

**2004 Annual Report to the Legislature
and the California Integrated Waste Management Board
Senate Bill 876
Waste and Used Tires**

Purpose

This report was prepared in accordance with Section 20 of Chapter 838, Statutes of 1999 (Senate Bill (SB) 876, Escutia), which amends and adds numerous sections to the Public Resources Code, including Section 42889.3, which states:

On or before January 1 of each year, the Department of Transportation shall report to the Legislature and the board on the use of waste tires in transportation and civil engineering projects during the previous five years, including, but not limited to, the approximate number of tires used every year, and the types and location of these projects.

Background

According to the California Integrated Waste Management Board (Board), California generates over 33 million waste tires annually. Of these tires, roughly 25 million were diverted from landfills through recycling, reusing, retreading, and as tire-derived fuel. For the approximate eight million tires that do not have an established secondary use, the expansion of the existing markets for waste tire usage such as rubberized asphalt concrete, playground mats or other surfacing, civil engineering applications, and tire-derived fuels will assist in addressing potential tire stock pile issues and their associated environmental impacts.

Department's Efforts

The California Department of Transportation (Department) has established a variety of uses for recycled content tire products for civil engineering applications in our transportation projects. The Department is committed to help reduce the number of waste tires entering California's landfills by aggressively pursuing innovative uses for these tires. Although Rubberized Asphalt Concrete (RAC) is viewed by many as the main avenue to aid in this effort, the Department is pursuing other uses that consume larger quantities of waste tires. Shredded waste tires show promise to the Department for using large quantities of waste tires in engineering applications.

The Department has used waste tires in RAC on many projects, see Appendix 1. RAC is an alternative to conventional asphalt concrete in that it incorporates crumb rubber from waste tires in the process. The Department has seen a steady

increase in RAC usage since 2002. This can be attributed to the establishment of internal Departmental goals to increase the use of RAC and the development of the Asphalt Rubber Usage Guide. The Department has exceeded the fifteen percent usage goal in each of the last two years and is projected to achieve more in the upcoming years. In addition, the Department in partnership with the Board, is performing laboratory and field experimentation to better understand RAC performance under California's diverse road environment; studying the feasibility of recycling existing RAC pavement into new pavements; and the development of training for in-house Department staff as well as for industry partners to promote increased RAC usage. The Department will continue partnership efforts with California's resource agencies in establishing the appropriate requirements/compliance with regard to air emission standards for RAC plants in those regions that currently prohibit them.

Waste Tires Used in Department of Transportation Projects					
Year	Number of Tires Used in RAC Projects¹	Number of Tires Used as TDF³	Number of Tires Used as Lightweight Fill¹	Number of Tires Used in Other Applications^{1, 6}	Totals
2000	2,698,778	126,000			2,824,778
2001	1,178,953	126,000	660,000 ⁴		1,964,953
2002	478,791	150,000			628,791
2003	766,196	50,000	75,000 ⁵		891,196
2004	1,000,000 ²	110,000		100,997	1,210,997
Subtotal	6,122,718	562,000	735,000	100,997	7,520,715

¹ Based on projects listed in Appendix 1.

² Actual quantity through third quarter is 956,543 tires with an estimated amount of 1,000,000 tires projected through the end of the calendar year.

³ Based on the Board's "California Waste Tire Generation, Diversion, and Disposal, 1990 – 2002" summary, which states the total number of tires used as Tire Derived Fuel (TDF) in cement kilns in California as follows: 2000 – 4.2 million tires; 2001- 4.2 million tires; 2002 – 5.0 million tires; 2003 – 5.76 million tires; 2004 – 5.76 million tires (projected). These values were then multiplied by the Department's 3 percent share of the market in years 2000 – 2002, 1 percent share of the market in year 2003, and 1.9 percent (projected) share of the market in year 2004 to determine the number of tires used as TDF.

⁴ This amount represents one pilot project, which utilized a new and innovative use of tire shreds as lightweight material for embankment fill. If this installation continues to perform as anticipated, proving that this is a good engineering use of tires, then this experimental application can be adopted as a standard tool. Additional pilot projects are being aggressively pursued.

⁵ Similar to footnote 4, this is another experimental use of tires as lightweight fill behind a retaining wall.

⁶ Other applications include 99,147 waste tires used in asphalt rubber-binder material for chip seal projects, and 1,850 waste tires used in rubber mats for weed control.

In addition to RAC, the use of tires as a fuel supplement in cement kilns and cogeneration facilities constitutes a large market for waste tires, both nationally and in California. For example, of the estimated 33 million waste tires generated in 2003, approximately six million were used as Tire Derived Fuel (TDF) in various cement kilns in California. These kilns produce cement, which is used to manufacture concrete the Department incorporates into many of its construction projects. It should also be noted that the concrete used on a project is credited to the year in which the contract is awarded, even though the construction of the project may span multiple years.

The Department has worked in partnership with the Board on projects that promote the innovative use of shredded waste tires in highway construction. In 2001, the Department constructed an embankment made of lightweight fill from shredded waste tires on the Dixon Landing Project in Santa Clara County. Last year, the Department installed tire shreds as lightweight backfill material behind a retaining wall on Route 91 in Riverside County. This pilot allowed the Department to perform a full-scale test of a tire shred installation to measure the anticipated reduced lateral pressure on the retaining wall. Reductions in pressure on the retaining wall related to the use of the tire shred backfill may allow for a significant reduction in the retaining wall mass in future designs, potentially reducing retaining wall costs. The retaining wall test section is 260 feet in length and utilized approximately 75,000 shredded tires. A similar installation of lightweight backfill using tire shreds has been designed for another retaining wall in Riverside County near the junction of Routes 60, 91, and 215. Installation of the tire shreds for this project is anticipated in 2005, and preliminary estimates indicate that roughly 250,000 tires will be used.

Other transportation applications using waste tires have been added to this year's report. They include rubber mats and asphalt rubber binder material used in chip seals. Asphalt rubber chip seal projects are used to correct surface deficiencies and to seal and protect the pavement structure against the intrusion of surface water.

The Department has begun to utilize rubber mats underneath guardrails as a method of vegetation control. These rubberized mats are an adopted technology from the recreation industry where they were used primarily as a playground safety surfacing. The Department's first installation was on Route 65 in Placer County where 400 mats were installed as a demonstration. This application is intended to be a durable remedy that can address the Department's historic maintenance issue of weed control to suppress fire risk, while reducing herbicide usage and maintenance staff's exposure to traffic.

Most recently, the Department and the Board have finalized an agreement where the Department will conduct further research to look for opportunities to broaden the use of RAC in the Department's projects. This research will help to identify cost-effective applications for RAC, evaluate the feasibility of recycling reclaimed RAC into newly placed pavement and for product deployment through statewide training and partnering with industry.

The increased RAC usage in calendar years 2000 and 2001 is reflective of the one-time, special allocation of funds by the California Transportation Commission to the Department to expedite much needed roadway rehabilitation work. This additional work consisted of all types of pavement rehabilitation including, but not limited to, the placement of concrete pavement, conventional asphalt concrete pavement, and RAC.

The Department's use of RAC has varied over recent years. Reductions in program funding have restricted the Department's ability to construct all necessary improvements for both new construction and for the maintenance and rehabilitation of existing facilities. Appendix 2 shows the trends, by weight, for the various pavement types constructed. Appendix 3 shows the percent usage of RAC when compared to all flexible pavement strategies. This chart shows a marked increase in RAC percent usage over the past two years, exceeding previous records, as well as an overall steady increase in the trend.

Summary

The Department continues to help reduce the number of waste tires entering California's landfills. The Department has promoted the use of rubberized asphalt concrete as a roadway pavement strategy and is continually looking for new or innovative uses of recycled waste tires for our transportation projects.

The Department's use of RAC is largely dependent upon the available funding in the State Highway Operational Protection Plan (SHOPP) for pavement projects. Although the current availability of funding will reduce the number of RAC projects that will be constructed this year as well as in the next few years, the Department will continue to optimize the use of RAC.

It should be noted that there has been a substantial investment of State and Federal funds on local roads. Some of these investments are the local share of the State Transportation Improvement Program (STIP), congestion relief programs, and gas tax revenue. Although the Department cannot accurately quantify the use of RAC on local roads, it is a pavement strategy currently used by many local agencies.

The Department is dedicated to the stewardship of our natural resources and will continue to look for opportunities for innovative uses of recycled products in our transportation projects.

Appendix 1

CONTRACT	DIST/CO/RT/PM	B.O. DATE	ITEM DESCRIPTION	ITEM CODE PROGRAM	TONNES	TIRES
1	02-372304	02-Sha-299-96.6/112.7	RAC (TYPE G)		14,700	27,195
2	02-359804	02-Sha-44-R0.0/R12.1	RAC (TYPE G)		38,200	70,670
3	02-367404	02-Sha-5-R37.0/R45.4	RAC (TYPE G)		46,800	86,580
4	03-0A5104	03-Gle-45-27.7/37.3	RAC (TYPE O)		3,640	6,734
5	03-0A7814	03-Sac-99-28.3/34.7	RAC (TYPE O)		13,900	25,715
6	04-0C3904	04-Ala-13-6.9/15.4	RAC (TYPE G)		25,100	46,435
7	04-0C3904	04-Ala-61-R24.1/28.9	RAC (TYPE G)		15,000	27,750
8	04-0C5304	04-Ala-84-R5.2/R9.7	RAC (TYPE G)		14,000	25,900
9	04-045034	04-Ala-92-3.7/10.3	RAC (TYPE G)		21,000	38,850
10	04-0C4204	04-CC-580-0.0/10.0	RAC (TYPE G)		50,000	92,500
11	04-0C2904	04-Mrn-101-30.4/37.2	RAC (TYPE G)		13,490	24,957
12	04-0C6304	04-Nap-121-10.6/15.1	RAC (TYPE G)		6,500	12,025
13	04-0C4804	04-Nap-221-0.0/4.3	RAC (TYPE G)		14,520	26,862
14	04-172504	04-SCI-237-12.1/13.7	RAC (TYPE G)		12,300	22,755
15	04-0C2704	04-Sol-780-1.1/11.9	RAC (TYPE G)		31,600	58,460
16	04-0C2704	04-Sol-780-1.1/11.9	RAC (TYPE O)		1,070	1,980
17	04-0C3404	04-Son-1-0.0/13.5	RAC (TYPE G)		17,300	32,005
18	04-0C4704	04-Son-12-17.7/R25.7	RAC (TYPE G)		4,450	8,233
19	04-0C4804	04-Son-37-0.5/3.2	RAC (TYPE G)		12,024	22,244
20	04-285514	04-SCI-880-16.5/16.8	SHREDDED TIRES AS LT WT FILL		660,000	
21	05-0C5704	05-SCR,SBI-129-L0.0/16.1,0.0/R4.2	RAC (TYPE O)		2,000	3,700
22	05-486804	05-SLO-229-0.0/14.8	RAC (TYPE G)		8,400	15,540
23	06-343294	06-Fre-180-58.9/68.4	RAC (TYPE G)		15,400	28,490
24	06-425104	06-Fre-5-0.0/80.4	RAC (TYPE O)		5,000	9,250
25	06-425104	06-Fre-5-0.0/80.4	RAC (TYPE O-HB)		52,700	97,495
26	06-421904	06-Ker-99-71.6/78.4	RAC (TYPE G)		15,300	28,305
27	06-420704	06-Kin,Tul-198-R28.8/45.5, 0.0/4.8	RAC (TYPE G)		40,100	74,185
28	06-420804	06-Tul,Kin-43-15.3/36.5,0.0/2.1	RAC (TYPE G)		33,800	62,530
29	06-444604	06-Tul-99-0.0/40.2	RAC (TYPE O-HB)		41,900	77,515
29	06-444604	06-Tul-99-0.0/40.2	RAC (TYPE O)		1,900	3,515
30	07-176304	07-LA-1-0.2/10.9	RAC (TYPE G)		40,200	74,370
31	07-201104	07-LA-101-S0.0/43.8	RAC (TYPE G)		94,400	174,640
32	07-186304	07-LA-110-1.1/13.8	RAC (TYPE G)		4,620	8,547
33	07-199804	07-LA-1-18.7/35.3	RAC (TYPE G)		55,200	102,120
34	07-184404	07-LA-213-5.5/11.3	RAC (TYPE G)		13,700	25,345
35	07-199004	07-LA-47,103,103U-Var	RAC (TYPE G)		3,550	6,568
36	07-209004	07-LA-5,14-R72.3/R73.3,R39.9R50.2	RAC (TYPE G)		8,000	14,800
37	07-203304	07-LA-5-37.9/46.2	RAC (TYPE G)		41,500	76,775
38	07-142904	07-LA-5-R99.3/R100.7	RAC (TYPE G)		1,690	3,127
39	07-182904	07-LA-66-4.1/8.6	RAC (TYPE G)		18,300	33,855
40	07-138404	07-LA-710-10.7/15.5	RAC (TYPE O)		9,500	17,575

41	07-1384U4	07-LA-710-10.7/15.5	12/7/2000	RAC (TYPE G)	110	204
42	07-455204	07-Ven-101-6.3/37.2	6/8/2000	RAC (TYPE G)	8,060	14,911
43	07-202804	07-Ven-118-R38.2/R52.5	9/7/2000	RAC (TYPE G)	37,700	69,745
44	07-4G2504	07-Ven-126.150-19.2/19.6.54.9/55.4	1/27/2000	RAC (TYPE G)	2,040	3,774
45	07-115344	07-Ven-34-6.9/10.1	4/20/2000	RAC (TYPE G)	3,270	6,050
46	08-484404	08-Riv,SBd-62-11.1/14.9, 0.0/1.3	8/31/2000	RAC (TYPE G)	10,500	19,425
47	08-496404	08-Riv-15-53.5/61.5	9/28/2000	RAC (TYPE G)	13,800	25,530
48	08-495104	08-SBd-40-R4.8/R24.1&R117.5 /R143.2	9/7/2000	RAC (TYPE 0-HB)	34,100	63,085
49	08-495004	08-SBd-58-0/8.5	8/3/2000	RAC (TYPE O)	4,080	7,548
50	09-302804	09-Mno-395-122.2/135.7,171.1/173.8	6/7/2000	RAC (TYPE 0-HB)	8,000	14,800
51	10-279104	10-Ama-49-2.1/4.5	7/18/2000	RAC (TYPE G)	4,010	7,419
52	10-1A4704	10-Cal-49-R33.0/49.6	5/17/2000	RAC (TYPE G)	14,600	27,010
53	10-484904	10-Mer-33-R26.0/R27.3	8/22/2000	RAC (TYPE D)	1,740	3,219
54	10-0E2804	10-SJ-99-30.6/35.1	4/12/2000	RAC (TYPE O)	7,900	14,615
55	10-0A9004	10-Sta-132-27.0/45.1	4/11/2000	RAC (TYPE G)	27,000	49,950
56	10-0A7204	10-Tuo-49-29.9/36.7	3/21/2000	RAC (TYPE G)	5,500	10,175
57	11-217804	11-Imp-111-R11.6/T13.0	9/21/2000	RAC (TYPE G)	8,400	15,540
58	11-229404	11-Imp-115-34.1/56.6	8/24/2000	RAC (TYPE G)	33,000	61,050
59	11-072704	11-Imp-78, 86, 111-21.2-34.0, 33.2-34.2,35.6-36.1	10/5/2000	RAC (TYPE G)	35,105	64,944
60	11-228404	11-Imp-86-R0.0/R9.2	8/10/2000	RAC (TYPE G)	10,400	19,240
61	11-237204	11-Imp-8-R16.2/R66.0	9/14/2000	RAC (TYPE G)	175,000	323,750
62	11-076504	11-SD- 8-0.8 / 1.9	4/27/2000	RAC (TYPE G)	3,310	6,124
63	11-237804	11-SD-008-R98.6/R107.8	11/30/2000	RAC (TYPE G)	38,000	70,300
64	11-075104	11-SD-15,78-Var	1/27/2000	RAC (TYPE G)	1,590	2,942
65	11-066904	11-SD-15-M43.1/R49.6	5/11/2000	RAC (TYPE G)	400	740
66	11-236104	11-SD-209-8.5/10.6	6/22/2000	RAC (TYPE G)	8,200	15,170
67	11-075004	11-SD-5,15,94-Var	1/13/2000	RAC (TYPE G)	1,500	2,775
68	11-077104	11-SD-78-9.2/18.8	2/3/2000	RAC (TYPE G)	20,500	37,925
69	11-072604	11-SD-94-62.6/105.2	2/24/2000	RAC (TYPE G)	39,200	72,520
70	11-176404	11-SD-94-T27.5/R28.6	9/14/2000	RAC (TYPE G)	1,130	2,091
71	12-0940U4	12-Ora-1-38.2/41.7	11/16/2000	RAC (TYPE G)	13,400	24,790
72	12-0296A4	12-Ora-90-0.8/4.1, 8.1/13.0	9/7/2000	RAC (TYPE G)	24,500	45,325
TOTAL					1,458,799	3,358,778

CONTRACT	DIST/CO/RTE/PM	B.O. DATE	ITEM DESCRIPTION	ITEM CODE PROGRAM	TONNES	TIRES
1	03-2A8604	03-Sac-51-13.0/14.3	RAC (TYPE G)		2,310	4,274
2	03-4416U4	03-Sac,ED-50-19.4/37.2,0.0/1.2	RAC (TYPE G)		3,180	5,883
3	03-4416U4	03-Sac,ED-50-19.4/37.2,0.0/1.2	RAC (TYPE O)		42,700	78,995
4	04-045024	04-Ala-92-3.7/4.3	RAC (TYPE G)		320	592
5	04-0C7014	04-Ala-880-3.7/24.6	RAC (TYPE G)		121,000	223,850
6	04-0C7024	04-Ala-880-24.6/44.5	RAC (TYPE G)		134,000	247,900
7	04-0T0504	04-Sol-80-0.9/6.4	RAC (TYPE G)		7,540	13,949

CONTRACT	DIST/CO/RTE/PM	B.O. DATE	ITEM DESCRIPTION	ITEM CODE PROGRAM	TONNES	TIRES
8	04-135994	04-SM-280-R0.0/R9.0	12/4/2001	RAC (TYPE O-HB)	10,300	19,055
9	04-1R7504	04-Ala-238-20.3/23.0	4/10/2001	RAC (TYPE O)	5,000	9,250
10	04-253714	04-SCI,Ala-680-M11.9/M15.9,M0.0/R18.5	4/11/2001	RAC (TYPE G)	5,000	9,250
11	04-2R0104	04-Ala-84-32.8/37.3	5/22/2001	RAC (TYPE G)	3,290	6,087
12	05-0A4104	05-SLO-46-R0.2/R 17.4	2/27/2001	RAC (TYPE G)	31,600	58,460
13	05-0E7204	05-SLO-41-18.4/25.3	5/23/2001	RAC (TYPE O)	5,200	9,620
14	05-486704	05-SLO-46-R17.4/R34.9	5/9/2001	RAC (TYPE G)	18,400	34,040
15	06-453304	06-Kin,Fr-33,198-12.9/20.1,19.8/33.9	2/28/2001	RAC (TYPE G)	10,300	19,055
16	07-182804	07-Ven-126-20.9/26.8	5/17/2001	RAC (TYPE G)	19,900	36,815
17	07-1Y0304	07-LA-5-94.7/96.2	4/19/2001	RAC (TYPE G)	1,610	2,979
18	07-1Y0804	07-LA-30-R0.0/R3.8	5/24/2001	RAC (TYPE G)	1,840	3,404
19	07-1Y1704	07-LA-138-25.8/33.8	8/23/2001	RAC (TYPE O)	1,410	2,609
20	07-1Y1904	07-LA-170.5-R24.5/R32.8,55.6/56.2	5/10/2001	RAC (TYPE G)	6,130	11,341
21	07-202604	07-LA-101-43.8/51.8	1/11/2001	RAC (TYPE G)	33,160	61,346
22	07-207704	07-Ven-1-32.8/33.4	2/15/2001	RAC (TYPE G)	172	318
23	07-207804	07-LA-5-25.3/29.3	5/24/2001	RAC (TYPE G)	700	1,295
24	07-208204	07-LA-405-21.4/37.4	7/26/2001	RAC (TYPE G)	4,430	8,196
25	07-4F9604	07-LA-107-3.6/4.8	7/19/2001	RAC (TYPE G)	2,810	5,199
26	074G8904	07-LA-1-40.5/43.9	3/8/2001	RAC (TYPE G)	5,170	9,565
27	08-000314	08-SBd-83-10.3/15.3	1/4/2001	RAC (TYPE G)	16,000	29,600
28	08-0A2504	08-SBd-95,247-Var	3/8/2001	RAC (TYPE G)	23,540	43,549
29	08-436304	08-Riv-91-9.2-11.5	1/25/2001	RAC (TYPE G)	1,170	2,165
30	10-0A5004	10-SJ-26-3.1/3.8	11/20/2001	RAC (TYPE G)	770	1,425
31	10-0A6504	10-SJ-99-28.4/28.8	10/31/2001	RAC (TYPE G)	490	907
32	10-0E2704	10-SJ,Sta-4,99-Var	10/2/2001	RAC (TYPE O)	6,580	12,173
33	10-3404U4	10-Tuo-108-R3.0/7.4	5/2/2001	RAC (TYPE G)	12,100	22,385
34	11-073404	11-SD-15-M32.3/M34.1	9/20/2001	RAC (TYPE G)	860	1,591
35	11-077204	11-SD-15, 54-0.9/3.7, 4.0/8.5	5/24/2001	RAC (TYPE G)	3,860	7,141
36	11-178504	11-SD-78-57.1/60.0	2/1/2001	RAC (TYPE G)	6,550	12,118
37	11-185944	11-SD-578-R81.8/R82.4, 0.0/1.1	8/23/2001	RAC (TYPE G)	2,220	4,107
38	11-237104	11-imp-86-11.8/15.8	5/24/2001	RAC (TYPE G)	4,300	7,955
39	11-241114	11-SD-75/282-R31.5/R33.0 0.0/1.1	2/22/2001	RAC (TYPE G)	4,700	8,695
40	11-241124	11-SD-805,905-11.6,19.8,22.5,7.1,8.7	5/31/2001	RAC (TYPE G)	4,710	8,714
41	11-241134	11-SD-15-M34.9/75.3	10/11/2001	RAC (TYPE G)	2,680	4,958
42	12-0850U4	12-Ora-5,22-10.9,11.9,R1.0/R21.2	7/12/2001	RAC (TYPE G)	470	870
43	12-095614	12-Ora-55-R12.3/20.4	6/7/2001	RAC (TYPE G)	21,000	38,850
44	12-095624	12-Ora-55-20.5/ 28.0	5/24/2001	RAC (TYPE G)	39,300	72,705
45	12-0A0004	12-Ora-1-26.2/29.6	3/29/2001	RAC (TYPE G)	8,500	15,725
TOTAL					637,272	1,178,953

CONTRACT	DIST/CO/RTE/PM	B.O. DATE	ITEM DESCRIPTION	ITEM CODE PROGRAM	TONNES	TIRES
1	03-1C8104	03-Pla, Yol, Sac-5,50,51,80-Var	5/1/2002	RAC (TYPE O)	2,400	4,440
2	03-2C5704	03-New, Sie-80-45.2/51.1, 0.0/2.6	7/24/2002	RAC (TYPE G)	29,100	53,835

CONTRACT	DIST/CO/RTE/PM	AWARD DATE	ITEM DESCRIPTION	TONNES	TIRES
3	03-3546U4	03-Sac,Pla-80,51,244-M14.6/28.9,0.0/1.1,13.7,0.2	RAC (TYPE G)	5,795	10,721
4	03-3546U4	03-Sac,Pla-80,51,244-M14.6/28.9,0.0/1.1,13.7,0.2	RAC (TYPE O)	16,400	30,340
5	06-465104	06-Tul-65-35.2/47.6	RAC (TYPE O-HB) (WARRANTY)	12,200	22,570
6	06-474904	06-Fre-168-19.6/29.9, T41.0/752.9	RAC (TYPE G)	13,400	24,790
7	06-478004	06-Ker-46-82.4/93.0	RAC (TYPE O)	7,720	14,282
8	07-105484	07-Ven-150-24.4/38.6	RAC (WARRANTY)	21,800	40,330
9	07-142204	07-LA-72-0.0/11.0	RAC (TYPE G)	21,600	39,960
10	07-181604	07-LA-91-R22.5/R33.4	RAC (TYPE G)	270	500
11	07-189704	07-LA-170-16.2/17.4	RAC (TYPE G)	1,830	3,386
12	07-1Y1604	07-LA-118-R12.1/R13.4	RAC (TYPE G)	2,140	3,959
13	07-1Y2904	07-LA-110-32.2/35.6	RAC (TYPE G)	70	130
14	07-4H4304	07-LA-10S-40.0/41.0	RAC (TYPE G)	1,100	2,035
15	08-1A6104	08-Riv-10-R215.7/R231.9	RAC (TYPE G)	35,300	65,305
16	08-428164	08-Riv-86/111/195-3.8/27.8,29.6/40.2,0.3/10.6	RAC (TYPE G)	41,400	76,590
17	08-334834	08-Riv-60,91-18.9/19.2	SHREDDED TIRES RET. WALL	2,260	75,000
18	10-0G6504	10-Mer-33,140-R0.0/R9.0,0.3/18.9	RAC (TYPE O)	5,200	4,181
19	10-0H7304	10-Ama,Mer-49, 99-23.7/28.3, 0.0/3.9	RAC (TYPE O)	6,920	9,620
20	12-029824	12-Ora-405-18.2/27.4	RAC (TYPE G)	18,500	12,802
21	12-094104	12-Ora-57-18.1/36.3	RAC (TYPE G)	1	34,225
22	12-0E5804	12-Ora-90-3.6	RAC (TYPE G)	13,400	2
23	12-1072U4	12-Ora-133-6.7/13.0	RAC (TYPE G)	258,806	24,790
TOTAL				258,806	553,791

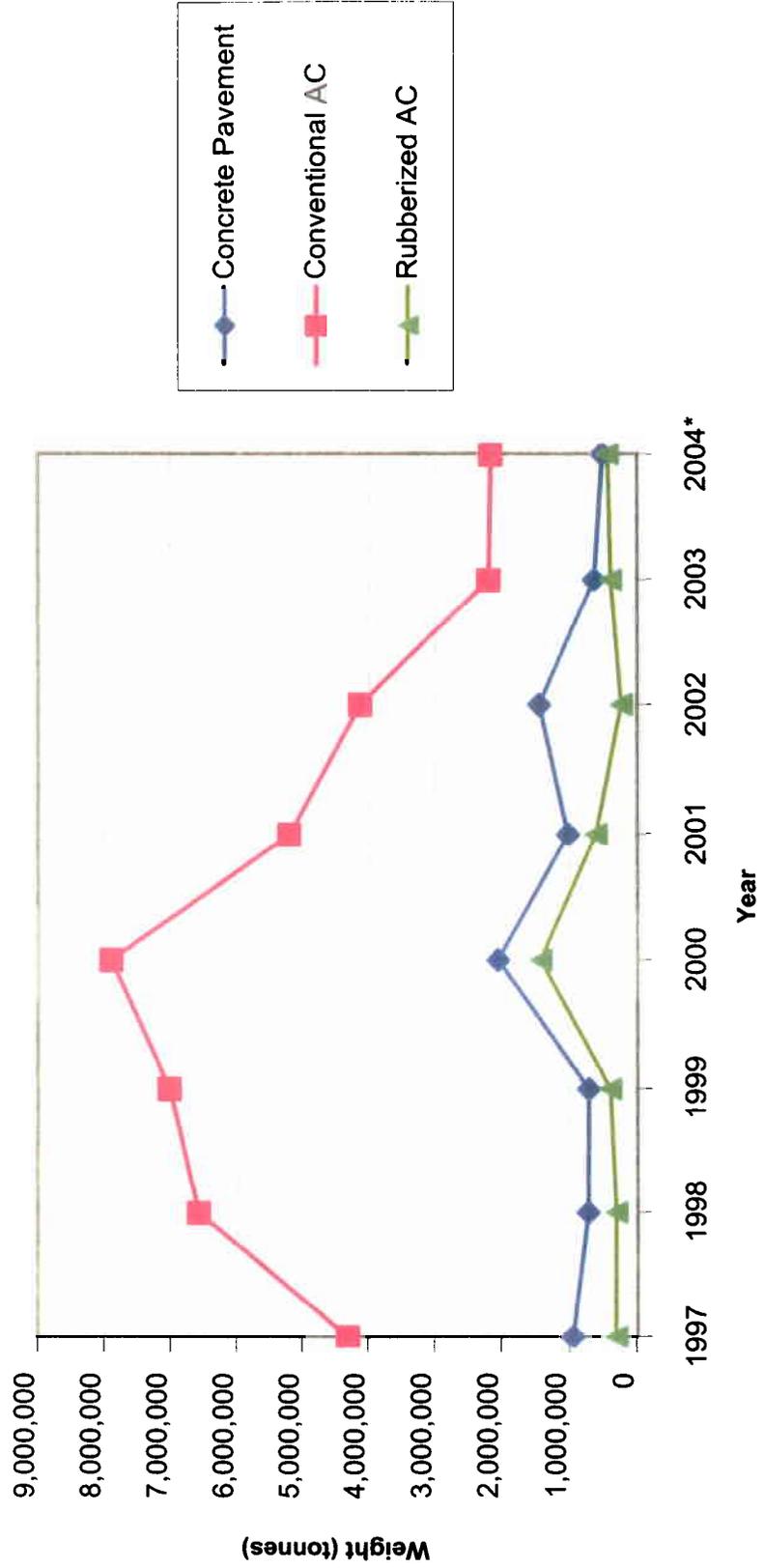
CONTRACT	DIST/CO/RTE/PM	AWARD DATE	ITEM DESCRIPTION	TONNES	TIRES
1	02-258504	02-Las-395-19.0/39.9	RAC (WARRANTY)	23,616	43,690
2	04-1R9404	04-Ala-61-30.1/31.9	RAC (TYPE G)	2,100	3,885
3	04-2285U4	04-CC-680-25.1/39.1	RAC (TYPE G)	31,900	59,015
4	04-229014	04-CC-4-35.4/38.9	RAC (TYPE G)	6,730	12,451
5	04-272614	04-Ala-84-29.5/32.8, 36.7/38.0	RAC (TYPE G)	5,800	10,730
6	06-385504	06-Fre-33-11.8/133.7	RAC (TYPE G)	4,860	8,991
7	06-398104	06-Fre-269-0.0/20.5	RAC (TYPE G)	33,200	61,420
8	06-445204	06-Fre-198-5.3/19.8	RAC (TYPE O)	6,170	11,415
9	06-492704	06-Mad-41-5.2/11.2	RAC (TYPE O)	4,960	9,176
10	07-1257U4	07-LA-57,60-R5.2/R7.3 R36.1/R40.0	RAC (TYPE G)	470	870
11	07-1Y0204	07-LA-5-60.2/68.7	RAC (TYPE G)	5,100	9,435
12	07-1Y0604	07-LA-14-87.4/88.0	RAC (TYPE G)	890	1,647
13	07-1Y2204	07-LA-210-R40.6/R74.6	RAC (TYPE G)	12,200	22,570
14	07-1Y3804	07-Ven-126-27.7/33.1	RAC (TYPE G)	3,120	5,772
15	07-1Y3804	07-Ven-126-27.7/33.1	RAC (TYPE O)	5,500	10,175
16	08-1A0304	08-SBd-83-R 0.0/4.4	RAC (TYPE G)	5,420	10,027
17	08-358434	08-SBd-38-16.3/24.0	RAC (TYPE G)	13,900	25,715
18	10-0A5804	10-Mer-140-43.4/48.6	RAC (WARRANTY)	6,804	12,587

CONTRACT	DIST/COR/TE/PM	AWARD DATE	ITEM DESCRIPTION	ITEM CODE	PROGRAM	TONNES	TIRES
19 10-0G6304	10-Mer,SJ-59, 99, 120-Var	5/12/2003	RAC (TYPE G)	390206	Maint/HM1	2,430	4,496
20 11-199964	11-imp-111-R20.9/R35.6	5/19/2003	RAC (TYPE G)	370120	HM1	650	23,834
21 11-230104	11-SD-75-17.7/28.0	2/11/2003	RAC (WARRANTY)	32193	HB1		1,850
22 11-232404	11-imp-86-43.9/44.6	2/6/2003	RAC (TYPE G)	390127	SHOPP/201.01	1,150	2,128
23 11-236204	11-imp-111-14.2/20.3	10/20/2003	RAC (TYPE G)	390127	SHOPP/201.121	2,440	4,514
24 11-241104	11-imp-86-31.4/33.2 & 60.0/69.7	5/2/2003	RAC (TYPE G)	390207	SHOPP/201.12	44,500	82,325
25 11-241154	11-SD-78-R43.1/57.1	5/16/2003	RAC (TYPE G)	390206	SHOPP/201.121	49,300	91,205
26 11-242004	11-SD-94-R83.7/84.1	5/16/2003	RAC (TYPE G)	390206	SHOPP/201.121	27,100	50,135
27 12-099414	12-Ora-405-20.3/40.3	9/26/2003	RAC (TYPE G)	370120	HM1A	120	4,400
28 12-0A4004	12-Ora-5-11.9/13.8	4/22/2003	RAC (TYPE G)	370120	HM1A	1050	38,500
29 12-0C15U4	12-Ora-5-2.7/ 11.1	8/5/2003	RAC (TYPE G)	370120	HM1	420	15,400
30 12-0C15U4	12-Ora-5-2.7/ 11.1	8/5/2003	RAC (TYPE O)	390126	SHOPP/201.121	105,300	194,805
31 12-0F1904	12-Ora-5-48.8/ 50.5	5/20/2003	RAC (TYPE G)	390126	Maint/HM1A	9,270	17,150
32 12-0F2004	12-Ora-39-5.3/14.2	6/12/2003	RAC (TYPE G)	390206	Minor A/201.12	7,240	13,394
33 12-0F6204	12-Ora-5-10.9	7/22/2003	RAC (TYPE G)	390206	Minor A/201.12	6,690	12,377
				390206	Minor A/201.12	5,370	9,935
				390127	Maint/HM1A	7,500	13,875
				390126	Minor A/201.120	7,360	13,616
				390206	Maint/HM1	2,860	5,291
				370120	HM1A	300	11,000
				390206	Minor A/201.12	3,270	6,050
				390126	Minor A/201.12	210	389
				390206	SHOPP/201.121	31,300	57,905
				390206	Maint/HM1A	2,490	4,607
					TOTAL	414,160	766,202

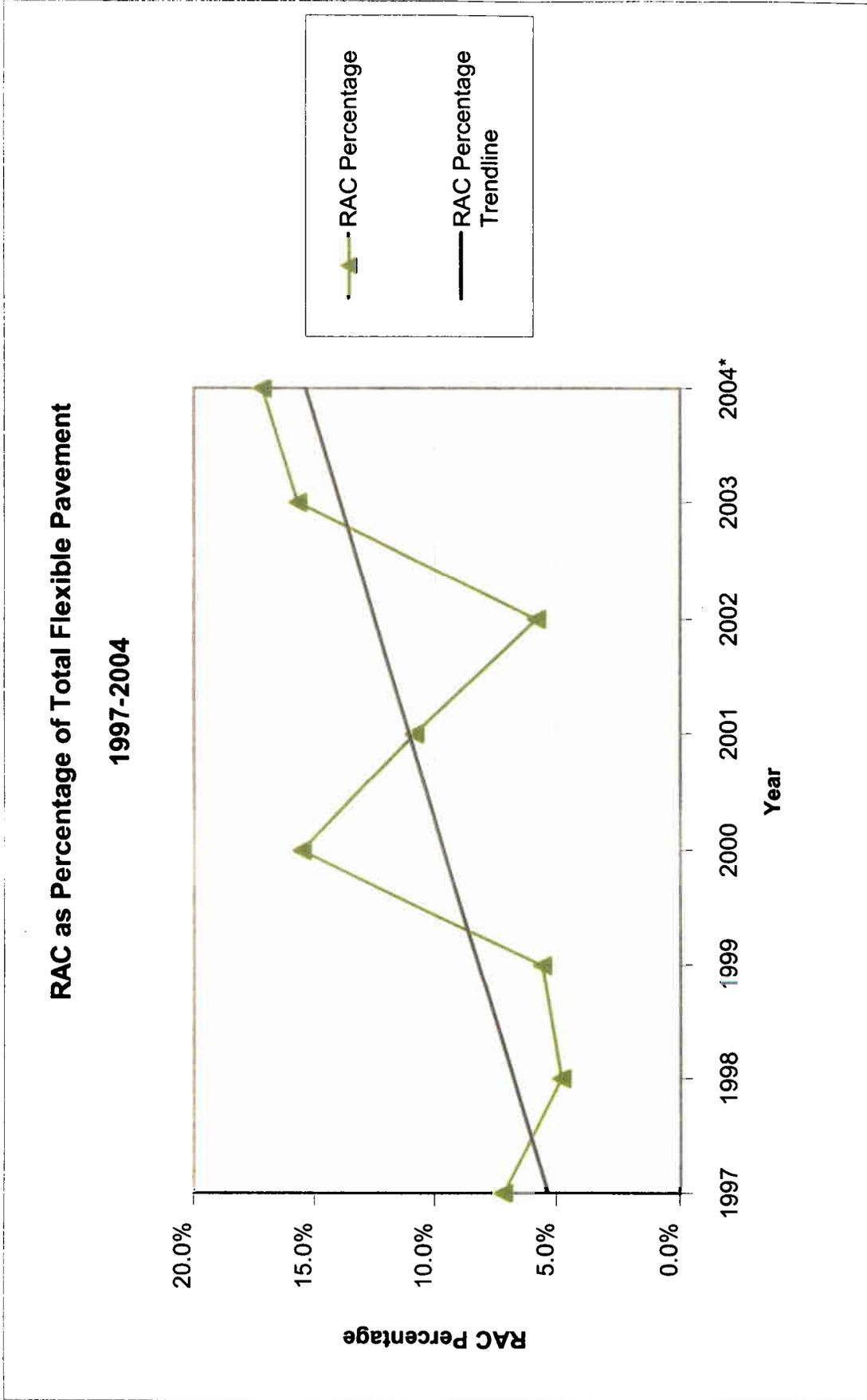
CONTRACT	DIST/COR/TE/PM	AWARD DATE	ITEM DESCRIPTION	ITEM CODE	PROGRAM	TONNES	TIRES
1 02-0C7004	02-Las-36-41.8/R42.8	5/13/2004	RAC (TYPE G)	390206	Maint/HM1	2,430	4,496
2 02-0C9004	02-Mod,Sha-299-15.3/27.4□11.6/22.9	5/25/2004	A-R BINDER	370120	HM1	650	23,834
3 03-4C4004	03-Pla-65-R7.8/R14.1	1/22/2004	WEED CONTROL (RUBBER MAT)	32193	HB1		1,850
4 03-3C6904	03-Sac,Yol,But-5,50,51,80,99, 191-Var.	4/7/2004	RAC (TYPE O)	390127	SHOPP/201.01	1,150	2,128
5 03-0C0204	03-Sac-5-27.7/28.8	4/12/2004	RAC (TYPE O)	390127	SHOPP/201.121	2,440	4,514
6 03-0A6004	03-Pla-80-23.0/53.6	6/10/2004	RAC (TYPE O)	390207	SHOPP/201.12	44,500	82,325
7 04-0C7804	04-SCI-680-0.0/16.0	6/2/2004	RAC (TYPE G)	390206	SHOPP/201.121	49,300	91,205
8 04-0C7504	04-SCI-101-0.0/R28.3	6/29/2004	RAC (TYPE G)	390206	SHOPP/201.121	27,100	50,135
9 05-0J5604	05-SLO-41-66.2/70.5	3/1/2004	A-R BINDER	370120	HM1A	120	4,400
10 05-0J5504	05-SB-01-R1.0/R2.7 R4.0/31.0	5/19/2004	A-R BINDER	370120	HM1A	1050	38,500
11 06-480804	06-Ker-58-123.9/133.0	3/8/2004	A-R BINDER	370120	HM1	420	15,400
12 06-486004	06-Fre-5-78.2/105.9	4/12/2004	RAC (TYPE G)	390126	SHOPP/201.121	105,300	194,805
13 06-493104	06-Fre-33-67.6/97.4	4/23/2004	RAC (TYPE G)	390126	Maint/HM1A	9,270	17,150
14 06-496804	06-Ker-119-24.5/29.3	4/29/2004	RAC (TYPE G)	390206	Minor A/201.12	7,240	13,394
15 06-479904	06-Fre-168-65.0/75.0	5/13/2004	RAC (TYPE G)	390126	Minor A/201.121	6,690	12,377
16 06-496504	06-Tul-99-64.8/66.8	5/13/2004	RAC (TYPE G)	390206	Minor A/201.12	5,370	9,935
17 06-477704	06-Ker,Kin-5-132.4/140.1,□0.0/7.1	5/18/2004	RAC (TYPE O)	390127	Maint/HM1A	7,500	13,875
18 06-480104	06-Ker-58-KP R207.6/R223.6	5/19/2004	RAC (TYPE G)	390126	Minor A/201.120	7,360	13,616
19 06-499404	06-Mad-41-40.2/44.9	5/19/2004	RAC (TYPE G)	390206	Maint/HM1	2,860	5,291
20 06-489404	06-Ker-155-R97.6/R114.2	5/25/2004	A-R BINDER	370120	HM1A	300	11,000
21 06-497004	06-Ker-166-33.9/36.4	5/28/2004	RAC (TYPE G)	390206	Minor A/201.12	3,270	6,050
22 07-4J0904	07-LA-1-40.9/41.2	5/4/2004	RAC (TYPE G)	390126	Minor A/201.12	210	389
23 07-226204	07-LA-5-0.0/18.5	6/9/2004	RAC (TYPE G)	390206	SHOPP/201.121	31,300	57,905
24 07-1Y1404	07-LA,SBd-71,60-1.9/2.2, 0.0	6/10/2004	RAC (TYPE G)	390206	Maint/HM1A	2,490	4,607

25	07-214304	07-LA-10,10S-28.5/34.6,S0.5/0.6	6/17/2004	RAC (TYPE G)	390206	SHOPP/201.121	11,040	20,424
26	07-1Y1004	07-LA-57, 210-R1.6/R10.4, R74.5/R76.5	6/23/2004	RAC (TYPE G)	390206	Maint/HM1A	3,190	5,902
27	07-1Y3404	07-LA-110-25.7/33.3	6/24/2004	RAC (TYPE G)	390126	Maint/HM1A	3,060	5,661
28	07-1Y4004	07-LA-5-24.7/26.6	6/24/2004	RAC (TYPE G)	390126	Maint/HM1B	650	1,203
29	07-1Y3004	07-LA-47-L0.0/1.2	6/29/2004	RAC (TYPE G)	390126	Maint/HM1A	1,600	2,960
30	08-0E1704	08-SBd-62-50.2/52.8	5/5/2004	RAC (TYPE O)	390127	Maint/HM1A	3,800	7,030
31	08-1A0804	08-SBd-18-141.3/155.1	5/11/2004	RAC (TYPE O)	390127	Maint/HM1A	17,300	32,005
32	08-0E0504	08-SBd-2-6.4/10.3	5/19/2004	A-R BINDER	370120	HM1A	164	6,013
33	08-478804	08-Riv-215-44.1/61.3	5/25/2004	RAC (TYPE G)	390126	SHOPP/201.121	75,300	139,305
34	08-0A1804	08-SBd-10-R0.0/R14.8	6/23/2004	RAC (TYPE G)	390126	SHOPP/201.121	1,600	2,960
35	10-0J0004	10-SJ-99-36.9/46.0	4/23/2004	RAC (TYPE O)	390207	Maint/HM1A	9,580	17,723
36	10-428304	10-Mpa-140-24.9/30.4	6/1/2004	RAC (TYPE G)	390206	SHOPP/201.12	6,040	11,174
37	11-228904	11-SD-5-R23.3/R24.6	6/29/2004	RAC (TYPE G)	390126	SHOPP/201.121	3,520	6,512
38	12-0F6004	12-Ora-57,90-31.6/32.0,8.3/8.5	1/2/2004	RAC (TYPE G)	390126	SHOPP/201.01	530	981
TOTAL							455,694	939,035

Pavement Trends 1997-2004



* Through 1st 2 quarters only



* Through 1st 2 quarters only
 RAC percentage determined by comparing RAC to all flexible pavements, by weight.