2	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.1	0.0	0.1	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	1.7	1.8	3.51	3.65
	Avg. %			Used in
	Mixtu		Mixt	ures
Average % for DOT Mixtures <sup>1</sup>	25.1%	20.2%		
Average % for Other Agency Mixtures <sup>1</sup>	26.9%	21.9%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	25.6%	26.0%	00.40/	04.00/
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	Other Den	auto d Doto	28.1%	21.8%
9/ Companies Banarting Hains BAD	Other Repo	100%		
% Companies Reporting Using RAP % of RAP Fractionated	46%	72%		
% of RAP Mixtures Using Softer Binders	31%	67%		
% of RAP Mixtures Using Rejuvenators	0%	0%		
RAS	Tons, Th		Tons, Thousands	
Unprocessed Shingles Accepted	17.5	3.5	36.3	7.3
Processed Shingles Accepted	5.0	10.3	10.4	21.5
Used in HMA/WMA Mixtures	57.7	32.4	119.8	67.6
Used in Aggregate 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
Editamod	Avg. %			Used in
	Mixtu			ures
Average % for DOT Mixtures <sup>1</sup>	2.55%	0.41%		
Average % for Other Agency Mixtures <sup>1</sup>	2.96%	0.91%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	2.48%	0.97%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			1.14%	0.68%
	Other Repo			
% Companies Reporting Using RAS	75%	100%		
% of RAS Mixtures Using Softer Binders	<u>_</u>	9%		
% of RAS Mixtures Using Rejuvenators	T	0%		
WMA	% of Total	Production	Tons,	Millions
Total			5.7	7.9
DOT	56%	79%	2.4	3.9
Other Agency	55%	81%	2.0	2.6
Commercial & Residential	50%	75%	1.3	1.4
WMA Technologies	% of N			
Chemical Additive, %	3%	3%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	97%	97%		
Organic Additive, %	0%	0%		
	Other Repo	orted Data		
% Companies Reporting Producing WMA	75%	100%		
1 Average percent based on contractor's reported percentage for each sector, adjusted based	and upon reported to	00000		

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

IOWA	Reported	d Values	Estimate	d Values
IOWA	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	Millions		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		
RAP	Tons, N	/lillions	Tons	Millions
Accepted	0.2	0.4	0.5	0.7
Used in HMA/WMA Mixtures	0.2	0.3	0.5	0.6
Used in Aggregate	0.0	0.0	0.0	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	0.2	0.4	0.48	0.76
	Avg. %			Used in
	Mixtu			ures
Average % for DOT Mixtures <sup>1</sup>	14.6%	12.6%		
Average % for Other Agency Mixtures <sup>1</sup>	15.0%	15.6%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	17.5%	14.4%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			13.3%	14.12%
	Other Repo	orted Data		
% Companies Reporting Using RAP	100%	100%		
% of RAP Fractionated	0%	3%		
% of RAP Mixtures Using Softer Binders	74%	8%		
% of RAP Mixtures Using Rejuvenators	17%	0.4%		
RAS	Tons, Th	nueande	Tone Th	ousands
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
Landinoa	Avg. %			Used in
	Mixtu			ures
Average % for DOT Mixtures <sup>1</sup>	1.34%	0.21%		
Average % for Other Agency Mixtures <sup>1</sup>	1.66%	0.19%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	1.67%	0.36%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			0.86%	0.23%
	Other Repo	orted Data		
% Companies Reporting Using RAS	50%	57%		
% of RAS Mixtures Using Softer Binders	†	19%		
% of RAS Mixtures Using Rejuvenators	†	0.4%		
WMA	% of Total	Production	Tons	Millions
Total	70 01 10tal		0.2	0.9
DOT	3%	11%	0.2	0.3
Other Agency	5%	27%	0.1	0.4
Commercial & Residential	8%	44%	0.1	0.4
WMA Technologies	% of N		V. 1	0.0
Chemical Additive, %	62%	23%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	38%	77%		
Organic Additive, %	0%	0%		
	Other Repo	orted Data		
% Companies Reporting Producing WMA	67%	43%		
1 Average percent based on contractor's reported percentage for each sector, adjusted by	and upon reported to	nnago	-	

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

MANICAC	Reported	d Values	Estimate	ed Values
KANSAS	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	/lillions		Millions
Total	1.9	1.7	4.0	3.5
DOT	0.7	0.9	1.5	2.0
Other Agency	0.7	0.4	1.4	0.9
Commercial & Residential	0.5	0.3	1.0	0.7
Companies Reporting	4	4		
RAP	Tons, N	/lillions	Tons.	Millions
Accepted	0.3	0.3	0.6	0.7
Used in HMA/WMA Mixtures	0.3	0.3	0.7	0.7
Used in Aggregate	0.0	0.0	0.0	0.1
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.1	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	0.5	0.6	1.07	1.19
	Avg. %			Used in
A COLORDATION 1	Mixtu		Mixt	ures
Average % for DOT Mixtures <sup>1</sup>	18.1%	19.3%		
Average % for Other Agency Mixtures <sup>1</sup>	18.6%	21.6%		
Average % for Commercial & Residential Mixtures <sup>1</sup> State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	23.3%	22.5%	17.5%	20.5%
State Average All Mixtures based on RAP Toris Osed in Hima/WMA-	Other Ben	arted Data	17.5%	20.5%
% Companies Reporting Using RAP	Other Repo	100%		
% of RAP Fractionated	0%	3%		
% of RAP Mixtures Using Softer Binders	46%	73%		
% of RAP Mixtures Using Rejuvenators	1%	2%		
RAS	Tons, Th			nousands
Unprocessed Shingles Accepted	10.5	15.0	22.1	31.9
Processed Shingles Accepted	22.2	24.5	46.8	52.05
Used in HMA/WMA Mixtures	24.1	33.4	50.7	70.96
Used in Aggregate Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	2.0	0.0	4.3
Landinica	Avg. %			Used in
	Mixtu			ures
Average % for DOT Mixtures <sup>1</sup>	4.61%	3.15%		
Average % for Other Agency Mixtures <sup>1</sup>	0.00%	0.00%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	1.36%	1.36%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			1.27%	2.03%
	Other Repo			
% Companies Reporting Using RAS	100%	75%		
% of RAS Mixtures Using Softer Binders	<u>†</u>	91%		
% of RAS Mixtures Using Rejuvenators	T T	0%		
WMA	% of Total	Production	Tons,	Millions
Total			3.1	2.5
DOT	93%	89%	1.4	1.8
Other Agency	69%	50%	1.0	0.4
Commercial & Residential	68%	44%	0.7	0.3
WMA Technologies	% of N			
Chemical Additive, %	47%	74%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	53%	26%		
Organic Additive, %	0%	0%		
	Other Repo			
% Companies Reporting Producing WMA	100%	50%		
Average percent based on contractor's reported percentage for each sector, adjusted by	sed upon reported to	nnage		

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

VENTUCKY	Reported	d Values	Estimate	d Values
KENTUCKY	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	/lillions	Tons. I	Millions
Total	4.1	3.2	6.5	6.9
DOT	2.8	2.0	4.5	4.2
Other Agency	0.8	0.7	1.2	1.4
Commercial & Residential	0.5	0.6	0.8	1.3
Companies Reporting	6	5		
RAP	Tons, N	/lillions	Tons	Millions
Accepted	0.4	0.5	0.6	1.0
Used in HMA/WMA Mixtures	0.6	0.4	1.0	0.9
Used in Aggregate	0.0	0.0	0.0	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	0.7	0.4	1.13	0.94
	Avg. %	Used in		Used in
	Mixtu		Mixt	ures
Average % for DOT Mixtures <sup>1</sup>	16.2%	12.6%		
Average % for Other Agency Mixtures <sup>1</sup>	17.4%	13.3%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	18.0%	13.2%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			15.1%	12.8%
	Other Repo			
% 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	ousands	Tons, Thousands	
Unprocessed Shingles Accepted	2.0	3.0	3.2	6.4
Processed Shingles Accepted	19.1	3.3	30.3	7.1
Used in HMA/WMA Mixtures	29.5	7.6	46.9	16.2
Used in Aggregate	0.0	0.0	0.0	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
	Avg. % Mixtu			Used in ures
Average % for DOT Mixtures <sup>1</sup>	2.65%	0.33%		u. 00
Average % for Other Agency Mixtures <sup>1</sup>	2.48%	0.12%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	2.95%	0.03%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			0.72%	0.23%
	Other Repo	orted Data		
% Companies Reporting Using RAS	50%	60%		
% of RAS Mixtures Using Softer Binders	†	0%		
% of RAS Mixtures Using Rejuvenators	T T	11%		
WMA	% of Total	Production	Tons, I	Millions
Total			3.9	4.0
DOT	60%	62%	2.7	2.6
Other Agency	67%	67%	0.8	0.9
Commercial & Residential	50%	36%	0.4	0.5
WMA Technologies	% of N	/larket		
Chemical Additive, %	8%	37%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	92%	63%		
Organic Additive, %	0%	0%		
Organio Additivo, 70	Other Repo			
% Companies Reporting Producing WMA	100%	80%		
% Companies Reporting Producing WMA				

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

LOUIGIANIA	Reported Values		Estimated Values		
LOUISIANA	2015	2016	2015	2016	
Tons of HMA/WMA Produced	Tons, N	Millions		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	Tons, N	Millions	Tons. I	Millions	
Accepted	*	0.5	*	0.7	
Used in HMA/WMA Mixtures	*	0.4	*	0.5	
Used in Aggregate	*	0.0	*	0.0	
Used in Cold-Mix Asphalt	*	0.0	*	0.0	
Used in Other	*	0.0	*	0.0	
Landfilled	*	0.0	*	0.0	
Total Tons of RAP Stockpiled at Year-End	*	0.2	*	0.25	
	Avg. %			Used in	
	Mixtu		Mixt	ures	
Average % for DOT Mixtures <sup>1</sup>	*	21.7%			
Average % for Other Agency Mixtures <sup>1</sup>	*	15.1%			
Average % for Commercial & Residential Mixtures <sup>1</sup> State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	•	18.6%	*	19.4%	
State Average All Mixtures based on RAP Tons Used in HimA/WIMA-	Other Dep	arted Data		19.4%	
% Companies Reporting Using RAP	Other Repo	100%			
% of RAP Fractionated	*	80%			
% of RAP Mixtures Using Softer Binders	*	15%			
% of RAP Mixtures Using Rejuvenators	*	0%			
	т т		<b>T T</b>	,	
RAS	Tons, Th		ions, ir	ousands	
Unprocessed Shingles Accepted Processed Shingles Accepted	*	5.0	*	7.2 0.0	
Used in HMA/WMA Mixtures	*	0.0 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. %		Ava. %	Used in	
	Mixtu			ures	
Average % for DOT Mixtures <sup>1</sup>	*	0.00%			
Average % for Other Agency Mixtures <sup>1</sup>	*	0.00%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	1.39%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			*	0.40%	
0/ 0	Other Repo				
% Companies Reporting Using RAS	<u> </u>	33%			
% of RAS Mixtures Using Softer Binders	<u> </u>	27%			
% of RAS Mixtures Using Rejuvenators	T	14%			
WMA	% of Total	Production	Tons, I	Millions	
Total			*	2.1	
DOT	*	79%	*	1.0	
Other Agency	*	65%	*	0.4	
Commercial & Residential		87%		0.7	
WMA Technologies	% of N	ı			
Chemical Additive, %		0%			
Additive Foaming, %	*	0%			
Plant Foaming, %	*	100%			
Organic Additive, %	*	0%			
	Other Repo	ı			
% Companies Reporting Producing WMA	*	100%			

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	Reported Values		Estimated Values		
MAINE	2015	2016	2015	2016		
Tons of HMA/WMA Produced	Tons, N	Millions		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				
RAP	Tons, N	Millions	Tons.	Millions		
Accepted	*	0.4	*	0.3		
Used in HMA/WMA Mixtures	*	0.3	*	0.3		
Used in Aggregate	*	0.0	*	0.0		
Used in Cold-Mix Asphalt	*	0.0	*	0.0		
Used in Other	*	0.0	*	0.0		
Landfilled	*	0.0	*	0.0		
Total Tons of RAP Stockpiled at Year-End	*	0.4	*	0.34		
	Avg. %	Used in	Avg. %	Used in		
	Mixtu		Mixt	ures		
Average % for DOT Mixtures <sup>1</sup>	*	16.5%				
Average % for Other Agency Mixtures <sup>1</sup>	*	13.8%				
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	15.5%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			*	15.6%		
	Other Repo					
% Companies Reporting Using RAP	*	100%				
% of RAP Fractionated	*	0%				
% of RAP Mixtures Using Softer Binders	*	4%				
% of RAP Mixtures Using Rejuvenators	*	0%				
RAS	Tons, Th	ousands	Tons, Thousands			
Unprocessed Shingles Accepted	*	0.0	*	0.0		
Processed Shingles Accepted	*	7.9	*	6.1		
Used in HMA/WMA Mixtures	*	7.5	*	5.7		
Used in Aggregate	*	0.0	*	0.0		
Used in Cold-Mix Asphalt	*	0.0	*	0.0		
Used in Other	*	0.0	*	0.0		
Landfilled	*	0.0	*	0.0		
	Avg. %			Used in		
	Mixtu		Mixt	ures		
Average % for DOT Mixtures <sup>1</sup>	*	0.48%				
Average % for Other Agency Mixtures <sup>1</sup>		0.25%				
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	0.24%	*	2.222/		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>	Ott. D		*	0.36%		
0/ Commercian Reporting Heigen RAC	Other Repo					
% Companies Reporting Using RAS		33%				
% of RAS Mixtures Using Softer Binders	<u>_</u>	0% 0%				
% of RAS Mixtures Using Rejuvenators	T					
WMA	% of Total	Production	Tons, I	Millions		
Total			*	0.2		
DOT	*	18%	*	0.1		
Other Agency	*	8%	*	0.0		
Commercial & Residential	*	16%	*	0.1		
WMA Technologies	% of N	ı				
Chemical Additive, %	*	11%				
Additive Foaming, %	*	0%				
Plant Foaming, %	*	23%				
Organic Additive, %	*	66%				
	Other Repo					
% Companies Reporting Producing WMA	*	67%				
1 Average percent based an contractor's reported percentage for each sector, adjusted by	and upon reported to					

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

MADVLAND	Reported	d Values	Estimate	ed Values
MARYLAND	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	Millions		Millions
Total	3.3	3.3	7.5	7.5
DOT	1.0	1.3	2.2	2.9
Other Agency	1.2	0.8	2.7	1.8
Commercial & Residential	1.2	1.2	2.7	2.8
Companies Reporting	6	6		
RAP	Tons, N	Millione	Tone	Millions
Accepted	1.0	1.3	2.3	2.9
Used in HMA/WMA Mixtures	0.8	0.9	1.7	2.0
Used in Aggregate	0.2	0.3	0.5	0.3
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	0.8	1.2	1.76	2.64
Total Total Of Tital Ottomplied at Total End	Avg. %			Used in
	Mixtu			ures
Average % for DOT Mixtures <sup>1</sup>	20.1%	24.2%	TVIIX	
Average % for Other Agency Mixtures <sup>1</sup>	22.5%	24.9%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	30.1%	29.3%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	331170	_0.070	23.0%	26.2%
Otato / trotago / til / til/taloo Dabba di / till / totto Dabba til/till /	Other Repo	orted Data	20.070	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			T Th	
	Tons, Th			nousands
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 Landfilled	0.0	0.0	0.0	0.0
Landilled	Avg. %			
	Avg. %			Used in ures
Average % for DOT Mixtures <sup>1</sup>	0.52%	0.05%	IVIIX	aroo
Average % for Other Agency Mixtures <sup>1</sup>	0.00%	0.01%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	0.43%	0.02%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			0.09%	0.03%
	Other Repo	orted Data		
% Companies Reporting Using RAS	33%	17%		
% of RAS Mixtures Using Softer Binders	†	0%		
% of RAS Mixtures Using Rejuvenators	†	0%		
WMA	% of Total		Tons	Millions
Total	78 OI 10tai	Toduction	3.9	2.1
DOT	44%	16%	1.0	0.5
Other Agency	57%	36%	1.5	0.5
Commercial & Residential	53%	37%	1.4	1.0
WMA Technologies <sup>‡</sup>	% of N		1.7	1.0
Chemical Additive, %	26%	35%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	74%	70%		
Organic Additive, %	0%	0%		
	Other Repo	orted Data		
% Companies Reporting Producing WMA	83%	50%		
1 Average percent based on contractor's reported percentage for each sector, adjusted has	and upon reported to	2222		

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

Numbers may not add up exactly due to rounding

MASSACHUSETTS	Reported	d Values	Estimate	d Values
MASSACHUSETTS	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	•		Millions
Total	2.9	3.0	6.2	6.4
DOT	1.4	1.3	3.1	2.8
Other Agency	0.5	0.9	1.1	1.9
Commercial & Residential	0.9	0.8	2.0	1.7
Companies Reporting	4	5		
RAP	Tone M	, Millions Tons		Millions
Accepted	0.4	0.4	1.0	0.9
Used in HMA/WMA Mixtures	0.5	0.5	1.1	1.1
Used in Aggregate	0.0	0.0	0.1	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	0.5	1.0	1.10	2.04
	Avg. %	Used in		Used in
	Mixt			ures
Average % for DOT Mixtures <sup>1</sup>	18.0%	16.7%		
Average % for Other Agency Mixtures <sup>1</sup>	16.6%	18.9%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	18.6%	18.5%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			18.0%	17.8%
	Other Rep			
% 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	Tons, Th	ousands Tons, The		nousands
Unprocessed Shingles Accepted	0.8	6.9	1.6	14.9
Processed Shingles Accepted	2.1	2.6	4.5	5.6
Used in HMA/WMA Mixtures	2.1	2.6	4.5	5.6
Used in Aggregate	0.0	0.0	5.4	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
	Avg. %			Used in
A 0// DOTAK 1	Mixt		Mix	ures
Average % for DOT Mixtures <sup>1</sup>	0.04%	0.02%		
Average % for Other Agency Mixtures <sup>1</sup>	0.06%	0.05%		
Average % for Commercial & Residential Mixtures <sup>1</sup> State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>	0.13%	0.24%	0.07%	0.09%
State Average All Mixtures based on RAS Tons Used in himA/W/MA-	Other Rep	orted Data	0.07%	0.09%
% Companies Reporting Using RAS	50%	40%		
% of RAS Mixtures Using Softer Binders	†	0%		
% of RAS Mixtures Using Rejuvenators	+	0%		
<u> </u>			_	
WMA	% of Total	Production		Millions
Total	F70/	050/	1.9	3.0
DOT Other Agency	57%	95%	1.8	2.7
Other Agency	14%	16%	0.2	0.3
Commercial & Residential	1%	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		
	75%			

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

MICHICAN	Reported Values		Estimated Values		
MICHIGAN	2015	2016	2015	2016	
Tons of HMA/WMA Produced	Tons, N	/illions		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, N	/illions	Tons, I	Millions	
Accepted	2.1	2.2	3.7	5.3	
Used in HMA/WMA Mixtures	2.2	1.9	4.0	4.5	
Used in Aggregate	0.0	0.0	0.0	0.0	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.0	0.0	0.0	0.0	
Landfilled	0.0	0.0	0.0	0.0	
Total Tons of RAP Stockpiled at Year-End	2.3	1.8	4.14	4.26	
	Avg. %			Used in	
	Mixtu		Mixt		
Average % for DOT Mixtures <sup>1</sup>	21.5%	19.4%			
Average % for Other Agency Mixtures <sup>1</sup>	28.3%	25.6%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	38.3%	38.1%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			31.6%	31.9%	
	Other Repo	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	ousands	
Unprocessed Shingles Accepted	0.0	2.0	0.0	4.7	
Processed Shingles Accepted	0.0	0.0	0.0	0.0	
Used in HMA/WMA Mixtures	3.2	0.5	5.8	1.2	
Used in Aggregate	0.0	0.0	0.0	0.0	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.0	0.0	0.0	0.0	
Landfilled	0.0	0.0	0.0	0.0	
	Avg. %	Used in		Used in	
	Mixtu		Mixt		
Average % for DOT Mixtures <sup>1</sup>	0.00%	0.02%			
Average % for Other Agency Mixtures <sup>1</sup>	0.00%	0.01%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	0.00%	0.00%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			0.05%	0.01%	
	Other Repo	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. I	Millions	
Total			7.1	0.9	
DOT	62%	2%	2.6	0.0	
Other Agency	31%	4%	0.9	0.1	
Commercial & Residential	65%	8%	3.7	0.7	
WMA Technologies	% of N				
Chemical Additive, %	0%	5%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	100%	95%			
Organic Additive, %	0%	0%			
0.0	Other Repo				
% Companies Reporting Producing WMA <sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted ba	80%	75%			

<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
Numbers may not add up exactly due to rounding

MININECOTA	Reported	d Values	Estimate	ed Values		
MINNESOTA	2015	2016	2015	2016		
Tons of HMA/WMA Produced	Tons. N	Tons, Millions		s, Millions Tons, Mil		Millions
Total	6.1	4.6	13.5	13.0		
DOT	1.4	0.7	3.2	2.1		
Other Agency	2.9	2.4	6.5	6.7		
Commercial & Residential	1.8	1.5	3.9	4.2		
Companies Reporting	7	5				
RAP	Tons, N	Millions	Tons.	Millions		
Accepted	1.4	1.1	3.0	3.0		
Used in HMA/WMA Mixtures	1.3	1.0	3.0	2.7		
Used in Aggregate	0.0	0.2	0.1	0.5		
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0		
Used in Other	0.0	0.0	0.0	0.0		
Landfilled	0.0	0.0	0.0	0.0		
Total Tons of RAP Stockpiled at Year-End	1.6	0.9	3.61	2.61		
	Avg. %			Used in		
	Mixt		Mixt	ures		
Average % for DOT Mixtures <sup>1</sup>	20.7%	20.9%	_			
Average % for Other Agency Mixtures <sup>1</sup>	23.5%	21.2%	_			
Average % for Commercial & Residential Mixtures <sup>1</sup>	23.0%	21.0%	04.00/	04.40/		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	Other Des	anta d Data	21.9%	21.1%		
0/ Companies Departing Hains DAD	Other Repo					
% Companies Reporting Using RAP % of RAP Fractionated	0%	100% 3%	-			
% of RAP Mixtures Using Softer Binders	16%	5%	-			
% of RAP Mixtures Using Rejuvenators	0%	3%	-			
RAS	Tons, Th			nousands		
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 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		
Editamod	Avg. %			Used in		
		extures Mixture				
Average % for DOT Mixtures <sup>1</sup>	0.10%	0.08%				
Average % for Other Agency Mixtures <sup>1</sup>	3.26%	0.18%				
Average % for Commercial & Residential Mixtures <sup>1</sup>	0.84%	0.03%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			0.09%	0.11%		
	Other Rep					
% Companies Reporting Using RAS	43%	40%				
% of RAS Mixtures Using Softer Binders	† †	0%	-			
% of RAS Mixtures Using Rejuvenators	†	0%				
WMA	% of Total	Production	Tons,	Millions		
Total			9.1	10.4		
DOT	43%	33%	1.3	0.7		
Other Agency	77%	89%	5.0	6.0		
Commercial & Residential	73%	89%	2.8	3.7		
WMA Technologies	% of N	•				
Chemical Additive, %	3%	1%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	97%	99%				
Organic Additive, %	0%	0%				
	Other Rep	orted Data				
% Companies Reporting Producing WMA	100%	80%				
1 Average percent based on contractor's reported percentage for each sector, adjusted based	unan ranartad ta	2222				

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

MICCICCIDDI	Reported Values		Estimate	ed Values
MISSISSIPPI	2015	2015 2016		2016
Tons of HMA/WMA Produced		Tons, Millions		Millions
Total	2.1	2.7	4.5	4.7
DOT	1.5	1.8	3.1	3.2
Other Agency	0.4	0.4	0.8	0.7
Commercial & Residential	0.3	0.5	0.6	0.9
Companies Reporting	3	4		
RAP	Tons, I	/lillions	Tons.	Millions
Accepted	0.4	0.6	0.8	1.1
Used in HMA/WMA Mixtures	0.4	0.5	0.8	0.9
Used in Aggregate	0.0	0.0	0.0	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	0.6	0.5	1.22	0.83
	Avg. %			Used in
	Mixt		Mixt	ures
Average % for DOT Mixtures <sup>1</sup>	19.1%	15.6%		
Average % for Other Agency Mixtures <sup>1</sup>	18.6%	20.9%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	24.4%	32.3%	47.40/	40.50/
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	Other Ben	orted Data	17.1%	19.5%
% Companies Reporting Using RAP	Other Rep 100%	100%		
% of RAP Fractionated	43%	27%		
% of RAP Mixtures Using Softer Binders	0%	0%		
% of RAP Mixtures Using Rejuvenators	0%	0%		
		I.		
RAS	Tons, Th		Tons, Thousands	
Unprocessed Shingles Accepted	0.0	1.0	0.0	1.8
Processed Shingles Accepted	7.3	0.0	15.8	0.0
Used in HMA/WMA Mixtures	1.0	0.9	2.1 0.0	1.6 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	0.0
Landfilled	0.0	0.0	0.0	0.0
Landinica	Avg. %			Used in
	Mixt			
Average % for DOT Mixtures <sup>1</sup>	0.00%	0.00%		
Average % for Other Agency Mixtures <sup>1</sup>	0.00%	0.00%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	1.92%	0.18%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			0.05%	0.03%
	Other Rep			
% Companies Reporting Using RAS	33%	25%		
% of RAS Mixtures Using Softer Binders		0%		
% of RAS Mixtures Using Rejuvenators	T	0%		
WMA	% of Total	Production	Tons,	Millions
Total			1.1	3.2
DOT	19%	67%	0.6	2.1
Other Agency	36%	95%	0.3	0.7
Commercial & Residential	30%	43%	0.2	0.4
WMA Technologies	% of N	1		
Chemical Additive, %	0%	0%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	100%	100%		
Organic Additive, %	0%	0%		
	Other Rep	orted Data		
% Companies Reporting Producing WMA	100%	75%		

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

MISSOURI	Reported Values		Estimate	d Values
WI35UURI	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	/lillions	Tons, I	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	Tons, N	/lillions	Tons, I	Millions
Accepted	0.3	0.4	1.3	1.3
Used in HMA/WMA Mixtures	0.4	0.4	1.4	1.5
Used in Aggregate	0.0	0.0	0.0	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	0.2	1.1	0.76	3.84
	Avg. %		Avg. %	
	Mixtu		Mixt	ures
Average % for DOT Mixtures <sup>1</sup>	22.3%	23.3%		
Average % for Other Agency Mixtures <sup>1</sup>	20.3%	20.5%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	18.2%	23.6%	00.50/	00.00/
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	OIL D		23.5%	23.0%
0/ Companies Deporting Heiser DAD	Other Repo			
% Companies Reporting Using RAP	100%	100% 32%		
% of RAP Fractionated % of RAP Mixtures Using Softer Binders	0% 35%	32% 4%		
	19%	0%	-	
% of RAP Mixtures Using Rejuvenators				
RAS	Tons, Th		Tons, Th	
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 Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Landined	Avg. %		Avg. %	
		tures Mixtures		
Average % for DOT Mixtures <sup>1</sup>	1.02%	0.43%		
Average % for Other Agency Mixtures <sup>1</sup>	2.28%	0.21%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	2.63%	0.33%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			1.62%	0.36%
	Other Repo			
% Companies Reporting Using RAS	100%	75%		
% of RAS Mixtures Using Softer Binders	<u>† †                                    </u>	0%		
% of RAS Mixtures Using Rejuvenators	<u> </u>	0%		
WMA	% of Total	Production	Tons, I	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 Repo			
% Companies Reporting Producing WMA	100%	100%		
1 Average percent based on contractor's reported percentage for each sector, adjusted based u				

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

MONTANA	Reported Values		es Estimated Values			
WONTANA	2015 2016		2015	2016		
Tons of HMA/WMA Produced		Tons, Millions		Tons, Millions		
Total	*	*	4.1	3.9		
DOT	*	*	*	*		
Other Agency	*	*	*	*		
Commercial & Residential	*	*	*	*		
Companies Reporting	*	*				
RAP	Tono A	/illiana	Tone N	/illiana		
Accepted	Tons, N	*	Tons, N	*		
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	*	*	*	*		
Total Total Ottomplied at Total Elia	Avg. %	Used in	Avg. %	Jsed in		
	Mixtu		Mixtu			
Average % for DOT Mixtures <sup>1</sup>	*	*				
Average % for Other Agency Mixtures <sup>1</sup>	*	*				
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	*				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			*	*		
	Other Repo	orted Data				
% Companies Reporting Using RAP	*	*				
% of RAP Fractionated	*	*				
% of RAP Mixtures Using Softer Binders	*	*				
% of RAP Mixtures Using Rejuvenators	*	*				
RAS	Tons, Th	oueande	Tons, Th	nucando		
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. % Used			
	Mixtu		Mixtures			
Average % for DOT Mixtures <sup>1</sup>	*	*				
Average % for Other Agency Mixtures <sup>1</sup>	*	*				
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	*				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			*	*		
	Other Repo	orted Data				
% Companies Reporting Using RAS	*	*				
% of RAS Mixtures Using Softer Binders	†	*				
% of RAS Mixtures Using Rejuvenators	†	*				
VMA	% of Total	Production	Tons, N	Millions		
Total	, , , , , , , ,		*	*		
DOT	*	*	*	*		
Other Agency	*	*	*	*		
Commercial & Residential	*	*	*	*		
WMA Technologies	% of N	/larket				
Chemical Additive, %	*	*				
Additive Foaming, %	*	*				
	*	*				
Plant Foaming, %	*	*				
Organic Additive, %	Î Î					
	Other Repo	orted Data				

<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
Numbers may not add up exactly due to rounding

NEBRASKA	Reported	l Values	Estimate	d Value
TEDRAORA	2015	2016	2015	2016
ons of HMA/WMA Produced	Tons, M	1illions	Tons, N	/lillions
Total	*	*	3.0	2.7
DOT	*	*	*	*
Other Agency	*	*	*	*
Commercial & Residential	*	*	*	*
Companies Reporting	*	*		
KAP	Tons, M	Millione	Tons, N	/illions
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	*	*	*	*
Total Total Office at Total End	Avg. % l	Jsed in	Avg. %	Used in
	Mixtu		Mixto	
Average % for DOT Mixtures <sup>1</sup>	*	*		
Average % for Other Agency Mixtures <sup>1</sup>	*	*		
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	*		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			*	*
·	Other Repo	orted Data		
% Companies Reporting Using RAP	*	*		
% of RAP Fractionated	*	*		
% of RAP Mixtures Using Softer Binders	*	*		
% of RAP Mixtures Using Rejuvenators	*	*		
RAS	Tons, The	nusands	Tons, Th	ousand
Unprocessed Shingles Accepted	*	*	*	*
Processed Shingles Accepted	*	*	*	*
Used in HMA/WMA Mixtures	*	*	*	*
Used in Aggregate	*	*	*	*
Used in Cold-Mix Asphalt	*	*	*	*
Used in Other	*	*	*	*
Landfilled	*	*	*	*
	Avg. % l	Jsed in	Avg. %	Used in
	Mixtu		Mixto	
Average % for DOT Mixtures <sup>1</sup>	*	*		
Average % for Other Agency Mixtures <sup>1</sup>	*	*		
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	*		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			*	*
	Other Repo	orted Data		
% Companies Reporting Using RAS	*	*		
% of RAS Mixtures Using Softer Binders		*		
% of RAS Mixtures Using Rejuvenators	†	*		
VMA	% of Total F	Production	Tons, N	/lillions
Total			*	*
DOT	*	*	*	*
Other Agency	*	*	*	*
Commercial & Residential	*	*	*	*
WMA Technologies	% of N	larket		
Chemical Additive, %	*	*		
Additive Foaming, %	*	*		
Plant Foaming, %	*	*		
	*	*		
Organic Additive, %	Other Repo			

<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
Numbers may not add up exactly due to rounding

NEVADA	Reporte	Reported Values		Estimated Values		
NEVADA	2015			2016		
Fons of HMA/WMA Produced	Tons I	Tons, Millions		Tons, Millions		
Total	*	1.0	3.5	3.3		
DOT	*	0.1	*	0.5		
Other Agency	*	0.5	*	1.7		
Commercial & Residential	*	0.3	*	1.2		
Companies Reporting	*	3				
RAP	Tons, I	Millions	Tons	Millions		
Accepted	*	0.2	*	0.8		
Used in HMA/WMA Mixtures	*	0.2	*	0.7		
Used in Aggregate	*	0.0	*	0.1		
Used in Cold-Mix Asphalt	*	0.0	*	0.0		
Used in Other	*	0.0	*	0.0		
Landfilled	*	0.0	*	0.0		
Total Tons of RAP Stockpiled at Year-End	*	0.2	*	0.8		
	Avg. %		Avg. %	Used in		
	Mixt			tures		
Average % for DOT Mixtures <sup>1</sup>	*	11.6%				
Average % for Other Agency Mixtures <sup>1</sup>	*	24.8%				
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	21.7%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			*	21.7%		
	Other Rep	orted Data				
% 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	ousands	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	Avg. % Used in			
	Mixt	ures	Mix	tures		
Average % for DOT Mixtures <sup>1</sup>	*	0.00%				
Average % for Other Agency Mixtures <sup>1</sup>	*	0.00%				
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	0.00%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			*	0.00%		
	Other Rep	orted Data				
% Companies Reporting Using RAS	*	33%				
% of RAS Mixtures Using Softer Binders	<u>†</u>	0%				
% of RAS Mixtures Using Rejuvenators		0%				
WMA	% 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	Market				
Chemical Additive, %	*	0%				
Additive Foaming, %	*	0%				
	*	100%				
Plant Foaming %	i	100/0				
Plant Foaming, %	*	00/				
Organic Additive, %		0% orted Data				

<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
Numbers may not add up exactly due to rounding

NEW HAMPSIDE	Reported	d Values	Estimate	ed Values
NEW HAMPSIRE	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	/illions		Millions
Total	1.3	1.5	1.8	1.4
DOT	0.4	0.5	0.5	0.4
Other Agency	0.3	0.4	0.4	0.4
Commercial & Residential	0.6	0.7	0.8	0.6
Companies Reporting	3	3		
RAP	Tons, N	/lillions	Tons.	Millions
Accepted	0.1	0.3	0.1	0.3
Used in HMA/WMA Mixtures	0.2	0.3	0.3	0.3
Used in Aggregate	0.0	0.0	0.0	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	0.1	8.0	0.13	0.08
	Avg. %			Used in
	Mixto		Mixt	ures
Average % for DOT Mixtures <sup>1</sup>	22.8%	19.0%		
Average % for Other Agency Mixtures <sup>1</sup>	22.1%	20.3%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	23.8%	21.8%	40.50/	00.00/
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	Other Den	anta d Data	18.5%	20.6%
9/ Companies Paparting Hains BAD	Other Repo	100%		
% Companies Reporting Using RAP % of RAP Fractionated	0%	0%	-	
% of RAP Mixtures Using Softer Binders	0%	0%	-	
% of RAP Mixtures Using Rejuvenators	0%	0%		
RAS	Tons, Th			nousands
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 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	0.0
Landfilled	0.0	0.0	0.0	0.0
Editamod	Avg. %			Used in
				ures
Average % for DOT Mixtures <sup>1</sup>	0.00%	0.00%		
Average % for Other Agency Mixtures <sup>1</sup>	2.31%	0.05%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	2.75%	0.48%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			0.19%	0.23%
	Other Rep			
% Companies Reporting Using RAS	33%	33%		
% of RAS Mixtures Using Softer Binders	<u> </u>	0%		
% of RAS Mixtures Using Rejuvenators	Ť	0%		
WMA	% of Total	Production	Tons,	Millions
Total			0.9	0.4
DOT	64%	26%	0.3	0.1
Other Agency	38%	40%	0.2	0.1
Commercial & Residential	46%	23%	0.4	0.1
WMA Technologies	% of N			
Chemical Additive, %	20%	0%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	70%	55%		
Organic Additive, %	10%	45%		
	Other Rep	orted Data		
% Companies Reporting Producing WMA	33%	67%		
1 Average percent based on contractor's reported percentage for each sector, adjusted has	ad upon reported to	2222		

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

NEW JERSEY	Reported Values		Estimate	d Values
NEW JERSET	2015			2016
Tons of HMA/WMA Produced	Tons N	Tons, Millions		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	Millione	Tone	Millions
Accepted	*	1.2	*	1.9
Used in HMA/WMA Mixtures	*	0.5	*	0.9
Used in Aggregate	*	0.1	*	0.2
Used in Cold-Mix Asphalt	*	0.0	*	0.0
Used in Other	*	0.0	*	0.0
Landfilled	*	0.0	*	0.0
Total Tons of RAP Stockpiled at Year-End	*	2.33	*	3.84
	Avg. %		Avg. %	Used in
	Mixtu		Mixt	
Average % for DOT Mixtures <sup>1</sup>	*	19%		
Average % for Other Agency Mixtures <sup>1</sup>	*	17%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	23%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			*	19%
	Other Rep			
% Companies Reporting Using RAP	*	100%		
% of RAP Fractionated	*	16%		
% of RAP Mixtures Using Softer Binders	*	7%		
% of RAP Mixtures Using Rejuvenators	*	0%		
RAS	Tons, Th	ousands	Tons, Thousands	
Unprocessed Shingles Accepted	*	0.0	*	0.0
Processed Shingles Accepted	*	0.0	*	0.0
Used in HMA/WMA Mixtures	*	0.0	*	0.0
Used in Aggregate	*	0.0	*	0.0
Used in Cold-Mix Asphalt	*	0.0	*	0.0
Used in Other	*	0.0	*	0.0
Landfilled	*	0.0	*	0.0
	Avg. %	Used in	Avg. % Used in	
	Mixto	ures	Mixt	ures
Average % for DOT Mixtures <sup>1</sup>	*	0.00%		
Average % for Other Agency Mixtures <sup>1</sup>	*	0.00%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	0.00%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			*	0.00%
	Other Rep			
% Companies Reporting Using RAS	*	0%		
% of RAS Mixtures Using Softer Binders	<u> </u>	0%		
% of RAS Mixtures Using Rejuvenators	†	0%		
WMA	% of Total	Production	Tons, I	Millions
Total			*	1.5
DOT	*	10%	*	0.1
Other Agency	*	41%	*	1.1
Commercial & Residential	*	22%	*	0.3
WMA Technologies	% of N	/larket		
Chemical Additive, %	*	2%		
Additive Foaming, %	*	0%		
Plant Foaming, %	*	98%		
Organic Additive, %	*	0%		
Organio Additive, 70	Other Rep			
9/ Companies Paparting Producing WMA	*	•		
% Companies Reporting Producing WMA  1 Average percent based on contractor's reported percentage for each sector, adjusted by	*	67%		

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

NEW MEXICO	Reported Values		Estimated Values		
INEW MILAICO	2015	2016	2015	2016	
Tons of HMA/WMA Produced	Tons I	Tons, Millions		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			
RAP	Tons I	Millions	Tone	Millions	
Accepted	NCR	0.4	NCR	1.2	
Used in HMA/WMA Mixtures	NCR	0.2	NCR	0.8	
Used in Aggregate	NCR	0.0	NCR	0.0	
Used in Cold-Mix Asphalt	NCR	0.0	NCR	0.0	
Used in Other	NCR	0.0	NCR	0.0	
Landfilled	NCR	0.0	NCR	0.0	
Total Tons of RAP Stockpiled at Year-End	NCR	0.1	NCR	0.35	
<u>.</u>	Avg. %	Used in	Avg. %	Used in	
	Mixt		Mix	tures	
Average % for DOT Mixtures <sup>1</sup>	NCR	24%			
Average % for Other Agency Mixtures <sup>1</sup>	NCR	17%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	NCR	23%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			NCR	22%	
		orted Data			
% Companies Reporting Using RAP	NCR	100%			
% of RAP Fractionated	NCR	52%			
% of RAP Mixtures Using Softer Binders	NCR	28%			
% of RAP Mixtures Using Rejuvenators	NCR	0%			
RAS	Tons, Th		Tons, Thousand		
Unprocessed Shingles Accepted	NCR	1.5	NCR	5.2	
Processed Shingles Accepted	NCR	0.0	NCR	0.0	
Used in HMA/WMA Mixtures	NCR	1.3	NCR	4.4	
Used in Aggregate	NCR	0.0	NCR	0.0	
Used in Cold-Mix Asphalt	NCR	0.0	NCR	0.0	
Used in Other	NCR	0.0	NCR	0.0	
Landfilled	NCR	0.0	NCR	0.0	
	Avg. % Mixt			Used in tures	
Average % for DOT Mixtures <sup>1</sup>	NCR	0.00%	IVIIX	uics	
Average % for Other Agency Mixtures <sup>1</sup>	NCR	0.00%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	NCR	0.53%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			NCR	0.00%	
	Other Rep	orted Data			
% Companies Reporting Using RAS	NCR	25%			
% of RAS Mixtures Using Softer Binders	†	2%			
% of RAS Mixtures Using Rejuvenators	†	0%			
<b>WMA</b>	% of Total	Production	Tons.	Millions	
Total	70 01 10101		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		Market			
Chemical Additive, %	NCR	0%			
Additive Foaming, %	NCR	0%			
Plant Foaming, %	NCR	100%			
rianti Ganing, 70					
Organic Additive %	NICD	(107.			
Organic Additive, %	NCR Other Ren	0% orted Data			

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

NEW YORK	Reported	Reported Values		ed Values
NEW TORK	2015	2015 2016		2016
Tons of HMA/WMA Produced		Tons, Millions		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	Tons, N	dillions	Tons	Millions
Accepted	1.1	0.9	2.5	2.6
Used in HMA/WMA Mixtures	1.2	0.9	2.7	2.8
Used in Aggregate	0.0	0.0	0.1	0.1
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	1.1	1.4	2.58	4.1
<u> </u>	Avg. %	Used in	Avg. %	Used in
	Mixt	ures	Mixt	ures
Average % for DOT Mixtures <sup>1</sup>	18.0%	16%		
Average % for Other Agency Mixtures <sup>1</sup>	18.9%	16%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	17.0%	17%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			16.1%	16.2%
	Other Rep			
% Companies Reporting Using RAP	100%	100%		
% of RAP Fractionated	15%	12%		
% of RAP Mixtures Using Softer Binders	3%	1%		
% of RAP Mixtures Using Rejuvenators	9%	6%		
RAS	Tons, Th	ousands	Tons, Thousands	
Unprocessed Shingles Accepted	0.0	0.0	0.0	0.0
Processed Shingles Accepted	0.3	0.0	0.6	0.0
Used in HMA/WMA Mixtures	0.3	0.0	0.6	0.0
Used in Aggregate	0.0	0.0	0.0	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
	Avg. %		Avg. % Used in Mixtures	
Average % for DOT Mixtures <sup>1</sup>	0.00%	0.00%	IVIIX	ures
Average % for Other Agency Mixtures <sup>1</sup>	0.00%	0.00%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	0.10%	0.00%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>	0.1070	0.0070	0.00%	0.00%
Clate / trotage / til mixtaree Bacca en i trice i ene e e e a mi i mix vi i mix	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%		
WMA	% of Total	Production	Tons	Millions
Total	70 OI 10tai	rioddellon	3.3	4.2
DOT	30%	35%	1.4	1.7
Other Agency	20%	23%	1.4	1.7
Commercial & Residential	11%	19%	0.6	1.1
WMA Technologies	% of N		J.J	
Chemical Additive, %	49%	28%		
	0%	0%		
Additive Foaming, %				
Plant Foaming, %	51%	72%		
Organic Additive, %	0%	0%		
0/0 : 5 : 5 : 1 : 1004	Other Rep			
% Companies Reporting Producing WMA  Average percent based on contractor's reported percentage for each sector, adjusted by	83%	100%		

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

NODTH CAROLINA	Reported	d Values	Estimate	ed Values		
NORTH CAROLINA	2015	2016	2015	2016		
Tons of HMA/WMA Produced	Tons. N	Tons, Millions		Tons, Millions Tor		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				
RAP	Tons, N	/lillions	Tons.	Millions		
Accepted	1.3	1.1	2.4	3.6		
Used in HMA/WMA Mixtures	1.6	1.1	2.9	3.4		
Used in Aggregate	0.0	0.0	0.0	0.1		
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0		
Used in Other	0.0	0.0	0.0	0.0		
Landfilled	0.0	0.0	0.0	0.0		
Total Tons of RAP Stockpiled at Year-End	1.6	1.1	3.02	3.5		
	Avg. %			Used in		
	Mixtu		Mixt	ures		
Average % for DOT Mixtures <sup>1</sup>	26.6%	21.1%				
Average % for Other Agency Mixtures <sup>1</sup>	20.5%	22.7%				
Average % for Commercial & Residential Mixtures <sup>1</sup>	30.6%	25.8%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	0.1		26.3%	22.7%		
0/ O : B : H : BAB	Other Repo					
% Companies Reporting Using RAP	100%	100%				
% of RAP Fractionated	34%	39%				
% of RAP Mixtures Using Softer Binders	30%	49% 0%				
% of RAP Mixtures Using Rejuvenators						
RAS	Tons, Th			ousands		
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 Landfilled	0.0	0.0	0.0	0.0		
Landined	Avg. %			Used in		
		ixtures Mixtu				
Average % for DOT Mixtures <sup>1</sup>	2.73%	1.82%				
Average % for Other Agency Mixtures <sup>1</sup>	0.00%	1.65%				
Average % for Commercial & Residential Mixtures <sup>1</sup>	1.25%	0.77%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			1.24%	1.49%		
	Other Repo					
% Companies Reporting Using RAS	38%	50%				
% of RAS Mixtures Using Softer Binders		54%				
% of RAS Mixtures Using Rejuvenators	<u>†</u>	0%				
WMA	% of Total	Production	Tons,	Millions		
Total			0.4	0.0		
DOT	4%	0.3%	0.3	0.0		
Other Agency	0%	0%	0.0	0.0		
Commercial & Residential	5%	0%	0.1	0.0		
WMA Technologies	% of N	/larket				
Chemical Additive, %	36%	100%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	64%	0%				
Organic Additive, %	0%	0%				
	Other Repo					
% Companies Reporting Producing WMA	63%	17%				
1 Average percent based an contractor's reported percentage for each sector, adjusted be						

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

ons, Mi ons, Mi ons, Mi vg. % U Mixtur	*  *  *  *  *  *  *  *  *  *  *  *  *	2015  Tons, M 3.0  *  *  Tons, M  *  *  Avg. % L  Mixtu	2.1  *  *  *  fillions  *  *  *  Jsed in
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r Repor	*  *  *  *  *  *  *  *  *  *  *  *  *	3.0  *  *  *  Tons, M  *  *  *  Avg. % L  Mixtu	2.1  *  *  *  fillions  *  *  *  *  Jsed in irres
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rg. % U Mixtur	*  *  *  Jsed in res  *  *  *  rted Data  *  *  *	* * * Avg. % L	* * * * * Jsed in
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<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
Numbers may not add up exactly due to rounding

OUIO	Reported	d Values	Estimate	d Values
OHIO	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	Millions	Tons, Millions	
Total	11.0	10.4	17.4	19.0
DOT	5.7	3.8	9.0	6.9
Other Agency	3.2	3.5	5.1	6.42
Commercial & Residential	2.1	3.1	3.3	5.7
Companies Reporting	4	5		
RAP	Tons, N	Millions	Tons. I	Millions
Accepted	2.5	2.8	4.0	5.1
Used in HMA/WMA Mixtures	3.1	2.8	4.8	5.2
Used in Aggregate	0.1	0.0	0.2	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.1	0.0	0.2
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	2.0	2.2	3.13	3.96
	Avg. %			Used in
Avanage 0/ fee DOT Mistures1	Mixtu		Mixt	ures
Average % for DOT Mixtures <sup>1</sup> Average % for Other Agency Mixtures <sup>1</sup>	33.2% 27.3%	28.3% 26.5%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	30.6%	27.0%	-	
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	30.076	27.076	27.8%	27.3%
Clate / Worldge / III Wilklares Based of FT/ II Folis Osed III FTIW/ WWW/I	Other Rep	orted Data	27.070	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	aucanda	Tono Th	oucondo
Unprocessed Shingles Accepted	12.0	0.2	19.0	ousands 0.4
Processed Shingles Accepted  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
	Mixt		Mixt	ures
Average % for DOT Mixtures <sup>1</sup>	2.07%	0.16%		
Average % for Other Agency Mixtures <sup>1</sup>	2.39%	0.19%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	1.30%	0.20%	0.4.40/	0.400/
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>	Other Rep	orted Data	0.14%	0.18%
% Companies Reporting Using RAS	50%	40%		
% of RAS Mixtures Using Softer Binders	†	0%		
% of RAS Mixtures Using Rejuvenators	+	0%		
	0/ -f.T-1-1		Т	M:II:
Total	% of Total	Production		Millions
DOT	59%	64%	10.1 5.3	11.1 4.4
Other Agency	55%	54%	2.8	3.4
Commercial & Residential	59%	58%	2.0	3.3
WMA Technologies	% of N		2.0	0.0
Chemical Additive, %	0%	0%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	100%	100%		
Organic Additive, %	0%	0%		
0/ Companies Departing Producing MAA	Other Rep	1		
% Companies Reporting Producing WMA	100%	80%		

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

OKLAHOMA	Reported	d Values	Estimated Values		
UKLAHUWA	2015	2016	2015	2016	
Tons of HMA/WMA Produced	Tons, N	•		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	Millions	Tons	Millions	
Accepted	0.5	0.2	1.6	0.5	
Used in HMA/WMA Mixtures	0.4	0.4	1.2	0.9	
Used in Aggregate	0.0	0.0	0.0	0.0	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.0	0.0	0.0	0.0	
Landfilled	0.0	0.0	0.0	0.0	
Total Tons of RAP Stockpiled at Year-End	0.5	0.0	1.67	0.91	
,	Avg. %	Used in	Avg. %	Used in	
	Mixt	Mixtures		ures	
Average % for DOT Mixtures <sup>1</sup>	18.1%	14.3%			
Average % for Other Agency Mixtures <sup>1</sup>	18.1%	16.8%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	24.5%	20.4%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			19.6%	16.7%	
	Other Rep				
% 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	ousands	Tons, Th	nousands	
Unprocessed Shingles Accepted	35.0	28.3	106.6	66.7	
Processed Shingles Accepted	0.0	0.0	0.0	0.0	
Used in HMA/WMA Mixtures	17.6	8.7	53.6	20.6	
Used in Aggregate	0.0	0.0	0.3	0.0	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.0	0.0	0.0	0.0	
Landfilled	0.0	0.0	0.0	0.0	
	Avg. %			Used in	
	Mixt		Mixt	ures	
Average % for DOT Mixtures <sup>1</sup>	0.00%	0.05%			
Average % for Other Agency Mixtures <sup>1</sup>	0.94%	0.05%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	3.09%	1.11%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			0.85%	0.40%	
0/ 0	Other Rep				
% Companies Reporting Using RAS	40%	40%			
% of RAS Mixtures Using Softer Binders	<u>†</u>	39%			
% of RAS Mixtures Using Rejuvenators	T	0%			
WMA	% of Total	Production	Tons,	Millions	
Total			3.1	1.9	
DOT	49%	38%	1.5	1.0	
Other Agency	62%	39%	0.6	0.3	
Commercial & Residential	44%	38%	1.0	0.7	
WMA Technologies	% of N	/larket			
Chemical Additive, %	0%	7%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	100%	93%			
rianti daning, 70					
	0%	0%			
Organic Additive, %	0% Other Rep	0% orted Data			

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

ORECON	N Reported Values		Estimated Values		
OREGON	2015	2016	2015	2016	
Tons of HMA/WMA Produced	Tons, N	Millions		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	Tons, N	/lillions	Tons	Millions	
Accepted	0.5	0.4	1.6	1.2	
Used in HMA/WMA Mixtures	0.5	0.4	1.3	1.2	
Used in Aggregate	0.0	0.0	0.0	0.0	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.0	0.0	0.0	0.0	
Landfilled	0.0	0.0	0.0	0.0	
Total Tons of RAP Stockpiled at Year-End	0.5	0.7	1.51	2.19	
	Avg. %	Used in	Avg. %	Used in	
	Mixtu		Mixt	ures	
Average % for DOT Mixtures <sup>1</sup>	25.1%	20.6%			
Average % for Other Agency Mixtures <sup>1</sup>	22.5%	22.0%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	28.8%	22.5%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			27.1%	21.8%	
	Other Repo				
% 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	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	
	Mixtu		Mixt	ures	
Average % for DOT Mixtures <sup>1</sup>	0.00%	0.00%			
Average % for Other Agency Mixtures <sup>1</sup>	0.00%	0.68%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	2.78%	1.22%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			2.21%	0.75%	
0/ 0 D 1111 510	Other Repo				
% Companies Reporting Using RAS	100%	60%			
% of RAS Mixtures Using Softer Binders	<u> </u>	72%			
% of RAS Mixtures Using Rejuvenators	†	75%			
WMA	% of Total	Production	Tons, I	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 N	1arket			
Chemical Additive, %	0%	2%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	100%	98%			
Organic Additive, %	0%	0%			
Organio / Idditivo, 70	Other Repo				
% Companies Reporting Producing WMA	75%	60%			
1 Average percent based an contractor's reported percentage for each sector, adjusted has					

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

DENINCYL MANUA	Reported	d Values	Estimate	ed Values
PENNSYLVANIA	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	/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		
RAP	Tons, N	/lillions	Tons. I	Millions
Accepted	0.6	1.1	2.6	2.8
Used in HMA/WMA Mixtures	0.7	1.1	2.9	2.8
Used in Aggregate	0.0	0.0	0.1	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	1.0	1.6	4.11	4.12
	Avg. %			Used in
		Mixtures		ures
Average % for DOT Mixtures <sup>1</sup>	16.4%	14.8%		
Average % for Other Agency Mixtures <sup>1</sup>	17.3%	14.9%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	21.0%	15.3%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	01.5		14.9%	14.9%
0/ 0	Other Repo			
% Companies Reporting Using RAP	100%	100%		
% of RAP Fractionated	19%	2%		
% of RAP Mixtures Using Softer Binders	6% 4%	3% 5%		
% of RAP Mixtures Using Rejuvenators				
RAS	Tons, Th			ousands
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 Landfilled	0.0	0.0 0.2	0.0	0.0 0.5
Landined	Avg. %			
	Avg. % Mixtu		Avg. % Used in Mixtures	
Average % for DOT Mixtures <sup>1</sup>	1.56%	0.06%		
Average % for Other Agency Mixtures <sup>1</sup>	2.06%	0.06%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	2.15%	0.10%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			1.15%	0.07%
	Other Rep			
% Companies Reporting Using RAS	38%	20%		
% of RAS Mixtures Using Softer Binders	<u>†</u>	0%		
% of RAS Mixtures Using Rejuvenators	†	21%		
WMA	% of Total	Production	Tons, I	Millions
Total			9.4	8.3
DOT	78%	58%	7.8	6.4
Other Agency	18%	29%	0.5	8.0
Commercial & Residential	17%	20%	1.1	1.0
WMA Technologies	% of N			
Chemical Additive, %	70%	36%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	30%	65%		
Organic Additive, %	0%	0%		
	Other Rep			
% Companies Reporting Producing WMA	88%	100%		
1 Average percent based on contractor's reported percentage for each sector, adjusted base				

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

PUERTO RICO	Reported	Reported Values		d Values
PUERTO RICO	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	/illions	Tons, I	Millions
Total	*	NCR	1.0	1.0
DOT	*	NCR	*	NCR
Other Agency	*	NCR	*	NCR
Commercial & Residential	*	NCR	*	NCR
Companies Reporting	*	NCR		
RAP	Tons, N	/lillions	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. %	Used in	Avg. % Used in	
		Mixtures		ures
Average % for DOT Mixtures <sup>1</sup>	*	NCR		
Average % for Other Agency Mixtures <sup>1</sup>	*	NCR		
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	NCR		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			*	NCR
0/ O	Other Repo			
% Companies Reporting Using RAP	*	NCR		
% of RAP Fractionated	*	NCR NCR		
% of RAP Mixtures Using Softer Binders	*	NCR NCR		
% of RAP Mixtures Using Rejuvenators		NCR		
RAS	Tons, Th		Tons, Th	
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 Used in Other	*	NCR NCR	*	NCR NCR
Landfilled	*	NCR	*	NCR
Landinied	Avg. %		Avg. %	
		Mixtures Mixtur		
Average % for DOT Mixtures <sup>1</sup>	*	NCR		
Average % for Other Agency Mixtures <sup>1</sup>	*	NCR		
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	NCR		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			*	NCR
	Other Repo	orted Data		
% Companies Reporting Using RAS	*	NCR		
% of RAS Mixtures Using Softer Binders	<u>†</u>	NCR		
% of RAS Mixtures Using Rejuvenators	<u> </u>	NCR		
WMA	% of Total	Production	Tons, I	Millions
Total			*	NCR
DOT	*	NCR	*	NCR
Other Agency	*	NCR	*	NCR
Commercial & Residential	*	NCR	*	NCR
WMA Technologies	% of N	/larket		
Chemical Additive, %	*	NCR		
Additive Foaming, %	*	NCR		
Plant Foaming, %	*	NCR		
Organic Additive, %	*	NCR		
<b>9</b>	Other Repo			
% Companies Reporting Producing WMA	*	NCR		
Average percent based on contractor's reported percentage for each sector, adjusted by  The sector is a sector is	seed upon reported to			

<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
Numbers may not add up exactly due to rounding

RHODE ISLAND	Reported	d Values	Estimated Values			
ANODE ISLAND	2015	2016	2015	2016		
ons of HMA/WMA Produced	Tons, N	•	Tons, M			
Total	*	*	2.3	1.9		
DOT	*	*	*	*		
Other Agency	*	*	*	*		
Commercial & Residential	*	*	*	*		
Companies Reporting	*	*				
· · · ·		*****		4		
AP	Tons, N	<u>/lillions</u>	Tons, M	/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. % l			
	Mixt		Mixtures			
Average % for DOT Mixtures <sup>1</sup>	*	*				
Average % for Other Agency Mixtures <sup>1</sup>	*					
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	*				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			*	*		
	Other 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, The	ousand		
Unprocessed Shingles Accepted	*	*	*	*		
Processed Shingles Accepted	*	*	*	*		
Used in HMA/WMA Mixtures	*	*	*	*		
Used in Aggregate	*	*	*	*		
Used in Cold-Mix Asphalt	*	*	*	*		
Used in Other	*	*	*	*		
Landfilled	*	*	*	*		
Landilled	Avg. %	Llood in	Avg. % l	llood in		
	Avg. % Mixt		Avg. % t Mixtu			
Average % for DOT Mixtures <sup>1</sup>	*	*	IVIIALC	il Co		
Average % for Other Agency Mixtures <sup>1</sup>	*	*				
	*	*	•			
Average % for Commercial & Residential Mixtures <sup>1</sup> State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			*	*		
State Average All Mixtures based of RAS Tons Osed in HimA/WIMA	Other Ben	orted Data				
% Companies Reporting Using RAS	Other Rep	*	•			
		*	•			
% of RAS Mixtures Using Softer Binders	<u> †</u>	*	•			
% of RAS Mixtures Using Rejuvenators		L				
VMA	% of Total	Production	Tons, M	/lillions		
Total			*	*		
DOT	*	*	*	*		
Other Agency	*	*	*	*		
Commercial & Residential	*	*	*	*		
WMA Technologies	% of N	/larket				
Chemical Additive, %	*	*				
Additive Foaming, %	*	*				
	*	*				
Plant Farming 0/		1				
Plant Foaming, %						
Plant Foaming, % Organic Additive, %	* Other Rep	*				

<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
Numbers may not add up exactly due to rounding

SOUTH CAROLINA	Reported	d Values	Estimated Values		
SOUTH CAROLINA	2015	2016	2015	2016	
Tons of HMA/WMA Produced	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			
RAP	Tons, N	dillione	Tone	Millions	
Accepted	0.2	0.7	0.7	1.4	
Used in HMA/WMA Mixtures	0.3	0.7	1.0	1.5	
Used in Aggregate	0.0	0.0	0.0	0.0	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.0	0.0	0.0	0.0	
Landfilled	0.0	0.0	0.0	0.0	
Total Tons of RAP Stockpiled at Year-End	0.1	0.5	0.35	0.95	
	Avg. %	Used in		Used in	
	Mixt	Mixtures		ures	
Average % for DOT Mixtures <sup>1</sup>	17.4%	22.6%			
Average % for Other Agency Mixtures <sup>1</sup>	17.5%	21.7%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	23.0%	23.2%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			18.8%	22.6%	
	Other 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	nousands	
Unprocessed Shingles Accepted	8.0	4.0	26.2	8.4	
Processed Shingles Accepted	0.0	0.0	0.0	0.0	
Used in HMA/WMA Mixtures	0.0	0.5	0.0	1.1	
Used in Aggregate	0.0	0.0	0.0	0.0	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.0	0.0	0.0	0.0	
Landfilled	0.0	0.0	0.0	0.0	
	Avg. %			Used in	
	Mixt		Mixt	ures	
Average % for DOT Mixtures <sup>1</sup>	0.00%	0.00%			
Average % for Other Agency Mixtures <sup>1</sup>	0.00%	0.05%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	0.00%	0.04%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>	Ott. D		0.00%	0.02%	
0/ Occasion Deposition Hairs DAO	Other Rep				
% Companies Reporting Using RAS	20%	33%			
% of RAS Mixtures Using Softer Binders	<u> </u>	0%			
% of RAS Mixtures Using Rejuvenators	T	0%			
WMA	% of Total	Production		Millions	
Total			1.7	0.7	
DOT	53%	14%	1.7	0.5	
Other Agency	1%	9%	0.0	0.1	
Commercial & Residential	0%	4%	0.0	0.1	
	% of N	/larket			
WMA Technologies					
Chemical Additive, %	100%	100%			
		0%			
Chemical Additive, %	100%				
Chemical Additive, % Additive Foaming, %	100% 0% 0% 0%	0% 0% 0%			
Chemical Additive, % Additive Foaming, % Plant Foaming, %	100% 0% 0%	0% 0% 0%			

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

COUTH DAKOTA	Reported	l Values	Estimate	d Values
SOUTH DAKOTA	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	Millions	Tons, I	Millions
Total	NCR	*	2.1	1.6
DOT	NCR	*	NCR	*
Other Agency	NCR	*	NCR	*
Commercial & Residential	NCR	*	NCR	*
Companies Reporting	NCR	*		
RAP	Tons, N	Millions	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. %	Jsed in	Avg. %	Used in
	Mixtu	Mixtures		ures
Average % for DOT Mixtures <sup>1</sup>	NCR	*		
Average % for Other Agency Mixtures <sup>1</sup>	NCR	*		
Average % for Commercial & Residential Mixtures <sup>1</sup>	NCR	*		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			NCR	*
	Other Repo	orted Data		
% Companies Reporting Using RAP	NCR	*		
% of RAP Fractionated	NCR	*		
% of RAP Mixtures Using Softer Binders	NCR	*		
% of RAP Mixtures Using Rejuvenators	NCR	*		
RAS	Tons, The	ousands	Tons, Th	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. % Mixtu		Avg. % Used in Mixtures	
Average % for DOT Mixtures <sup>1</sup>	NCR	*		
Average % for Other Agency Mixtures <sup>1</sup>	NCR	*		
Average % for Commercial & Residential Mixtures <sup>1</sup>	NCR	*		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			NCR	*
	Other Repo	orted Data		
% Companies Reporting Using RAS	NCR	*		
% of RAS Mixtures Using Softer Binders		*		
% of RAS Mixtures Using Rejuvenators		*		
WMA	% of Total I	Production	Tons, I	Millions
Total			NCR	*
DOT	NCR	*	NCR	*
Other Agency	NCR	*	NCR	*
Commercial & Residential	NCR	*	NCR	*
WMA Technologies	% of M	larket		
Chemical Additive, %	NCR	*		
Additive Foaming, %	NCR	*		
Plant Foaming, %	NCR	*		
Organic Additive, %	NCR	*		
Organio Additive, 70	Other Repo	orted Data		
% Companies Paparting Producing W/MA	NCR	*		
% Companies Reporting Producing WMA		222		

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

TENNECCEE	Reported	d Values	Estimate	ed Values
TENNESSEE	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	Millions		Millions
Total	5.5	2.4	7.8	8.2
DOT	2.6	0.5	3.7	1.7
Other Agency	0.9	0.4	1.3	1.5
Commercial & Residential	2.0	1.4	2.8	5.0
Companies Reporting	8	4		
RAP	Tons, M	Millions	Tons. I	Millions
Accepted	2.0	0.6	2.8	2.0
Used in HMA/WMA Mixtures	1.2	0.5	1.8	1.7
Used in Aggregate	0.0	0.0	0.0	0.0
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	2.0	0.9	2.80	2.98
	Avg. %			Used in
	Mixt		Mixt	ures
Average % for DOT Mixtures <sup>1</sup>	18.4%	18.6%		
Average % for Other Agency Mixtures <sup>1</sup>	22.9%	20.8%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	24.5%	21.8%		10.00/
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			22.6%	18.6%
O' O ' B ' H ' BAB	Other Rep			
% Companies Reporting Using RAP	88%	100%		
% of RAP Fractionated	20%	22%		
% of RAP Mixtures Using Softer Binders	2%	0% 0%		
% of RAP Mixtures Using Rejuvenators	18%			
RAS	Tons, Th			ousands
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 Landfilled	0.0	0.0	0.0	0.0
Landilled	Avg. %			
	Avg. % Mixt		Avg. % Used in Mixtures	
Average % for DOT Mixtures <sup>1</sup>	0.58%	0.95%		
Average % for Other Agency Mixtures <sup>1</sup>	1.65%	0.72%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	1.65%	0.99%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			0.38%	0.93%
	Other Rep			
% Companies Reporting Using RAS	50%	50%		
% of RAS Mixtures Using Softer Binders	<u>†</u>	0%		
% of RAS Mixtures Using Rejuvenators	†	0%		
WMA	% of Total	Production	Tons, I	Millions
Total			2.5	4.4
DOT	20%	49%	0.7	8.0
Other Agency	35%	37%	0.4	0.6
Commercial & Residential	48%	61%	1.3	3.0
WMA Technologies	% of N	1		
Chemical Additive, %	56%	88%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	44%	12%		
Organic Additive, %	0%	0%		
	Other Rep			
% Companies Reporting Producing WMA	75%	50%		
1 Average percent based on contractor's reported percentage for each sector, adjusted based	d upon reported to			

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

TEVAC	Reported	d Values	Estimate	d Values
TEXAS	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	/lillions	Tons, I	Millions
Total	8.3	8.0	20.0	24.0
DOT	4.5	4.1	10.8	12.3
Other Agency	2.4	2.1	5.8	6.2
Commercial & Residential	1.4	1.8	3.3	5.5
Companies Reporting	8	7		
RAP	Tons, N	/illions	Tons, I	Millions
Accepted	0.5	0.9	1.2	2.8
Used in HMA/WMA Mixtures	1.0	1.1	2.5	3.2
Used in Aggregate	0.0	0.0	0.1	0.1
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	1.3	0.5	3.13	1.4
	Avg. %	Used in	Avg. %	Used in
		Mixtures		ures
Average % for DOT Mixtures <sup>1</sup>	17.2%	13.6%		
Average % for Other Agency Mixtures <sup>1</sup>	15.5%	13.1%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	16.6%	12.8%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			12.6%	13.3%
	Other Repo			
% Companies Reporting Using RAP	100%	100%		
% of RAP Fractionated	50%	15%		
% of RAP Mixtures Using Softer Binders	29%	14%		
% of RAP Mixtures Using Rejuvenators	0%	0%		
RAS	Tons, The	ousands	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. %		Avg. %	
Average 0/ for DOT Mixtures1	Mixtu		Mixt	ures
Average % for DOT Mixtures <sup>1</sup>	2.98% 2.54%	0.94%		
Average % for Other Agency Mixtures <sup>1</sup> Average % for Commercial & Residential Mixtures <sup>1</sup>	2.30%	0.64% 1.07%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>	2.30%	1.07 %	1.51%	0.89%
State Average All Mixtures based on NAS Tons Osed IITTIMA WIMA	Other Repo	orted Data	1.51/6	0.0976
% Companies Reporting Using RAS	75%	71%		
% of RAS Mixtures Using Softer Binders	†	17%		
% of RAS Mixtures Using Rejuvenators	+	0%		
	0/ -( - ( - ( - ( - ( - ( - ( - ( - ( - (			A:II:
WMA	% of Total I	Production		Millions
Total	400/	2.40/	5.4	6.6
DOT Other Agency	42%	34%	4.5	1.0
Other Agency Commercial & Residential	12% 7%	16% 25%	0.7 0.2	1.0 1.4
			∪.∠	1.4
WMA Technologies	% of M			
Chemical Additive, %	67%	94%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	33%	6%		
Organic Additive, %	0%	0%		
	Other Repo	orted Data		
% Companies Reporting Producing WMA	75%	100%		
<sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based		nnage		

<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
Numbers may not add up exactly due to rounding

LITALI	Reported Values		Estimated Values		
UTAH	2015	2016	2015	2016	
Tons of HMA/WMA Produced	Tons, N	/illions	Tons, I		
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	Tons, N	/lillions	Tons, I	Millions	
Accepted	0.8	1.0	0.9	0.9	
Used in HMA/WMA Mixtures	0.8	1.0	0.9	0.9	
Used in Aggregate	0.0	0.0	0.0	0.0	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.0	0.0	0.0	0.0	
Landfilled	0.0	0.0	0.0	0.0	
Total Tons of RAP Stockpiled at Year-End	1.7	1.4	1.84	1.25	
	Avg. %		Avg. %		
	Mixtures		Mixt	ures	
Average % for DOT Mixtures <sup>1</sup>	21.2%	15.8%			
Average % for Other Agency Mixtures <sup>1</sup>	23.7%	18.6%			
Average % for Commercial & Residential Mixtures1	35.1%	32.2%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			25.3%	25.4%	
0/ Occasion Deposition Heima DAD	Other Repo				
% Companies Reporting Using RAP	100%	91%			
% of RAP Fractionated	6%	13%			
% of RAP Mixtures Using Softer Binders	56% 19%	50% 2%			
% of RAP Mixtures Using Rejuvenators					
RAS	Tons, Th		Tons, Th		
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 Landfilled	0.0	0.0	0.0	0.0	
Lanumeu	Avg. %		Avg. %		
	Avg. % Mixtu		Avg. % Mixt		
Average % for DOT Mixtures <sup>1</sup>	0.00%	0.00%			
Average % for Other Agency Mixtures <sup>1</sup>	0.00%	0.00%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	0.00%	0.00%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			0.00%	0.00%	
	Other Repo	orted Data			
% Companies Reporting Using RAS	0%	0%			
% of RAS Mixtures Using Softer Binders	†	0%			
% of RAS Mixtures Using Rejuvenators	<u>†</u>	0%			
WMA	% of Total	Production	Tons, I	Millions	
Total			2.3	1.9	
DOT	63%	62%	0.4	0.6	
Other Agency	49%	43%	1.2	0.3	
Commercial & Residential	79%	51%	2.3	1.0	
WMA Technologies <sup>‡</sup>	% of N	/larket			
Chemical Additive, %	13%	8%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	87%	97%			
Organic Additive, %	0%	0%			
	Other Repo				
% Companies Reporting Producing WMA	89%	82%			
1 Average percent based on contractor's reported percentage for each cortex adjusted based u					

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.

<sup>†</sup> Information not requested in 2015 ‡ WMA Technologies use may exceed 100 due to the use of multiple WMA technologies in combination Numbers may not add up exactly due to rounding

VERMONT	Reported Values		Estimated Values		
VERWONI	2015 2016		2015	2016	
Fons of HMA/WMA Produced	Tons, N	•	Tons, Millions		
Total	*	*	2.3	1.7	
DOT	*	*	*	*	
Other Agency	*	*	*	*	
Commercial & Residential	*	*	*	*	
Companies Reporting	*	*			
RAP	Tono N	Ailliona	Tono N	lilliana	
Accepted	Tons, N	*	Tons, Millions		
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	*	*	*	*	
Total Totis of KAF Stockpiled at Teal-Elid	Avg. %	Llead in	Avg. %	lood in	
	Avg. % Mixtu				
Average % for DOT Mixtures <sup>1</sup>	*	*	Mixtures		
Average % for Other Agency Mixtures <sup>1</sup>	*	*			
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	*			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			*	*	
Clate / Werage / III Wilklares Based Gif 17/11 Tons Osed III Filivi/ VVVII/ (	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					
	Avg. % Used in Mixtures		Avg. % Used in Mixtures		
Average % for DOT Mixtures <sup>1</sup>	*	*	IVIIXU	ii es	
Average % for Other Agency Mixtures <sup>1</sup>	*	*			
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	*			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			*	*	
Otate Average All Mixtures based of TAO Tons Osed III ThinAVVIVIA	Other Reported Data				
% Companies Reporting Using RAS	*	*			
% of RAS Mixtures Using Softer Binders	+	*			
% of RAS Mixtures Using Rejuvenators	+	*			
× .	0, 1-		_		
VMA	% of Total	Production	Tons, N	/IIIIons	
Total		_	*	*	
DOT	*	*	*	*	
Other Agency					
Commercial & Residential	*	*	*	*	
WMA Technologies	% of N				
Chemical Additive, %	*	*			
Additive Foaming, %	*	*			
Plant Foaming, %	*	*			
Organic Additive, %	*	*			
- 0	Other Rep	orted Data			

<sup>&</sup>lt;sup>1</sup> Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
<sup>2</sup> Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
† Information not requested in 2015
Numbers may not add up exactly due to rounding

VIRGINIA	Reported Values		Estimated Values		
VIKGINIA	2015 2016		2015	2016	
Tons of HMA/WMA Produced	Tons M	Tons, Millions		Tons, Millions	
Total	6.8	7.4	12.5	12.0	
DOT	3.5	2.9	6.5	4.7	
Other Agency	1.1	1.3	2.1	2.0	
Commercial & Residential	2.1	3.3	3.9	5.3	
Companies Reporting	7	7			
RAP	Tons, N	Villions	Tons, Millions		
Accepted	1.9	2.3	3.6	3.7	
Used in HMA/WMA Mixtures	1.9	2.1	3.6	3.4	
Used in Aggregate	0.0	0.1	0.1	0.1	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.0	0.0	0.1	0.0	
Landfilled	0.0	0.0	0.0	0.0	
Total Tons of RAP Stockpiled at Year-End	1.7	2.2	3.06	3.57	
	Avg. %	Used in	Avg. %	Used in	
	Mixt		Mixt	ures	
Average % for DOT Mixtures <sup>1</sup>	25.9%	26.4%			
Average % for Other Agency Mixtures <sup>1</sup>	27.4%	27.7%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	32.4%	29.7%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			28.7%	28.1%	
0/ 0	Other Rep				
% 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				
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 Landfilled	0.0	0.0	0.0	0.0	
Landilled					
	Avg. % Used in Mixtures		Avg. % Used in Mixtures		
Average % for DOT Mixtures <sup>1</sup>	0.79%	0.08%			
Average % for Other Agency Mixtures <sup>1</sup>	0.41%	0.04%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	0.15%	0.02%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			0.08%	0.05%	
	Other Rep	orted Data			
% Companies Reporting Using RAS	29%	14%			
% of RAS Mixtures Using Softer Binders	†	0%			
% of RAS Mixtures Using Rejuvenators		0%			
WMA	% of Total	Production	Tons,	Millions	
Total			10.3	8.1	
DOT	75%	64%	4.9	3.0	
Other Agency	82%	72%	1.8	1.5	
Commercial & Residential	94%	68%	3.6	3.6	
WMA Technologies	% of N	/larket			
Chemical Additive, %	19%	19%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	81%	82%			
Organic Additive, %	0%	0%			
Organio Additivo, 70	Other Rep				
% Companies Reporting Producing WMA	86%	100%			
Average percent based on contractor's reported percentage for each sector, adjusted by					

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

WACHINGTON	Reported	d Values	Estimate	ed Values
WASHINGTON	2015	2016	2015	2016
Tons of HMA/WMA Produced	Tons, N	/illions	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	Tons, N	/lillions	Tons	Millions
Accepted	0.7	0.4	1.1	1.3
Used in HMA/WMA Mixtures	0.9	0.5	1.3	1.5
Used in Aggregate	0.0	0.0	0.0	0.1
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	0.6	0.5	0.87	1.67
	Avg. %	Used in	Avg. %	Used in
		Mixtures		ures
Average % for DOT Mixtures <sup>1</sup>	26.8%	23.3%		
Average % for Other Agency Mixtures <sup>1</sup>	24.8%	22.6%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	29.2%	27.7%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	011 0		24.8%	25.5%
0/ 0	Other Repo			
% Companies Reporting Using RAP	100%	100%		
% of RAP Fractionated	18%	0%		
% of RAP Mixtures Using Softer Binders	8% 0%	13% 0%		
% of RAP Mixtures Using Rejuvenators				
RAS	Tons, Th			ousands
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 Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Landined				
	Avg. % Used in Mixtures		Avg. % Used in Mixtures	
Average % for DOT Mixtures <sup>1</sup>	0.16%	0.00%		
Average % for Other Agency Mixtures <sup>1</sup>	1.81%	0.01%		
Average % for Commercial & Residential Mixtures <sup>1</sup>	1.20%	0.01%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>			0.22%	0.01%
	Other Rep	orted Data		
% Companies Reporting Using RAS	60%	25%		
% of RAS Mixtures Using Softer Binders		53%		
% of RAS Mixtures Using Rejuvenators	<u> </u>	0%		
WMA	% of Total	Production	Tons,	Millions
Total			1.1	1.0
DOT	9%	15%	0.1	0.1
Other Agency	18%	16%	0.3	0.3
Commercial & Residential	29%	19%	0.7	0.6
WMA Technologies	% of N	/larket		
Chemical Additive, %	5%	52%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	95%	48%		
Organic Additive, %	0%	0%		
2 0 2	Other Rep			
% Companies Reporting Producing WMA	100%	75%		
1 Average percent based on contractor's reported percentage for each sector, adjusted has				

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

WEST VIRGINIA	Reported Values		Estimated Values		
WEST VIRGINIA	2015 2016		2015 2016		
Tons of HMA/WMA Produced	Tons I	Tons, Millions		Tons, Millions	
Total	1.7	2.2	3.5	4.1	
DOT	1.3	1.5	2.6	2.9	
Other Agency	0.2	0.1	0.3	0.2	
Commercial & Residential	0.3	0.5	0.6	1.0	
Companies Reporting	3	5			
RAP	Tons, N	Millions	Tons, Millions		
Accepted	0.2	0.3	0.5	0.5	
Used in HMA/WMA Mixtures	0.2	0.3	0.5	0.6	
Used in Aggregate	0.0	0.0	0.0	0.0	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.0	0.	0.0	0.0	
Landfilled	0.0	0.0	0.0	0.0	
Total Tons of RAP Stockpiled at Year-End	0.1	0.1	0.11	0.24	
·	Avg. %	Used in	Avg. %	Used in	
	Mixt	ures	Mixt	ures	
Average % for DOT Mixtures <sup>1</sup>	13.9%	13.9%			
Average % for Other Agency Mixtures <sup>1</sup>	14.0%	12.4%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	14.1%	7.4%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			13.7%	14.2%	
	Other Rep				
% Companies Reporting Using RAP	100%	100%			
% of RAP Fractionated	0%	15%			
% of RAP Mixtures Using Softer Binders	0%	0%			
% of RAP Mixtures Using Rejuvenators	0%	0%			
RAS	Tons, Th	ousands	Tons, Thousands		
Unprocessed Shingles Accepted	0.0	0.0	0.0	0.0	
Processed Shingles Accepted	0.0	0.0	0.0	0.0	
Used in HMA/WMA Mixtures	0.0	0.0	0.0	0.0	
Used in Aggregate	0.0	0.0	0.0	0.0	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.0	0.0	0.0	0.0	
Landfilled	0.0	0.0	0.0	0.0	
		Avg. % Used in		Avg. % Used in	
Average % for DOT Mixtures <sup>1</sup>	0.00%	ures 0.00%	Mixtures		
Average % for Other Agency Mixtures <sup>1</sup>	0.00%	0.00%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	0.00%	0.00%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>	0.0070	0.0070	0.00%	0.00%	
Ctate / trotage / til tribtatee Based off to the folia coca in fill in the fill to	Other Rep	Other Reported Data			
% Companies Reporting Using RAS	0%	0%			
% of RAS Mixtures Using Softer Binders	†	0%			
% of RAS Mixtures Using Rejuvenators	†	0%			
WMA	% of Total	L.	Tons	Millions	
Total	/6 UI TUIAI	Fioduction	0.0	0.1	
DOT	0%	1%	0.0	0.0	
Other Agency	0%	6%	0.0	0.0	
Commercial & Residential	0%	1%	0.0	0.0	
WMA Technologies	% of N		0.0	0.0	
Chemical Additive, %	0%	0%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	0%	100%			
Organic Additive, %	0%	0%			
	Other Rep				
% Companies Reporting Producing WMA  Average percent based on contractor's reported percentage for each sector, adjusted by	0%	20%			

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

WISCONSIN	Reported Values           2015         2016		Estimated Values 2015 2016		
WISCONSIN					
Tons of HMA/WMA Produced		Tons, Millions		Tons, Millions	
Total	8.1	7.1	11.0	12.0	
DOT	4.2	2.6	5.7	4.3	
Other Agency	1.9	2.3	2.5	3.9	
Commercial & Residential	2.1	2.3	2.8	3.8	
Companies Reporting	3	4			
RAP	Tons, N	Millions	Tons, Millions		
Accepted	1.1	1.2	1.5	2.0	
Used in HMA/WMA Mixtures	1.3	1.5	1.8	2.6	
Used in Aggregate	0.0	0.0	0.0	0.0	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.0	0.0	0.0	0.0	
Landfilled	0.0	0.0	0.0	0.0	
Total Tons of RAP Stockpiled at Year-End	1.3	1.5	1.71	2.45	
	Avg. %		Avg. % Used in		
A 0// DOTAL 1	Mixto		Mixt	ures	
Average % for DOT Mixtures <sup>1</sup> Average % for Other Agency Mixtures <sup>1</sup>	18.0% 18.0%	20.2%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	22.2%	25.0%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>	22.270	23.0%	16.1%	21.6%	
State //verage / iii winktures Basea on 17/11 10/13 0300 iii 1 iiw/ v v vi//	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	ousands	Tone Th	ousands	
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		
	Mixtures		Mixtures		
Average % for DOT Mixtures <sup>1</sup>	2.48%	0.63%			
Average % for Other Agency Mixtures <sup>1</sup>	2.69%	1.19%			
Average % for Commercial & Residential Mixtures  State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>	3.00%	1.50%	0.050/	4.000/	
State Average All Mixtures Based on RAS Toris Osed in Hima/WiMA-	Other Reported Data		0.85%	1.09%	
% Companies Reporting Using RAS	100%	100%			
% of RAS Mixtures Using Softer Binders	+	32%			
% of RAS Mixtures Using Rejuvenators	+	29%			
WMA	% of Total		Tono	Milliono	
Total	% 01 T0tal	Production	1.3	Millions 1.3	
DOT	10%	8%	0.5	0.3	
Other Agency	14%	18%	0.3	0.3	
Commercial & Residential	13%	7%	0.4	0.7	
WMA Technologies	% of N		<u> </u>		
Chemical Additive, %	83%	97%			
Additive Foaming, %	13%	0%			
Plant Foaming, %	3%	3%			
	0%	0%			
Organic Additive, %	Other Rep				
9/ Companies Poporting Producing M/MA	100%	100%			
% Companies Reporting Producing WMA  1 Average percent based on contractor's reported percentage for each sector, adjusted by					

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

WYOMING	Reported Values		Estimated Values		
W TOWING	2015 2016		2015	2016	
Tons of HMA/WMA Produced	Tons. N	Tons, Millions		Tons, Millions	
Total	*	0.3	2.6	2.2	
DOT	*	0.2	*	1.3	
Other Agency	*	0.1	*	0.4	
Commercial & Residential	*	0.1	*	0.5	
Companies Reporting	*	6			
RAP	Tons, N	Villions	Tons	Millions	
Accepted	*	0.0	*	0.2	
Used in HMA/WMA Mixtures	*	0.0	*	0.2	
Used in Aggregate	*	0.0	*	0.0	
Used in Cold-Mix Asphalt	*	0.0	*	0.0	
Used in Other	*	0.0	*	0.0	
Landfilled	*	0.0	*	0.0	
Total Tons of RAP Stockpiled at Year-End	*	0.0	*	0.2	
	Avg. %	Used in	Avg. %	Used in	
	Mixt	ures		tures	
Average % for DOT Mixtures <sup>1</sup>	*	8.9%			
Average % for Other Agency Mixtures <sup>1</sup>	*	7.9%			
Average % for Commercial & Residential Mixtures <sup>1</sup>	*	14.7%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA <sup>2</sup>			*	10.11%	
	Other Rep				
% 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, Thousands		
Unprocessed Shingles Accepted	*	1.4	*	9.1	
Processed Shingles Accepted	*	1.4	*	9.1	
Used in HMA/WMA Mixtures	*	0.3	*	2.0	
Used in Aggregate	*	0.0	*	0.0	
Used in Cold-Mix Asphalt	*	0.0	*	0.0	
Used in Other	*	0.0	*	0.0	
Landfilled	*	0.0	*	0.0	
	Avg. % Used in		Avg. % Used in		
	Mixtures		Mixtures		
Average % for DOT Mixtures <sup>1</sup>	*	0.00%			
Average % for Other Agency Mixtures <sup>1</sup>	*	0.14%			
Average % for Commercial & Residential Mixtures	*	0.28%	*		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA <sup>2</sup>	Ott. D		*	0.09%	
0/ Ocasa saisa Barastina Haira BAO	Other Rep				
% Companies Reporting Using RAS		17%			
% of RAS Mixtures Using Softer Binders	†	0%			
% of RAS Mixtures Using Rejuvenators	T	0%			
WMA	% of Total	Production	Tons,	Millions	
Total			*	0.5	
DOT	*	29%	*	0.4	
Other Agency	*	9%	*	0.0	
Commercial & Residential	*	20%	*	0.1	
14/44 4 - 1 1 1	% of N	/larket			
WMA Technologies					
WMA Technologies Chemical Additive, %	*	0%			
Chemical Additive, %	*	0%			
Chemical Additive, % Additive Foaming, %		0%			
Chemical Additive, % Additive Foaming, % Plant Foaming, %	*	0% 100%			
Chemical Additive, % Additive Foaming, %	*	0% 100% 0%			

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