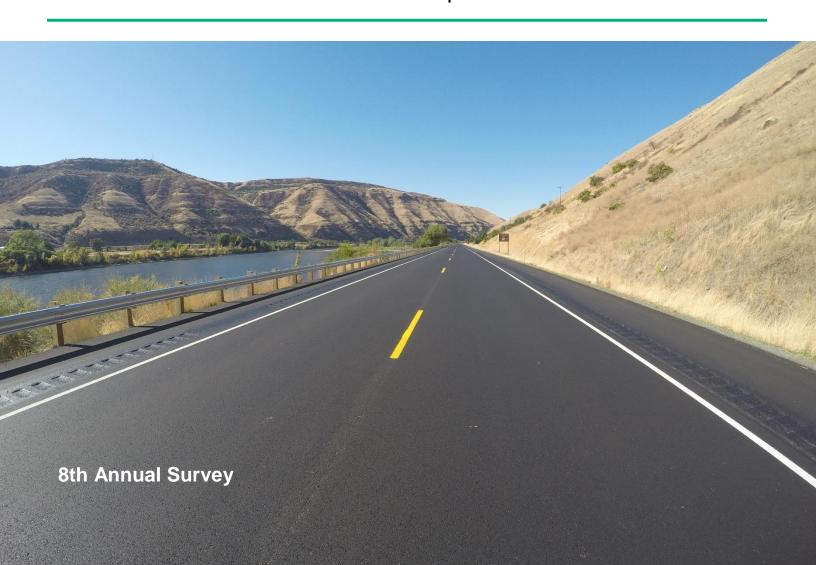


Asphalt Pavement Industry Survey on

Recycled Materials and Warm-Mix Asphalt Usage 2017

IS-138 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: 2017 Appendix B

Introduction

Appendix B 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 2017 construction season survey, including information from Tables 5, 6, 7, 8, 11, 12 and 15 in the main report (Williams et al., 2018). 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 data and to generate estimates.

Appendix B reports data for all 50 U.S. states, as well as the District of Columbia, Puerto Rico, and American Samoa. Estimates for Guam, the Northern Mariana Islands, and U.S. Virgin Islands were not made due to a lack of producer responses and other reliable data. 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. Table 1 in the main report, republished below, summarizes the number of respondents from each state and territory. A total of 238 companies representing 1,158 production plants responded to the 2017 construction season survey. Branches, subsidiaries, and operating units are counted as unique companies in Table 1 and throughout this report. A degree of fluctuation in year-to-year comparisons of data is influenced by which companies responded to the 2017 construction season survey versus prior year survey respondents. Throughout the tables, where percentages and totals are calculated, the numbers may not add up exactly due to rounding.

Table 1: Number of Companies Completing 2017 Construction Season Survey in Each State/Territory

State	Cos.	Plants	State	Cos.	Plants	State	Cos.	Plants
Alabama	6	50	Kentucky	4	39	Ohio	7	74
Alaska	*	*	Louisiana	5	7	Oklahoma	5	18
American Samoa	*	*	Maine	3	17	Oregon	4	7
Arizona	3	8	Maryland	6	11	Pennsylvania	10	50
Arkansas	4	13	Massachusetts	8	29	Puerto Rico	NCR	NCR
California	6	39	Michigan	7	45	Rhode Island	*	*
Colorado	5	21	Minnesota	4	28	South Carolina	7	24
Connecticut	3	19	Mississippi	5	22	South Dakota	*	*
Delaware	*	*	Missouri	7	30	Tennessee	5	22
District of Columbia	*	*	Montana	*	*	Texas	7	48
Florida	5	28	Nebraska	3	8	U.S. Virgin Islands	NCR	NCR
Georgia	5	15	Nevada	3	4	Utah	9	19
Guam	NCR	NCR	New Hampshire	4	20	Vermont	*	*
Hawaii	3	8	New Jersey	3	19	Virginia	5	33
Idaho	6	19	New Mexico	3	6	Washington	7	33
Illinois	7	15	New York	11	72	West Virginia	4	15
Indiana	5	38	North Carolina	7	52	Wisconsin	4	63
lowa	6	16	North Dakota	3	7	Wyoming	3	6
Kansas	3	17	No. Mariana Islands	NCR	NCR	Total [†]	238	1,158

NCR = No Companies Responding

^{* =} Fewer than 3 Companies Reporting

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

ALABAMA	Reported	Reported Values		Estimated Values	
ALADAWA	2016	2017	2016	2017	
Tons of HMA/WMA Produced	Tons, N	Millions	Tons, I	Millions	
Total	3.8	4.9	7.5	7.0	
DOT	2.3	3.3	4.6	4.8	
Other Agency	0.7	0.8	1.4	1.2	
Commercial & Residential	0.7	0.8	1.5	1.1	
Companies Reporting	5	6	_		
RAP	Tons, N		Tons, I		
Accepted Used in HMA/WMA Mixtures	0.9	1.3 1.2	1.7 1.8	1.9 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	1.14	1.94	2.28	2.78	
	Avg. % Mixtu	ures	Avg. % Mixt		
Average % for DOT Mixtures ¹	25.1%	23.7%			
Average % for Other Agency Mixtures ¹	21.7%	24.7%			
Average % for Commercial & Residential Mixtures ¹	25.2%	26.8%	0.4.407	04.007	
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²	Other Den	artad Data	24.4%	24.3%	
% Companies Reporting Using RAP	Other Repo	100%			
% of RAP Fractionated	13%	29%			
% of RAP Mixtures Using Softer Binders	0%	0%			
% of RAP Mixtures Using Rejuvenators	0%	0%			
RAS	Tons, Th		Tons Th	ousands	
Unprocessed Shingles Accepted	8.0	0.0	16.0	0.0	
Processed Shingles Accepted	10.0	0.0	19.9	0.0	
Used in HMA/WMA Mixtures	11.2	0.0	22.4	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 Total Tons of RAS Stockpiled at Year-End	0.0 †	0.0	0.0	0.0	
Total Tons of NAS Stockplied at Tear-End	Avg. %	Used in	Avg. %	Used in	
A OUT DOTAL 4	Mixto		Mixt	ures	
Average % for DOT Mixtures ¹ Average % for Other Agency Mixtures ¹	0.46% 0.00%	0.00%			
Average % for Commercial & Residential Mixtures ¹	0.00%	0.00%	-		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	0.1076	0.0076	0.30%	0.00%	
Clair / (Foliage / III Million Bassa St. Folia Cosa III / III / V / V / III /	Other Rep	orted Data	0.0070	0.0070	
% Companies Reporting Using RAS	60%	0%			
% of RAS Mixtures Using Softer Binders	0%	0%			
% of RAS Mixtures Using Rejuvenators	0%	0%			
WMA	% of Total	Production	Tons, I	Millions	
Total			2.4	0.7	
DOT	34%	13%	1.6	0.6	
Other Agency	32%	3%	0.5	0.0	
Commercial & Residential	23%	3%	0.3	0.0	
WMA Technologies	% of N				
Chemical Additive, %	14%	0%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	86%	67%			
Organic Additive, %	0%	33%			
9/ Companies Paparting Producing M/MA	Other Rep				
% Companies Reporting Producing WMA	60%	50%			

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

[†] Question not asked for 2016

Numbers may not add up exactly due to rounding

ALASKA	Reported	l Values	Estimate	d Values
ALASKA	2016	2017	2016	2017
Tons of HMA/WMA Produced	Tons, N		Tons, N	
Total	*	*	4.6	5.1
DOT	*	*	*	*
Other Agency	*	*	*	*
Commercial & Residential	*	*	*	*
Companies Reporting	*	*		
RAP	Tons, N	/lillions	Tons, N	Millions
Accepted	*	*	*	*
Used in HMA/WMA Mixtures	*	*	*	*
Used in Aggregate	*	*	*	*
Used in Cold-Mix Asphalt	*	*	*	*
Used in Other	*	*	*	*
Landfilled	*	*	*	*
Total Tons of RAP Stockpiled at Year-End	*	*	*	*
	Avg. % Mixtu		Avg. % Mixtu	
Average % for DOT Mixtures ¹	*	*		
Average % for Other Agency Mixtures ¹	*	*		
Average % for Commercial & Residential Mixtures ¹	*	*		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			*	*
	Other Repo	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	*	*	*	*
Total Tons of RAS Stockpiled at Year-End	†	*	† 1	*
	Avg. % Mixtu		Avg. % Used in Mixtures	
Average % for DOT Mixtures ¹	*	*		
Average % for Other Agency Mixtures ¹	*	*		
Average % for Commercial & Residential Mixtures ¹	*	*		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			*	*
	Other Repo	orted Data		
% Companies Reporting Using RAS	*	*		
% of RAS Mixtures Using Softer Binders	*	*		
% of RAS Mixtures Using Rejuvenators	*	*		
WMA	% of Total	Production	Tons, N	/lillions
Total			*	*
DOT	*	*	*	*
Other Agency	*	*	*	*
Commercial & Residential			*	*
WMA Technologies	% of N	larket		
Chemical Additive, %	*	*		
Additive Foaming, %	*	*		
Plant Foaming, %	*	*		
Organic Additive, %	*	*		
	Other Repo	orted Data		
% Companies Reporting Producing WMA	*	*		

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

[†] Question not asked for 2016
Numbers may not add up exactly due to rounding

AMERICAN SAMOA	Reported	d Values	Estimated	d Values
AWILKICAN SAWIOA	2016	2017	2016	2017
Fons of HMA/WMA Produced	Tons, N		Tons, M	
Total	NCR	*	0.03	0.03
DOT	NCR	*	NCR	*
Other Agency	NCR	*	NCR	*
Commercial & Residential	NCR	*	NCR	*
Companies Reporting	NCR	*		
RAP	Tons, N	/lillions	Tons, M	lillions
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. %		Avg. % l	
Average % for DOT Mixtures ¹	Mixtu NCR	ures *	Mixtu	ires
Average % for Other Agency Mixtures ¹	NCR	*		
Average % for Commercial & Residential Mixtures ¹	NCR	*		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²	NOIX		NCR	*
State Average All Mixtures based of that Tons Osed III Thirty William	Other Repo	orted Data	NOIL	
% 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	oueande	Tons, The	nueande
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	*
Total Tons of RAS Stockpiled at Year-End	†	*	†	*
	Avg. %		Avg. % l	
Average 9/ for DOT Minturge1	Mixtu	ures *	Mixtu	ıres
Average % for DOT Mixtures ¹ Average % for Other Agency Mixtures ¹	NCR NCR	*		
Average % for Commercial & Residential Mixtures ¹	NCR	*		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	NCK		NCR	*
State Average All Mixtures based of TXAO TOTIS Osed IIT TIMA WIMA	Other Repo	orted Data	NOIL	
% Companies Reporting Using RAS	NCR	*		
% of RAS Mixtures Using Softer Binders	NCR	*		
% of RAS Mixtures Using Rejuvenators	NCR	*		
WMA	% of Total I	Production	Tons, M	lillions
	/0 OI 1 Otal 1	Toduction	NCR	*
Total	NCR	*		*
Total DOT	NCR NCR	*	NCR	*
Total	NCR NCR NCR	* *		
Total DOT Other Agency Commercial & Residential	NCR NCR	*	NCR NCR	*
Total DOT Other Agency Commercial & Residential WMA Technologies	NCR NCR % of M	*	NCR NCR	*
Total DOT Other Agency Commercial & Residential WMA Technologies Chemical Additive, %	NCR NCR % of M	*	NCR NCR	*
Total DOT Other Agency Commercial & Residential WMA Technologies Chemical Additive, % Additive Foaming, %	NCR NCR % of N NCR NCR	* Narket *	NCR NCR	*
Total DOT Other Agency Commercial & Residential WMA Technologies Chemical Additive, % Additive Foaming, % Plant Foaming, %	NCR NCR % of N NCR NCR NCR	* //arket	NCR NCR	*
Total DOT Other Agency Commercial & Residential WMA Technologies Chemical Additive, % Additive Foaming, %	NCR NCR % of N NCR NCR	* Market * * * * * * * *	NCR NCR	*

¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
² Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
[†] Question not asked for 2016
Numbers may not add up exactly due to rounding

ARIZONA	Reported	Reported Values		Estimated Values		
ARIZONA	2016	2017	2016	2017		
Tons of HMA/WMA Produced	Tons, N		Tons, N			
Total	2.4	1.2	7.1	6.5		
DOT	0.4	0.2	1.1	1.2		
Other Agency	1.5	0.2	4.5	1.1		
Commercial & Residential	0.6	0.8	1.6	4.3		
Companies Reporting	3	3				
RAP	Tons, N	Millions	Tons, I	Millions		
Accepted	0.3	0.1	1.0	0.7		
Used in HMA/WMA Mixtures	0.2	0.1	0.6	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	0.4	0.10	1.05	0.54		
	Avg. % Mixtu		Avg. % Mixt			
Average % for DOT Mixtures ¹	6.5%	11.9%				
Average % for Other Agency Mixtures ¹	8.5%	5.0%				
Average % for Commercial & Residential Mixtures ¹	11.1%	10.2%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			8.8%	9.5%		
	Other Repo					
% Companies Reporting Using RAP	100%	100%				
% of RAP Fractionated	0%	0%				
% of RAP Mixtures Using Softer Binders	8.5%	23%				
% of RAP Mixtures Using Rejuvenators	0%	0%				
RAS	Tons, The	ousands	Tons, Th	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		
Total Tons of RAS Stockpiled at Year-End	T T	0.0	†	0.0		
	Avg. % I Mixtu		Avg. % Mixt			
Average % for DOT Mixtures ¹	0.00%	0.00%				
Average % for Other Agency Mixtures ¹	0.00%	0.00%				
Average % for Commercial & Residential Mixtures ¹	0.00%	0.00%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.00%	0.00%		
0/ 0	Other Repo					
% Companies Reporting Using RAS	0%	0%				
% of RAS Mixtures Using Softer Binders	0%	0%				
% of RAS Mixtures Using Rejuvenators	0%	0%				
WMA	% of Total I	Production	Tons, N			
Total	22.	Eco:	0.05	4.3		
DOT	0%	50%	0.00	0.6		
Other Agency	0.2%	0%	0.01	0.0		
Commercial & Residential	2%	87%	0.04	3.7		
WMA Technologies	% of N	ı				
Chemical Additive, %	0%	0%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	89%	100%				
Organic Additive, %	11%	0%				
	Other Repo	orted Data				
% Companies Reporting Producing WMA	100%	67%				

[%] Companies Reporting Producing WMA | 100% | 67% |

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

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

† Question not asked for 2016

Numbers may not add up exactly due to rounding

ADKANGAG	Reported	Reported Values		Estimated Values		
ARKANSAS	2016	2017	2016	2017		
Tons of HMA/WMA Produced	Tons, N		Tons, N	•		
Total	2.3	1.9	5.5	6.0		
DOT	1.3	1.3	3.2	4.2		
Other Agency	0.3	0.3	0.8	0.9		
Commercial & Residential	0.7	0.3	1.6	0.9		
Companies Reporting	6	4				
RAP	Tons, N	Millions	Tons, I	Millions		
Accepted	0.3	0.1	0.7	0.5		
Used in HMA/WMA Mixtures	0.2	0.2	0.5	0.7		
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	0.2	0.20	0.54	0.64		
	Avg. % Mixtu		Avg. % Mixt			
Average % for DOT Mixtures ¹	10.4%	11.8%				
Average % for Other Agency Mixtures ¹	10.5%	8.5%				
Average % for Commercial & Residential Mixtures ¹	8.2%	10.8%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			9.8%	11.2%		
	Other Repo					
% Companies Reporting Using RAP	100%	100%				
% of RAP Fractionated	1%	0%				
% of RAP Mixtures Using Softer Binders	0%	0%				
% of RAP Mixtures Using Rejuvenators	0%	0%				
RAS	Tons, Th		Tons, Th			
Unprocessed Shingles Accepted	5.3	8.5	12.6	26.7		
Processed Shingles Accepted	17.6	0.0	42.0	0.0		
Used in HMA/WMA Mixtures	25.0	6.1	60.0	19.0		
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		
Total Tons of RAS Stockpiled at Year-End	T T	38.7	†	121.6		
	Avg. % Mixtu		Avg. % Mixt			
Average % for DOT Mixtures ¹	0.87%	0.10%				
Average % for Other Agency Mixtures ¹	1.49%	0.80%				
Average % for Commercial & Residential Mixtures ¹	1.30%	0.80%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			1.08%	0.32%		
0/ 0	Other Repo					
% Companies Reporting Using RAS	67%	25%				
% of RAS Mixtures Using Softer Binders	0%	0%				
% of RAS Mixtures Using Rejuvenators	0%	0%				
WMA	% of Total	Production	Tons, I			
Total	222/	7601	2.1	4.1		
DOT	30%	72%	0.9	3.0		
Other Agency	29%	51%	0.2	0.4		
Commercial & Residential	58%	72%	0.9	0.7		
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	50%	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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

CALIFORNIA	Reported Values		Estimated Values		
CALIFORNIA	2016	2017	2016	2017	
Tons of HMA/WMA Produced	Tons, N		Tons, N		
Total	9.7	5.9	25.0	26.0	
DOT	1.9	1.1	4.8	4.8	
Other Agency	3.4	1.6	8.8	6.9	
Commercial & Residential	4.4	3.3	11.4	14.3	
Companies Reporting	4	6			
RAP	Tons, N	Millions	Tons, I	Millions	
Accepted	1.4	1.1	3.6	4.8	
Used in HMA/WMA Mixtures	1.4	1.1	3.7	4.7	
Used in Aggregate	0.2	0.0	0.4	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	
Total Tons of RAP Stockpiled at Year-End	1.6	0.60	4.20	2.63	
	Avg. % Mixto		Avg. % Mixt		
Average % for DOT Mixtures ¹	12.2%	14.6%			
Average % for Other Agency Mixtures ¹	12.9%	23.7%			
Average % for Commercial & Residential Mixtures ¹	17.3%	16.6%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			14.7%	18.1%	
	Other Rep				
% Companies Reporting Using RAP	100%	100%			
% of RAP Fractionated	31%	57%			
% of RAP Mixtures Using Softer Binders	14%	21%			
% of RAP Mixtures Using Rejuvenators	13%	38%			
RAS	Tons, Th	ousands	Tons, Th	ousands	
Unprocessed Shingles Accepted	0.0	0.0	0.0	0	
Processed Shingles Accepted	2.7	6.0	7.0	26.3	
Used in HMA/WMA Mixtures	2.3	1.9	5.9	8.3	
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 RAS Stockpiled at Year-End	†	4.0	†	17.5	
	Avg. % Mixtu	ures	Avg. % Mixt		
Average % for DOT Mixtures ¹	0.01%	0.00%			
Average % for Other Agency Mixtures ¹	0.01%	0.00%			
Average % for Commercial & Residential Mixtures ¹	0.04%	0.10%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	04 5		0.02%	0.03%	
0/ 0	Other Rep				
% Companies Reporting Using RAS	25%	17%			
% of RAS Mixtures Using Softer Binders	28%	100%			
% of RAS Mixtures Using Rejuvenators	0%	0%			
WMA	% of Total	Production	Tons, N		
Total	140/	2.40/	2.7	6.5	
DOT Other Agency	11% 9%	24%	0.5	1.1	
Other Agency Commercial & Residential	13%	24% 26%	0.8 1.4	1.7 3.7	
	% of N		1. 11	5.1	
WMA Technologies					
Chemical Additive, %	11%	27%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	89%	73%			
Organic Additive, %	0%	0%			
	Other Rep	1			
% Companies Reporting Producing WMA	100%	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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

COLORADO	Reported	Reported Values		ed Values
COLORADO	2016	2017	2016	2017
Tons of HMA/WMA Produced	Tons, N			Millions
Total	2.4	2.0	7.5	5.3
DOT	1.1	0.8	3.6	2.0
Other Agency	0.7	0.7	2.2	1.8
Commercial & Residential	0.5	0.5	1.7	1.4
Companies Reporting	5	5		
RAP	Tons, N	/lillions	Tons, I	Millions
Accepted	0.6	0.5	1.9	1.4
Used in HMA/WMA Mixtures	0.6	0.5	1.8	1.2
Used in Aggregate	0.1	0.0	0.3	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	0.7	0.70	2.28	1.85
	Avg. % Mixtu			Used in ures
Average % for DOT Mixtures ¹	22.1%	25.7%		
Average % for Other Agency Mixtures ¹	24.5%	23.1%		
Average % for Commercial & Residential Mixtures ¹	26.4%	21.1%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			23.8%	23.5%
	Other Repo			
% Companies Reporting Using RAP	100%	100%	-	
% of RAP Fractionated	71%	22%	-	
% of RAP Mixtures Using Softer Binders	44%	0%	-	
% of RAP Mixtures Using Rejuvenators	0%	0%		
RAS	Tons, Th			ousands
Unprocessed Shingles Accepted	0.4	0.0	1.3	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 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 RAS Stockpiled at Year-End	+	7.8	+	20.7
Total Folio di Fili di Ciconpilica di Fodi Ella	Avg. %	Used in	Avg. % Used in	
Average 0/ for DOT Mixtures1	Mixtu		Mixt	ures
Average % for DOT Mixtures1	0.00%	0.00%	-	
Average % for Other Agency Mixtures ¹ Average % for Commercial & Residential Mixtures ¹	0.00%	0.00%	-	
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	0.0078	0.00 /6	0.00%	0.00%
Otate Average All Wilklutes based of TAO Toris osed iff TilviAVVWA	Other Repo	orted Data	0.0076	0.0070
% Companies Reporting Using RAS	20%	20%		
% of RAS Mixtures Using Softer Binders	0%	0%		
% of RAS Mixtures Using Rejuvenators	0%	0%		
WMA	% of Total		Tons, I	Millions
Total			1.1	8.0
DOT	18%	16	0.7	0.3
Other Agency	17%	16	0.1	0.3
Commercial & Residential	5%	13	1.1	0.2
WMA Technologies	% of N	1		
Chemical Additive, %	15%	67%		
Additive Foaming, %	5%	0%		
Plant Foaming, %	74%	33%		
Organic Additive, %	7%	0%		
	Other Repo	orted Data		
% Companies Reporting Producing WMA	80%	60%		
¹ Average percent based on contractor's reported percentage for each sector, adjusted has	end 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.

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CONNECTICUT	Reported Values		Estimated Values	
COMMECTICOT	2016	2017	2016	2017
Tons of HMA/WMA Produced	Tons, N	/lillions	Tons, I	Millions
Total	2.5	2.8	4.6	4.9
DOT	1.0	1.1	1.8	1.9
Other Agency	0.9	0.9	1.6	1.5
Commercial & Residential	0.7	0.9	1.2	1.5
Companies Reporting	3	3		
RAP	Tons, N		Tons, I	
Accepted	0.4	0.5	0.8	0.8
Used in HMA/WMA Mixtures	0.5	0.5	1.0	0.9
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
Total Tons of RAP Stockpiled at Year-End	1.0	1.14	1.86	1.97
Total Folio STATE Stoolphod at Four End	Avg. %		Avg. %	
	Mixtu		Mixt	
Average % for DOT Mixtures ¹	19%	13.9%		
Average % for Other Agency Mixtures ¹	22%	19.5%		
Average % for Commercial & Residential Mixtures ¹	25%	20.2%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²	Otl D		21.3%	17.6%
0/ Occupanies Departies Heige DAD	Other Repo			
% Companies Reporting Using RAP % of RAP Fractionated	67% 0%	100% 0%		
% of RAP Fractionated % of RAP Mixtures Using Softer Binders	0%	0%		
% of RAP Mixtures Using Soller Binders % of RAP Mixtures Using Rejuvenators	0%	0%		
RAS	Tons, Th		Tone Th	ousands
Unprocessed Shingles Accepted	0.0	0.0	0.0	0.0
Processed Shingles Accepted Processed Shingles Accepted	0.4	0.0	0.7	1.6
Used in HMA/WMA Mixtures	0.4	0.0	0.7	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
Total Tons of RAS Stockpiled at Year-End	t	0.0	†	0.0
	Avg. % Mixtu		Avg. % Used in Mixtures	
Average % for DOT Mixtures ¹	0.00%	0.00%		
Average % for Other Agency Mixtures ¹	0.00%	0.00%		
Average % for Commercial & Residential Mixtures ¹	0.06%	0.10%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.02%	0.00%
	Other Repo			
% Companies Reporting Using RAS	33%	33%		
% of RAS Mixtures Using Softer Binders	0%	0%		
% of RAS Mixtures Using Rejuvenators	0%	0%		
WMA	% of Total	Production	Tons, I	
Total	050/	050/	2.6	1.4
DOT Other Assessed	65%	25%	1.2	0.5
Other Agency Commercial & Residential	55% 46%	30% 30%	0.9 0.6	0.4 0.5
			0.0	0.5
WMA Technologies	% of N			
Chemical Additive, %	5%	2%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	94%	49%		
Organic Additive, %	1%	49%		
O/ Occupation Department Dr. 1 1 14/444	Other Repo			
% Companies Reporting Producing WMA	67%	67%		

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

[†] Question not asked for 2016

Numbers may not add up exactly due to rounding

Tons of HMAVMMA Produced	DELAWARE	Reported	d Values	Estimate	d Values
Tons of HMAWMA Produced Total Total DOT Other Agency Commercial & Residential Companies Reporting ACCepted Accepted Tons, Millions Tons december Tons, Millions Tons december Tons, Millions Tons, Millio	DELAWARE			2016	2017
Total DOT Other Agency Ochmercial & Residential Companies Reporting RAP Accepted Used in HMAWMM Mixtures Used in Aggregate Used in Gold-Mix Asphalt Used in Other Landilled Average % for DOT Mixtures' Average % for Other Agency Mixtures' State Average All Mixtures Based on RAP Tons Used in HMAWMAP Under in HMAWMM Mixtures **Companies Reporting Using RAP **Companies Rapide RAP **Companies Rapi	Tons of HMA/WMA Produced				
Other Agency Commercial & Residential Companies Reporting **AP **Tons, Millions **Tons, Millions **Cocepted ***Cocepted ***Individual Superior Commercial & Residential Mixtures Used in Aggregate Used in Cold-Mix Asphalt Used in Other Landfilled **Individual Superior Commercial & Residential Mixtures **Average % for DOT Mixtures Superior Superior Commercial & Residential Mixtures **Companies Reporting Using RAP **Individual Superior Commercial & Residential Mixtures **Companies Reporting Using RAP **Individual Superior Commercial & Residential Mixtures **Superior Commercial & Residential Mixtures **Companies Reporting Using RAP **Individual Superior Commercial & Residential Mixtures **Superior Commercial & Residential Mixtures **Individual Superior Commercial & Residential Mixtures **Individual Superio		*	*		
Commercial & Residential Companies Reporting XAP Tons, Millions Accepted Used in HMAWMA Mixtures Used in Aggregate Used in Cold-Mix Asphalt Used in Other Landfilled Avg. % Used in Mixtures Average % for DOT Mixtures¹ Average % for DOT Mixtures¹ Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAP Tons Used in HMAWMAP Companies Reporting Using RAP Wo fix AP Mixtures Using Rejuvenators AS Tons, Thousands Used in Aggregate Used in HMAWMA Mixtures Used in Cold-Mix Asphalt Used in Col	DOT	*	*	*	*
Companies Reporting RAP RAP Tons, Millions Accepted Jused in HMAWMA Mixtures Used in Aggregate Used in Cold-Mix Asphalt Used in Cold-Mix Asphalt Total Tons of RAP Stockpiled at Year-End Average % for DOT Mixtures¹ Average % for Commercial & Residential Mixtures¹ % of RAP Fractionated % of RAP Mixtures Using RaP % of RAP Mixtures Using Rejuvenators AVERAGE Accepted Tons, Thousands Tons, Thousands Tons, Thousands Total Tons of RAP Stockpiled at Year-End Average % for Commercial & Residential Mixtures¹ Total Tons of RAP Stockpiled at Year-End Total Tons of RAP Stockpiled at Year-End Total Tons of RAP Stockpiled at Year-End Tons, Thousands Tons, Tons, Mixtures Tons, Tons, M	Other Agency	*	*	*	*
Accepted Used in HMAWMA Mixtures Used in Aggregate Used in Cold-Mix Asphalt Used in Other Landfilled Total Tons of RAP Stockpiled at Year-End Average % for DOT Mixtures¹ Average % for DOT Mixtures¹ Average % for DOT Mixtures¹ % Companies Reporting Using RAP % of RAP Mixtures Using Rejuvenators Work of RAP Mixtures Using Rejuvenators Work of RAP Mixtures Using Rejuvenators Used in Aggregate Used in Cold-Mix Asphalt Use		*	*	*	*
Accepted Used in HMAWMA Mixtures Used in Aggregate Used in Cold-Mix Asphalt Total Tons of RAP Stockpiled at Year-End Arg. % Used in Mixtures Average % for DOT Mixtures¹ Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAP Tons Used in HMAWMMa² State Average All Mixtures Using RAP % of RAP Fractionated % of RAP Mixtures Using Softer Binders % of RAP Mixtures Using Softer Binders Used in Aggregate Used in Cold-Mix Asphalt Used in Cold-Mix Based on RAP Tons Used in HMAWMMa² Average % for DOT Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ Avera	Companies Reporting	*	*		
Accepted Used in HMAWMA Mixtures Used in Aggregate Used in Aggregate Used in Cold-Mix Asphalt Used in Other Landfilled Total Tons of RAP Stockpiled at Year-End Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Other Agency Mixtures¹ State Average All Mixtures Based on RAP Tons Used in HMAWMA² % Companies Reporting Using RAP % of RAP Mixtures Using Reflevenators AVERSE Shingles Accepted Used in HMAWMA Mixtures Used in Aggregate Used in Aggregate Used in Cold-Mix Asphalt Used in Other Landfilled Used in Other Landfilled Total Tons of RAS Stockpiled at Year-End Average % for DOT Mixtures¹ * * * * * * * * * * * * * * * * * * *	RAP	Tons, N	/lillions	Tons, N	Millions
Used in Octor Mix Asphalt Used in Other Landfilled Total Tons of RAP Stockpilled at Year-End Avg, Wused in Mixtures Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAP Tons Used in HMAWMA² Companies Reporting Using RAP % of RAP Fractionated % of RAP Mixtures Using Softer Binders % of RAP Mixtures Using Softer Binders Used in Cold-Mix Asphalt Used in HMAWMA Mixtures Used in Cold-Mix Asphalt Used in Cold-Mix Asphalt Used in Other Landfilled Total Tons of RAS Stockpiled at Year-End Average % for ODT Mixtures¹ Average % for Commercial & Residential Mixtures¹ * * * * * * * * * * * * * * * * * * *	Accepted		*	*	*
Used in Other Landfilled Total Tons of RAP Stockpiled at Year-End Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ % Companies Reporting Using RAP % of RAP Hixtures Using Rejuvenators RAS Unprocessed Shingles Accepted Used in HMAWMAP Used in HMAWMAP Used in HMAWMAP ** ** ** ** ** ** ** ** **	Used in HMA/WMA Mixtures	*	*	*	*
Used in Other Landfilled Total Tons of RAP Stockpiled at Year-End Avg. Wused in Mixtures Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAP Tons Used in HMA/WMA² Companies Reporting Using RAP % of RAP Mixtures Using Softer Binders Wo fix RAP Mixtures Using Rejuvenators RAS Tons, Thousands Unprocessed Shingles Accepted Processed Shingles Accepted Used in Aggregate Used in Other Used in Other Used in Other Total Tons of RAS Stockpiled at Year-End Average % for OOT Mixtures¹ Average % for OOT Mixtures Are Stons Used in HMA/WMA² Other Reported Data ** ** ** ** ** ** ** ** **	Used in Aggregate	*	*	*	*
Unprocessed Shingles Accepted Unprocessed Shingles Accepted Used in Maxtures Work In Spring Reporting Using Rap Unprocessed Shingles Accepted Used in Maxtures Total Tons of RAS Stockpiled at Year-End Avg. % Used in Mixtures Average % for DOT Mixtures¹ Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAP Tons Used in HMAWMA² Other Reported Data Companies Reporting Using RAP Companies Reporting Using RAP Companies Reporting Using RAP Companies Reporting Using RAP Cother Reported Data	Used in Cold-Mix Asphalt	*		*	*
Total Tons of RAP Stockpiled at Year-End Avg. % Used in Mixtures Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAP Tons Used in HMAWMA² Companies Reporting Using RAP % of RAP Fractionated % of RAP Mixtures Using Softer Binders % of RAP Mixtures Using Rejuvenators ** ** ** ** ** ** ** ** **					
Average % for DOT Mixtures¹ Average % for DOT Mixtures¹ Average % for Commercial & Residential Mixtures¹ \$\frac{1}{2}\$ \tag{2}\$ Average % for Commercial & Residential Mixtures¹ \$\frac{1}{2}\$ \tag{2}\$ Companies Reporting Using RAP \$\frac{1}{2}\$ \$\frac{1}{2}\$ \$\frac{1}{2}\$ Companies Reporting Using RAP \$\frac{1}{2}\$ \$\frac{1}{2}\$ \$\frac{1}{2}\$ Companies Reporting Using Softer Binders \$\frac{1}{2}\$ \$\frac{1}{2}\$ \$\frac{1}{2}\$ Companies Reporting Using Softer Binders \$\frac{1}{2}\$ \$\frac{1}{2}\$ \$\frac{1}{2}\$ Companies Reporting Using Softer Binders \$\frac{1}{2}\$ \$\frac{1}{2}\$ \$\frac{1}{2}\$ Companies Reporting Using RaP \$\frac{1}{2}\$ \$\frac{1}{2}\$ Companies Reporting Using Rejuvenators Tons, Thousands Tons, Thousands					
Average % for DOT Mixtures Average % for Other Agency Mixtures State Average All Mixtures Based on RAP Tons Used in HMAVMMA Other Reported Data * * * * * * * * * * * * * * * * * *	Total Tons of RAP Stockpiled at Year-End				
Average % for Other Agency Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Commercial & Residential Mixtures¹ % Companies Reporting Using RAP % of RAP Fractionated % of RAP Mixtures Using Rejuvenators ** ** ** ** ** ** ** ** **					
Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAP Tons Used in HMAWMA² % Companies Reporting Using RAP % of RAP Fractionated % Companies Reporting Using RAP % of RAP Mixtures Using Softer Binders % of RAP Mixtures Using Rejuvenators **ASS **Tons, Thousands **Unprocessed Shingles Accepted **** **Your Tons, Thousands **Unprocessed Shingles Accepted **** **Your Tons, Thousands *** **Your Tons, Thousands **** **Your Tons, Thousands *** **Your Tons, Thousands *** **** *** **Your Tons, Thousands *** *** *** *** *** *** *** *** *** *		*			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA² Companies Reporting Using RAP					
% Companies Reporting Using RAP % of RAP Fractionated % of RAP Mixtures Using Softer Binders % of RAP Mixtures Using Rejuvenators RAS Tons, Thousands Unprocessed Shingles Accepted Processed Shingles Accepted Used in HIMAWMA Mixtures Used in Odd-Mix Asphalt Used in Cold-Mix Asphalt Used in Odd-Mix Asphalt Used in Offer Landfilled Total Tons of RAS Stockpiled at Year-End Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ State Average All Mixtures Based on RAS Tons Used in HMAWMA² WMA Total DOT Other Agency Commercial & Residential Total Other Agency Commercial & Residential * * * * * * * * * * * * * * * * * * *		*	*		
% of RAP Fractionated % of RAP Mixtures Using Softer Binders % of RAP Mixtures Using Rejuvenators *** *** *** *** *** ** ** **	State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			*	*
% of RAP Fractionated % of RAP Mixtures Using Softer Binders % of RAP Mixtures Using Rejuvenators RAS Tons, Thousands Unprocessed Shingles Accepted Processed Shingles Accepted Used in HMAVMA Mixtures Used in Aggregate Used in Cold-Mix Asphalt Used in Other Landfilled Total Tons of RAS Stockpiled at Year-End Average % for DOT Mixtures¹ Average % for DOT Mixtures¹ Average % for Other Agency Mixtures Using RAS % of RAS Mixtures Using Rejuvenators Total DOT Other Agency Commercial & Residential WMA Technologies Additive, % Plant Foaming, % Porganic Additive, % Other Reported Data * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *		Other Repo	orted Data		
% of RAP Mixtures Using Softer Binders % of RAP Mixtures Using Rejuvenators RAS Tons, Thousands Unprocessed Shingles Accepted Unprocessed Shingles Accepted Used in HMAWMA Mixtures Used in Aggregate Used in Aggregate Used in Cold-Mix Asphalt Used in Cold-Mix Asphalt Used in Other Used in Mixtures Used in Mixtures Used in Mixtures Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAS Tons Used in HMAWMA² What Asphalt Companies Reporting Using RAS % of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators WMA WMA WMA Technologies Chemical Additive, % Plant Foaming, % Propertical Based and Plant Pount Data * Conganic Additive, % Plant Foaming, % Propertical Data * Conganic Additive, % Plant Foaming, % Plant Foaming, % Propertical Data	% Companies Reporting Using RAP	*	*		
% of RAP Mixtures Using Rejuvenators RAS Tons, Thousands Unprocessed Shingles Accepted * * * * * * * * * * * * * * * * * * *					
RAS Unprocessed Shingles Accepted Processed Shingles Accepted Used in HMAWMMA Mixtures Used in Aggregate Used in Cold-Mix Asphalt Used in Other Landfilled Total Tons of RAS Stockpiled at Year-End Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ State Average All Mixtures Based on RAS Tons Used in HMAWMA² % Companies Reporting Using RAS % of RAS Mixtures Using Rejuvenators MMA Total Other Agency Commercial & Residential * * * * * * * * * * * * * * * * * *	% of RAP Mixtures Using Softer Binders				
Unprocessed Shingles Accepted		*	*		
Processed Shingles Accepted	RAS	Tons, Th	ousands	Tons, Th	ousands
Processed Shingles Accepted	Unprocessed Shingles Accepted	*	*	*	*
Used in Aggregate	Processed Shingles Accepted	*	*	*	*
Used in Cold-Mix Asphalt	Used in HMA/WMA Mixtures	*	*	*	*
Used in Other Landfilled Total Tons of RAS Stockpiled at Year-End Total Tons of RAS Stockpiled at Year-End Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAS Tons Used in HMA/WMA² Companies Reporting Using RAS % of RAS Mixtures Using Softer Binders Total Total Total Total Total Total Other Agency A * * * * * * * * * * * * * *					
Landfilled		*		*	*
Total Tons of RAS Stockpiled at Year-End Total Tons of RAS Stockpiled at Year-End Avg. % Used in Mixtures Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAS Tons Used in HMA/WMA² Companies Reporting Using RAS % of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators ** ** ** ** ** ** ** ** **					
Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAS Tons Used in HMA/WMA² Other Reported Data % Companies Reporting Using RAS % of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ### ** ###		*	*	*	*
Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAS Tons Used in HMAWMA² Other Reported Data % Companies Reporting Using RAS % of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators ** ** ** ** ** ** ** ** **	Total Tons of RAS Stockpiled at Year-End	†	*	†	*
Average % for Other Agency Mixtures¹ Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAS Tons Used in HMA/WMA² Companies Reporting Using RAS % of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators Total DOT Other Agency Commercial & Residential * * * * * * * * * * * * *					
Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAS Tons Used in HMAWMA² * * * Other Reported Data % Companies Reporting Using RAS % of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators * * * ** * * * * * * * * * *	Average % for DOT Mixtures ¹	*	*		
State Average All Mixtures Based on RAS Tons Used in HMAWMA2 Companies Reporting Using RAS % of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators MMA Total DOT Other Agency Commercial & Residential WMA Technologies Chemical Additive, % Additive Foaming, % Organic Additive, % Other Reported Data * * * * * * * * * * * * *	Average % for Other Agency Mixtures ¹	*	*		
W Companies Reporting Using RAS * * % of RAS Mixtures Using Softer Binders † * % of RAS Mixtures Using Rejuvenators † * WMA % of Total Production Tons, Millions Total * * DOT * * * Other Agency * * * Commercial & Residential * * * WMA Technologies % of Market Chemical Additive, % * * Additive Foaming, % * * Organic Additive, % * * Other Reported Data		*	*		
% Companies Reporting Using RAS * * % of RAS Mixtures Using Softer Binders † * % of RAS Mixtures Using Rejuvenators † * WMA % of Total Production Tons, Millions Total * * * DOT * * * * Other Agency * * * * * Commercial & Residential * * * * * WMA Technologies % of Market Chemical Additive, % * * * * Additive Foaming, % * * * * Organic Additive, % * * * * Other Reported Data	State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			*	*
% of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators ### A		Other Repo	orted Data		
% of RAS Mixtures Using Rejuvenators ### Additive Foaming, % Organic Additive, % Of RAS Mixtures Using Rejuvenators ### ### Additive, % Organic Additive, % *** *** *** *** *** ** *** *		*	*		
Total Total DOT Other Agency Commercial & Residential WMA Technologies Chemical Additive, % Additive Foaming, % Organic Additive, % Organic Additive, % Commercial & Residential * * * * * * * * * * * * *		†	*		
Total * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * <td>% of RAS Mixtures Using Rejuvenators</td> <td><u> </u></td> <td>*</td> <td></td> <td></td>	% of RAS Mixtures Using Rejuvenators	<u> </u>	*		
DOT * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *	WMA	% of Total	Production	Tons, M	Millions
Other Agency * * * * * Commercial & Residential * * * * WMA Technologies % of Market Chemical Additive, % * * Additive Foaming, % * * Plant Foaming, % * * Organic Additive, % * * Other Reported Data				*	*
Commercial & Residential * * * WMA Technologies Chemical Additive, % Additive Foaming, % Plant Foaming, % Organic Additive, % Other Reported Data		*	*		*
WMA Technologies % of Market Chemical Additive, % * * Additive Foaming, % * * Plant Foaming, % * * Organic Additive, % * * Other Reported Data					*
Chemical Additive, % Additive Foaming, % Plant Foaming, % Organic Additive, % * * * * * * * * * * * * *	Commercial & Residential	*	*	*	*
Additive Foaming, % Plant Foaming, % Organic Additive, % Other Reported Data	WMA Technologies	% of N	/larket		
Plant Foaming, % Organic Additive, % * Other Reported Data	Chemical Additive, %	*	*		
Plant Foaming, % Organic Additive, % * Other Reported Data	Additive Foaming, %	*	*		
Organic Additive, % * Other Reported Data		*	*		
Other Reported Data		*	*		
		Other Ren	orted Data		
	% Companies Reporting Producing WMA	*	*		

¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
² Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
[†] Question not asked for 2016
Numbers may not add up exactly due to rounding

DISTRICT OF COLUMBIA	Reported	d Values	Estimated Values	
DISTRICT OF COLUMBIA	2016	2017	2016	2017
Tons of HMA/WMA Produced	Tons, N	_	Tons, N	-
Total	NCR	*	1.4	1.4
DOT	NCR	*	NCR	*
Other Agency	NCR	*	NCR	*
Commercial & Residential	NCR	*	NCR	*
Companies Reporting	NCR	*		
RAP	Tons, N	/lillions	Tons, N	/lillions
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
	Mixtu		Mixto	
Average % for DOT Mixtures ¹	NCR	*		
Average % for Other Agency Mixtures ¹	NCR	*		
Average % for Commercial & Residential Mixtures ¹	NCR	*		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			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	*
Total Tons of RAS Stockpiled at Year-End	†	*	†	*
	Avg. %		Avg. % Mixto	
Average % for DOT Mixtures ¹	Mixtu NCR	*	IVIIXU	ires
Average % for Other Agency Mixtures ¹	NCR	*		
Average % for Commercial & Residential Mixtures ¹	NCR	*		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	NOIX		NCR	*
State / Wording / All Ministerior Education for the Forms Good III / III/A V William	Other Repo	orted Data	HOIL	
% Companies Reporting Using RAS	NCR	*		
% of RAS Mixtures Using Softer Binders	NCR	*		
% of RAS Mixtures Using Rejuvenators	NCR	*		
WMA	% of Total I	Production	Tons, N	/lillione
Total	/0 UI TUIdI I	TOUUCION	NCR	*
DOT	NCR	*	NCR	*
Other Agency	NCR	*	NCR	*
Commercial & Residential	NCR	*	NCR	*
WMA Technologies	% of M	Market		
Chemical Additive, %	NCR	*		
Additive Foaming, %	NCR	*		
		*		
Plant Foaming, %	NCR			
Organic Additive, %	NCR	*		
	Other Repo	orted Data		
% Companies Reporting Producing WMA	NCR	*		

[%] 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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

FLORIDA	Reported Values		Estimated Values		
FLORIDA	2016	2017	2016	2017	
Tons of HMA/WMA Produced	Tons, N		Tons, N		
Total	5.4	4.6	15.0	16.5	
DOT	2.2	2.1	6.0	7.6	
Other Agency	1.2	1.1	3.2	4.1	
Commercial & Residential	2.1	1.4	5.7	4.9	
Companies Reporting	6	5			
RAP	Tons, N	Millions	Tons, N	Millions	
Accepted	1.7	1.1	4.7	3.9	
Used in HMA/WMA Mixtures	1.7	1.6	4.8	5.8	
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	0.1	0.0	
Landfilled	0.0	0.0	0.0	0.0	
Total Tons of RAP Stockpiled at Year-End	1.1	2.04	3.02	7.26	
	Avg. % I Mixtu		Avg. % Mixt		
Average % for DOT Mixtures ¹	25.6%	34.0%			
Average % for Other Agency Mixtures ¹	31.2%	38.3%			
Average % for Commercial & Residential Mixtures ¹	38.3%	35.1%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			31.7%	35.3%	
	Other Repo				
% Companies Reporting Using RAP	100%	100%			
% of RAP Fractionated	6%	28%			
% of RAP Mixtures Using Softer Binders	73%	83%			
% of RAP Mixtures Using Rejuvenators	4%	0%			
RAS	Tons, The	ousands	Tons, Th	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	
Total Tons of RAS Stockpiled at Year-End	†	9.5	t	33.9	
	Avg. % I Mixtu		Avg. % Mixt		
Average % for DOT Mixtures ¹	0.00%	0.00%			
Average % for Other Agency Mixtures ¹	0.00%	0.00%			
Average % for Commercial & Residential Mixtures ¹	0.00%	0.00%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	0:1 5		0.00%	0.00%	
0/ Companies Deposition Hairs DAC	Other Repo				
% Companies Reporting Using RAS	0%	0%			
% of RAS Mixtures Using Softer Binders	0%	0%			
% of RAS Mixtures Using Rejuvenators	0%	0%			
WMA	% of Total I	Production	Tons, N		
Total	200/	007	5.4	1.1	
DOT	30%	2%	1.8	0.2	
Other Agency	33%	5%	1.1	0.2	
Commercial & Residential	43%	15%	2.5	0.7	
WMA Technologies	% of N				
Chemical Additive, %	25%	100%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	75%	0%			
Organic Additive, %	0%	0%			
	Other Repo	orted Data			
% Companies Reporting Producing WMA	17%	40%			

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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

GEORGIA	Reported	Reported Values		d Values
GEORGIA	2016	2017	2016 2017	
Tons of HMA/WMA Produced	Tons, N		Tons, N	
Total	7.0	2.2	10.0	14.6
DOT	3.6	1.3	5.2	8.3
Other Agency	1.6	0.5	2.4	3.4
Commercial & Residential	1.7	0.5	2.4	3.0
Companies Reporting	5	5		
RAP	Tons, N	Millions	Tons, N	Millions
Accepted	3.1	0.3	4.4	2.2
Used in HMA/WMA Mixtures	1.9	0.5	2.7	3.3
Used in Aggregate	0.0	0.0	0.0	0.2
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	5.3	0.36	7.58	2.37
	Avg. % Mixtu		Avg. % Mixt	
Average % for DOT Mixtures ¹	26.7%	20.6%		
Average % for Other Agency Mixtures ¹	27.0%	25.6%		
Average % for Commercial & Residential Mixtures ¹	29.7%	25.6%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			27.4%	22.7%
	Other Repo			
% Companies Reporting Using RAP	100%	100%		
% of RAP Fractionated	1%	8%		
% of RAP Mixtures Using Softer Binders	0%	0%		
% of RAP Mixtures Using Rejuvenators	0%	0%		
RAS	Tons, The	ousands	Tons, Th	ousands
Unprocessed Shingles Accepted	2.0	0.0	2.9	0.0
Processed Shingles Accepted	2.0	0.0	2.9	0.0
Used in HMA/WMA Mixtures	0.6	0.0	0.9	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
Total Tons of RAS Stockpiled at Year-End	<u> </u>	22.9		149.3
	Avg. % I Mixtu		Avg. % Used in Mixtures	
Average % for DOT Mixtures ¹	0.00%	0.00%		
Average % for Other Agency Mixtures ¹	0.00%	0.00%		
Average % for Commercial & Residential Mixtures ¹	0.04%	0.00%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.01%	0.00%
	Other Repo			
% Companies Reporting Using RAS	40%	0%		
% of RAS Mixtures Using Softer Binders	0%	0%		
% of RAS Mixtures Using Rejuvenators	1%	0%		
WMA	% of Total I	Production	Tons, I	Millions
Total			0.04	6.3
DOT	0.2%	43%	0.01	3.6
Other Agency	0.4%	43%	0.01	1.4
Commercial & Residential	0.6%	43%	0.01	1.3
WMA Technologies	% of M	larket		
Chemical Additive, %	100%	0%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	0%	100%		
Organic Additive, %	0%	0%		
	Other Repo			
% Companies Reporting Producing WMA	20%	60%		
Average persont based on contractor's reported persontage for each costs, editated by				

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

† Question not asked for 2016

Numbers may not add up exactly due to rounding

LIAMAII	Reported Values		Estimated Values		
HAWAII	2016	2017	2016	2017	
Tons of HMA/WMA Produced	Tons, N			Tons, Millions	
Total	*	0.8	1.1	1.1	
DOT	*	0.0	*	0.3	
Other Agency	*	0.2	*	0.7	
Commercial & Residential	*	0.3	*	0.1	
Companies Reporting	*	3		0.1	
RAP	T 1		T 1	M:II:	
	Tons, N		ions, i	Millions	
Accepted	*	0.2	*	0.3	
Used in HMA/WMA Mixtures	*	0.2	*	0.2	
Used in Aggregate	*	0.0	*	0.0	
Used in Cold-Mix Asphalt	*	0.0	*	0.0	
Used in Other Landfilled	*	0.0	*	0.0	
	*	0.0	*		
Total Tons of RAP Stockpiled at Year-End	Avg. %			0.18 Used in	
	Avg. % Mixtu		Avg. % Mixt		
Average % for DOT Mixtures ¹	*	20.3%	IVIIAL		
Average % for Other Agency Mixtures ¹	*	20.3%			
Average % for Commercial & Residential Mixtures ¹	*	21.9%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²		21.070	*	20.0%	
Clate / trolage / in mixtures Based of the first color and mixture to	Other Repo	orted Data		20.070	
% Companies Reporting Using RAP	*	100%			
% of RAP Fractionated	*	67%			
% of RAP Mixtures Using Softer Binders	*	0%			
% of RAP Mixtures Using Rejuvenators	*	0%			
RAS	Tons, The	L	Tone Th	ousands	
Unprocessed Shingles Accepted	*	0.0	*	0.0	
Processed Shingles Accepted	*	0.0	*	0.0	
Used in HMA/WMA Mixtures	*	0.0	*	0.0	
Used in Aggregate	*	0.0	*	0.0	
Used in Cold-Mix Asphalt	*	0.0	*	0.0	
Used in Other	*	0.0	*	0.0	
Landfilled	*	0.0	*	0.0	
Total Tons of RAS Stockpiled at Year-End	+	0.0	†	0.0	
Total Totis of the Stockplied at Tear-Lind	Avg. %			Used in	
	Mixtu		Mixtures		
Average % for DOT Mixtures ¹	*	0.00%			
Average % for Other Agency Mixtures ¹	*	0.00%			
Average % for Commercial & Residential Mixtures ¹	*	0.00%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			*	0.00%	
	Other Repo	orted Data			
% Companies Reporting Using RAS	*	0%			
% of RAS Mixtures Using Softer Binders	*	0%			
% of RAS Mixtures Using Rejuvenators	*	0%			
WMA	% of Total I		Tons I	Millions	
Total	,001101011		*	0.0	
DOT	*	0%	*	0.0	
Other Agency	*	0%	*	0.0	
Commercial & Residential	*	0%	*	0.0	
WMA Technologies	% of M				
Chemical Additive, %	*	0%			
Additive Foaming, %	*	0%			
	*				
Plant Foaming, %		0%			
Organic Additive, %	*	0%			
	Other Repo				
% Companies Reporting Producing WMA	*	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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

IDAHO	Reported	Reported Values		Estimated Values	
IDANO	2016	2017	2016	2017	
Tons of HMA/WMA Produced	Tons, N	/lillions	Tons, I	Millions	
Total	1.3	1.7	2.7	2.8	
DOT	0.6	1.0	1.3	1.7	
Other Agency	0.3	0.2	0.7	0.4	
Commercial & Residential	0.3	0.5	0.7	0.7	
Companies Reporting	5	6			
RAP	Tons, N	/lillions	Tons, I	Millions	
Accepted	0.3	0.6	0.6	1.0	
Used in HMA/WMA Mixtures	0.3	0.5	0.6	0.8	
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 Total Tana of BAB Stockpilled at Year End	0.0	0.0 0.53	0.0 0.73	0.0 0.86	
Total Tons of RAP Stockpiled at Year-End	Avg. %		0.73 Avg. %		
	Mixtu		Mixt		
Average % for DOT Mixtures ¹	17.2%	25.8%			
Average % for Other Agency Mixtures ¹	18.2%	27.3%			
Average % for Commercial & Residential Mixtures ¹	31.9%	31.3%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²	Ott. D		21.3%	27.3%	
0/ Occupanics Deposition Heigen DAD	Other Repo				
% Companies Reporting Using RAP % of RAP Fractionated	100% 12%	100% 17%			
% of RAP Fractionated % of RAP Mixtures Using Softer Binders	76%	79%	-		
% of RAP Mixtures Using Rejuvenators	0%	3%			
RAS			Tono Th	ou o o o d o	
Unprocessed Shingles Accepted	Tons, The	0.0	Tons, Th	0.0	
Processed Shingles Accepted 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	
Total Tons of RAS Stockpiled at Year-End	†	0.0	†	0.0	
	Avg. % Mixtu		Avg. % Used in Mixtures		
Average % for DOT Mixtures ¹	0.00%	0.00%	IVIIAL	uics	
Average % for Other Agency Mixtures ¹	0.00%	0.00%			
Average % for Commercial & Residential Mixtures ¹	0.00%	0.00%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.00%	0.00%	
	Other Repo				
% Companies Reporting Using RAS	0%	0%			
% of RAS Mixtures Using Softer Binders	0%	0%			
% of RAS Mixtures Using Rejuvenators	0%	0%			
WMA	% of Total	Production	Tons, I	Millions	
Total			0.6	1.3	
DOT	20%	56%	0.3	0.9	
Other Agency	21%	36%	0.2	0.1	
Commercial & Residential	27%	29%	0.2	0.2	
WMA Technologies [‡]	% of N				
Chemical Additive, %	43%	50%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	57%	50%			
Organic Additive, %	0%	0%			
	Other Repo	orted Data			
% Companies Reporting Producing WMA	80%	67%			
1 Average percent based on contractor's reported percentage for each sector, adjusted has	ad upon raparted 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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

ILLINOIS	Reported Values		Estimated Values	
ILLINOIS	2016	2017	2016	2017
Tons of HMA/WMA Produced	Tons, N		Tons, N	
Total	2.2	2.1	14.1	13.0
DOT	0.8	0.9	5.0	5.8
Other Agency	0.8	0.7	5.0	4.1
Commercial & Residential	0.6	0.5	4.2	3.1
Companies Reporting	10	7		
RAP	Tons, N	Millions	Tons, N	Millions
Accepted	0.5	0.5	3.5	3.2
Used in HMA/WMA Mixtures	0.5	0.5	3.3	3.3
Used in Aggregate	0.0	0.0	0.2	0.2
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.1
Used in Other	0.0	0.0	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	0.6	0.53	3.79	3.26
	Avg. % Mixtu		Avg. % Mixt	
Average % for DOT Mixtures ¹	14.4%	24.3%		
Average % for Other Agency Mixtures ¹	25.5%	23.6%		
Average % for Commercial & Residential Mixtures ¹	31.0%	28.7%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			23.2%	25.1%
	Other Repo			
% Companies Reporting Using RAP	90%	100%		
% of RAP Fractionated	89%	55%		
% of RAP Mixtures Using Softer Binders	58%	14%		
% of RAP Mixtures Using Rejuvenators	0.2%	1%		
RAS	Tons, Th	ousands	Tons, Th	ousands
Unprocessed Shingles Accepted	12.0	4.0	77.6	24.5
Processed Shingles Accepted	37.3	7.2	241.5	44.3
Used in HMA/WMA Mixtures	38.0	10.1	246.0	62.2
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 RAS Stockpiled at Year-End	†	1.1	†	6.7
	Avg. % Mixtu	ıres	Avg. % Used in Mixtures	
Average % for DOT Mixtures ¹	1.24%	0.40%		
Average % for Other Agency Mixtures ¹	2.85%	0.60%		
Average % for Commercial & Residential Mixtures ¹	1.03%	0.60%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	0:1		1.74%	0.48%
0/ Occupation Deposition Heigan DAO	Other Repo			
% Companies Reporting Using RAS	60%	43%		
% of RAS Mixtures Using Softer Binders	64%	40%		
% of RAS Mixtures Using Rejuvenators	0.3%	0%		
WMA	% of Total	Production	Tons, N	
Total	400/	220/	2.2	4.5
DOT Other Agency	13%	33%	0.7	1.9
Other Agency Commercial & Residential	30%	41% 29%	1.5 0.1	1.7
	3%		U. I	0.9
WMA Technologies	% of N			
Chemical Additive, %	25%	50%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	75%	50%		
Organic Additive, %	0%	0%		
	Other Repo	orted Data		
% Companies Reporting Producing WMA	50%	71%		

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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

INDIANA	Reported Values		Estimated Values		
	2016	2017	2016	2017	
Tons of HMA/WMA Produced	Tons, N			Tons, Millions	
Total	4.8	6.6	10.0	11.8	
DOT	2.4	2.9	4.9	5.1	
Other Agency	1.5	2.2	3.2	4.0	
Commercial & Residential	0.9	1.5	1.9	2.7	
Companies Reporting	3	5			
RAP	Tons, N	/lillions	Tons, I	Millions	
Accepted	1.2	1.5	2.5	2.7	
Used in HMA/WMA Mixtures	1.0	1.5	2.2	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	1.8	2.20	3.65	3.94	
	Avg. % Mixto		Avg. % Mixt		
Average % for DOT Mixtures ¹	20.2%	19.8%			
Average % for Other Agency Mixtures ¹	21.9%	23.8%			
Average % for Commercial & Residential Mixtures ¹	26.0%	24.0%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			21.8%	22.1%	
	Other Rep				
% Companies Reporting Using RAP	100%	100%			
% of RAP Fractionated	72%	43%			
% of RAP Mixtures Using Softer Binders	67%	22%			
% of RAP Mixtures Using Rejuvenators	0%	0%			
RAS	Tons, Th		Tons, Th		
Unprocessed Shingles Accepted	3.5	3.6	7.3	6.5	
Processed Shingles Accepted	10.3	3.6	21.5	6.4	
Used in HMA/WMA Mixtures	32.4	13.2	67.6	23.6	
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 RAS Stockpiled at Year-End	Avg. %	13.8	† Avg. %	24.6	
	Mixto	ures	Avg. % Mixt		
Average % for DOT Mixtures ¹	0.41%	0.30%			
Average % for Other Agency Mixtures ¹	0.91%	0.00%			
Average % for Commercial & Residential Mixtures ¹	0.97%	0.30%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	Other	orted Data	0.68%	0.20%	
9/ Companies Paparting Using PAS	Other Repo				
% Companies Reporting Using RAS	100%	80%			
% of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators	9%	25% 0%			
	0%				
WMA	% of Total	Production	Tons, N		
Total DOT	700/	000/	7.9	10.4	
	79%	88%	3.9	4.5	
Other Agency Commercial & Residential	81% 75%	88% 88%	2.6 1.4	3.5 2.4	
			1.4	۷.4	
WMA Technologies	% of N				
Chemical Additive, %	3%	0%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	97%	100%			
Organic Additive, %	0%	0%			
	Other Rep				
% Companies Reporting Producing WMA	100%	60%			

[%] Companies Reporting Producing WMA | 100% | 60% |

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

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

† Question not asked for 2016

Numbers may not add up exactly due to rounding

IOWA	Reported	Reported Values		Estimated Values	
IOWA	2016	2017	2016	2017	
Tons of HMA/WMA Produced	Tons, N		Tons, N		
Total	2.2	1.6	3.9	3.9	
DOT	0.9	0.9	1.7	2.1	
Other Agency	0.9	0.4	1.6	1.0	
Commercial & Residential	0.4	0.3	0.7	0.8	
Companies Reporting	7	6			
RAP	Tons, N	Millions	Tons, I	Millions	
Accepted	0.4	0.3	0.7	0.8	
Used in HMA/WMA Mixtures	0.3	0.2	0.6	0.4	
Used in Aggregate	0.0	0.0	0.0	0.0	
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0	
Used in Other	0.0	0.0	0.0	0.0	
Landfilled	0.0	0.0	0.0	0.0	
Total Tons of RAP Stockpiled at Year-End	0.4	0.22	0.76	0.51	
	Avg. % Mixtu		Avg. % Mixt		
Average % for DOT Mixtures ¹	12.6%	10.8%			
Average % for Other Agency Mixtures ¹	15.6%	10.8%			
Average % for Commercial & Residential Mixtures ¹	14.4%	10.2%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			14.1%	10.7%	
	Other Repo				
% Companies Reporting Using RAP	100%	83%			
% of RAP Fractionated	3%	0%			
% of RAP Mixtures Using Softer Binders	8%	21%			
% of RAP Mixtures Using Rejuvenators	0.4%	0%			
RAS	Tons, The	ousands	Tons, Th	ousands	
Unprocessed Shingles Accepted	7.0	7.0	12.5	16.5	
Processed Shingles Accepted	6.6	0.7	11.8	1.7	
Used in HMA/WMA Mixtures	5.0	4.1	8.9	9.7	
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 RAS Stockpiled at Year-End	†	19.4	†	46.3	
	Avg. % Mixtu		Avg. % Used in Mixtures		
Average % for DOT Mixtures ¹	0.21%	0.30%			
Average % for Other Agency Mixtures ¹	0.19%	0.00%			
Average % for Commercial & Residential Mixtures ¹	0.36%	0.40%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.23%	0.25%	
	Other Repo				
% Companies Reporting Using RAS	57%	33%			
% of RAS Mixtures Using Softer Binders	19%	25%			
% of RAS Mixtures Using Rejuvenators	0.4%	0%			
WMA	% of Total I	Production	Tons, I		
Total			0.9	0.4	
DOT	11%	5%	0.2	0.1	
Other Agency	27%	13%	0.4	0.1	
Commercial & Residential	44%	20%	0.3	0.2	
WMA Technologies	% of M				
Chemical Additive, %	23%	50%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	77%	50%			
Organic Additive, %	0%	0%			
,	Other Repo				
% Companies Reporting Producing WMA	43%	33%			
The second secon					

[%] Companies Reporting Producing WMA | 43% | 33% |

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

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

1 Question not asked for 2016

Numbers may not add up exactly due to rounding

KANSAS	Reported	d Values	s Estimated Values		
NANGAG	2016	2017	2016	2017	
Tons of HMA/WMA Produced		Tons, Millions		Millions	
Total	1.7	1.1	3.5	2.0	
DOT	0.9	0.4	2.0	0.8	
Other Agency	0.4	0.4	0.9	0.8	
Commercial & Residential	0.3	0.3	0.7	0.5	
Companies Reporting	4	3			
RAP	Tons, N	/lillions	Tons, I	Millions	
Accepted	0.3	0.4	0.7	0.7	
Used in HMA/WMA Mixtures	0.3	0.2	0.7	0.4	
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	0.6	0.23	1.19	0.43	
	Avg. % Mixtu		Avg. % Mixt		
Average % for DOT Mixtures ¹	19.3%	15.8%			
Average % for Other Agency Mixtures ¹	21.6%	22.2%			
Average % for Commercial & Residential Mixtures ¹	22.5%	19.2%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			20.5%	19.0%	
	Other Repo				
% Companies Reporting Using RAP	100%	100%			
% of RAP Fractionated	3%	5%			
% of RAP Mixtures Using Softer Binders	73%	65%			
% of RAP Mixtures Using Rejuvenators	2%	3%			
RAS	Tons, Th	ousands	Tons, Th	ousands	
Unprocessed Shingles Accepted	15.0	0.0	31.9	0.0	
Processed Shingles Accepted	24.5	2.5	52.05	4.7	
Used in HMA/WMA Mixtures	33.4	5.5	70.96	10.2	
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	2.0	0.0	4.3	0.0	
Total Tons of RAS Stockpiled at Year-End	†	11.0	†	20.5	
	Avg. % Mixtu	Used in Avg. % Usettures Mixture			
Average % for DOT Mixtures ¹	3.15%	1.00%			
Average % for Other Agency Mixtures ¹	0.00%	0.00%			
Average % for Commercial & Residential Mixtures ¹	1.36%	0.00%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			2.03%	0.51%	
	Other Repo				
% Companies Reporting Using RAS	75%	33%			
% of RAS Mixtures Using Softer Binders	91%	100%			
% of RAS Mixtures Using Rejuvenators	0%	0%			
WMA	% of Total	Production	Tons, I	Millions	
Total			2.5	0.5	
DOT	89%	38%	1.8	0.3	
Other Agency	50%	19%	0.4	0.1	
Commercial & Residential	44%	13%	0.3	0.1	
Commercial & Residential	0/ (1	/larket			
WMA Technologies	% of N				
	74%	88%			
WMA Technologies Chemical Additive, %					
WMA Technologies Chemical Additive, % Additive Foaming, %	74% 0%	88% 0%			
WMA Technologies Chemical Additive, % Additive Foaming, % Plant Foaming, %	74% 0% 26%	88% 0% 12%			
WMA Technologies Chemical Additive, % Additive Foaming, %	74% 0%	88% 0% 12% 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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

Tons of HMAWMA Produced Tons, Millions Tons Millions T	KENTUCKY	Reported Values		Estimated Values		
Total	KLNTOCKT	2016	2017	2016	2017	
DOT	Tons of HMA/WMA Produced	Tons, N	Millions	Tons, I	Millions	
Other Agency						
Commercial & Residential						
Companies Reporting						
Accepted				1.3	1.1	
Accepted 0.5 1.2 1.0 1.2 1.0 1.2 1.0 1.2 1.0 1.2 1.0 1.2 1.0 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5				_		
Used in HMA/WMA Mixtures						
Used in Aggregate		_				
Used in Cold-Mix Asphalt						
Used in Other						
Landfilled						
Average % for DOT Mixtures Average % for Other Agency Mixtures						
Average % for DOT Mixtures¹ 12.6% 24.5%	Total Tons of RAP Stockpiled at Year-End					
Average % for Commercial & Residential Mixtures¹ 13.3% 24.2%		Mixto	ures			
Average % for Commercial & Residential Mixtures¹ 13.2% 24.5%						
State Average All Mixtures Based on RAP Tons Used in HMAWMA2 100						
Companies Reporting Using RAP		13.2%	24.5%	40.007	0.4.407	
% Companies Reporting Using RAP 100% 100% % of RAP Fractionated 75% 53% % of RAP Mixtures Using Softer Binders 2% 8% % of RAP Mixtures Using Rejuvenators 16% 26% RAS Tons, Thousands Tons, Thousands Unprocessed Shingles Accepted 3.0 0.0 6.4 0.0 Processed Shingles Accepted 3.3 12.0 7.1 12.0 Used in HMAWMM Mixtures 7.6 13.9 16.2 13.8 Used in Aggregate 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 <td>State Average All Mixtures Based on RAP Tons Used in HMA/WMA²</td> <td>Other Den</td> <td>orted Data</td> <td>12.8%</td> <td>24.4%</td>	State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²	Other Den	orted Data	12.8%	24.4%	
% of RAP Fractionated 75% 53% % of RAP Mixtures Using Softer Binders 2% 8% % of RAP Mixtures Using Rejuvenators 16% 26% RAS Tons, Thousands Tons, Thousands Unprocessed Shingles Accepted 3.0 0.0 6.4 0.0 Processed Shingles Accepted 3.3 12.0 7.1 12.0 Used in HMAWMA Mixtures 7.6 13.9 16.2 13.8 Used in Aggregate 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	% Companies Reporting Using RAP					
Wo of RAP Mixtures Using Softer Binders						
RAS						
Tons, Thousands Tons, Thousands Unprocessed Shingles Accepted 3.0 0.0 6.4 0.0						
Unprocessed Shingles Accepted 3.0 0.0 6.4 0.0 Processed Shingles Accepted 3.3 12.0 7.1 12.0 Used in HMAWMA Mixtures 7.6 13.9 16.2 13.8 Used in HMAWMA Mixtures 7.6 13.9 16.2 13.8 Used in Aggregate 0.0 0.0 0.0 0.0 0.0 Used in Cold-Mix Asphalt 0.0 0.0 0.0 0.0 0.0 Used in Other 0.0 0.0 0.0 0.0 0.0 0.0 Total Tons of RAS Stockpiled at Year-End † 5.5 † 5.5 Avg. % Used in Mixtures	¥ ,	Tons. Th	ousands	Tons. Th	ousands	
Processed Shingles Accepted 3.3 12.0 7.1 12.0 Used in HMAWMA Mixtures 7.6 13.9 16.2 13.8 Used in Aggregate 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0						
Used in Aggregate		3.3		7.1	12.0	
Used in Cold-Mix Asphalt		_				
Used in Other		_				
Landfilled		_				
Total Tons of RAS Stockpiled at Year-End						
Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Commercial & Residential Mixtures¹ Average % for Commercial & Residential Mixtures¹ O.03% 0.60% State Average All Mixtures Based on RAS Tons Used in HMA/WMA² Other Reported Data % Companies Reporting Using RAS 60% 50% % of RAS Mixtures Using Softer Binders 0% of RAS Mixtures Using Rejuvenators 11% 55% WMA % of Total Production Total \$000 77% 2.6 1.6 Other Agency 67% 75% 0.9 0.9 Commercial & Residential 36% 75% 0.5 0.8 WMA Technologies % of Market Chemical Additive, % 37% 50% Additive Foaming, % 0% Organic Additive, % 63% 50% Organic Additive, % 0% Organic Reporting Producing WMA 80% 100%						
Average % for DOT Mixtures¹	rotal rollo of the octomplied at roal Ella	Avg. %	Used in	Avg. % Used in		
Average % for Commercial & Residential Mixtures					ı	
State Average All Mixtures Based on RAS Tons Used in HMA/WMA2		_				
Other Reported Data % Companies Reporting Using RAS 60% 50% % of RAS Mixtures Using Softer Binders 0% 0% % of RAS Mixtures Using Rejuvenators 11% 55% WMA % of Total Production Tons, Millions Total 4.0 3.3 DOT 62% 77% 2.6 1.6 Other Agency 67% 75% 0.9 0.9 Commercial & Residential 36% 75% 0.5 0.8 WMA Technologies % of Market Chemical Additive, % 37% 50% Additive Foaming, % 0% 0% Organic Additive, % 0% 0% Organic Additive, % 0% 0% Other Reported Data % Companies Reporting Producing WMA 80% 100%		0.03%	0.60%			
% Companies Reporting Using RAS 60% 50% % of RAS Mixtures Using Softer Binders 0% 0% % of RAS Mixtures Using Rejuvenators 11% 55% WMA % of Total Production Tons, Millions Total 4.0 3.3 DOT 62% 77% 2.6 1.6 Other Agency 67% 75% 0.9 0.9 Commercial & Residential 36% 75% 0.5 0.8 WMA Technologies % of Market Chemical Additive, % 37% 50% Additive Foaming, % 0% 0% Organic Additive, % 63% 50% Organic Additive, % 0% 0% Organic Additive, % 0% 0% Other Reported Data % Companies Reporting Producing WMA 80% 100%	State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	Otl D		0.23%	0.31%	
% of RAS Mixtures Using Softer Binders 0% 0% % of RAS Mixtures Using Rejuvenators 11% 55% WMA % of Total Production Tons, Millions Total 4.0 3.3 DOT 62% 77% 2.6 1.6 Other Agency 67% 75% 0.9 0.9 Commercial & Residential 36% 75% 0.5 0.8 WMA Technologies % of Market Chemical Additive, % 37% 50% Additive Foaming, % 0% 0% Organic Additive, % 0% 0% Organic Additive, % 0% 0% Other Reported Data % Companies Reporting Producing WMA 80% 100%	0/ Companies Departing Hoing DAC					
WMA % of Total Production Tons, Millions Total 4.0 3.3 DOT 62% 77% 2.6 1.6 Other Agency 67% 75% 0.9 0.9 Commercial & Residential 36% 75% 0.5 0.8 WMA Technologies % of Market Chemical Additive, % 37% 50% Additive Foaming, % 0% 0% Organic Additive, % 0% 0% Organic Additive, % 0% 0% Companies Reporting Producing WMA 80% 100%						
WMA % of Total Production Tons, Millions Total 4.0 3.3 DOT 62% 77% 2.6 1.6 Other Agency 67% 75% 0.9 0.9 Commercial & Residential 36% 75% 0.5 0.8 WMA Technologies % of Market Chemical Additive, % 37% 50% 50% Additive Foaming, % 0% 0% 0% 0% 0% Plant Foaming, % 63% 50% 0% 0% 0% 0% Organic Additive, % 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%						
Total 4.0 3.3 DOT 62% 77% 2.6 1.6 Other Agency 67% 75% 0.9 0.9 Commercial & Residential 36% 75% 0.5 0.8 WMA Technologies % of Market Chemical Additive, % 37% 50% Additive Foaming, % 0% 0% Organic Additive, % 63% 50% Organic Additive, % 0% 0% Other Reported Data % Companies Reporting Producing WMA 80% 100%				Tone I	Millions	
DOT 62% 77% 2.6 1.6 Other Agency 67% 75% 0.9 0.9 Commercial & Residential 36% 75% 0.5 0.8 WMA Technologies % of Market Chemical Additive, % 37% 50% Additive Foaming, % 0% 0% Plant Foaming, % 63% 50% Organic Additive, % 0% 0% Other Reported Data % Companies Reporting Producing WMA 80% 100%		78 01 10tai	rioduction			
Other Agency 67% 75% 0.9 0.9 Commercial & Residential 36% 75% 0.5 0.8 WMA Technologies % of Market Chemical Additive, % 37% 50% Additive Foaming, % 0% 0% Plant Foaming, % 63% 50% Organic Additive, % 0% 0% Other Reported Data % Companies Reporting Producing WMA 80% 100%		62%	77%			
WMA Technologies % of Market Chemical Additive, % 37% 50% Additive Foaming, % 0% 0% Plant Foaming, % 63% 50% Organic Additive, % 0% 0% Other Reported Data % Companies Reporting Producing WMA 80% 100%						
Chemical Additive, % 37% 50% Additive Foaming, % 0% 0% Plant Foaming, % 63% 50% Organic Additive, % 0% 0% Other Reported Data % Companies Reporting Producing WMA 80% 100%						
Additive Foaming, % Plant Foaming, % Organic Additive, % Other Reported Data % Companies Reporting Producing WMA 0% 0% Other Reported Data	WMA Technologies	% of N	/larket			
Plant Foaming, % 63% 50% Organic Additive, % 0% 0% Other Reported Data % Companies Reporting Producing WMA 80% 100%	Chemical Additive, %	37%	50%			
Organic Additive, % Other Reported Data Companies Reporting Producing WMA 80% 100%	Additive Foaming, %	0%	0%			
% Companies Reporting Producing WMA Other Reported Data 80% 100%	Plant Foaming, %	63%	50%			
% Companies Reporting Producing WMA 80% 100%	Organic Additive, %	0%	0%			
		Other Rep	orted Data			

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

† Question not asked for 2016

Numbers may not add up exactly due to rounding

LOUISIANA	Reported	Reported Values		d Values
LOUISIANA	2016	2016 2017		2017
Tons of HMA/WMA Produced				Millions
Total	1.9	1.2	2.7	7.8
DOT	0.9	0.6	1.3	4.1
Other Agency	0.4	0.3	0.6	2.0
Commercial & Residential	0.5	0.3	0.8	1.7
Companies Reporting	3	5		
RAP	Tons, N	Millions	Tons, I	Millions
Accepted	0.5	0.3	0.7	1.8
Used in HMA/WMA Mixtures	0.4	0.3	0.5	1.7
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	0.0	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	0.2	0.17	0.25	1.06
	Avg. %		Avg. %	
	Mixtu		Mixt	
Average % for DOT Mixtures ¹	21.7%	23.5%		
Average % for Other Agency Mixtures ¹	15.1%	16.9%		
Average % for Commercial & Residential Mixtures ¹	18.6%	21.7%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			19.4%	20.3%
	Other Repo			
% Companies Reporting Using RAP	100%	100%		
% of RAP Fractionated	80%	75%		
% of RAP Mixtures Using Softer Binders	15%	12%		
% of RAP Mixtures Using Rejuvenators	0%	0%		
RAS	Tons, Th	ousands	Tons, Th	ousands
Unprocessed Shingles Accepted	5.0	0.0	7.2	0.0
Processed Shingles Accepted	0.0	0.0	0.0	0.0
Used in HMA/WMA Mixtures	7.5	0.0	10.7	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
Total Tons of RAS Stockpiled at Year-End	†	0.0	†	0.0
	Avg. %		Avg. %	
Access to 0/ for DOT Mintons 1	Mixtu		Mixt	ures
Average % for DOT Mixtures ¹	0.00%	0.00%		
Average % for Other Agency Mixtures ¹	0.00%	0.00%		
Average % for Commercial & Residential Mixtures ¹ State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	1.39%	0.00%	0.400/	0.000/
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	Other Ben	arted Data	0.40%	0.00%
9/ Companies Paparting Using PAS	Other Repo			
% Companies Reporting Using RAS % of RAS Mixtures Using Softer Binders	33% 27%	0% 0%		
% of RAS Mixtures Using Soller Binders % of RAS Mixtures Using Rejuvenators		0%		
¥ ,	14%		_	
WMA	% of Total	Production	Tons, I	
Total	700/	000/	2.1	6.3
DOT	79%	83%	1.0	3.4
Other Agency	65%	78%	0.4	1.6
Commercial & Residential	87%	81%	0.7	1.4
WMA Technologies	% of N			
Chemical Additive, %	0%	0%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	100%	100%		
Organic Additive, %	0%	0%		
	Other Repo			
% Companies Reporting Producing WMA	100%	80%		
1 Average percent based on contractor's reported percentage for each sector, editated by				

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

† Question not asked for 2016

Numbers may not add up exactly due to rounding

MAINE	Reported Values		Estimated Values	
MAINE	2016	2017	2016	2017
Tons of HMA/WMA Produced	Tons, N		Tons, I	
Total	2.1	2.0	1.6	1.7
DOT	1.0	0.6	0.1	0.6
Other Agency	0.4	0.5	0.3	0.4
Commercial & Residential	0.6	0.8	0.5	0.7
Companies Reporting	3	3		
RAP	Tons, N	/lillions	Tons, I	Millions
Accepted	0.4	0.2	0.3	0.2
Used in HMA/WMA Mixtures	0.3	0.4	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	0.4	0.53	0.34	0.46
	Avg. % Mixto		Avg. % Mixt	
Average % for DOT Mixtures ¹	16.5%	19.8%		
Average % for Other Agency Mixtures ¹	13.8%	19.8%		
Average % for Commercial & Residential Mixtures ¹	15.5%	21.8%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			15.6%	20.3%
	Other Rep			
% Companies Reporting Using RAP	100%	100%		
% of RAP Fractionated	0%	27%		
% of RAP Mixtures Using Softer Binders	4%	2%		
% of RAP Mixtures Using Rejuvenators	0%	0%		
RAS	Tons, Th	ousands	Tons, Th	ousands
Unprocessed Shingles Accepted	0.0	0.0	0.0	0.0
Processed Shingles Accepted	7.9	5.9	6.1	5.1
Used in HMA/WMA Mixtures	7.5	3.9	5.7	3.4
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
Total Tons of RAS Stockpiled at Year-End		1.0	†	0.8
	Avg. % Mixtu	ures	Avg. % Mixt	
Average % for DOT Mixtures ¹	0.48%	0.60%		
Average % for Other Agency Mixtures ¹	0.25%	0.00%		
Average % for Commercial & Residential Mixtures ¹	0.24%	0.00%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	Oth ar Dan	arted Data	0.36%	0.20%
0/ Companies Departing Haing DAC	Other Rep			
% Companies Reporting Using RAS	33%	66%		
% of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators	0%	0% 0%		
• ,	0%			
WMA	% of Total	Production	Tons, N	
Total	100/	00/	0.2	0.1
DOT Other Agency	18%	8%	0.1	0.0
Other Agency Commercial & Residential	8% 16%	6% 4%	0.0 0.1	0.0
			U. I	0.0
WMA Technologies	% of N			
Chemical Additive, %	11%	33%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	23%	0%		
Organic Additive, %	66%	67%		
	Other Rep			
% Companies Reporting Producing WMA	67%	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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

MADVLAND	Reported Values		Estimated Values		
MARYLAND	2016	2017	2016	2017	
Tons of HMA/WMA Produced	Tons, N		Tons, N	•	
Total	3.3	2.4	7.5	7.8	
DOT	1.3	1.2	2.9	3.9	
Other Agency	0.8	0.5	1.8	1.5	
Commercial & Residential	1.2	0.7	2.8	2.4	
Companies Reporting	6	6	2.0	2.7	
RAP	-		Tono N	Ailliona	
	Tons, N 1.3		Tons, N	2.2	
Accepted Used in HMA/WMA Mixtures	0.9	0.7 0.5	2.9 2.0	1.8	
	_				
Used in Aggregate Used in Cold-Mix Asphalt	0.2	0.0	0.3 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	1.2	0.71	2.64	2.29	
	Avg. % Mixtu		Avg. % Mixt		
Average % for DOT Mixtures ¹	24.2%	21.6%			
Average % for Other Agency Mixtures ¹	24.9%	21.2%			
Average % for Commercial & Residential Mixtures ¹	29.3%	24.6%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			26.2%	22.5%	
	Other Repo	orted Data			
% Companies Reporting Using RAP	100%	100%			
% of RAP Fractionated	0%	0%			
% of RAP Mixtures Using Softer Binders	12%	29%			
% of RAP Mixtures Using Rejuvenators	8%	16%			
RAS	Tons, Th	nusands	Tons, Th	ousands	
Unprocessed Shingles Accepted	0.0	0.5	0.0	1.6	
Processed Shingles Accepted	0.0	0.0	0.0	0.0	
Used in HMA/WMA Mixtures	1.0	7.1	2.3	22.7	
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 RAS Stockpiled at Year-End	†	10.5	+	33.8	
	Avg. %	Used in	Avg. % Used in		
Average 0/ for DOT Mistured	Mixtu		Mixt	ures	
Average % for DOT Mixtures ¹	0.05% 0.01%	0.50% 0.00%			
Average % for Other Agency Mixtures ¹ Average % for Commercial & Residential Mixtures ¹	0.01%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	0.02%	0.00%	0.020/	0.200/	
State Average All Mixtures based of RAS Toris osed in HMA/WIMA-	Other Repo	orted Data	0.03%	0.29%	
% Companies Reporting Using RAS	17%	33%			
% of RAS Mixtures Using Softer Binders	0%	25%			
% of RAS Mixtures Using Rejuvenators	0%	15%			
WMA			T N	A:II:	
Total	% of Total	rioduction	Tons, N 2.1	VIIIIons 2.7	
DOT	16%	36%	0.5	1.4	
Other Agency	36%	40%	0.7	0.6	
Commercial & Residential	37%	30%	1.0	0.0	
WMA Technologies [‡]	% of N		1.0	0.1	
Chemical Additive, %	35%				
ı Onenicai Audiliye. /0	1 3370	20%			
		00/			
Additive Foaming, %	0%	0%			
Additive Foaming, % Plant Foaming, %	0% 70%	80%			
Additive Foaming, %	0% 70% 0%	80% 0%			
Additive Foaming, % Plant Foaming, %	0% 70%	80% 0%			

[%] Companies Reporting Producing WMA

1 Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
2 Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
4 Question not asked for 2016

Numbers may not add up exactly due to rounding

MACCACHUCETTC	Reported	Reported Values		Estimated Values		
MASSACHUSETTS	2016	2017	2016	2017		
Tons of HMA/WMA Produced	Tons, N		Tons, N			
Total	3.0	5.0	6.4	6.5		
DOT	1.3	2.2	2.8	2.8		
Other Agency	0.9	0.7	1.9	0.9		
Commercial & Residential	0.8	2.1	1.7	2.8		
Companies Reporting	5	8				
RAP	Tons, N	Millions	Tons, I	Villions		
Accepted	0.4	0.9	0.9	1.2		
Used in HMA/WMA Mixtures	0.5	0.8	1.1	1.0		
Used in Aggregate	0.0	0.1	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	1.0	0.56	2.04	0.72		
	Avg. %		Avg. %			
	Mixtu		Mixt			
Average % for DOT Mixtures ¹	16.7%	20.2%				
Average % for Other Agency Mixtures ¹	18.9%	4.8%				
Average % for Commercial & Residential Mixtures ¹	18.5%	14.5%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			17.8%	15.6%		
	Other Repo					
% Companies Reporting Using RAP	100%	100%				
% of RAP Fractionated	4%	3%				
% of RAP Mixtures Using Softer Binders	9%	5%				
% of RAP Mixtures Using Rejuvenators	0.4%	0%				
RAS	Tons, The	ousands	Tons, Th	ousands		
Unprocessed Shingles Accepted	6.9	9.0	14.9	11.7		
Processed Shingles Accepted	2.6	2.9	5.6	3.7		
Used in HMA/WMA Mixtures	2.6	2.9	5.6	3.7		
Used in Aggregate	0.0	15.0	0.0	19.4		
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0		
Used in Other	0.0	0.0	0.0	0.0		
Landfilled	0.0	0.0	0.0	0.0		
Total Tons of RAS Stockpiled at Year-End	†	0.8	†	1.0		
	Avg. % Mixtu					
Average % for DOT Mixtures ¹	0.02%	0.00%	WIIXC	aroo		
Average % for Other Agency Mixtures ¹	0.05%	0.10%				
Average % for Commercial & Residential Mixtures ¹	0.24%	0.10%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.09%	0.06%		
	Other Repo	orted Data				
% Companies Reporting Using RAS	40%	25%				
% of RAS Mixtures Using Softer Binders	0%	0%				
% of RAS Mixtures Using Rejuvenators	0%	0%				
WMA	% of Total I	Production	Tons, I	Millions		
Total	,		3.0	3.8		
DOT	95%	83%	2.7	2.3		
Other Agency	16%	8%	0.3	0.1		
Commercial & Residential	3%	51%	0.0	1.4		
WMA Technologies	% of M					
Chemical Additive, %	65%	75%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	0%	0%				
	35%	25%				
Organic Additive, %						
0/ Companies Deposition Deposition 14/444	Other Repo					
% Companies Reporting Producing WMA	100%	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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

MICHIGAN	Reported	Reported Values		d Values
MICHIGAN	2016	2017	2016 2017	
Tons of HMA/WMA Produced				Millions
Total	5.9	9.0	14.0	13.7
DOT	1.1	2.9	2.5	4.3
Other Agency	1.3	2.3	3.2	3.5
Commercial & Residential	3.5	3.9	8.4	5.9
Companies Reporting	4	7		
RAP	Tons, N	/lillions	Tons, N	Millions
Accepted	2.2	2.8	5.3	4.2
Used in HMA/WMA Mixtures	1.9	2.5	4.5	3.8
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	1.8	3.42	4.26	5.18
	Avg. %		Avg. %	
Average % for DOT Mixtures ¹	19.4%	21.7%	Mixt	ures
Average % for Other Agency Mixtures ¹	25.6%	26.5%		
Average % for Commercial & Residential Mixtures ¹	38.1%	33.3%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²	30.170	00.070	31.9%	27.9
Clate / Worage / III Milklares Based Strive Tone Good III Tilling VVVIII (Other Repo	orted Data	01.070	21.0
% Companies Reporting Using RAP	100%	100%		
% of RAP Fractionated	20%	24%		
% of RAP Mixtures Using Softer Binders	24%	24%		
% of RAP Mixtures Using Rejuvenators	0%	0%		
RAS	Tons, Th	nusands	Tons, Th	ousands
Unprocessed Shingles Accepted	2.0	2.0	4.7	3.0
Processed Shingles Accepted	0.0	0.0	0.0	0.0
Used in HMA/WMA Mixtures	0.5	0.5	1.2	0.8
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 RAS Stockpiled at Year-End	†	1.5	†	2.3
	Avg. %		Avg. % Used in Mixtures	
Average % for DOT Mixtures ¹	0.02%	0.00%	IVIIXT	ures
Average % for Other Agency Mixtures ¹	0.01%	0.00%		
Average % for Commercial & Residential Mixtures ¹	0.00%	0.00%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	0.0070	0.0070	0.01%	0.01%
	Other Repo	orted Data		
% Companies Reporting Using RAS	25%	14%		
% of RAS Mixtures Using Softer Binders	4%	33%		
% of RAS Mixtures Using Rejuvenators	0%	0%		
WMA	% of Total		Tons, I	Millions
Total			0.9	2.3
DOT	2%	17%	0.0	0.7
Other Agency	4%	15%	0.1	0.5
Commercial & Residential	8%	18%	0.7	1.1
WMA Technologies	% of N	1arket		
Chemical Additive, %	5%	25%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	95%	75%		
Organic Additive, %	0%	0%		
Siguillo / totalitro, 70	Other Repo			
% Companies Reporting Producing WMA	75%	57%		
1 Average persont based on contractor's reported persontage for each sector, adjusted by				

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

† Question not asked for 2016
Numbers may not add up exactly due to rounding

MINNESOTA	Reported Values		Reported Values Estimated Values		d Values
WIININESOTA	2016	2017	2016	2017	
Tons of HMA/WMA Produced	Tons, N	/lillions	Tons, I	Millions	
Total	4.6	6.0	13.0	6.9	
DOT	0.7	1.7	2.1	2.0	
Other Agency	2.4	2.5	6.7	2.9	
Commercial & Residential	1.5	1.8	4.2	2.1	
Companies Reporting	5	4		4-11-	
RAP	Tons, N		Tons, M		
Accepted Used in HMA/WMA Mixtures	1.1 1.0	1.5 1.2	3.0 2.7	1.7 1.3	
Used in Aggregate	0.2	0.5	0.5	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	0.9	1.15	2.61	1.31	
	Avg. % I Mixtu	ures	Avg. % Mixt		
Average % for DOT Mixtures ¹	20.9%	17.4%			
Average % for Other Agency Mixtures ¹	21.2%	17.9%			
Average % for Commercial & Residential Mixtures ¹	21.0%	23.6%	04.40/	40.50/	
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²	Other Repo	orted Data	21.1%	19.5%	
% Companies Reporting Using RAP	100%	100%			
% of RAP Fractionated	3%	10%			
% of RAP Mixtures Using Softer Binders	5%	10%			
% of RAP Mixtures Using Rejuvenators	3%	1%			
RAS	Tons, The	ousands	Tons, Th	ousands	
Unprocessed Shingles Accepted	0.5	0.0	1.4	0.0	
Processed Shingles Accepted	2.3	10.4	6.4	11.9	
Used in HMA/WMA Mixtures	2.3	13.9	14.9	15.9	
Used in Aggregate	0.0	0.0	0.0	0.0	
Used in Cold-Mix Asphalt Used in Other	0.0	0.0	0.0	0.0	
Landfilled	0.0	0.0	0.0	0.0	
Total Tons of RAS Stockpiled at Year-End	+	25.3	+	28.8	
	Avg. % Used in Mixtures		Avg. % Mixt	Used in	
Average % for DOT Mixtures ¹	0.08%	0.40%			
Average % for Other Agency Mixtures ¹	0.18%	0.00%			
Average % for Commercial & Residential Mixtures ¹	0.03%	0.30%	0.440/	0.000/	
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	Other Ben	arted Data	0.11%	0.23%	
% Companies Reporting Using RAS	Other Repo	25%			
% of RAS Mixtures Using Softer Binders	0%	5%			
% of RAS Mixtures Using Rejuvenators	0%	0%			
WMA	% of Total I		Tons, I	/lillions	
Total	70 OF TOTAL I	Toddottori	10.4	3.4	
DOT	33%	48%	0.7	0.9	
Other Agency	89%	50%	6.0	1.4	
Commercial & Residential	89%	48%	3.7	1.0	
WMA Technologies	% of M				
Chemical Additive, %	1%	29%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	99%	71%			
Organic Additive, %	0%	0%			
	Other Repo				
% Companies Reporting Producing WMA	80%	100%			

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

[†] Question not asked for 2016

Numbers may not add up exactly due to rounding

Micciccippi	Reported	Reported Values		s Estimated Values		
MISSISSIPPI	2016	2017	2016	2017		
Tons of HMA/WMA Produced	Tons, N		Tons, N			
Total	2.7	2.8	4.7	4.8		
DOT	1.8	1.6	3.2	2.8		
Other Agency	0.4	0.7	0.7	1.2		
Commercial & Residential	0.5	0.5	0.9	0.8		
Companies Reporting	4	5				
RAP	Tons, N	/lillions	Tons, I	Millions		
Accepted	0.6	0.3	1.1	0.5		
Used in HMA/WMA Mixtures	0.5	0.5	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	0.5	0.16	0.83	0.27		
	Avg. % Mixtu		Avg. % Mixt			
Average % for DOT Mixtures ¹	15.6%	18.8%				
Average % for Other Agency Mixtures ¹	20.9%	18.8%				
Average % for Commercial & Residential Mixtures ¹	32.3%	15.8%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			19.5%	18.4%		
	Other Repo					
% Companies Reporting Using RAP	100%	100%				
% of RAP Fractionated	27%	25%				
% of RAP Mixtures Using Softer Binders	0%	3%				
% of RAP Mixtures Using Rejuvenators	0%	0%				
RAS	Tons, Th	ousands	Tons, Th	ousands		
Unprocessed Shingles Accepted	1.0	0.0	1.8	0.0		
Processed Shingles Accepted	0.0	0.0	0.0	0.0		
Used in HMA/WMA Mixtures	0.9	0.0	1.6	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		
Total Tons of RAS Stockpiled at Year-End	†	0.0	†	0.0		
		Avg. % Used in Mixtures		Used in ures		
Average % for DOT Mixtures ¹	0.00%	0.00%				
Average % for Other Agency Mixtures ¹	0.00%	0.00%				
Average % for Commercial & Residential Mixtures ¹	0.18%	0.00%	0.03%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²				0.00%		
	Other Repo					
% Companies Reporting Using RAS	25%	0%				
% of RAS Mixtures Using Softer Binders	0%	0%				
% of RAS Mixtures Using Rejuvenators	0%	0%				
WMA	% of Total	Production	Tons, I			
Total			3.2	3.9		
DOT	67%	92%	2.1	2.6		
Other Agency	95%	67%	0.7	0.8		
Commercial & Residential	43%	67%	0.4	0.6		
WMA Technologies	% of N					
Chemical Additive, %	0%	0%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	100%	100%				
Organic Additive, %	0%	0%				
	Other Repo					
% Companies Reporting Producing WMA	75%	60%				
	. 570	30,0				

[%] 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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

MICCOLIDI	Reported	l Values	Estimate	d Values
MISSOURI	2016	2017	2016	2017
Tons of HMA/WMA Produced	Tons, N		Tons, N	
Total	1.8	3.9	6.3	6.5
DOT	0.9	1.4	3.2	2.4
Other Agency	0.3	0.7	0.9	1.1
Commercial & Residential	0.7	1.8	2.3	3.0
Companies Reporting	4	7	2.0	0.0
RAP	Tons, N	Millions	Tons, I	Millions
Accepted	0.4	0.8	1.3	1.4
Used in HMA/WMA Mixtures	0.4	0.9	1.5	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	1.1	1.51	3.84	2.53
	Avg. %	Jsed in	Avg. %	
	Mixtu		Mixt	ures
Average % for DOT Mixtures ¹	23.3%	23.3%		
Average % for Other Agency Mixtures ¹	20.5%	19.1%		
Average % for Commercial & Residential Mixtures ¹	23.6%	23.1%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²	011 D		23.0%	22.5%
0/ Occasion Deposition Hair and DAD	Other Repo			
% Companies Reporting Using RAP % of RAP Fractionated	100%	100%		
	32%	10%		
% of RAP Mixtures Using Softer Binders	4%	39% 6%		
% of RAP Mixtures Using Rejuvenators	0%			
RAS	Tons, The		Tons, Th	
Unprocessed Shingles Accepted	0.5	41.5	1.7	69.5
Processed Shingles Accepted	3.0	4.4	10.5	7.4
Used in HMA/WMA Mixtures	6.6	10.8	22.9	18.2
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 Landfilled	0.0	0.0	0.0	0.0
	0.0	0.0 78.7	0.0 †	0.0 132.0
Total Tons of RAS Stockpiled at Year-End			Avg. %	
		Avg. % Used in Mixtures		ures
Average % for DOT Mixtures ¹	0.43%	0.50%		
Average % for Other Agency Mixtures ¹	0.21%	0.60%		
Average % for Commercial & Residential Mixtures ¹	0.33%	0.00%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²				0.28%
	Other Repo			
% Companies Reporting Using RAS	75%	57%		
% of RAS Mixtures Using Softer Binders	0%	62%		
% of RAS Mixtures Using Rejuvenators	0%	35%		
WMA	% of Total I	Production	Tons, I	Millions
Total			1.4	2.2
DOT	36%	33%	1.1	0.8
Other Agency	21%	34%	0.2	0.4
Commercial & Residential	3%	33%	0.1	1.0
WMA Technologies	% of M			
Chemical Additive, %	0%	33%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	92%	67%		
Organic Additive, %	9%	0%		
	Other Repo	orted Data		
% Companies Reporting Producing WMA	100%	71%		

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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

MONTANA	Reported	d Values	Estimate	d Values
MONTANA	2016	2017	2016	2017
Tons of HMA/WMA Produced	Tons, N	/illions	Tons, N	/lillions
Total	*	*	3.9	4.2
DOT	*	*	*	*
Other Agency	*	*	*	*
Commercial & Residential	*	*	*	*
Companies Reporting	*	*		
RAP	Tons, N	/lillions	Tons, N	1illions
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. % Mixtu		Avg. % l Mixtu	
Average % for DOT Mixtures ¹	*	*		
Average % for Other Agency Mixtures ¹	*	*		
Average % for Commercial & Residential Mixtures ¹	*	*		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			*	*
	Other Repo	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	ousands
Unprocessed Shingles Accepted	*	*	*	*
Processed Shingles Accepted	*	*	*	*
Used in HMA/WMA Mixtures	*	*	*	*
Used in Aggregate	*	*	*	*
Used in Cold-Mix Asphalt	*	*	*	*
Used in Other	*	*	*	*
Landfilled	*	*	*	*
Total Tons of RAS Stockpiled at Year-End		*	†	*
	Avg. % Mixtu		Avg. % l Mixtu	
Average % for DOT Mixtures ¹	*	*		
Average % for Other Agency Mixtures ¹	*	*		
Average % for Commercial & Residential Mixtures ¹	*	*		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			*	*
	Other Repo	Other Reported Data		
% Companies Reporting Using RAS	*	*		
% of RAS Mixtures Using Softer Binders	*	*		
% of RAS Mixtures Using Rejuvenators	*	*		
WMA	% of Total	Production	Tons, N	Millions
Total			*	*
DOT	*	*	*	*
Other Agency	*	*	*	*
0 110 D 11 111	*	*	*	*
Commercial & Residential				
WMA Technologies	% of N	<u>larket</u>		
	% of N	/larket *		
WMA Technologies Chemical Additive, %		larket * *		
WMA Technologies Chemical Additive, % Additive Foaming, %	*	*		
WMA Technologies Chemical Additive, % Additive Foaming, % Plant Foaming, %	*	*		
WMA Technologies Chemical Additive, % Additive Foaming, %	* *	* * * *		

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

[†] Question not asked for 2016
Numbers may not add up exactly due to rounding

NEBRASKA	Reported	Reported Values		Estimated Values		
NEDRASKA		2016 2017		2017		
Tons of HMA/WMA Produced		Tons, Millions		Millions		
Total	*	0.5	2.7	2.8		
DOT	*	0.2	*	1.2		
Other Agency	*	0.2	*	0.8		
Commercial & Residential	*	0.1	*	0.8		
Companies Reporting	*	3				
RAP	Tons, N	/lillions	Tons, I	Millions		
Accepted	*	0.1	*	0.8		
Used in HMA/WMA Mixtures	*	0.1	*	0.5		
Used in Aggregate	*	0.0	*	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	*	0.22	*	1.17		
	Avg. % Mixtu		Avg. % Mixt	Used in ures		
Average % for DOT Mixtures ¹	*	21.3%				
Average % for Other Agency Mixtures ¹	*	18.0%				
Average % for Commercial & Residential Mixtures ¹	*	16.3%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			*	18.8%		
	Other Repo	orted Data				
% Companies Reporting Using RAP	*	100%				
% of RAP Fractionated	*	0%				
% of RAP Mixtures Using Softer Binders	*	0%				
% of RAP Mixtures Using Rejuvenators	*	0%				
RAS	Tons, Th	ousands	Tons, Th	ousands		
Unprocessed Shingles Accepted	*	0.0	*	0.0		
Processed Shingles Accepted	*	0.0	*	0.0		
Used in HMA/WMA Mixtures	*	0.0	*	0.0		
Used in Aggregate	*	0.0	*	0.0		
Used in Cold-Mix Asphalt	*	0.0	*	0.0		
Used in Other	*	0.0	*	0.0		
Landfilled	*	0.0	*	0.0		
Total Tons of RAS Stockpiled at Year-End	t t	3.3	†	17.7		
	Avg. % Mixtu			Used in ures		
Average % for DOT Mixtures ¹	*	0.00%				
Average % for Other Agency Mixtures ¹	*	0.00%				
Average % for Commercial & Residential Mixtures ¹	*	0.00%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			*	0.00%		
	Other Repo					
% Companies Reporting Using RAS	*	0%				
% of RAS Mixtures Using Softer Binders	*	0%				
% of RAS Mixtures Using Rejuvenators	*	0%				
WMA	% of Total	Production	Tons, I	Millions		
Total			*	0.0		
DOT	*	0%	*	0.0		
Other Agency	*	0%	*	0.0		
Commercial & Residential	*	0%	*	0.0		
	0/ of N	1arket				
WMA Technologies	76 ULIV					
WMA Technologies Chemical Additive, %	*	0%				
	* *					
Chemical Additive, % Additive Foaming, %	*	0%				
Chemical Additive, % Additive Foaming, % Plant Foaming, %	*	0% 0% 0%				
Chemical Additive, % Additive Foaming, %	* *	0% 0% 0% 0%				

¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
² Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
[†] Question not asked for 2016
Numbers may not add up exactly due to rounding

NEVADA	Reported Values		Reported Values Estimated Values			d Values
NEVADA	2016	2017	2016	2017		
Tons of HMA/WMA Produced	Tons, N		Tons, N			
Total	1.0	1.3	3.3	3.4		
DOT	0.1	0.4	0.5	1.1		
Other Agency	0.5	0.2	1.7	0.5		
Commercial & Residential	0.3	0.7	1.2	1.8		
Companies Reporting	3	3				
RAP	Tons, N	Millions	Tons, I	Millions		
Accepted	0.2	0.2	0.8	0.4		
Used in HMA/WMA Mixtures	0.2	0.2	0.7	0.4		
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	0.2	0.05	0.8	0.12		
	Avg. % Mixto		Avg. % Mixt			
Average % for DOT Mixtures ¹	11.6%	8.0%				
Average % for Other Agency Mixtures ¹	24.8%	11.3%				
Average % for Commercial & Residential Mixtures ¹	21.7%	14.7%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			21.7%	12.0%		
	Other Rep					
% Companies Reporting Using RAP	100%	100%				
% of RAP Fractionated	0%	33%				
% of RAP Mixtures Using Softer Binders	12%	17%				
% of RAP Mixtures Using Rejuvenators	0%	0%				
RAS	Tons, Th	ousands	Tons, Th	ousands		
Unprocessed Shingles Accepted	0.3	0.2	0.9	0.5		
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		
Total Tons of RAS Stockpiled at Year-End		0.2	†	0.4		
	Avg. % Used in Mixtures		Avg. % Mixt			
Average % for DOT Mixtures ¹	0.00%	0.00%				
Average % for Other Agency Mixtures ¹	0.00%	0.00%				
Average % for Commercial & Residential Mixtures ¹	0.00%	0.00%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.00%	0.00%		
0/ Ocean agics Deposition Heigh DAO	Other Rep					
% Companies Reporting Using RAS	33%	33%				
% of RAS Mixtures Using Softer Binders	0%	0%				
% of RAS Mixtures Using Rejuvenators	0%	0%				
WMA	% of Total	Production	Tons, N			
Total	00/	00/	0.1	0.3		
DOT	0%	0%	0.0	0.0		
Other Agency Commercial & Residential	0%	0% 14%	0.0	0.0		
	9%		0.1	0.3		
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%	66%				

[%] Companies Reporting Producing WMA | 100% | 66% |

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

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

† Question not asked for 2016

Numbers may not add up exactly due to rounding

NEW HAMPSIDE	Reported	Reported Values		ues Estimated Values		
NEW HAMPSIRE	2016	2017	2016	2017		
Tons of HMA/WMA Produced	Tons, N		Tons, N	-		
Total	1.5	2.5	1.4	3.0		
DOT	0.5	0.6	0.4	0.7		
Other Agency	0.4	0.6	0.4	0.8		
Commercial & Residential	0.7	1.2	0.6	1.5		
Companies Reporting	3	4		-		
RAP	Tons, N	Millions	Tons, I	Millions		
Accepted	0.3	0.5	0.3	0.6		
Used in HMA/WMA Mixtures	0.3	0.5	0.3	0.7		
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	0.8	1.01	0.08	1.23		
	Avg. % Mixtu		Avg. % Mixt			
Average % for DOT Mixtures ¹	19.0%	25.8%				
Average % for Other Agency Mixtures ¹	20.3%	17.0%				
Average % for Commercial & Residential Mixtures ¹	21.8%	23.0%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			20.6%	22.1%		
	Other Repo					
% Companies Reporting Using RAP	100%	100%				
% of RAP Fractionated	0%	0%				
% of RAP Mixtures Using Softer Binders	0%	0%				
% of RAP Mixtures Using Rejuvenators	0%	25%				
RAS	Tons, Th	ousands	Tons, Th	ousands		
Unprocessed Shingles Accepted	0.0	0.0	0.0	0.0		
Processed Shingles Accepted	3.8	3.1	3.6	3.8		
Used in HMA/WMA Mixtures	3.4	3.1	3.2	3.7		
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 RAS Stockpiled at Year-End	†	0.0	†	0.0		
	Mixtu	Avg. % Used in Mixtures		tures Mixtu		Used in ures
Average % for DOT Mixtures ¹	0.00%	0.00%				
Average % for Other Agency Mixtures ¹	0.05%	0.30%				
Average % for Commercial & Residential Mixtures ¹	0.48%	0.30%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	0:1		0.23%	0.12%		
0/ Occasion Deposition Height DAO	Other Repo					
% Companies Reporting Using RAS	33%	50%				
% of RAS Mixtures Using Softer Binders	0%	0%				
% of RAS Mixtures Using Rejuvenators	0%	0%				
WMA	% of Total	Production	Tons, N			
Total	200/	F00/	0.4	1.3		
DOT Other A receive	26%	52%	0.1	0.4		
Other Agency Commercial & Residential	40%	17% 50%	0.1	0.1		
	23%		0.1	0.8		
WMA Technologies	% of N					
Chemical Additive, %	0%	33%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	55%	29%				
Organic Additive, %	45%	38%				
	Other Repo	ı				
% Companies Reporting Producing WMA	67%	75%				

⁴ 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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

NEW JERSEY	Reported	Reported Values		d Values
NEW JERSET	2016	2017	2017 2016 201	
Tons of HMA/WMA Produced	Tons, N		Tons, I	
Total	2.7	4.0	4.5	10.2
DOT	0.3	0.5	0.5	1.3
Other Agency	1.7	2.1	2.8	5.4
Commercial & Residential	0.8	1.4	1.3	3.5
Companies Reporting	3	3		
RAP	Tons, N	/lillions	Tons, I	Millions
Accepted	1.2	1.2	1.9	3.2
Used in HMA/WMA Mixtures	0.5	0.8	0.9	2.0
Used in Aggregate	0.1	0.0	0.2	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	2.33	5.91	3.84	15.05
	Avg. % I	ıres	Avg. % Mixt	
Average % for DOT Mixtures ¹	19%	10.8%		
Average % for Other Agency Mixtures ¹	17%	16.7%		
Average % for Commercial & Residential Mixtures ¹	23%	26.2%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			19%	19.3%
	Other Repo			
% Companies Reporting Using RAP	100%	100%		
% of RAP Fractionated	16%	12%		
% of RAP Mixtures Using Softer Binders	7%	0%		
% of RAP Mixtures Using Rejuvenators	0%	0%		
RAS	Tons, The	ousands	Tons, Th	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
Total Tons of RAS Stockpiled at Year-End	†	0.0		0.0
	Avg. % I Mixtu		Avg. % Mixt	
Average % for DOT Mixtures ¹	0.00%	0.00%		
Average % for Other Agency Mixtures ¹	0.00%	0.00%		
Average % for Commercial & Residential Mixtures ¹	0.00%	0.00%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.00%	0.00%
	Other Repo			
% Companies Reporting Using RAS	0%	0%		
% of RAS Mixtures Using Softer Binders	0%	0%		
% of RAS Mixtures Using Rejuvenators	0%	0%		
WMA	% of Total I	Production	Tons, I	Millions
Total			1.5	0.3
DOT	10%	0%	0.1	0.0
Other Agency	41%	3%	1.1	0.2
Commercial & Residential	22%	3%	0.3	0.1
WMA Technologies	% of M			
Chemical Additive, %	2%	55%		
Additive Foaming, %	0%	0%		
Plant Foaming, %	98%	45%		
Organic Additive, %	0%	0%		
	Other Repo	orted Data		
% Companies Reporting Producing WMA	67%	67%		
1 Average percent based on contractor's reported percentage for each coster adjusted because				

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

[†] Question not asked for 2016

Numbers may not add up exactly due to rounding

Tons of HMAWMA Produced Tons, Millions Tons, Millions Tons, Millions Total 1.0 0.9 3.5 3.5 3.0	NEW MEXICO	Reported	Reported Values		ies Estimated Values		
Tons HMAWMA Produced Tons, Millions Tons, Millions Total 1.0 0.9 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.5 3.0 3.0 3.5 3.0 3.0 3.5 3.0 3.0 3.5 3.0 3.0 3.5 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	NEW MEXICO						
Total	Tons of HMA/WMA Produced				-		
DOT							
Other Agency							
Companies Reporting							
Companies Reporting							
Accepted			3				
Accepted 0.4 0.3 1.2 0.8		Tons, N	Millions	Tons.	Millions		
Used in HMA/MMA Mixtures							
Used in Aggregate							
Used in Cold-Mix Asphalt							
Used in Other							
Landfilled							
Avg. % Used in Mixtures	Landfilled	0.0	0.0	0.0	0.0		
Avg. % Used in Mixtures Mix	Total Tons of RAP Stockpiled at Year-End	0.1	0.10	0.35	0.31		
Average % for DOT Mixtures¹							
Average % for Commercial & Residential Mixtures		24%	17.7%				
State Average All Mixtures Based on RAP Tons Used in HMAWMA2							
Companies Reporting Using RAP		23%	22.7%				
% Companies Reporting Using RAP 100% 100% % of RAP Fractionated 52% 37% % of RAP Mixtures Using Softer Binders 28% 8% % of RAP Mixtures Using Rejuvenators 0% 0% RAS Tons, Thousands Tons, Thousands Unprocessed Shingles Accepted 0.0 5.0 5.2 0.0 Used in HMAWWMA Mixtures 1.3 3.1 4.4 9.9 Used in Aggregate 0.0 0.0 0.0 0.0 0.0 Used in Other 0.0 0.0 0.0 0.0 0.0 0.0 Used in Other 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 </td <td>State Average All Mixtures Based on RAP Tons Used in HMA/WMA²</td> <td></td> <td></td> <td>22%</td> <td>20.6%</td>	State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			22%	20.6%		
% of RAP Fractionated 52% 37% % of RAP Mixtures Using Softer Binders 28% 8% % of RAP Mixtures Using Rejuvenators 0% 0% RAS Tons, Thousands Tons, Thousands Uprocessed Shingles Accepted 0.0 5.0 0.0 16.0 Used in HMAWMA Mixtures 1.3 3.1 4.4 9.9 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 0.0 Used in Other Senotopiled at Year-End 1 1.8 1 5.8 Average % for DOT Mixtures¹ 0.00% 0.00% Average % Used in Mixtures Average % for Other Agency Mixtures¹ 0.00% 0.00% Average % for Commercial & Residential Mixtures¹ 0.53% 0.70% Average & Il Mixtures Using Ros 25% 33% 0.0% 0.0% % Companies Reporting Using RAS 25% 33% 0.0 0.0 <td< td=""><td></td><td></td><td></td><td></td><td></td></td<>							
Soft RAP Mixtures Using Softer Binders 28% 8% 6	% Companies Reporting Using RAP						
Marticle Section Sec							
Tons, Thousands							
Unprocessed Shingles Accepted 1.5 0.0 5.2 0.0 Processed Shingles Accepted 0.0 5.0 0.0 16.0 Used in HMAWMA Mixtures 1.3 3.1 4.4 9.9 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 0.0 Landfilled 0.0 0.0 0.0 0.0 0.0 Total Tons of RAS Stockpiled at Year-End 1 1.8 † 5.8 Average % for DOT Mixtures 0.00% 0.00% Average % for Other Agency Mixtures 0.00% 0.00% Average % for Commercial & Residential Mixtures 0.00% 0.00% Average % for Commercial & Residential Mixtures 0.53% 0.70% State Average All Mixtures Based on RAS Tons Used in HMAWMA2 0.00% 0.00% % Companies Reporting Using RAS 25% 33% 33% % of RAS Mixtures Using Rejuvenators 0% 0% 0% WMA 0 f Total Production 1.0 0.1 DOT 40% 2% 0.7 0.0 Other Agency 22% 5% 0.2 0.1 Commercial & Residential 8% 5% 0.1 0.1 WMA Technologies % of Market Chemical Additive, % 0% 0% Plant Foaming, % 00% 0%	% of RAP Mixtures Using Rejuvenators	0%	0%				
Processed Shingles Accepted 0.0 5.0 0.0 16.0 Used in HIMAWMA Mixtures 1.3 3.1 4.4 9.9 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 0.0 Landfilled 0.0 0.0 0.0 0.0 0.0 Total Tons of RAS Stockpiled at Year-End † 1.8 † 5.8 Average % for DOT Mixtures¹ 0.00% 0.00% Average % for DOT Mixtures¹ 0.00% 0.00% Average % for Commercial & Residential Mixtures¹ 0.53% 0.70% State Average All Mixtures Based on RAS Tons Used in HMAWMA² 0.00% 0.00% WMA 0 f RAS Mixtures Using Rejuvenators 0.00% 0.00% WMA 0 f Total Production Tons, Millions Total DOT 40% 2% 0.7 0.0 Commercial & Residential 8% 5% 0.1 0.1 WMA Chemical Additive, % 0.0% 0.0% WMA 0 f Total Production Tons, Millions Commercial & Residential 8% 5% 0.1 0.1 WMA 0 f Total Production Tons, Millions Chemical Additive, % 0.0% 0.0% Plant Foaming, % 0.0% 0.0%		Tons, Th	ousands	Tons, Th	ousands		
Used in HMA/WMA Mixtures	Unprocessed Shingles Accepted	1.5	0.0	5.2	0.0		
Used in Aggregate	Processed Shingles Accepted			0.0	16.0		
Used in Cold-Mix Asphalt	Used in HMA/WMA Mixtures	1.3	3.1	4.4			
Used in Other							
Landfilled							
Total Tons of RAS Stockpiled at Year-End							
Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAS Tons Used in HMA/WMA² Other Reported Data % Companies Reporting Using RAS % of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators WMA Total DOT Other Agency Other Agency Other Agency Commercial & Residential 8 % 5% 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1		0.0					
Average % for DOT Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Other Agency Mixtures¹ Average % for Commercial & Residential Mixtures¹ State Average All Mixtures Based on RAS Tons Used in HMA/WMA² Companies Reporting Using RAS % of RAS Mixtures Using Softer Binders % of RAS Mixtures Using Rejuvenators WMMA Total DOT Other Agency Other Agency Commercial & Residential Residential ### Mixtures ### O.00% ### O.00% O.33% O.00% O.33% O.00% O.33% Other Reported Data ### 25% ### 33% ### Of Total Production Tons, Millions Total DOT 40% Other Agency Other	Total Tons of RAS Stockpiled at Year-End			I I			
Average % for Other Agency Mixtures¹ 0.00% 0.00% Average % for Commercial & Residential Mixtures¹ 0.53% 0.70% State Average All Mixtures Based on RAS Tons Used in HMA/WMA² 0.00% 0.00% WCompanies Reporting Using RAS 25% 33% % of RAS Mixtures Using Softer Binders 2% 50% % of RAS Mixtures Using Rejuvenators 0% 0% WMA % of Total Production Tons, Millions Total 1.0 0.1 DOT 40% 2% 0.7 0.0 Other Agency 22% 5% 0.2 0.1 Commercial & Residential 8% 5% 0.1 0.1 WMA Technologies % of Market Chemical Additive, % 0% 0% 0% Additive Foaming, % 0% 0% 0% Plant Foaming, % 100% 83%					tures Mixture		
Average % for Commercial & Residential Mixtures¹ 0.53% 0.70% State Average All Mixtures Based on RAS Tons Used in HMA/WMA² 0.00% 0.33% Other Reported Data % Companies Reporting Using RAS 25% 33% % of RAS Mixtures Using Softer Binders 2% 50% % of RAS Mixtures Using Rejuvenators 0% 0% WMA % of Total Production Tons, Millions Total 1.0 0.1 DOT 40% 2% 0.7 0.0 Other Agency 22% 5% 0.2 0.1 Commercial & Residential 8% 5% 0.1 0.1 WMA Technologies % of Market Chemical Additive, % 0% 17% Additive Foaming, % 0% 0% Plant Foaming, % 100% 83%							
State Average All Mixtures Based on RAS Tons Used in HMA/WMA² 0.00% 0.33% % Companies Reporting Using RAS 25% 33% % of RAS Mixtures Using Softer Binders 2% 50% % of RAS Mixtures Using Rejuvenators 0% 0% WMA % of Total Production Tons, Millions Total 1.0 0.1 DOT 40% 2% 0.7 0.0 Other Agency 22% 5% 0.2 0.1 Commercial & Residential 8% 5% 0.1 0.1 WMA Technologies % of Market Chemical Additive, % 0% 17% Additive Foaming, % 0% 0% Plant Foaming, % 100% 83%							
Other Reported Data % Companies Reporting Using RAS 25% 33% % of RAS Mixtures Using Softer Binders 2% 50% % of RAS Mixtures Using Rejuvenators 0% 0% WMA % of Total Production Tons, Millions Total 1.0 0.1 DOT 40% 2% 0.7 0.0 Other Agency 22% 5% 0.2 0.1 Commercial & Residential 8% 5% 0.1 0.1 WMA Technologies % of Market Chemical Additive, % 0% 17% Additive Foaming, % 0% 0% Plant Foaming, % 100% 83%		0.53%	0.70%				
% Companies Reporting Using RAS 25% 33% % of RAS Mixtures Using Softer Binders 2% 50% % of RAS Mixtures Using Rejuvenators 0% 0% WMA % of Total Production Tons, Millions Total 1.0 0.1 DOT 40% 2% 0.7 0.0 Other Agency 22% 5% 0.2 0.1 Commercial & Residential 8% 5% 0.1 0.1 WMA Technologies % of Market Chemical Additive, % 0% 17% Additive Foaming, % 0% 0% Plant Foaming, % 100% 83%	State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	04 5			0.33%		
% of RAS Mixtures Using Softer Binders 2% 50% % of RAS Mixtures Using Rejuvenators 0% 0% WMA ** for Total Production Tons, Millions Total 1.0 0.1 DOT 40% 2% 0.7 0.0 Other Agency 22% 5% 0.2 0.1 Commercial & Residential 8% 5% 0.1 0.1 WMA Technologies % of Market Chemical Additive, % 0% 17% Additive Foaming, % 0% 0% Plant Foaming, % 100% 83%	0.0 i B						
WMA % of Total Production Tons, Millions Total 1.0 0.1 DOT 40% 2% 0.7 0.0 Other Agency 22% 5% 0.2 0.1 Commercial & Residential 8% 5% 0.1 0.1 WMA Technologies % of Market Chemical Additive, % 0% 17% Additive Foaming, % 0% 0% Plant Foaming, % 100% 83%							
WMA % of Total Production Tons, Millions Total 1.0 0.1 DOT 40% 2% 0.7 0.0 Other Agency 22% 5% 0.2 0.1 Commercial & Residential 8% 5% 0.1 0.1 WMA Technologies % of Market Chemical Additive, % 0% 17% Additive Foaming, % 0% 0% Plant Foaming, % 100% 83%							
Total 1.0 0.1 DOT 40% 2% 0.7 0.0 Other Agency 22% 5% 0.2 0.1 Commercial & Residential 8% 5% 0.1 0.1 WMA Technologies % of Market Chemical Additive, % 0% 17% Additive Foaming, % 0% 0% Plant Foaming, % 100% 83%	<u> </u>						
DOT 40% 2% 0.7 0.0 Other Agency 22% 5% 0.2 0.1 Commercial & Residential 8% 5% 0.1 0.1 WMA Technologies % of Market Chemical Additive, % 0% 17% Additive Foaming, % 0% 0% Plant Foaming, % 100% 83%		% of Total	Production				
Other Agency 22% 5% 0.2 0.1 Commercial & Residential 8% 5% 0.1 0.1 WMA Technologies % of Market Chemical Additive, % 0% 17% Additive Foaming, % 0% 0% Plant Foaming, % 100% 83%		100/	964				
Commercial & Residential 8% 5% 0.1 0.1 WMA Technologies % of Market Chemical Additive, % 0% 17% Additive Foaming, % 0% 0% Plant Foaming, % 100% 83%							
WMA Technologies % of Market Chemical Additive, % 0% 17% Additive Foaming, % 0% 0% Plant Foaming, % 100% 83%							
Chemical Additive, % 0% 17% Additive Foaming, % 0% 0% Plant Foaming, % 100% 83%				U.1	U.T		
Additive Foaming, % 0% 0% Plant Foaming, % 100% 83%							
Plant Foaming, % 100% 83%							
Q,							
Once and a Adultition of	Plant Foaming, %	100%	83%				
Organic Additive, % 0% 0% 0%	Organic Additive, %	0%	0%				
Other Reported Data		Other Repo	orted Data				
% Companies Reporting Producing WMA 100% 67%	% Companies Reporting Producing WMA	100%	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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

NEW YORK	Reported	Reported Values		s Estimated Values		
NEW YORK	2016	2017	2016	2017		
Tons of HMA/WMA Produced	Tons, N		Tons, N			
Total	5.7	7.3	17.0	16.5		
DOT	1.7	2.5	5.0	5.6		
Other Agency	2.1	2.6	6.2	5.8		
Commercial & Residential	2.0	2.3	5.8	5.1		
Companies Reporting	10	11				
RAP	Tons, N	Millions	Tons, I	Millions		
Accepted	0.9	1.0	2.6	2.3		
Used in HMA/WMA Mixtures	0.9	1.2	2.8	2.7		
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	1.4	1.07	4.1	2.40		
	Avg. % Mixtu		Avg. % Mixt			
Average % for DOT Mixtures ¹	16%	15.6%				
Average % for Other Agency Mixtures ¹	16%	16.0%				
Average % for Commercial & Residential Mixtures ¹	17%	17.3%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			16.2%	16.2%		
	Other Repo					
% Companies Reporting Using RAP	100%	100%				
% of RAP Fractionated	12%	14%				
% of RAP Mixtures Using Softer Binders	1%	4%				
% of RAP Mixtures Using Rejuvenators	6%	9%				
RAS	Tons, Th	ousands	Tons, Th	ousands		
Unprocessed Shingles Accepted	0.0	0.0	0.0	0.0		
Processed Shingles Accepted	0.0	0.1	0.0	0.1		
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		
Total Tons of RAS Stockpiled at Year-End	†	0.0	†	0.0		
		Avg. % Used in Mixtures		Used in ures		
Average % for DOT Mixtures ¹	0.00%	0.00%				
Average % for Other Agency Mixtures ¹	0.00%	0.00%				
Average % for Commercial & Residential Mixtures ¹	0.00%	0.00%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.00%	0.00%		
	Other Repo					
% Companies Reporting Using RAS	0%	9%				
% of RAS Mixtures Using Softer Binders	0%	0%				
% of RAS Mixtures Using Rejuvenators	0%	0%				
WMA	% of Total	Production	Tons, I			
Total			4.2	2.5		
DOT	35%	18%	1.7	1.0		
Other Agency	23%	11%	1.3	0.6		
Commercial & Residential	19%	16%	1.1	8.0		
WMA Technologies	% of N					
Chemical Additive, %	28%	40%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	72%	60%				
Organic Additive, %	0%	0%				
	Other Repo					
% Companies Reporting Producing WMA	100%	73%				
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -						

[%] Companies Reporting Producing WMA

1 Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
2 Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
4 Question not asked for 2016

Numbers may not add up exactly due to rounding

NORTH CAROLINA	Reported	Reported Values		Estimated Values		
NORTH CAROLINA	2016	2017	2016	2017		
Tons of HMA/WMA Produced	Tons, N		Tons, N			
Total	4.8	6.4	15.0	16.0		
DOT	2.8	4.3	8.6	10.8		
Other Agency	0.6	0.6	2.0	1.5		
Commercial & Residential	1.4	1.5	4.4	3.8		
Companies Reporting	6	7				
RAP	Tons, N	Millions	Tons, I	Millions		
Accepted	1.1	1.3	3.6	3.3		
Used in HMA/WMA Mixtures	1.1	1.1	3.4	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	1.1	1.02	3.5	2.55		
	Avg. % Mixtu		Avg. % Mixt			
Average % for DOT Mixtures ¹	21.1%	17.8%				
Average % for Other Agency Mixtures ¹	22.7%	13.6%				
Average % for Commercial & Residential Mixtures ¹	25.8%	19.0%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			22.7%	17.8%		
	Other Repo					
% Companies Reporting Using RAP	100%	100%				
% of RAP Fractionated	39%	29%				
% of RAP Mixtures Using Softer Binders	49%	44%				
% of RAP Mixtures Using Rejuvenators	0%	0%				
RAS	Tons, Th	ousands	Tons, Th	ousands		
Unprocessed Shingles Accepted	79.0	74.0	248.2	185.6		
Processed Shingles Accepted	51.0	9.4	160.2	23.5		
Used in HMA/WMA Mixtures	71.3	82.0	223.9	205.8		
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 RAS Stockpiled at Year-End	†	75.2	†	188.6		
	Avg. % Mixtu		Avg. % Used in Mixtures			
Average % for DOT Mixtures ¹	1.82%	1.40%				
Average % for Other Agency Mixtures ¹	1.65%	0.90%				
Average % for Commercial & Residential Mixtures ¹	0.77%	0.90%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			1.49%	1.29%		
0/0 : 5 : 5 : 5 : 5 : 5	Other Repo					
% Companies Reporting Using RAS	50%	57%				
% of RAS Mixtures Using Softer Binders	54%	60%				
% of RAS Mixtures Using Rejuvenators	0%	0%				
WMA	% of Total	Production	Tons, I			
Total	2.22/	EE0/	0.0	5.9		
DOT	0.3%	55%	0.0	5.9		
Other Agency	0%	0%	0.0	0.0		
Commercial & Residential	0%	0%	0.0	0.0		
WMA Technologies	% of N					
Chemical Additive, %	100%	100%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	0%	0%				
Organic Additive, %	0%	0%				
	Other Repo	orted Data				
% Companies Reporting Producing WMA	17%	29%				

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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

NORTH DAKOTA	Reported	Reported Values		Estimated Values		
NORTH DAKOTA	2016	2017	2016	2017		
Tons of HMA/WMA Produced	Tons, N		Tons, N			
Total	*	1.2	2.1	2.7		
DOT	*	0.7	*	1.5		
Other Agency	*	0.3	*	0.8		
Commercial & Residential	*	0.2	*	0.4		
Companies Reporting	*	3		0.1		
RAP	Tons, N		Tons, I	Millione		
Accepted	*	0.2	*	0.4		
Used in HMA/WMA Mixtures	*	0.2	*	0.4		
Used in Aggregate	*	0.1	*	0.3		
Used in Cold-Mix Asphalt	*	0.0	*	0.2		
Used in Other	*	0.0	*	0.0		
Landfilled	*	0.0	*	0.0		
Total Tons of RAP Stockpiled at Year-End	*	0.15	*	0.34		
Total Totis of NAF Stockpiled at Teal-Elid	Avg. %		Avg. %			
	Mixtu		Mixt			
Average % for DOT Mixtures ¹	*	11.8%				
Average % for Other Agency Mixtures ¹	*	11.8%				
Average % for Commercial & Residential Mixtures ¹	*	12.8%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²		121070	*	11.9%		
	Other Repo	orted Data				
% Companies Reporting Using RAP	*	67%				
% of RAP Fractionated	*	0%				
% of RAP Mixtures Using Softer Binders	*	3%				
% of RAP Mixtures Using Rejuvenators	*	0%				
RAS	Tons, The	nusands	Tons, Th	nusands		
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		
Total Tons of RAS Stockpiled at Year-End	+	0.0	+	0.0		
10.00 10.00 0.10 0.00 0.00 0.00 0.00 0.	Avg. %		Avg. %			
	Mixtu		Mixtures			
Average % for DOT Mixtures ¹	*	0.00%				
Average % for Other Agency Mixtures ¹	*	0.00%				
Average % for Commercial & Residential Mixtures ¹	*	0.00%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			*	0.00%		
	Other Repo	orted Data				
% Companies Reporting Using RAS	*	0%				
% of RAS Mixtures Using Softer Binders	*	0%				
% of RAS Mixtures Using Rejuvenators	*	0%				
WMA	% of Total I	Production	Tons.	Millions		
Total	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		*	0.2		
DOT	*	8%	*	0.1		
Other Agency	*	5%	*	0.0		
Commercial & Residential	*	10%	*	0.0		
WMA Technologies	% of M	1arket				
Chemical Additive, %	*	87%				
Additive Foaming, %	*	0%				
	*					
Plant Foaming, %	*	13%				
Organic Additive, %		0%				
	Other Repo					
% Companies Reporting Producing WMA	*	67%				

[%] 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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

OHIO	Reported	d Values	Estimate	d Values
OHIO	2016	2017	2016	2017
Tons of HMA/WMA Produced	Tons, N		Tons, N	
Total	10.4	11.6	19.0	14.8
DOT	3.8	4.4	6.9	5.7
Other Agency	3.5	3.4	6.42	4.3
Commercial & Residential	3.1	3.8	5.7	4.8
Companies Reporting	5	7	-	
RAP	Tons, N	Millions	Tons, I	Millions
Accepted	2.8	2.9	5.1	3.7
Used in HMA/WMA Mixtures	2.8	3.2	5.2	4.1
Used in Aggregate	0.0	0.0	0.0	0.1
Used in Cold-Mix Asphalt	0.0	0.1	0.0	0.1
Used in Other	0.1	0.0	0.2	0.0
Landfilled	0.0	0.0	0.0	0.0
Total Tons of RAP Stockpiled at Year-End	2.2	3.58	3.96	4.58
	Avg. % Mixtu		Avg. % Mixt	
Average % for DOT Mixtures ¹	28.3%	26.6%		
Average % for Other Agency Mixtures ¹	26.5%	27.0%		
Average % for Commercial & Residential Mixtures ¹	27.0%	29.4%		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			27.3%	27.6%
	Other Repo			
% Companies Reporting Using RAP	100%	100%		
% of RAP Fractionated	6%	25%		
% of RAP Mixtures Using Softer Binders	24%	30%		
% of RAP Mixtures Using Rejuvenators	0%	0%		
RAS	Tons, Th	ousands	Tons, Th	ousands
Unprocessed Shingles Accepted	0.2	7.3	0.4	9.4
Processed Shingles Accepted	0.8	0.0	1.4	0.0
Used in HMA/WMA Mixtures	18.7	4.9	34.1	6.3
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 RAS Stockpiled at Year-End	†	55.7	†	71.2
	Avg. % Mixtu		n Avg. % Used in Mixtures	
Average % for DOT Mixtures ¹	0.16%	0.10%		
Average % for Other Agency Mixtures ¹	0.19%	0.00%		
Average % for Commercial & Residential Mixtures ¹	0.20%	0.00%		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.18%	0.04%
0/0 : 5 : 5 : 6 : 11 : 510	Other Repo			
% Companies Reporting Using RAS	40%	29%		
% of RAS Mixtures Using Softer Binders	0%	33%		
% of RAS Mixtures Using Rejuvenators	0%	0%		
WMA	% of Total	Production		Millions
Total	0.407	E00/	11.1	8.2
DOT	64%	50%	4.4	2.8
Other Agency	54%	57%	3.4	2.5
Commercial & Residential	58%	60%	3.3	2.9
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	80%	86%		

[%] Companies Reporting Producing WMA | 86% | 86% |

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

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

1 Question not asked for 2016

Numbers may not add up exactly due to rounding

OKLAHOMA	Reported	Reported Values		Estimated Values		
OKLAHOWA	2016	2017	2016	2017		
Tons of HMA/WMA Produced	Tons, N					
Total	2.2	2.4	5.2	4.8		
DOT	1.1	1.1	2.6	2.1		
Other Agency	0.4	0.5	0.9	0.9		
Commercial & Residential	0.7	0.9	1.7	1.8		
Companies Reporting	5	5				
RAP	Tons, N	Millions	Tons, I	Millions		
Accepted	0.2	0.6	0.5	1.3		
Used in HMA/WMA Mixtures	0.4	0.4	0.9	0.7		
Used in Aggregate	0.0	0.1	0.0	0.2		
Used in Cold-Mix Asphalt	0.0	0.0	0.0	0.0		
Used in Other	0.0	0.0	0.0	0.0		
Landfilled	0.0	0.0	0.0	0.0		
Total Tons of RAP Stockpiled at Year-End	0.0	0.36	0.91	0.72		
	Avg. % Mixtu		Avg. % Mixt			
Average % for DOT Mixtures ¹	14.3%	13.7%				
Average % for Other Agency Mixtures ¹	16.8%	13.3%				
Average % for Commercial & Residential Mixtures ¹	20.4%	16.3%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			16.7%	14.6%		
	Other Repo					
% Companies Reporting Using RAP	100%	100%				
% of RAP Fractionated	50%	65%				
% of RAP Mixtures Using Softer Binders	5%	19%				
% of RAP Mixtures Using Rejuvenators	0%	0%				
RAS	Tons, Th	ousands	Tons, Th	ousands		
Unprocessed Shingles Accepted	28.3	52.0	66.7	103.1		
Processed Shingles Accepted	0.0	0.0	0.0	0.0		
Used in HMA/WMA Mixtures	8.7	9.1	20.6	18.0		
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		
Total Tons of RAS Stockpiled at Year-End		8.2		16.3		
	Avg. % Mixtu		Avg. % Used in Mixtures			
Average % for DOT Mixtures ¹	0.05%	0.00%				
Average % for Other Agency Mixtures ¹	0.05%	0.00%				
Average % for Commercial & Residential Mixtures ¹	1.11%	1.00%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.40%	0.37%		
	Other Repo					
% Companies Reporting Using RAS	40%	40%				
% of RAS Mixtures Using Softer Binders	39%	50%				
% of RAS Mixtures Using Rejuvenators	0%	0%				
WMA	% of Total	Production	Tons, I	Millions		
Total			1.9	4.0		
DOT	38%	75%	1.0	1.6		
Other Agency	39%	83%	0.3	0.8		
Commercial & Residential	38%	91%	0.7	1.6		
WMA Technologies	% of N					
Chemical Additive, %	7%	2%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	93%	98%				
Organic Additive, %	0%	0%				
	Other Repo					
% Companies Reporting Producing WMA	80%	60%				
Average persons based on contractor's reported persons age for each coster, adjusted by						

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

[†] Question not asked for 2016
Numbers may not add up exactly due to rounding

ORECON	Reported	Reported Values		Estimated Values		
OREGON	2016	2017	2016	2017		
Tons of HMA/WMA Produced	Tons, N		Tons, N			
Total	1.6	1.4	5.4	5.4		
DOT	0.5	0.3	1.6	1.1		
Other Agency	0.4	0.7	1.2	2.8		
Commercial & Residential	0.8	0.4	2.7	1.5		
Companies Reporting	5	4		100		
RAP	Tons, N	Millions	Tons, I	Millions		
Accepted	0.4	0.4	1.2	1.4		
Used in HMA/WMA Mixtures	0.4	0.3	1.2	1.0		
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		
Total Tons of RAP Stockpiled at Year-End	0.7	0.21	2.19	0.78		
	Avg. % Mixtu		Avg. % Mixt			
Average % for DOT Mixtures ¹	20.6%	16.8%				
Average % for Other Agency Mixtures ¹	22.0%	17.6%				
Average % for Commercial & Residential Mixtures ¹	22.5%	19.6%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			21.8%	18.0%		
	Other Repo					
% Companies Reporting Using RAP	100%	100%				
% of RAP Fractionated	7%	3%				
% of RAP Mixtures Using Softer Binders	35%	0%				
% of RAP Mixtures Using Rejuvenators	31%	0%				
RAS	Tons, Th	ousands	Tons, Th	ousands		
Unprocessed Shingles Accepted	20.0	0.0	67.0	0.0		
Processed Shingles Accepted	0.0	0.1	0.0	0.4		
Used in HMA/WMA Mixtures	12.0	0.1	40.6	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 RAS Stockpiled at Year-End	†	3.2	†	12.3		
	Avg. % Mixtu	ıres	Avg. % Used in Mixtures			
Average % for DOT Mixtures ¹	0.00%	0.00%				
Average % for Other Agency Mixtures ¹	0.68%	0.00%				
Average % for Commercial & Residential Mixtures ¹	1.22%	0.10%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	6:1		0.75%	0.01%		
	Other Repo					
% Companies Reporting Using RAS	60%	50%				
% of RAS Mixtures Using Softer Binders	72%	0%				
% of RAS Mixtures Using Rejuvenators	75%	25%				
WMA	% of Total	Production	Tons, M			
Total	400/	001	0.8	0.4		
DOT Other Assessment	13%	0%	0.2	0.0		
Other Agency	27%	7%	0.3	0.2		
Commercial & Residential	11%	11%	0.3	0.2		
WMA Technologies	% of N					
Chemical Additive, %	2%	0%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	98%	100%				
Organic Additive, %	0%	0%				
	Other Repo	orted Data				
% Companies Reporting Producing WMA	60%	75%				

⁴ 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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

PENNSYLVANIA	Reported Values		Estimated Values		
TENNSTEVANIA	2016	2017	2016	2017	
Tons of HMA/WMA Produced	Tons, N	/lillions	Tons, I	Millions	
Total	7.3	7.7	19.0	19.8	
DOT	4.3	3.7	11.1	9.6	
Other Agency	1.1	1.3	2.8	3.3	
Commercial & Residential	1.2	2.7	5.1	7.0	
Companies Reporting	10	10			
RAP	Tons, N		Tons, I		
Accepted	1.1	1.8	2.8	4.5	
Used in HMA/WMA Mixtures	1.1	1.1	2.8	2.9 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	
Total Tons of RAP Stockpiled at Year-End	1.6	2.71	4.12	7.01	
	Avg. %		Avg. %		
	Mixtu	ures	Mixt		
Average % for DOT Mixtures ¹	14.8%	13.8%			
Average % for Other Agency Mixtures ¹	14.9%	14.5%			
Average % for Commercial & Residential Mixtures ¹	15.3%	16.1%	4.4.00/	4.4.70/	
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²	Other Repo	orted Data	14.9%	14.7%	
% Companies Reporting Using RAP	100%	100%			
% of RAP Fractionated	2%	5%			
% of RAP Mixtures Using Softer Binders	3%	3%			
% of RAP Mixtures Using Rejuvenators	5%	8%			
RAS	Tons, The	ousands	Tons Th	ousands	
Unprocessed Shingles Accepted	37.5	23.8	97.4	61.3	
Processed Shingles Accepted	1.5	9.6	3.9	24.9	
Used in HMA/WMA Mixtures	5.4	36.3	14.0	93.7	
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	0.2	0.0	0.5	0.0	
Total Tons of RAS Stockpiled at Year-End	† Avg. % !	69.5	1 Ava 9/	179.4	
	Avg. % Mixtu		Avg. % Used in Mixtures		
Average % for DOT Mixtures ¹	0.06%	0.60%	IVIIXC	aroo	
Average % for Other Agency Mixtures ¹	0.06%	0.40%			
Average % for Commercial & Residential Mixtures ¹	0.10%	0.40%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.07%	0.47%	
	Other Repo				
% Companies Reporting Using RAS	20%	40%			
% of RAS Mixtures Using Softer Binders	0%	10%			
% of RAS Mixtures Using Rejuvenators	21%	11%			
WMA	% of Total I	Production	Tons, I		
Total	500/	0.40/	8.3	15.7	
DOT Other Assessed	58%	94%	6.4	9.0	
Other Agency Commercial & Residential	29% 20%	74% 62%	0.8 1.0	2.4	
	20% % of M		1.0	4.3	
WMA Technologies Chamical Additive 9/					
Chemical Additive, %	36%	55%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	65%	45%			
Organic Additive, %	0%	0%			
0/ Companies Departing Dradusing MAAA	Other Repo				
% Companies Reporting Producing WMA	100%	100%			

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

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

[†] Question not asked for 2016

Numbers may not add up exactly due to rounding

DUEDTO DICO	Reported	Reported Values		Estimated Values		
PUERTO RICO	2016	2017	2016	2017		
Tons of HMA/WMA Produced	Tons, N			Millions		
Total	NCR	NCR	1.0	1.6		
DOT	NCR	NCR	NCR	NCR		
Other Agency	NCR	NCR	NCR	NCR		
Commercial & Residential	NCR	NCR	NCR	NCR		
Companies Reporting	NCR	NCR				
RAP	Tons, N	/lillions	Tons, I	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 Avg. %	NCR	NCR	NCR Used in		
	Avg. % Mixtu			ures		
Average % for DOT Mixtures ¹	NCR	NCR				
Average % for Other Agency Mixtures ¹	NCR	NCR				
Average % for Commercial & Residential Mixtures ¹	NCR	NCR				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²	0:: 5		NCR	NCR		
	Other Repo					
% Companies Reporting Using RAP % of RAP Fractionated	NCR	NCR				
	NCR	NCR NCR				
% of RAP Mixtures Using Softer Binders % of RAP Mixtures Using Rejuvenators	NCR NCR	NCR				
			Tona Th	au an ala		
Linguistics Accepted	Tons, The	NCR	NCR	nousands NCR		
Unprocessed Shingles Accepted 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		
Total Tons of RAS Stockpiled at Year-End	†	NCR	†	NCR		
	Avg. %		Avg. % Used in Mixtures			
Average % for DOT Mixtures ¹	Mixtu NCR	NCR	IVIIXI	ures		
Average % for Other Agency Mixtures ¹	NCR	NCR				
Average % for Commercial & Residential Mixtures ¹	NCR	NCR				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	11011	11011	NCR	NCR		
	Other Repo	orted Data				
% Companies Reporting Using RAS	NCR	NCR				
% of RAS Mixtures Using Softer Binders	NCR	NCR				
% of RAS Mixtures Using Rejuvenators	NCR	NCR				
WMA	% of Total	Production	Tons, I	Millions		
Total			NCR	NCR		
DOT	NCR	NCR	NCR	NCR		
Other Agency	NCR	NCR	NCR	NCR		
Commercial & Residential	NCR	NCR	NCR	NCR		
WMA Technologies	% of N	ı				
Chemical Additive, %	NCR	NCR				
Additive Foaming, %	NCR	NCR				
Plant Foaming, %	NCR	NCR				
Organic Additive, %	NCR	NCR				
	Other Repo					
% Companies Reporting Producing WMA	NCR	NCR				
¹ Average percent based on contractor's reported percentage for each sector, adjusted ba						

¹ Average percent based on contractor's reported percentage for each sector, adjusted based upon reported tonnage.
² Average percent based on total reported tons of RAP or RAS used in HMA/WMA divided by reported total tons HMA/WMA produced.
[†] Question not asked for 2016
Numbers may not add up exactly due to rounding

RHODE ISLAND	Reported	l Values	Estimate	d Values
KHODE ISLAND	2016	2017	2016	2017
ons of HMA/WMA Produced	Tons, N		Tons, N	
Total	*	*	1.9	2.0
DOT	*	*	*	*
Other Agency	*	*	*	*
Commercial & Residential	*	*	*	*
Companies Reporting	*	*		
RAP	Tons, N	/lillions	Tons, N	lillions
Accepted	*	*	*	*
Used in HMA/WMA Mixtures	*	*	*	*
Used in Aggregate	*	*	*	*
Used in Cold-Mix Asphalt	*	*	*	*
Used in Other	*	*	*	*
Landfilled	*	*	*	*
Total Tons of RAP Stockpiled at Year-End	*	*	*	*
	Avg. % (Avg. % l Mixtu	
Average % for DOT Mixtures ¹	*	*		
Average % for Other Agency Mixtures ¹	*	*		
Average % for Commercial & Residential Mixtures ¹	*	*		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			*	*
	Other Repo	orted Data		
% Companies Reporting Using RAP	*	*		
% of RAP Fractionated	*	*		
% of RAP Mixtures Using Softer Binders	*	*		
% of RAP Mixtures Using Rejuvenators	*	*		
RAS	Tons, The	ousands	Tons, The	ousands
Unprocessed Shingles Accepted	*	*	*	*
Processed Shingles Accepted	*	*	*	*
Used in HMA/WMA Mixtures	*	*	*	*
Used in Aggregate	*	*	*	*
Used in Cold-Mix Asphalt	*	*	*	*
Used in Other	*	*	*	*
Landfilled	*	*	*	*
Total Tons of RAS Stockpiled at Year-End	†	*	†	*
	Avg. % (Avg. % Used in Mixtures	
Average % for DOT Mixtures ¹	*	*		
Average % for Other Agency Mixtures ¹	*	*		
Average % for Commercial & Residential Mixtures ¹	*	*		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			*	*
	Other Repo	orted Data		
% Companies Reporting Using RAS	*	*		
% of RAS Mixtures Using Softer Binders	†	*		
% of RAS Mixtures Using Rejuvenators	†	*		
WMA	% of Total I	Production	Tons, N	lillions
Total			*	*
DOT	*	*	*	*
	*	*	*	*
Other Agency			*	*
	*	*		
Other Agency	* % of N			
Other Agency Commercial & Residential				
Other Agency Commercial & Residential WMA Technologies Chemical Additive, %	% of N			
Other Agency Commercial & Residential WMA Technologies Chemical Additive, % Additive Foaming, %	% of N	larket *		
Other Agency Commercial & Residential WMA Technologies Chemical Additive, % Additive Foaming, % Plant Foaming, %	% of N	Market * *		
Other Agency Commercial & Residential WMA Technologies Chemical Additive, % Additive Foaming, %	% of N * *	/arket * * *		

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

[†] Question not asked for 2016
Numbers may not add up exactly due to rounding

SOUTH CAROLINA	Reported	Reported Values		Estimated Values		
300TH CAROLINA	2016	2017	2016	2017		
Tons of HMA/WMA Produced	Tons, N	Millions	Tons, I	Millions		
Total	3.1	3.9	6.5	7.6		
DOT	1.9	2.5	4.0	4.9		
Other Agency	0.5	0.8	1.0	1.6		
Commercial & Residential	0.8	0.5	1.6	1.0		
Companies Reporting	6	7	_			
RAP	Tons, N			Millions		
Accepted Used in HMA/WMA Mixtures	0.7	0.8	1.4	1.5		
Used in Aggregate	0.7	0.8	1.5 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		
Total Tons of RAP Stockpiled at Year-End	0.5	0.89	0.95	1.74		
	Avg. % Mixt	Used in	Avg. %	Used in ures		
Average % for DOT Mixtures ¹	22.6%	20.4%				
Average % for Other Agency Mixtures ¹	21.7%	20.7%				
Average % for Commercial & Residential Mixtures ¹	23.2%	21.5%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			22.6%	20.7%		
0/ O	Other Rep					
% Companies Reporting Using RAP % of RAP Fractionated	100% 63%	100% 50%				
% of RAP Fractionated % of RAP Mixtures Using Softer Binders	0.5%	0%	-			
% of RAP Mixtures Using Softer Binders % of RAP Mixtures Using Rejuvenators	0.5%	0%				
RAS			Tono Th	ou o o o do		
Unprocessed Shingles Accepted	Tons, Th	0.0	8.4	ousands 0.0		
Processed Shingles Accepted Processed Shingles Accepted	0.0	0.0	0.0	0.0		
Used in HMA/WMA Mixtures	0.5	0.0	1.1	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		
Total Tons of RAS Stockpiled at Year-End	†	0.0	†	0.0		
	Avg. % Mixt	ures	Avg. % Used in Mixtures			
Average % for DOT Mixtures ¹	0.00%	0.00%				
Average % for Other Agency Mixtures ¹	0.05%	0.00%				
Average % for Commercial & Residential Mixtures ¹ State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	0.04%	0.00%	0.02%	0.000/		
State Average All Mixtures based on RAS Tons Used in HiviA/WMA-	Other Pen	Other Reported Data		0.00%		
% Companies Reporting Using RAS	33%	0%				
% of RAS Mixtures Using Softer Binders	0%	0%				
% of RAS Mixtures Using Rejuvenators	0%	0%				
WMA	% of Total		Tons I	Millions		
Total	70 OI 10tal	roddollori	0.7	1.5		
DOT	14%	23%	0.5	1.1		
Other Agency	9%	15%	0.1	0.2		
Commercial & Residential	4%	15%	0.1	0.2		
WMA Technologies	% of N	/larket				
Chemical Additive, %	100%	75%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	0%	25%				
Organic Additive, %	0%	0%				
	Other Rep	orted Data				
% Companies Reporting Producing WMA	83%	71%				
1 Average percent based on contractor's reported percentage for each coster, editated based						

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

† Question not asked for 2016

Numbers may not add up exactly due to rounding

SOUTH DAKOTA	Reported	l Values	Estimate	d Values
SOUTH DANGTA	2016	2017	2016	2017
Tons of HMA/WMA Produced	Tons, N		Tons, N	
Total	*	*	1.6	2.0
DOT	*	*	*	*
Other Agency	*	*	*	*
Commercial & Residential	*	*	*	*
Companies Reporting	*	*		
RAP	Tons, N	Millions	Tons, N	lillions
Accepted	*	*	*	*
Used in HMA/WMA Mixtures	*	*	*	*
Used in Aggregate	*	*	*	*
Used in Cold-Mix Asphalt	*	*	*	*
Used in Other	*	*	*	*
Landfilled	*	*	*	*
Total Tons of RAP Stockpiled at Year-End	*	*	*	*
	Avg. % l Mixtu		Avg. % ! Mixtu	
Average % for DOT Mixtures ¹	*	*		
Average % for Other Agency Mixtures ¹	*	*		
Average % for Commercial & Residential Mixtures ¹	*	*		
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			*	*
	Other Repo	orted Data		
% Companies Reporting Using RAP	*	*		
% of RAP Fractionated	*	*		
% of RAP Mixtures Using Softer Binders	*	*		
% of RAP Mixtures Using Rejuvenators	*	*		
RAS	Tons, The	ousands	Tons, The	ousands
Unprocessed Shingles Accepted	*	*	*	*
Processed Shingles Accepted	*	*	*	*
Used in HMA/WMA Mixtures	*	*	*	*
Used in Aggregate	*	*	*	*
Used in Cold-Mix Asphalt	*	*	*	*
Used in Other	*	*	*	*
Landfilled	*	*	*	*
Total Tons of RAS Stockpiled at Year-End	†	*	†	*
	Avg. % I Mixtu		Avg. % Used in Mixtures	
Average % for DOT Mixtures ¹	*	*		
Average % for Other Agency Mixtures ¹	*	*		
Average % for Commercial & Residential Mixtures ¹	*	*		
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			*	*
	Other Repo	orted Data		
% Companies Reporting Using RAS	*	*		
% of RAS Mixtures Using Softer Binders	*	*		
% of RAS Mixtures Using Rejuvenators	*	*		
WMA	% of Total I	Production	Tons, N	lillions
Total			*	*
DOT	*	*	*	*
Other Agency	*	*	*	*
Commercial & Residential	*	*	*	*
WMA Technologies	% of M	larket		
Chemical Additive, %	*	*		
Additive Foaming, %	*	*		
Plant Foaming, %	*	*		
	*	*		
Organic Additive, %				
Organic Additive, %	Other Repo	orted Data		

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

[†] Question not asked for 2016
Numbers may not add up exactly due to rounding

TENNESSEE	Reported Values		Estimated Values		
TENNESSEE	2016	2017	2016	2017	
Tons of HMA/WMA Produced	Tons, N		Tons, N		
Total	2.4	2.5	8.2	9.2	
DOT	0.5	0.7	1.7	2.5	
Other Agency	0.4	0.4	1.5	1.4	
Commercial & Residential	1.4	1.4	5.0	5.2	
Companies Reporting	4	5			
RAP	Tons, N	Millions	Tons, I	Millions	
Accepted	0.6	0.7	2.0	2.5	
Used in HMA/WMA Mixtures	0.5	0.6	1.7	2.1	
Used in Aggregate	0.0	0.1	0.0	0.2	
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	0.9	0.87	2.98	3.16	
	Avg. % Mixto		Avg. % Mixt		
Average % for DOT Mixtures ¹	18.6%	18.6%			
Average % for Other Agency Mixtures ¹	20.8%	23.8%			
Average % for Commercial & Residential Mixtures ¹	21.8%	24.7%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			18.6%	22.8%	
	Other Rep				
% Companies Reporting Using RAP	100%	100%			
% of RAP Fractionated	22%	55%			
% of RAP Mixtures Using Softer Binders	0%	0%			
% of RAP Mixtures Using Rejuvenators	0%	22%			
RAS	Tons, Th	ousands	Tons, Th	ousands	
Unprocessed Shingles Accepted	15.0	20.0	52.4	72.7	
Processed Shingles Accepted	24.8	0.0	86.6	0.0	
Used in HMA/WMA Mixtures	22.0	15.3	76.8	55.8	
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 RAS Stockpiled at Year-End		54.6	†	198.3	
	Avg. % Mixtu		Avg. % Used in Mixtures		
Average % for DOT Mixtures ¹	0.95%	0.60%			
Average % for Other Agency Mixtures ¹	0.72%	0.60%			
Average % for Commercial & Residential Mixtures ¹	0.99%	0.60%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	041 5		0.93%	0.61%	
0/ O : D : H : DAO	Other Rep				
% Companies Reporting Using RAS	50%	40%			
% of RAS Mixtures Using Softer Binders	0%	0%			
% of RAS Mixtures Using Rejuvenators	0%	33%			
WMA	% of Total	Production	Tons, N		
Total	400/	1000/	4.4	9.2	
DOT Other America	49%	100%	0.8	2.5	
Other Agency Commercial & Residential	37%	100% 100%	0.6	1.4	
	61%		3.0	5.2	
WMA Technologies	% of N	1			
Chemical Additive, %	88%	20%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	12%	80%			
Organic Additive, %	0%	0%			
	Other Rep	orted Data			
% Companies Reporting Producing WMA	50%	60%			

[%] Companies Reporting Producing WMA | 50% | 60% |

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

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

1 Question not asked for 2016

Numbers may not add up exactly due to rounding

TEXAS	Reported	Reported Values		Estimated Values		
TEXAS	2016	2017	2016	2017		
Tons of HMA/WMA Produced	Tons, N			Millions		
Total	8.0	7.9	24.0	20.0		
DOT	4.1	5.4	12.3	13.7		
Other Agency	2.1	1.3	6.2	3.2		
Commercial & Residential	1.8	1.2	5.5	3.1		
Companies Reporting	7	7				
RAP	Tons, N	Millions	Tons, I	Millions		
Accepted	0.9	0.9	2.8	2.4		
Used in HMA/WMA Mixtures	1.1	1.2	3.2	3.0		
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 2.00	0.0	0.0 5.04		
Total Tons of RAP Stockpiled at Year-End	0.5 Avg. %		1.4 Avg. %	Used in		
	Mixtu		Mixt			
Average % for DOT Mixtures ¹	13.6%	14.8%				
Average % for Other Agency Mixtures ¹	13.1%	14.8%				
Average % for Commercial & Residential Mixtures ¹	12.8%	15.1%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²	04 5	ant and Doc	13.3%	14.9%		
0/ Occupation Department Hairs DAD	Other Repo					
% Companies Reporting Using RAP % of RAP Fractionated	100% 15%	100% 39%				
% of RAP Fractionated % of RAP Mixtures Using Softer Binders	14%	31%				
% of RAP Mixtures Using Soller Binders % of RAP Mixtures Using Rejuvenators	0%	0%				
RAS		L	Tone Th	oucondo		
Unprocessed Shingles Accepted	Tons, Th	88.8	105.4	ousands 223.9		
Processed Shingles Accepted Processed Shingles Accepted	25.8	28.1	77.8	70.9		
Used in HMA/WMA Mixtures	71.0	78.8	213.8	198.8		
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 RAS Stockpiled at Year-End	†	22.6	†	57.1		
	Avg. % Mixtu		Avg. % Used in Mixtures			
Average % for DOT Mixtures ¹	0.94%	0.80%	IVIIAL	uics		
Average % for Other Agency Mixtures ¹	0.64%	1.00%				
Average % for Commercial & Residential Mixtures ¹	1.07%	1.40%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.89%	0.99%		
	Other Repo	orted Data				
% Companies Reporting Using RAS	71%	100%				
% of RAS Mixtures Using Softer Binders	17%	35%				
% of RAS Mixtures Using Rejuvenators	0%	0%				
WMA	% of Total	Production		Millions		
Total			6.6	9.2		
DOT	34%	50%	1.0	6.9		
Other Agency	16%	35%	1.0	1.1		
Commercial & Residential	25%	38%	1.4	1.2		
WMA Technologies	% of N					
Chemical Additive, %	94%	85%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	6%	15%				
Organic Additive, %	0%	0%				
	Other Repo	orted Data				
% Companies Reporting Producing WMA	100%	86%				
1 Average percent based on contractor's reported percentage for each sector, adjusted ba	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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

LITALI	Reported	Reported Values		Estimated Values		
UTAH	2016	2017	2016	2017		
Tons of HMA/WMA Produced		Tons, Millions		Tons, Millions		
Total	4.1	3.5	3.6	4.0		
DOT	1.1	1.1	0.9	1.2		
Other Agency	0.8	0.4	0.7	0.4		
Commercial & Residential	2.3	2.1	2.0	2.4		
Companies Reporting	11	9				
RAP	Tons, N	Millions	Tons, I	Millions		
Accepted	1.0	0.6	0.9	0.7		
Used in HMA/WMA Mixtures	1.0	0.8	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	1.4	1.42	1.25	1.62		
	Avg. % Mixtu		Avg. % Used in Mixtures			
Average % for DOT Mixtures ¹	15.8%	15.0%				
Average % for Other Agency Mixtures ¹	18.6%	15.0%				
Average % for Commercial & Residential Mixtures ¹	32.2%	26.7%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			25.4%	21.9%		
	Other Repo					
% Companies Reporting Using RAP	91%	100%				
% of RAP Fractionated	13%	8%				
% of RAP Mixtures Using Softer Binders	50%	48%				
% of RAP Mixtures Using Rejuvenators	2%	0%				
RAS	Tons, The	ousands	Tons, Th	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		
Total Tons of RAS Stockpiled at Year-End	†	0.0	†	0.0		
	Avg. % Mixtu		Avg. % Used in Mixtures			
Average % for DOT Mixtures ¹	0.00%	0.00%				
Average % for Other Agency Mixtures ¹	0.00%	0.00%				
Average % for Commercial & Residential Mixtures ¹	0.00%	0.00%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.00%	0.00%		
	Other Repo					
% Companies Reporting Using RAS	0%	0%				
% of RAS Mixtures Using Softer Binders	0%	0%				
% of RAS Mixtures Using Rejuvenators	0%	0%				
WMA	% of Total I	Production	Tons, I	Millions		
Total			1.9	3.4		
DOT	62%	84%	0.6	1.0		
Other Agency	43%	81%	0.3	0.3		
Commercial & Residential	51%	88%	1.0	2.1		
WMA Technologies [‡]	% of M	1arket				
Chemical Additive, %	8%	34%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	97%	66%				
Organic Additive, %	0%	0%				
Organio / idulity 0, 70	Other Repo					
% Companies Reporting Producing WMA	82%	89%				
70 Companies reporting Floudeling WWA	02 /0	03/0				

[%] Companies Reporting Producing WMA | 82% | 89% |

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

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

† Question not asked for 2016

Numbers may not add up exactly due to rounding

VERMONT	Reported	l Values	Estimate	d Values		
VERIVIONI	2016	2017	2016	2017		
Tons of HMA/WMA Produced		Tons, Millions		Tons, Millions		
Total	*	*	1.7	1.9		
DOT	*	*	*	*		
Other Agency	*	*	*	*		
Commercial & Residential	*	*	*	*		
Companies Reporting	*	*				
RAP	Tons, N	/lillions	Tons, N	lillions		
Accepted	*	*	*	*		
Used in HMA/WMA Mixtures	*	*	*	*		
Used in Aggregate	*	*	*	*		
Used in Cold-Mix Asphalt	*	*	*	*		
Used in Other	*	*	*	*		
Landfilled	*	*	*	*		
Total Tons of RAP Stockpiled at Year-End	*	*	*	*		
	Avg. % Mixtu		Avg. % Mixtu			
Average % for DOT Mixtures ¹	*	*				
Average % for Other Agency Mixtures ¹	*	*				
Average % for Commercial & Residential Mixtures ¹	*	*				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			*	*		
	Other Repo	orted Data				
% Companies Reporting Using RAP	*	*				
% of RAP Fractionated	*	*				
% of RAP Mixtures Using Softer Binders	*	*				
% of RAP Mixtures Using Rejuvenators	*	*				
RAS	Tons, The	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	*	*	*	*		
Total Tons of RAS Stockpiled at Year-End	†		† 1			
	Avg. % I Mixtu	ures	Avg. % Used in Mixtures			
Average % for DOT Mixtures ¹	*	*				
Average % for Other Agency Mixtures ¹	*	*				
Average % for Commercial & Residential Mixtures ¹	*	*				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			*	*		
	Other Repo	Other Reported Data				
% Companies Reporting Using RAS	*	*				
% of RAS Mixtures Using Softer Binders		*				
% of RAS Mixtures Using Rejuvenators						
WMA	% of Total I	Production	Tons, N	Millions		
Total			*	*		
DOT	*	*		*		
Other Agency	*	*	*	*		
Commercial & Residential			"	*		
WMA Technologies	% of N	larket				
Chemical Additive, %	*	*				
Additive Foaming, %	*	*				
Plant Foaming, %	*	*				
Organic Additive, %	*	*				
	Other Repo	orted Data				
% Companies Reporting Producing WMA	*	*				

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

[†] Question not asked for 2016
Numbers may not add up exactly due to rounding

VIRGINIA	Reported	Reported Values		Estimated Values		
VIKGINIA	2016	2017	2016	2017		
Tons of HMA/WMA Produced		Tons, Millions		Tons, Millions		
Total	7.4	4.9	12.0	12.0		
DOT	2.9	2.1	4.7	5.2		
Other Agency	1.3	0.8	2.0	2.1		
Commercial & Residential	3.3	2.0	5.3	4.8		
Companies Reporting	7	5				
RAP	Tons, N	Millions	Tons, I	Millions		
Accepted	2.3	1.5	3.7	3.7		
Used in HMA/WMA Mixtures	2.1	1.6	3.4	3.9		
Used in Aggregate	0.1	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	0.0	0.1		
Landfilled	0.0	0.0	0.0	0.0		
Total Tons of RAP Stockpiled at Year-End	2.2	1.47	3.57	3.58		
		Avg. % Used in Mixtures		Used in ures		
Average % for DOT Mixtures ¹	26.4%	31.9%				
Average % for Other Agency Mixtures ¹	27.7%	32.3%				
Average % for Commercial & Residential Mixtures ¹	29.7%	33.1%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			28.1%	32.4%		
	Other Repo					
% Companies Reporting Using RAP	100%	100%				
% of RAP Fractionated	34%	36%				
% of RAP Mixtures Using Softer Binders	5%	14%				
% of RAP Mixtures Using Rejuvenators	0.5%	4%				
RAS	Tons, The	ousands	Tons, Th	ousands		
Unprocessed Shingles Accepted	0.0	0.0	0.0	0.0		
Processed Shingles Accepted	2.0	0.0	3.3	0.0		
Used in HMA/WMA Mixtures	3.5	0.0	5.7	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		
Total Tons of RAS Stockpiled at Year-End	†	2.0	†	4.9		
		Avg. % Used in Mixtures		Used in ures		
Average % for DOT Mixtures ¹	0.08%	0.00%				
Average % for Other Agency Mixtures ¹	0.04%	0.00%				
Average % for Commercial & Residential Mixtures ¹	0.02%	0.00%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.05%	0.00%		
	Other Repo					
% Companies Reporting Using RAS	14%	0%				
% of RAS Mixtures Using Softer Binders	0%	0%				
% of RAS Mixtures Using Rejuvenators	0%	0%				
WMA	% of Total I	Production	Tons, I			
Total			8.1	7.7		
DOT	64%	69%	3.0	3.6		
Other Agency	72%	52%	1.5	1.1		
Commercial & Residential	68%	64%	3.6	3.1		
WMA Technologies	% of M					
Chemical Additive, %	19%	27%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	82%	73%				
Organic Additive, %	0%	0%				
	Other Repo					
% Companies Reporting Producing WMA	100%	100%				
	1.0070	. 55 /6				

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.

Question not asked for 2016

Numbers may not add up exactly due to rounding

WASHINGTON	Reported	Reported Values		Estimated Values	
WASHINGTON		2016 2017		2016 2017	
Tons of HMA/WMA Produced		Tons, Millions		Tons, Millions	
Total	1.9	4.5	5.8	6.0	
DOT	0.3	0.9	0.8	1.2	
Other Agency	0.6	1.6	1.9	2.2	
Commercial & Residential	1.0	1.9	3.2	2.6	
Companies Reporting	4	7			
RAP	Tons, N	Millions	Tons, I	Millions	
Accepted	0.4	0.9	1.3	1.3	
Used in HMA/WMA Mixtures	0.5	0.9	1.5	1.2	
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	0.5	0.87	1.67	1.18	
	Avg. % Mixtu			Avg. % Used in Mixtures	
Average % for DOT Mixtures ¹	23.3%	17.0%			
Average % for Other Agency Mixtures ¹	22.6%	18.4%			
Average % for Commercial & Residential Mixtures ¹	27.7%	22.4%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			25.5%	19.9%	
	Other Repo	orted Data			
% Companies Reporting Using RAP	100%	100%			
% of RAP Fractionated	0%	14%			
% of RAP Mixtures Using Softer Binders	13%	16%			
% of RAP Mixtures Using Rejuvenators	0%	7%			
RAS	Tons, Th	ousands	Tons, Th	ousands	
Unprocessed Shingles Accepted	0.0	7.8	0.0	10.5	
Processed Shingles Accepted	4.1	2.8	12.9	3.8	
Used in HMA/WMA Mixtures	0.0	11.9	0.4	16.0	
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	
Total Tons of RAS Stockpiled at Year-End	†	2.9	†	3.9	
		Avg. % Used in Mixtures		Avg. % Used in Mixtures	
Average % for DOT Mixtures ¹	0.00%	0.00%			
Average % for Other Agency Mixtures ¹	0.01%	0.00%			
Average % for Commercial & Residential Mixtures ¹	0.01%	0.60%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.01%	0.27%	
	Other Repo				
% Companies Reporting Using RAS	25%	43%			
% of RAS Mixtures Using Softer Binders	53%	17%			
% of RAS Mixtures Using Rejuvenators	0%	17%			
WMA	% of Total	Production	Tons, I	Millions	
Total			1.0	1.0	
DOT	15%	5%	0.1	0.1	
Other Agency	16%	19%	0.3	0.4	
Commercial & Residential	19%	22%	0.6	0.6	
WMA Technologies	% of N	larket			
Chemical Additive, %	52%	42%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	48%	58%			
Organic Additive, %	0%	0%			
game / todatt 0, 70	Other Repo				
% Companies Reporting Producing WMA	75%	86%			
1 Average persent based an contractor's reported persentage for each coeter, adjusted by					

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

† Question not asked for 2016
Numbers may not add up exactly due to rounding

WEST VIDCINIA	Reported	Reported Values		Estimated Values		
WEST VIRGINIA	2016	2017	2016	2017		
Tons of HMA/WMA Produced		Tons, Millions		Millions		
Total	2.2	1.5	4.1	2.6		
DOT	1.5	1.2	2.9	2.0		
Other Agency	0.1	0.1	0.2	0.1		
Commercial & Residential	0.5	0.3	1.0	0.5		
Companies Reporting	5	4				
RAP	Tons, N	Millions	Tons, I	Millions		
Accepted	0.3	0.3	0.5	0.5		
Used in HMA/WMA Mixtures	0.3	0.3	0.6	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		
Landfilled	0.0	0.0	0.0	0.0		
Total Tons of RAP Stockpiled at Year-End	0.1	0.32	0.24	0.55		
	Avg. % Mixtu		Avg. % Used in Mixtures			
Average % for DOT Mixtures ¹	13.9%	17.5%				
Average % for Other Agency Mixtures ¹	12.4%	15.5%				
Average % for Commercial & Residential Mixtures ¹	7.4%	18.0%				
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			14.2%	17.6%		
	Other Repo					
% Companies Reporting Using RAP	100%	100%				
% of RAP Fractionated	15%	4%				
% of RAP Mixtures Using Softer Binders	0%	3%				
% of RAP Mixtures Using Rejuvenators	0%	0%				
RAS	Tons, The	ousands	Tons, Th	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		
Total Tons of RAS Stockpiled at Year-End	T T	0.0	†	0.0		
	Avg. % Mixtu		Avg. % Used in Mixtures			
Average % for DOT Mixtures ¹	0.00%	0.00%				
Average % for Other Agency Mixtures ¹	0.00%	0.00%				
Average % for Commercial & Residential Mixtures ¹	0.00%	0.00%				
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			0.00%	0.00%		
	Other Repo					
% Companies Reporting Using RAS	0%	0%				
% of RAS Mixtures Using Softer Binders	0%	0%				
% of RAS Mixtures Using Rejuvenators	0%	0%				
WMA	% of Total I	Production	Tons, I			
Total			0.1	0.0		
DOT	1%	0%	0.0	0.0		
Other Agency	6%	0%	0.0	0.0		
Commercial & Residential	1%	0%	0.0	0.0		
WMA Technologies	% of M	ı				
Chemical Additive, %	0%	0%				
Additive Foaming, %	0%	0%				
Plant Foaming, %	100%	0%				
Organic Additive, %	0%	0%				
	Other Repo					
% Companies Reporting Producing WMA	20%	0%				
1		/ -				

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

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

Question not asked for 2016

Numbers may not add up exactly due to rounding

WICCONCIN	Reported Values		Estimated Values		
WISCONSIN	2016	2017	2016	2017	
Tons of HMA/WMA Produced	Tons, N		Tons, N		
Total	7.1	8.7	12.0	12.0	
DOT	2.6	5.3	4.3	7.2	
Other Agency	2.3	1.5	3.9	2.0	
Commercial & Residential	2.3	2.0	3.8	2.8	
Companies Reporting	4	4			
RAP	Tons, N	/lillions	Tons, I	Millions	
Accepted	1.2	1.5	2.0	2.1	
Used in HMA/WMA Mixtures	1.5	1.4	2.6	1.9	
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	1.5	1.16	2.45	1.60	
	Avg. % Mixtu		Avg. % Mixt		
Average % for DOT Mixtures ¹	20.2%	15.6%			
Average % for Other Agency Mixtures ¹	20.0%	16.3%			
Average % for Commercial & Residential Mixtures ¹	25.0%	17.3%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			21.6%	16.1%	
•	Other Repo	orted Data			
% Companies Reporting Using RAP	100%	100%			
% of RAP Fractionated	14%	4%			
% of RAP Mixtures Using Softer Binders	7%	19%			
% of RAP Mixtures Using Rejuvenators	6%	5%			
RAS	Tons, Th	ousands	Tons, Th	ousands	
Unprocessed Shingles Accepted	66.5	52.0	111.7	71.4	
Processed Shingles Accepted	19.7	16.8	33.1	23.1	
Used in HMA/WMA Mixtures	77.6	66.2	130.4	90.8	
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 RAS Stockpiled at Year-End	†	45.7	†	62.7	
	Avg. %		Avg. % Used in Mixtures		
Average % for DOT Mixtures ¹	0.63%	0.90%			
Average % for Other Agency Mixtures ¹	1.19%	1.50%			
Average % for Commercial & Residential Mixtures ¹	1.50%	0.30%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²			1.09%	0.76%	
	Other Repo	orted Data			
% Companies Reporting Using RAS	100%	100%			
% of RAS Mixtures Using Softer Binders	32%	53%			
% of RAS Mixtures Using Rejuvenators	29%	10%			
WMA	% of Total	Production	Tons, I	Millions	
Total			1.3	0.6	
DOT	8%	3%	0.3	0.2	
Other Agency	18%	11%	0.7	0.2	
Commercial & Residential	7%	5%	0.3	0.1	
WMA Technologies	% of N	/larket			
Chemical Additive, %	97%	100%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	3%	0%			
Organic Additive, %	0%	0%			
Organic Additive, 70	Other Repo				
0/ Communica Departing Dynatics in a MANA					
% Companies Reporting Producing WMA	100%	100%			

[%] Companies Reporting Producing WMA | 100% | 100% |

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

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

† Question not asked for 2016

Numbers may not add up exactly due to rounding

WYOMING	Reported Values		Estimated Values		
WYOMING	2016	2017	2016	2017	
Tons of HMA/WMA Produced		Tons, Millions		Millions	
Total	0.3	0.1	2.2	2.5	
DOT	0.2	0.1	1.3	1.0	
Other Agency	0.1	0.0	0.4	0.5	
Commercial & Residential	0.1	0.1	0.5	1.0	
Companies Reporting	6	3			
RAP	Tons, N	Millions	Tons, I	Millions	
Accepted	0.0	0.0	0.2	0.4	
Used in HMA/WMA Mixtures	0.0	0.0	0.2	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	0.0	0.02	0.2	0.40	
	Avg. % Mixto		Avg. % Used in Mixtures		
Average % for DOT Mixtures ¹	8.9%	2.5%			
Average % for Other Agency Mixtures ¹	7.9%	17.5%			
Average % for Commercial & Residential Mixtures ¹	14.7%	17.5%			
State Average All Mixtures Based on RAP Tons Used in HMA/WMA ²			10.1%	11.7%	
	Other Rep				
% Companies Reporting Using RAP	67%	67%			
% of RAP Fractionated	0%	50%			
% of RAP Mixtures Using Softer Binders	0%	0%			
% of RAP Mixtures Using Rejuvenators	0%	0%			
RAS	Tons, Th	ousands	Tons, Th	ousands	
Unprocessed Shingles Accepted	1.4	0.0	9.1	0.0	
Processed Shingles Accepted	1.4	0.0	9.1	0.0	
Used in HMA/WMA Mixtures	0.3	0.0	2.0	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	
Total Tons of RAS Stockpiled at Year-End	<u>†</u>	0.0	†	0.0	
	Avg. % Mixtu	ures	Avg. % Used in Mixtures		
Average % for DOT Mixtures ¹	0.00%	0.00%			
Average % for Other Agency Mixtures ¹	0.14%	0.00%			
Average % for Commercial & Residential Mixtures ¹	0.28%	0.00%			
State Average All Mixtures Based on RAS Tons Used in HMA/WMA ²	6:1		0.09%	0.00%	
0/ Occasion Deposition III in DAO	Other Repo				
% Companies Reporting Using RAS	17%	0%			
% of RAS Mixtures Using Softer Binders	0%	0%			
% of RAS Mixtures Using Rejuvenators	0%	0%			
WMA	% of Total	Production	Tons, N		
Total	000/	400/	0.5	1.6	
DOT Other Assessment	29%	10%	0.4	0.1	
Other Agency Commercial & Residential	9%	95% 100%	0.0	0.5	
	20%		0.1	1.0	
WMA Technologies	% of N				
Chemical Additive, %	0%	5%			
Additive Foaming, %	0%	0%			
Plant Foaming, %	100%	95%			
Organic Additive, %	0%	0%			
		orted Data			
% Companies Reporting Producing WMA	83%	67%			

[%] Companies Reporting Producing WMA | 83% | 67% |

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

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

1 Question not asked for 2016

Numbers may not add up exactly due to rounding



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8th Annual Asphalt Pavement Industry Survey IS 138 — Appendix B

