Appendix D
Air Quality and Greenhouse Gas Emissions Modeling Data

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Summary of Menifee's GHG Emissions

Forecasting CAP Target	753,721	150,744	452,232
	2020	2050	2035
	AB 32	S-03-05	Interpolated
		80% Below	40% Below
	1990 Levels	1990 Levels	1990 Levels
Forecasting SCAQMD's GHG Target	6.6	1.3	4.0
	2020	2050	2035
	AB 32	S-03-05	Interpolated
		80% Below	40% Below
	1990 Levels	1990 Levels	1990 Levels

	2010		2012		2020 BAU			2035 BAU			P-2035 BAU		P-2035 Alt 2 BAU		2020 Adjusted		2035 Adjusted		P-2035 Adjusted		P-2035 Alt 2 Adjusted	
	MTons*	Percent	MTons*	Percent	MTons*	Percent	Increase MTons from 2010	MTons*	Percent	Increase Mtons from 2010	MTons*	Percent	MTons*	Percent	MTons*	Percent	MTons*	Percent	MTons*	Percent	MTons*	Percent
Transportation***	685,320	77%	787,560	76%	852,620	77%	167,300	985,210	77%	299,890	1,146,010	90%	1,189,160	93%	599,280	73%	618,420	72%	719,360	57%	746,430	56%
Residential	104,710	12%	107,800	10%	119,300	11%	14,590	140,880	11%	36,170	214,680	17%	213,990	17%	104,430	13%	120,200	14%	174,120	14%	173,610	13%
Purchased Electricity	*56,820*		*58,500*		*64,740*		*7,920*	*76,450*		*19,630*	*116,500*		*116,120*		*52,260*		*61,690*		*93,940*		*93,640*	
Natural Gas	*47,890*		*49,300*		*54,560*		*6,670*	*64,430*		*16,540*	*98,180*		*97,870*		*52,170*		*58,510*		*80,180*		*79,970*	
Commercial+Industrial	33,100	4%	73,710	7%	75,020	7%	41,920	77,480	6%	44,380	379,200	30%	435,300	34%	60,380	7%	62,130	7%	277,820	22%	317,930	24%
Purchased Electricity	*26,140*		*58,220*		*59,250*		*33,110*	*61,190*		*35,050*	*299,490*		*343,800*		*47,430*		*48,830*		*221,360*		*253,440*	
Natural Gas	*6,960*		*15,490*		*15,770*		*8,810*	*16,290*		*9,330*	*79,710*		*91,500*		*12,950*		*13,300*		*56,460*		*64,490*	
Municipal	752	0%	752	0%	942	0%	190	1,093	0%	341	2,266	0%	2,396	0%	742	0%	852	0%	1,694	0%	1,785	0%
Purchased Electricity	*750*		*750*		*940*		*190*	*1,090*		*340*	*2,260*		*2,390*		*740*		*850*		*1,690*		*1,780*	
Natural Gas	*2*		*2*		*2*		*0*	*3*		*1*	*6*		*6*		*2*		*2*		*4*		*5*	
Water/Wastewater	22,950	3%	26,350	3%	25,100	2%	2,150	28,960	2%	6,010	60,190	5%	63,520	5%	20,970	2.6%	24,190	2.8%	49,650	3.9%	49,830	3.7%
Residential + Non-Residential	*22,950*		*26,350*		*25,100*		*2,150*	*28,960*		*6,010*	*60,190*		*63,520*		*20,970*		*24,190*		*49,650*		*49,830*	
Municipal	*0.02*		*0.02*		*0.02*		*0.00*	*0.02*		*0.01*	*0.05*		*0.05*		*0.02*		*0.02*		*0.04*		*0.05*	
Waste****	830	0%	850	0%	930	0%	100	1,080	0%	250	2,240	0%	2,360	0%	930	0%	1,080	0%	2,240	0%	2,360	0%
Other Sources	39,070	4%	39,360	4%	38,750	3%	-320	38,740	3%	-330	41,720	3%	42,040	3%	34,880	4.2%	34,860	4.0%	41,150	3.3%	41,430	3.1%
Offroad Equipment	*38,650*		*38,940*		*38,750*		*100*	*38,740*		*90*	*41,720*		*42,040*		*34,880*		*34,860*		*41,150*		*41,430*	
Livestock	*420*		*420*		*0*		*-420*	*0*		*-420*	*0*		*0*		*0*		*0*		*0*		*0*	
Industrial (Permitted)**	1,312,210		1,312,210		1,312,210			1,312,210			1,312,210		1,312,210		1,312,210		1,312,210		1,312,210		1,312,210	
Total (with Permitted)	2,198,940		2,348,590		2,424,870			2,585,650			3,158,520		3,260,980		2,133,820		2,173,940		2,578,240		2,645,590	
Total (without Permitted)	**886,730**	**100%**	**1,036,380**	**100%**	**1,112,660**	**100%**	**225,930**	**1,273,440**	**100%**	**386,711**	**1,846,310**	**145%**	**1,948,770**	**153%**	**821,610**	**100%**	**861,730**	**100%**	**1,266,030**	**100%**	**1,333,380**	**100%**
15% Below "CAP Baseline"	753,721				753,721										753,721							
GHG Reductions Needed	133,010				358,940										67,890							
Year 2035 Reduction Target					n/a			452,232									452,232					
GHG Reductions Needed					n/a			821,208									409,498					
30% Below BAU					778,862										778,862							
GHG Reductions Needed					333,798										42,748							
Revised 2020 Target 21.7% Below BAU					871,213										871,213							
GHG Reductions Needed					241,447										-49,603							
Local Reductions*****																						
TOTAL with Reductions					**1,112,660**	**Percent Change**		**1,273,440**	**Percent Change**		**1,846,310**	**Percent Change**	**1,948,770**	**Percent Change**	**821,610**		**861,730**		**1,266,030**		**1,333,380**	
Short of 15% Existing Goal					**358,940**			**n/a**							**67,890**		**n/a**					
Short of Year 2035 Reduction Goal					**n/a**			**821,208**							**n/a**		**409,498**					
Short of 30% BAU Goal															**42,748**							
Short of 21.7% Revised BAU Goal															**-49,603**							
Change from BAU to ABAU																						
Population	77,519				88,331	25.48%		104,309	43.61%		158,942	65.94%	158,434	762.55%	88,331		104,309		158,942		158,434	
Employment	8,776				19,894			20,544			100,554		115,433		19,894		20,544		100,554		115,433	
Service Population	86,295				108,225			124,853			259,496		273,867		108,225		124,853		259,496		273,867	
MTons/SP	10.3				10.3			10.2			7.1		7.1		7.6		6.9		4.9		4.9	
MTons/SP with Local Reductions											7.1		7.1		7.6		6.9		4.9		4.9	
SCAQMD GHG GP Threshold (PROGRAM LEVEL)	n/a				6.6			4.0			n/a		n/a		6.6		4.0		4.0		4.0	

Notes

*Inventory is rounded to the tens place.

** Not included in Target setting since permitted (industrial) sources of GHG emissions are under the jurisdiction of SCAQMD and not the City of Menifee. (Includes GHGs from the Inland Empire Energy Center)

*** Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

**** Assumes a 75% landfill gas capture rate. The Landfill gas capture efficiency is based on the California Air Resources Board's (CARB) Local Government Operations Protocol (LGOP), Version 1.1. Because the landfill gas captured is not under the jurisdiction of Menifee, the landfill gas emissions from the capture system are not included in Menifee's inventory. Only fugitive sources of GHG emissions from landfill are included.

*****2.6% reduction based on City of Menifee General Plan Circulation Element Goals to reduce vehicle miles traveled. Urban Crossroads. 2013, July 24. *Menifee General Plan Circulation Element VMT Reduction Strategies* .

CITY OF MENIFEE - GHG EMISSIONS INVENTORY COMPARISON

	Change of ABAU from 2010 $MTCO_2e$				Change from BAU to ABAU			
SECTORS	**Delta 2020**	**Delta 2035**	**P-2035**	**P-2035 Alt 2**	**Delta 2020**	**Delta 2035**	**Delta P-2035**	**Delta P-2035 Alt 2**
Transportation	(86,040)	(66,900)	34,040	61,110	(253,340)	(366,790)	(426,650)	(442,730)
Residential	(280)	15,490	69,410	68,900	(14,870)	(20,680)	(40,560)	(40,380)
Purchased Electricity	(4,560)	4,870	37,120	36,820	(12,480)	(14,760)	(22,560)	(22,480)
Natural Gas	4,280	10,620	32,290	32,080	(2,390)	(5,920)	(18,000)	(17,900)
Commercial+Industrial	27,280	29,030	244,720	284,830	(14,640)	(15,350)	(101,380)	(117,370)
Purchased Electricity	21,290	22,690	195,220	227,300	(11,820)	(12,360)	(78,130)	(90,360)
Natural Gas	5,990	6,340	49,500	57,530	(2,820)	(2,990)	(23,250)	(27,010)
Municipal	(10)	100	942	1,033	(200)	(241)	(572)	(611)
Purchased Electricity	(10)	100	940	1,030	(200)	(240)	(570)	(610)
Natural Gas	0	0	2	3	0	(1)	(2)	(1)
Water/Wastewater	(1,980)	1,240	26,700	26,880	(4,130)	(4,770)	(10,540)	(13,690)
Residential + Non-Residential	(1,980)	1,240	26,700	26,880	(4,130)	(4,770)	(10,540)	(13,690)
Municipal	0	0	0	0	(0)	(0)	(0)	(0)
SUM OF BUILDING & ENERGY					(33,840)	(41,040)	(153,050)	(172,050)
Waste	100	250	1,410	1,530	0	0	0	0
Other Sources	(4,190)	(4,210)	2,080	2,360	(3,870)	(3,880)	(570)	(610)
Offroad Equipment	(3,770)	(3,790)	2,500	2,780	(3,870)	(3,880)	(570)	(610)
Livestock	(420)	(420)	(420)	(420)	0	0	0	0
Total Community Emissions	(65,120)	(25,000)	379,300	446,640	(291,050)	(411,710)	(580,270)	(615,390)
	-7%	-3%	37%	43%	-26%	-32%	-31%	-32%

CITY OF MENIFEE - CRITERIA AIR POLLUTANT INVENTORY

EXISTING BASELINE	2012 - lbs/day					
SECTORS	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Transportation	4,061	5,302	35,400	50	696	331
Energy - Residential (Natural Gas)	27	234	100	1	19	19
Energy - Nonresidential* (Natural Gas)	9	78	66	0	6	6
Energy - City (Natural Gas)	0	0	0	0	0	0
Energy sub-total	*36*	*312*	*165*	*2*	*25*	*25*
Area Source - Agricultural Equipment	9	50	57	0	3	2
Area Source - Construction Equipment	352	2,419	1,900	3	153	114
Area Source - Lawn & Garden Equipment	196	45	2,032	0	6	3
Area Source - Light Commercial Equipment	18	31	366	0	3	2
Area Sources sub-total	*575*	*2,545*	*4,355*	*3*	*165*	*121*
Total	4,672	8,160	39,920	55	886	477
Permitted Sources	25	53	21	2	23	6
Total with Permitted Sources	4,697	8,213	39,941	57	909	483
	2012 - tons/year					
SECTORS	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Transportation	705	920	6,142	9	121	57
Energy - Residential (Natural Gas)	5	43	18	0	3	3
Energy - Nonresidential* (Natural Gas)	2	14	12	0	1	1
Energy - City (Natural Gas)	0	0	0	0	0	0
Energy sub-total	*7*	*57*	*30*	*0*	*5*	*5*
Area Source - Agricultural Equipment	2	9	10	0	1	0
Area Source - Construction Equipment	61	420	330	0	27	20
Area Source - Lawn & Garden Equipment	34	8	353	0	1	1
Area Source - Light Commercial Equipment	3	5	64	0	1	0
Area Sources sub-total	*100*	*442*	*756*	*0*	*29*	*21*
Total	811	1,419	6,928	10	154	83

EXISTING (2012) w/2035 EMISSION RATES	Existing 2012 Land Uses (w/2035 Emission Rates) - lbs/day					
SECTORS	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Transportation	1,329	1,355	11,081	50	637	278
Energy - Residential (Natural Gas)	27	234	100	1	19	19
Energy - Nonresidential* (Natural Gas)	9	78	66	0	6	6
Energy - City (Natural Gas)	0	0	0	0	0	0
Energy sub-total	36	312	165	2	25	25
Area Source - Agricultural Equipment	9	50	57	0	3	2
Area Source - Construction Equipment	352	2,419	1,900	3	153	114
Area Source - Lawn & Garden Equipment	196	45	2,032	0	6	3
Area Source - Light Commercial Equipment	18	31	366	0	3	2
Area Sources sub-total	*575*	*2,545*	*4,355*	*3*	*165*	*121*
Total	1,940	4,212	15,601	54	827	424
Change due to Emission Factors	-2,733	-3,948	-24,319	0	-59	-53
Permitted Sources	25	53	21	2	23	6
Total with Permitted Sources	1,964	4,265	15,622	57	850	430
Change due to Emission Factors	-2,733	-3,948	-24,319	0	-59	-53
	Existing 2012 Land Uses (w/2035 Emission Rates) - tons/year					
SECTORS	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Transportation	231	235	1,923	9	110	48
Energy - Residential (Natural Gas)	5	43	18	0	3	3
Energy - Nonresidential* (Natural Gas)	2	14	12	0	1	1
Energy - City (Natural Gas)	0	0	0	0	0	0
Energy sub-total	7	57	30	0	5	5
Area Source - Agricultural Equipment	2	9	10	0	1	0
Area Source - Construction Equipment	61	420	330	0	27	20
Area Source - Lawn & Garden Equipment	36	8	371	0	1	1
Area Source - Light Commercial Equipment	3	6	67	0	1	0
Area Sources sub-total	*102*	*443*	*778*	*0*	*29*	*21*
Total	339	735	2,730	9	144	74
Change due to Emission Factors	-472	-684	-4,197	0	-10	-9

HORIZON YEAR 2035	Horizon Year 2035 Land Uses - lbs/day					
SECTORS	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Transportation	1,670	1,702	13,924	62	800	350
Energy - Residential (Natural Gas)	36	306	130	2	25	25
Energy - Nonresidential* (Natural Gas)	9	82	69	0	6	6
Energy - City (Natural Gas)	0	0	0	0	0	0
Energy sub-total	45	388	199	2	31	31
Area Source - Agricultural Equipment	0	0	0	0	0	0
Area Source - Construction Equipment	352	2,419	1,900	3	153	114
Area Source - Lawn & Garden Equipment	247	65	2,940	0	9	5
Area Source - Light Commercial Equipment	23	45	530	0	5	2
Area Sources sub-total	*621*	*2,529*	*5,370*	*3*	*167*	*121*
Total	2,336	4,620	19,493	68	998	502
Net Change from Baseline (with 2035 Emission Rates)	396	408	3,892	13	171	77
Permitted Sources	25	53	21	2	23	6
Total with Permitted Sources	2,361	4,673	19,514	70	1,021	508
Net Change from Baseline	396	408	3,892	13	171	77
	Horizon Year 2035 Land Uses - tons/year					
SECTORS	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Transportation	290	295	2,416	11	139	61
Energy - Residential (Natural Gas)	7	56	24	0	5	5
Energy - Nonresidential* (Natural Gas)	2	15	13	0	1	1
Energy - City (Natural Gas)	0	0	0	0	0	0
Energy sub-total	8	71	36	0	6	6
Area Source - Agricultural Equipment	0	0	0	0	0	0
Area Source - Construction Equipment	61	420	330	0	27	20
Area Source - Lawn & Garden Equipment	45	12	537	0	2	1
Area Source - Light Commercial Equipment	4	8	97	0	1	0
Area Sources sub-total	*110*	*440*	*963*	*0*	*29*	*21*
Total	408	806	3,415	12	174	87
Net Change from Baseline	69	71	685	2	30	13

FORECAST YEAR P-2035 (GP Buildout)	P-2035 Land Uses - lbs/day					
SECTORS	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Transportation	1,942	1,980	16,197	73	931	407
Energy - Residential (Natural Gas)	55	466	198	3	38	38
Energy - Nonresidential* (Natural Gas)	44	403	338	2	31	31
Energy - City (Natural Gas)	0	0	0	0	0	0
Energy sub-total	*99*	*869*	*537*	*5*	*68*	*68*
Area Source - Agricultural Equipment	0	0	0	0	0	0
Area Source - Construction Equipment	352	2,419	1,900	3	153	114
Area Source - Lawn & Garden Equipment	512	136	6,111	0	19	10
Area Source - Light Commercial Equipment	47	94	1,101	0	10	5
Area Sources sub-total	*912*	*2,649*	*9,112*	*3*	*181*	*128*
Total	2,953	5,498	25,846	81	1,180	604
Net Change from Baseline (with 2035 Emission Rates)	1,013	1,285	10,245	27	353	179
Permitted Sources	25	53	21	2	23	6
Total with Permitted Sources	2,977	5,551	25,867	83	1,203	610
Net Change from Baseline (with 2035 Emission Rates)	1,013	1,285	10,245	27	353	179
	P-2035 Land Uses - tons/year					
SECTORS	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Transportation	337	344	2,810	13	162	71
Energy - Residential (Natural Gas)	10	85	36	1	7	7
Energy - Nonresidential* (Natural Gas)	8	74	62	0	6	6
Energy - City (Natural Gas)	0	0	0	0	0	0
Energy sub-total	*18*	*159*	*98*	*1*	*12*	*12*
Area Source - Agricultural Equipment	0	0	0	0	0	0
Area Source - Construction Equipment	61	420	330	0	27	20
Area Source - Lawn & Garden Equipment	94	25	1,115	0	3	2
Area Source - Light Commercial Equipment	9	17	201	0	2	1
Area Sources sub-total	*163*	*462*	*1,646*	*1*	*32*	*22*
Total	518	964	4,554	14	206	105
Net Change from Baseline (with 2035 Emission Rates)	179	229	1,824	5	62	32

FORECAST YEAR P-2035 (Alt 2)	P-2035 Alt 2 Land Uses - lbs/day					
SECTORS	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Transportation	2,015	2,054	16,806	75	966	422
Energy - Residential (Natural Gas)	54	465	198	3	38	38
Energy - Nonresidential* (Natural Gas)	51	462	388	3	35	35
Energy - City (Natural Gas)	0	0	0	0	0	0
Energy sub-total	*105*	*927*	*586*	*6*	*73*	*73*
Area Source - Agricultural Equipment	0	0	0	0	0	0
Area Source - Construction Equipment	352	2,419	1,900	3	153	114
Area Source - Lawn & Garden Equipment	541	143	6,450	1	20	10
Area Source - Light Commercial Equipment	50	99	1,162	0	10	5
Area Sources sub-total	*943*	*2,661*	*9,512*	*3*	*183*	*129*
Total	3,063	5,643	26,904	84	1,221	624
Net Change from Baseline (with 2035 Emission Rates)	1,124	1,431	11,303	30	394	200
Permitted Sources	25	53	21	2	23	6
Total with Permitted Sources	3,088	5,696	26,925	86	1,244	630
Net Change from Baseline (with 2035 Emission Rates)	1,124	1,431	11,303	30	394	200
	P-2035 Alt 2 Land Uses - tons/year					
SECTORS	**ROG**	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Transportation	350	356	2,916	13	168	73
Energy - Residential (Natural Gas)	10	85	36	1	7	7
Energy - Nonresidential* (Natural Gas)	9	84	71	1	6	6
Energy - City (Natural Gas)	0	0	0	0	0	0
Energy sub-total	*19*	*169*	*107*	*1*	*13*	*13*
Area Source - Agricultural Equipment	0	0	0	0	0	0
Area Source - Construction Equipment	61	420	330	0	27	20
Area Source - Lawn & Garden Equipment	99	26	1,177	0	4	2
Area Source - Light Commercial Equipment	9	18	212	0	2	1
Area Sources sub-total	169	464	1,719	1	32	23
Total	538	990	4,742	15	213	109
Net Change from Baseline (with 2035 Emission Rates)						

Notes:

Transportation. EMFAC2011 (exhaust and evaporative only) and Fehr and Peers. Transportation sector includes the full trip length and are not based on VMT data utilizing the RTAC methodology.

Emissions forecasts estimated based on changes in population (residential energy), employment (nonresidential energy), or service population (transportation)

Energy. Based on a thee-year average (2009-2011) of energy use provided by SCE and a three-year average (2007-2009) of natural gas use provided by SoCal Gas. Nonresidential* includes direct access customers, county facilities, and other district facilities within the City boundaries.

Area Sources. OFFROAD2007. Estimated based on population (Landscaping) and employment (Light Commercial Equipment) for Menifee as a percentage of Riverside County. Excludes SCAQMD permitted sources. Does not include emissions from wood-burning fireplaces.

Other Sources. OFFROAD2007. Estimated based on housing permit data for Riverside County and Menifee from the US Census. ** Daily offroad construction emissions multiplied by 347 days/year to account for reduced/limited construction activity on weekends and holidays. Excludes fugitive emissions from construction sites.

Linear Projections for Menifee Emissions Inventory

Base Input | Forecast | Use

Vacancy Rate 7.64%

Table 1-a: Demographic Forecast (TPC|DCE)

	2010	2012	2020	2035	P-2035	P-2035 Alt 2
Population	83,931	86,412	95,638	112,937	172,090	171,540
Population (7.64% vacancy)	77,519	79,810	88,331	104,309	158,942	158,434
Housing Units	30,269	32,859	36,367	42,945	65,439	65,230
Households (7.64% vacancy)	27,461	30,349	33,589	39,664	60,439	60,246
Jobs	8,776	19,547	19,894	20,544	100,554	115,433
Service Population	92,707	105,959	115,532	133,481	272,644	286,973
Service Population w/(7.64% vacancy)	86,295	99,357	108,225	124,853	259,496	273,867

Sources:

2010 Jobs: Longitudinal Employer-Household Dynamics, US Census, 2012.

2012 Housing Units is based on Assessor data and permitted/entitled units. Housholds adjusted to include vacancy rate based on 2010 Census data. Popultion estimate was extrapolated based on 2010 average persons per housing unit, and then adjusted by unit vacancy rate from 2010 Census data.

2020 numbers estimated based on FORECAST excel formula that caclulates 2020 values using a linear trend between the values from 2012 and 2035.

2035 and P-2035 Alt 2 Population, jobs, service population provided by Urban Crossroads' RCIP model.

Base Assumptions

	Units	2010	2012	2020	2035	P-2035	P-2035 Alt 2
Transportation	Daily VMT[1]	4,908,000	5,651,000	6,155,000	7,101,000	8,260,000	8,571,000
Residential							
Purchased Electricity	kWH	196,150,755	201,948,115	223,509,829	263,938,044	402,180,844	400,895,473
Natural Gas	Therms	9,008,460	9,274,711	10,264,958	12,121,673	18,470,640	18,411,608
Commercial/Industrial							
Purchased Electricity	kWH	90,236,498	200,985,965	204,551,650	211,237,309	1,033,915,321	1,186,904,024
Natural Gas	Therms	1,308,742	2,914,993	2,966,708	3,063,673	14,995,356	17,214,222
Municipal							
Purchased Electricity	kWH	2,599,838	2,599,838	3,260,534	3,761,476	7,817,932	8,250,892
Natural Gas	Therms	351	351	440	507	1,054	1,112
Water/Wastewater****							
Electricity - Residential + NonResidential	kWH	77,435,517	89,156,616	84,903,789	97,948,239	203,577,701	214,851,923
Electricity - Municipal	kWH	37,145	42,768	46,585	53,742	111,699	117,885
Waste[2]	tons	42,593	43,483	47,650	54,971	114,252	120,579
Waste Generation	tons	42,583	43,483	47,641	54,961	114,231	120,557
Waste Generation (Alternate Daily Cover)	tons	10	-	9	10	21	22
Other Sectors							
Livestock	Cows	101	101	0	0	0	0

[1] Daily VMT based on population and employment

[2] Waste stream tonnage projections for years 2020, 2035, and P2035 are based on average waste stream of years 2010 through 2012.

Wastewater - Fugitive Emissions

WASTEWATER: Wastewater in Menifee is collected, transported, and treated by the Perris Water Treatment Plant. The majority of wastewater is treated to secondary levels and then discharged into a basin to evaporate.

Fugitive Emissions from Wastewater Associated with Aerobic and Anaerobic Process

CH4 - Microorganisms can biodegrade soluble organic material in wastewater under aerobic (presense of oxygen) or anaerobic (absense of oxygen) conditions. Anaerobic conditions result in the production of CH4.

N2O - Treatment of domestc wastwater during both nitrification and denitrification of the nitrogen present leads to the formation of N2O, usually in the form of urea, ammonia, and proteins. These compounds are converted to nitrate through the aerobic process of nitrification. Denitrification occus under anoxic conditions (without free oxygen), and incolves the biological conversion of nitrate into dinitrogen. N2O can be an intermediate product of both processes, but more often is associated with denitrification.

Notes: Waste discharge facilities in compliance with the United States Environmental Protection Agency's Clean Water Standards do not typically result in CH4 emissions. However, poorly-operated aerobic wastewater treatment systems can result in the generation of CH4. Because wastewater treatment systems are assumed to operate in compliance with state and federal laws pertaining to water quality, CH4 emissions from centralized aerobic treatments are not included in the inventory.

Fugitive Emissions - Process Emissions from WWTP with Nitrification/Denitrification

LGOP Version 1.1. Equation 10.9.

N2O = Wastewater x 10^-6 x Nload x EF effluent x 10^3

	2010	2012	2020	2035	P-2035	P-2035 Alt2
wastewater (Liters)=	7,285,587,215	8,388,376,922	8,223,363,969	9,486,785,355	19,717,536,246	20,809,502,033

10^-6 =	1.00E-06	conversion factor; kg/mg	
N Load	40.00	mg/L of wastewater	USEPA 2008
EF effluent	0.01	kg/N2O/kg N	
10^-3 =	1.00E-03	conversion factor: MTons/kg	

	2010	2012	2020	2035	P-2035	P-2035 Alt2
			MTons			
N2O	1.457	1.678	1.645	1.897	3.944	4.162
CO2e =	452	520	510	588	1,222	1,290

Source: California Air Resources Board (CARB). 2010, May. Local Government Operations Protocol (LGOP), Version 1.1. The LGOP protocol provides default values for all the terms except the Nitrogen Load, which is assumed to be 40 mg of N per Liter of wastewater effluent based on USEPA methodology outlined in the CalEEMod program manual. South Coast Air Quality Management District (SCAQMD). 2011. California Emissions Estimator Model (CalEEMod), Version 2011.1.1. User's Manual. USEPA. 2008. Page 8-12. USEPA cites Metcalf & Eddy, Inc., 1991, "Wastewater Engineering: Treatment Disposal, and Reuse," 3rd Ed. McGraw Hill Publishing.

General Conversion Factors

	Global Warming Potentials (GWP)
CO2	1
CH4	21
N2O	310

Souce: Intergovernmental Panel on Climate Change (IPCC). 2001. Third Assessment Report: Climate Change 2011.

killowatt hrs to megawatt hrs	0.001	
million gallons to AF	0.3259	325851.429
gallons to Liters	3.785	
lbs to Tons	2000	
Tons to Mton	0.9071847	

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

Water and Wastewater - Residential and Commercial

	2010	2012	2020	2035	P-2035	P-2035 Alt2	2010	2012	2020	2035	P-2035	P-2035 Alt2
	Cubic Feet Per year						Million Gallons Per Year					
Water	887,479,074	1,021,813,172	971,643,684	1,120,925,099	2,329,754,542	2,458,777,369	6,639	7,644	7,268	8,385	17,428	18,393
Wastewater	257,316,092	296,264,983	290,436,971	335,059,133	696,394,021	734,960,627	1,925	2,216	2,173	2,506	5,209	5,498

	2010	2012	2020	2035	P-2035	P-2035 Alt2	2010	2012	2020	2035	P-2035	P-2035 Alt2
	Acre-Feet/Year						Liters Per/Year					
Water	20,374	23,458	22,306	25,733	53,484	56,446	25,127,873,422	28,931,377,430	27,510,890,368	31,737,609,187	65,964,121,259	69,617,243,165
Wastewater	5,907	6,801	6,668	7,692	15,987	16,872	7,285,587,215	8,388,376,922	8,223,363,969	9,486,785,355	19,717,536,246	20,809,502,033

	2010	2012	2020	2035	P-2035	P-2035 Alt2	Adjusted 2020	Adjusted 2035	Adjusted P-2035	Adjusted P-2035 Alt2
GHG Emissions	MTons/Year									
Energy	22,430	25,825	24,593	28,372	58,969	62,234	20,460	23,603	49,058	49,243
Fugitive	452	520	510	588	1,222	1,290	510	588	588	588
Total Water/Wastewater	22,950	26,345	25,103	28,960	60,191	63,525	20,970	24,192	49,646	49,831

General Conversion Factors

Cubic Feet to Gallons	7.480519	
killowatt hrs to megawatt hrs	0.001	
million gallons to AF	0.3259	325851.429
gallons to Liters	3.785	
lbs to Tons	2000	
Tons to Mton	0.9071847	

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

Per Capita Use Factors

	Existing GPCD	% of Base	2020 Compliance GPCD
Residential	61.1	90%	55.0
Nonresidential	18.9	90%	17.0
Irrigation	113.9	85%	96.8
Agriculture	16.9	90%	15.2
	210.8		184.0

Source: Eastern Municipal Water District 2010 Urban Water Management Plan, Tables 2.6, "Commercial, Industrial and Institutional, Daily per Capita Use (1999-2008, Calendar year)" and 2.8, "Compliance Daily per Capita Water Use (GPCD).

Water and Wastewater - Embodied Energy (electricity) for Residential and Commercial Uses

Eastern Municipal Water District (EMWD)

Water Supply and Conveyance	Water Treatement	Water Distribution	Total Water	Wastewater Treatment
	kWhr/million gallons			
9,727	111	1,272	11,110	1,911

Source: California Energy Commission (CEC). 2006, December. Refining Estimates of Water-Related Energy Use in California. CEC-500-2006-118. Prepared by Navigant Consulting, Inc. Based on the electricity use for Southern California

Southern California Edison - Emission Factors

	Intensity factor				CO_2e
	lbs CO_2/MWH	MTons CO_2/MWh	CH4 MTons/MWH	N2O MTons/MWH	MTons/MWh
2006	641.26	0.29087063	0.000013	0.000003	0.292
2007	630.89	0.286166878	0.000013	0.000003	0.287
3-Year Average (2006-2008) based on SCE	636	0.288518754	0.000013	0.000003	**0.290**
2020 (CO_2)	528.75	0.239835689	0.000013	0.000003	**0.241**

Source: Southern California Edison. 2012,Spetember. Greenhouse Gas Emissions Factors Info Sheet.
*CO2 intentsiy for 2007 and earlier is based on Edison's third-party-verified GHG inventory submitted to the California Climate Action Registry (CCAR) or The Climate Registry (TCR).

Source: CH4 intensity factor=28.94 lb/GWh; N20 intensity factor=6.17 lb/GWh. United States Environmental Protection Agency. eGRID2012 Version 1.0 Year 2009 GHG Annual Emission Rates. http://www.epa.gov/cleanenergy/documents/egridzips/eGRID2012V1_0_year09_GHGOutputrates.pdf

Note: The 2020 emissions rate includes reductions from 33% Renewable Portfolio Standard (RPS), Cap-and-Trade, and other regulatory reductions for High Global Warming Potential (HGWP) gases such as reductions of SF_6.

2011 GHG Emissions from Water Use - Purchased Energy

Energy Associated with Water Use	2010	2012	2020	2035	P-2035	P-2035 Alt2
	MwH/Year					
Water	73,757	84,921	80,752	93,158	193,623	204,345
Wastewater	3,678	4,235	4,152	4,790	9,955	10,506
Total Water/Wastewater	77,436	89,157	84,904	97,948	203,578	214,852

Indirect GHG Emissions from Energy Associated with Water	2010	2012	2020	2035	P-2035	P-2035 Alt2
	MTons/Year					
Water	21,365	24,599	23,391	26,984	56,085	59,191
Wastewater	1,065	1,227	1,203	1,387	2,884	3,043
Total Water/Wastewater	22,430	25,825	24,593	28,372	58,969	62,234

General Conversion Factors

	Global Warming Potentials (GWP)
CO2	1
CH4	21
N2O	310

Souce: Intergovernmental Panel on Climate Change (IPCC). 2001. Third Assessment Report: Climate Change 2011.

killowatt hrs to megawatt hrs	0.001	
million gallons to AF	0.3259	325851.429
gallons to Liters	3.785	
lbs to Tons	2000	
Tons to Mton	0.9071847	

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

Adjusted Forecast - 2020 PG&E CO2 Intensity

Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. The California Air Resources Board (CARB) has now approved an even higher goal of 33 percent by 2020. Investor-owned utilities, such as PG&E are also required to participate in CARB's Cap-and-Trade program and reduce High Global Warming Potential (HGWP) gases, such as reductions of SF6.

Source: Pacific Gas & Electric (PG&E). 2011, April 8. Greenhouse Gas Emission Factors Info Sheet.
http://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf

Indirect GHG Emissions from Energy Associated with Water	2010	2012	2020	2035	P-2035	P-2035 Alt2
	MTons/Year					
Water	17,774	20,464	19,460	22,449	46,659	49,243
Wastewater	886	1,021	1,001	1,154	2,399	2,532
Total Water/Wastewater	18,660	21,485	20,460	23,603	49,058	51,775

Water and Wastewater - Embodied Energy (electricity) for Municipal Use

Eastern Municipal Water District (EMWD)

Water Supply and Conveyance	Water Treatement	Water Distribution	Total Water	Wastewater Treatment
		kWhr/million gallons		
9,727	111	1,272	11,110	1,911

Source: California Energy Commission (CEC). 2006, December. Refining Estimates of Water-Related Energy Use in California. CEC-500-2006-118. Prepared by Navigant Consulting, Inc. Based on the electricity use for Southern California

Southern California Edison - Emission Factors

	Intensity factor				CO_2e
	lbs CO_2/MWH	MTons CO_2/MWH	CH4 MTons/MWH	N2O MTons/MWH	MTons/MWH
2006	641.26	0.29087063	0.000013	0.000003	0.292
2007	630.89	0.286166878	0.000013	0.000003	0.287
3-Year Average (2006-2008) based on SCE	636	0.288518754	0.000013	0.000003	**0.290**
2020 (CO_2)	528.75	0.239835689	0.000013	0.000003	**0.241**
Source: Southern California Edison. 2012,Spetember. Greenhouse Gas Emissions Factors Info Sheet. *CO2 intentsiy for 2007 and earlier is based on Edison's third-party-verified GHG inventory submitted to the California Climate Action Registry (CCAR) or The Climate Registry (TCR).			Source: CH4 intensity factor=28.94 lb/GWh; N20 intensity factor=6.17 lb/GWh. United States Environmental Protection Agency. eGRID2012 Version 1.0 Year 2009 GHG Annual Emission Rates. http://www.epa.gov/cleanenergy/documents/egridzips/eGRID2012V1_0_year09_GHGOutputrates.pdf		

Note: The 2020 emissions rate includes reductions from 33% Renewable Portfolio Standard (RPS), Cap-and-Trade, and other regulatory reductions for High Global Warming Potential (HGWP) gases such as reductions of SF_6.

2011 GHG Emissions from Water Use - Purchased Energy

Energy Associated with Water Use	2010	2012	2020	2035	P-2035	P-2035 Alt2
			MwH/Year			
Water	0.055	0.064	0.069	0.080	0.166	0.175
Wastewater	0.003	0.003	0.003	0.004	0.008	0.009
Total Water/Wastewater	0.058	0.067	0.073	0.084	0.174	0.184

Indirect GHG Emissions from Energy Associated with Water	2010	2012	2020	2035	P-2035	P-2035 Alt2
			MTons/Year			
Water	0.016	0.018	0.020	0.023	0.048	0.051
Wastewater	0.001	0.001	0.001	0.001	0.002	0.003
Total Water/Wastewater	0.017	0.019	0.021	0.024	0.050	0.053

General Conversion Factors

	Potentials (GWP)
CO2	1
CH4	21
N2O	310

Souce: Intergovernmental Panel on Climate Change (IPCC). 2001. Third Assessment Report: Climate Change 2011.

killowatt hrs to megawatt hrs	0.001	
million gallons to AF	0.3259	325851.429
gallons to Liters	3.785	
lbs to Tons	2000	
Tons to Mton	0.9071847	

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

Adjusted Forecast - 2020 PG&E CO2 Intensity

Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. The California Air Resources Board (CARB) has now approved an even higher goal of 33 percent by 2020. Investor-owned utilities, such as PG&E are also required to participate in CARB's Cap-and-Trade program and reduce High Global Warming Potential (HGWP) gases, such as reductions of SF6.

Source: Pacific Gas & Electric (PG&E). 2011, April 8. Greenhouse Gas Emission Factors Info Sheet. http://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf

Indirect GHG Emissions from Energy Associated with Water	2010	2012	2020	2035	P-2035	P-2035 Alt2
			MTons/Year			
Water	0.013	0.015	0.017	0.019	0.040	0.042
Wastewater	0.001	0.001	0.001	0.001	0.002	0.002
Total Water/Wastewater	0.014	0.016	0.018	0.020	0.042	0.044

Wastewater - Fugitive Emissions

WASTEWATER: Wastewater in Menifee is collected, transported, and treated by the Perris Water Treatment Plant. The majority of wastewater is treated to secondary levels and then discharged into a basin to evaporate.

Fugitive Emissions from Wastewater Associated with Aerobic and Anaerobic Process

CH4 - Microorganisms can biodegrade soluble organic material in wastewater under aerobic (presense of oxygen) or anaerobic (absense of oxygen) conditions. Anaerobic conditions result in the production of CH4.

N2O - Treatment of domestc wastwater during both nitrification and denitrification of the nitrogen present leads to the formation of N2O, usually in the form of urea, ammonia, and proteins. These compounds are converted to nitrate through the aerobic process of nitrification. Denitrification occus under anoxic conditions (without free oxygen), and incolves the biological conversion of nitrate into dinitrogen. N2O can be an intermediate product of both processes, but more often is associated with denitrification.

Notes: Waste discharge facilities in compliance with the United States Environmental Protection Agency's Clean Water Standards do not typically result in CH4 emissions. However, poorly-operated aerobic wastewater treatment systems can result in the generation of CH4. Because wastewater treatment systems are assumed to operate in compliance with state and federal laws pertaining to water quality, CH4 emissions from centralized aerobic treatments are not included in the inventory.

Fugitive Emissions - Process Emissions from WWTP with Nitrification/Denitrification

LGOP Version 1.1. Equation 10.9.

N2O = Wastewater x 10^-6 x Nload x EF effluent x 10^3

	2010	2012	2020	2035	P-2035	P-2035 Alt2
wastewater (Liters)=	5,451	6,276	6,836	7,886	16,390	17,298

10^-6 =	1.00E-06	conversion factor; kg/mg
N Load	40.00	mg/L of wastewater USEPA 2008
EF effluent	0.01	kg/N2O/kg N
10^-3 =	1.00E-03	conversion factor: MTons/kg

	2010	2012	2020	2035	P-2035	P-2035 Alt2
			MTons			
N2O	1.09E-06	1.26E-06	1.37E-06	1.58E-06	3.28E-06	3.46E-06
CO2e =	0	0	0	0	0	0

Source: California Air Resources Board (CARB). 2010, May. Local Government Operations Protocol (LGOP), Version 1.1. The LGOP protocol provides default values for all the terms except the Nitrogen Load, which is assumed to be 40 mg of N per Liter of wastewater effluent based on USEPA methodology outlined in the CalEEMod program manual. South Coast Air Quality Management District (SCAQMD). 2011. California Emissions Estimator Model (CalEEMod), Version 2011.1.1. User's Manual. USEPA. 2008. Page 8-12. USEPA cites Metcalf & Eddy, Inc., 1991, "Wastewater Engineering: Treatment Disposal, and Reuse," 3rd Ed. McGraw Hill Publishing.

General Conversion Factors

	Global Warming Potentials (GWP)
CO2	1
CH4	21
N2O	310

Souce: Intergovernmental Panel on Climate Change (IPCC). 2001. Third Assessment Report: Climate Change 2011.

killowatt hrs to megawatt hrs	0.001	
million gallons to AF	0.3259	325851.429
gallons to Liters	3.785	
lbs to Tons	2000	
Tons to Mton	0.9071847	

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

Local Water/Wastewater Measures

Local Measures that are Required Pursuant to the model Water Efficient Landscape Ordinance (WELO) or California Building Code

WW-1 For all new development, require all water use and efficiency measures to comply with City Codes.

WW-2 Require new development to use native plants or other appropriate non-invasive plants that are drought-tolerant, as per the Water Efficiency Landscape Requirements.

GHG reduction estimates are not quantified for these measures

Local Measures that Support EBMUD's Urban Water Management Plan to Achieve 20% Per Capita Water reductions.

The California Department of Water Resources adopted a plan to reduce per capita water use by 20 percent by 2020 in accordance with the Final 20X2020 Water Conservation Plan. New development is required to comply with the new Title 24 California Green Building Code (CALGreen) water efficiency provisions that mandate an improvement over existing plumbing and irrigation water efficiency. This efficiency corresponds with the 20X2020 goal to reduce per-capita water use by 20 percent.
Reductions from these measures are capped at the 20 percent per capita goal.

WW-3 At least every five years, review and update the City's Water Efficient Landscape requirements with improved conservation programs and incentives for non-residential customers.
WW-4 Continue to offer conservation programs and incentives to large landscape customers per the Urban Water Management Plan.
WW-5 Implement water efficient residential programs identified in the current Urban Water Management Plan. Continue to coordinate with local water purveyors to achieve consistent standards and review and approval processes for implementation.
WW-6 Continue to participate in and conduct outreach for any high-efficiency appliance rebate programs funded by the State, which offer rebates for the purchase of a water-saving appliance.
WW-7 Encourage water efficiency training and certification for irrigation designers and installers and property managers.
WW-8 Expand the public information and school education program to promote water conservation and its benefits in coordination with efforts of local water purveyors. Conduct public education and outreach to reduce watering of non-vegetated surfaces and promote the use of pervious paving materials.
WW-9 Continue to promote water audit programs that offer free water audits to single-family, multi-family, large landscape accounts, and commercial customers. Enact conservation programs for commercial, industrial, and institutional (CII) accounts and participate in programs to install ultra-low-flush toilets in facilities.
WW-10 Encourage the use of non-potable water and recovered residential rainwater for irrigation purposes.
WW-11 Establish a residential and commercial rainwater collection policy to support permitting and regulation of residential rainwater systems.
WW-12 Continue to meter with commodity rates all new connections and retrofits of existing connections. Continue to provide information to customers about their water use

	2020 w/20% Reduction	2035 w/20% Reduction	2020 w/20% Reduction	2035 w/20% Reduction
	Cubic Feet Per year		Million Gallons Per Year	
Water	777,314,947	896,740,079	5,311	6,115
Wastewater	232,349,577	268,047,306	1,540	1,773

	2020 w/20% Reduction	2035 w/20% Reduction	2020 w/20% Reduction	2035 w/20% Reduction
	Acre-Feet/Year		Liters Per/Year	
Water	17,845	20,586	20,102,298,738	23,145,101,944
Wastewater	5,334	6,154	5,828,469,772	6,710,701,537

Energy

Energy Associated with Water Use	2020	2035
	MwH/Year	
Water	59,006	67,937
Wastewater	2,943	3,388
Total Water/Wastewater	61,948	71,325

Indirect GHG Emissions from Energy Associated with Water Use	2020	2035	Reduction from Adjusted 2020	Reduction 2035
	MTons/Year		MTons/Year	
Water	14,219	16,371	-5,240	-6,078
Wastewater	709	816	-291	-338
Total Water/Wastewater	14,928	17,188	-5,532	-6,416

Energy
LGOP Version 1.1. Equation 10.9.

N2O = Wastewater x 10^-6 x Nload x EF effluent x 10^3

	2020	2035	Reduction 2020	Reduction 2035
	MTons/Year		MTons/Year	
N2O	1.166	1.342	-0.479	-0.555
CO2e =	361	416	-148	-172

Source: California Air Resources Board (CARB). 2010, May. Local Government Operations Protocol (LGOP), Version 1.1. The LGOP protocol provides default values for all the terms except the Nitrogen Load, which is assumed to be 40 mg of N per Liter of wastewater effluent based on USEPA methodology outlined in the CalEEMod program manual. South Coast Air Quality Management District (SCAQMD). 2011. California Emissions Estimator Model (CalEEMod), Version 2011.1.1. User's Manual. USEPA. 2008. Page 8-12. USEPA cites Metcalf & Eddy, Inc., 1991, "Wastewater Engineering: Treatment Disposal, and Reuse," 3rd Ed. McGraw Hill Publishing.

Total

	2020	2035	Reduction from Adjusted 2020	Reduction 2035
	MTons/Year		MTons/Year	
Total Water/Wastewater	15,290	17,604	-5,680	-6,588

Water and Wastewater - Municipal

	2010	2012	2020	2035	P-2035	P-2035 Alt2	2010	2012	2020	2035	P-2035	P-2035 Alt2
	Cubic Feet Per year						Million Gallons Per Year					
Water	37,145	42,768	46,585	53,742	111,699	117,885	0.004966	0.005717	0.006228	0.007184	0.014932	0.015759
Wastewater*	10,772	12,403	13,510	15,585	32,393	34,187	0.001440	0.001658	0.001806	0.002083	0.004330	0.004570

	2010	2012	2020	2035	P-2035	P-2035 Alt2	2010	2012	2020	2035	P-2035	P-2035 Alt2
	Acre-Feet/Year						Liters Per/Year					
Water	0.0152	0.0175	0.0191	0.0220	0.0458	0.0484	18,795	21,640	23,571	27,193	56,518	59,648
Wastewater*	0.0044	0.0051	0.0055	0.0064	0.0133	0.0140	5,451	6,276	6,836	7,886	16,390	17,298

*Wastewater use is estimated based on Citywide analysis that revealed that 29% of water delivered was converted to wastewater.

GHG Emissions	2010	2012	2020	2035	P-2035	P-2035 Alt2	Adjusted 2020	Adjusted 2035	Adjusted P-2035	Adjusted 2035
	MTons/Year									
Energy	0.017	0.019	0.021	0.024	0.050	0.053	0.018	0.020	0.042	0.044
Fugitive	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.001	0.001
Total Water/Wastewater	0.017	0.020	0.021	0.025	0.051	0.054	0.018	0.021	0.043	0.045

General Conversion Factors		Per Capita Use Factors
Cubic Feet to Gallons	7.480519	
killowatt hrs to megawatt hrs	0.001	
million gallons to AF	0.3259	325851.429
gallons to Liters	3.785	
lbs to Tons	2000	
Tons to Mton	0.9071847	

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1.
Appendix F, Standard Conversion Factors

Energy - Purchase Electricity and Natural Gas

Southern California Edison - Emission Factors

	Intensity factor				CO_2e		
Electricity	lbs CO_2/MWH	MTons CO_2/MWh	CH4 MTons/MWH	N2O MTons/MWH	MTons/MWh	Source	RPS %
2006	641.26	0.290871	0.000013	0.000003	0.292	1, 4	16.6%
2007	630.89	0.286167	0.000013	0.000003	0.287	1, 4	15.5%
2-Year Average (2006-2007)	636.08	0.288519	0.000013	0.000003	**0.290**		
2020 (CO_2)	528.75	0.239836	0.000013	0.000003	**0.241**	3, 4	33.0%

Note: The 2020 emissions rate is estimated from 33% Renewable Portfolio Standard (RPS).

Source 1. California Climate Action Registry. Carbon Intensity Metrics. www.climateregistry.org/resources/docs/PUP_Metrics-June-2009.xls

Source 2. The 2020 RPS % is based on the 2020 RPS. Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. The California Air Resources Board (CARB) has now approved a requirement for an even higher goal of 33 percent by 2020.

Source 4. CH4 intensity factor=28.94 lb/GWh; N20 intensity factor=6.17 lb/GWh. United States Environmental Protection Agency. eGRID2012 Version 1.0 Year 2009 GHG Annual Emission Rates. http://www.epa.gov/cleanenergy/documents/egridzips/eGRID2012V1_0_year09_GHGOutputrates.pdf

Source RPS. Renewable Portfolio for SCE is based on the California Public Utilities Commission RPS Procurement Summary.

Natural Gas	Intensity factor			CO_2e
	MTons CO_2/Therm	CH4 MTons/Therm	N2O MTons/Therm	MTons/Therm
All Years	0.00530	5.E-07	1.E-08	**0.00532**

Source: CO2, CH4 and N2O intensity based on Table G.3 of the LGOP for residential and non-residential (CO2, 53.02 kg/Mmbtu; CH4: 0.005 kg/MMBtu; N2O: 0.0001 kg/MMBtu)

General Conversion Factors

lbs to kg	0.4536
kg to MTons	0.001
Mmbtu to Therm	0.1
killowatt hrs to megawatt h	0.001
lbs to Tons	2000
Tons to Mton	0.9071847

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

	Global Warming Potentials (GWP)
CO2	1
CH4	21
N2O	310

Source: Intergovernmental Panel on Climate Change (IPCC). 2001. Third Assessment Report: Climate Change 2011.

Menifee Electricity & Natural Gas Use (2010 "Existing" energy based on a 3-year average, 2009 to 2011)

	2010	2012	2020	2035	P-2035	P-2035 Alt 2
Population (w/vacancy)	77,519	79,810	88,331	104,309	158,942	158,434
Employment	8,776	19,547	19,894	20,544	100,554	115,433
Service Population	86,295	99,357	108,225	124,853	259,496	273,867

Electricity Use	2010 (avg) **Kwh/Year**	2012 (avg) **Kwh/Year**	2020 **Kwh/Year**	2035 **Kwh/Year**	P-2035 **Kwh/Year**	P-2035 Alt 2 **Kwh/Year**
Residential	196,150,755	201,948,115	223,509,829	263,938,044	402,180,844	400,895,473
Commercial	82,419,568	183,575,126	186,831,925	192,938,424	944,350,191	1,084,085,920
Industrial	7,816,930	17,410,840	17,719,725	18,298,884	89,565,130	102,818,104
Municipal*	2,599,838	2,599,838	3,260,534	3,761,476	7,817,932	8,250,892
Total	288,987,091	405,533,918	431,322,013	478,936,829	1,443,914,096	1,596,050,389

Based on average usage between 2009 and 2011. Assumes no growth in Municipal electricity between 2012 and 2010

BAU SCENARIO **Electricity GHG**	2010 (avg) **CO_2e MTons/Year**	2012 **CO_2e MTons/Year**	2020 **CO_2e MTons/Year**	2035 **CO_2e MTons/Year**	P-2035 **CO_2e MTons/Year**	P-2035 Alt 2 **CO_2e MTons/Year**
Residential	56,817	58,497	64,742	76,453	116,497	116,124
Commercial	23,874	53,175	54,118	55,887	273,542	314,019
Industrial	2,264	5,043	5,133	5,300	25,944	29,782
Municipal	753	753	944	1,090	2,265	2,390
Total	83,709	117,468	124,938	138,730	418,247	462,315

Natural Gas Use	2010 (avg) **Therms/Year**	2012 **Therms/Year**	2020 **Therms/Year**	2035 **Therms/Year**	P-2035 **Therms/Year**	P-2035 Alt 2 **Therms/Year**
Residential	9,008,460	9,274,711	10,264,958	12,121,673	18,470,640	18,411,608
Commercial + Industrial	1,308,742	2,914,993	2,966,708	3,063,673	14,995,356	17,214,222
Municipal	351	351	440	507	1,054	1,112
Total	10,317,553	12,190,054	13,232,106	15,185,853	33,467,050	35,626,943

Based on average usage between 2007 and 2009 for residential and commercial and industrial uses and from 2010 to 2011 for municipal. Assumes no growth in Municipal natural gas between 2012 and 2010

BAU SCENARIO **Natural Gas GHG**	2010 (avg) **CO_2e MTons/Year**	2012 **CO_2e MTons/Year**	2020 **CO_2e MTons/Year**	2035 **CO_2e MTons/Year**	P-2035 **CO_2e MTons/Year**	P-2035 Alt 2 **CO_2e MTons/Year**
Residential	47,885	49,301	54,564	64,434	98,183	97,869
Commercial + Industrial	6,957	15,495	15,770	16,285	79,709	91,504
Municipal	2	2	2	3	6	6
Total	54,844	64,797	70,337	80,722	177,897	189,379

TOTAL GHG	2010 (avg) **CO_2e MTons/Year**	2012 **CO_2e MTons/Year**	2020 **CO_2e MTons/Year**	2035 **CO_2e MTons/Year**	P-2035 **CO_2e MTons/Year**	P-2035 Alt 2 **CO_2e MTons/Year**
Residential	104,703	107,797	119,307	140,887	214,679	213,993
Commercial + Industrial	33,095	73,713	75,021	77,473	379,195	435,305
Municipal	755	755	947	1,092	2,270	2,396
Total	138,553	182,265	195,274	219,452	596,145	651,694

ADJUSTED BAU GHG INVENTORY

Adjusted Forecast - 2020 SCE CO_2 Intensity

Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. The California Air Resources Board (CARB) has now approved an even higher goal of 33 percent by 2020. Investor-owned utilities, such as PG&E are also required to participate in CARB's Cap-and-Trade program and reduce High Global Warming Potential (HGWP) gases, such as reductions of SF6.

Note: Energy and Building reductions in the measures below are based on the SCE's estimate 2020 GHG Intensity. (i.e., applied RPS then accounted for additional reductions)

Electricity GHG w/ RPS	2010 **CO_2e MTons/Year**	2012 **CO_2e MTons/Year**	2020 Adjusted **CO_2e MTons/Year**	2035 Adjusted **CO_2e MTons/Year**	P-2035 Adjusted **CO_2e MTons/Year**	P-2035 Alt 2 Adjusted **CO_2e MTons/Year**
Residential	56,817	58,497	53,861	63,604	96,917	96,607
Commercial	23,874	53,175	45,023	46,494	227,569	261,242
Industrial	2,264	5,043	4,270	4,410	21,583	24,777
Municipal	753	753	786	906	1,884	1,988
Total	83,709	117,468	103,940	115,414	347,953	384,615
GHG Reductions	0	0	20,998	23,316	70,294	77,701

Adjusted Forecast - Title 24 Cycle Updates to the California Building Code

The 2008 Building and Energy Efficiency standards (Title 24, Part 6) are approximately 15 percent more energy efficient than the 2005 Building and Energy Efficiency standards, which were in place at the time of CARB's Scoping Plan. The 2013 Building and Energy Efficiency code is approximately 25 percent more energy efficient for residential and 30 percent more energy efficient for nonresidential than the 2008 Building and Efficiency Standards. Future Building and Energy Code updates are likely to require an increase efficiency beyond the 2013 Building and Energy Efficiency Standards; however, these are not accounted for in the adjusted forecast.

	Electricity Ratio for 1% over Title 24	Natural Gas Ratio for 1% over Title 24	Adjusts for the proportion of energy that is building energy (excludes plug-load)
Residential (avg)	0.08	0.90	
multi-family	0.12	0.88	
single-family	0.04	0.91	
Non-Residential (avg)	0.23	0.71	
Com.-Office (avg)	0.31	0.84	
Commercial	0.26	0.72	
Office	0.36	0.95	
Industrial	0.06	0.46	

Source: California Air Pollution Control Officer's Association (CAPCOA). 2010, August. Quantifying Greenhouse Gas Mitigation Measures. Table BE-1.1 and BE-1.2, Climate Zone 5.

Reductions

13% Non-Residential Natural Gas Reduction (2008 Building and Energy Efficiency Standards).
13% Residential Natural Gas Reduction (2008 Building and Energy Efficiency Standards).
1% Residential Electricity improvements under the 2008 Building and Energy Efficiency Standards.
5% Non-residential (commercial-office) Electricity improvements under the 2008 Building and Energy Efficiency Standards.
1% Non-residential (industrial) Electricity improvements under the 2008 Building and Energy Efficiency Standards.
32% Non-Residential Natural Gas Reduction (2013 Building and Energy Efficiency Standards).
36% Residential Natural Gas Reduction (2013 Building and Energy Efficiency Standards).
3% Residential Electricity improvements under the 2013 Building and Energy Efficiency Standards.
14% Non-residential (Commercial office) Electricity improvements under the 2013 Building and Energy Efficiency Standards.
3% Non-residential (industrial) Electricity improvements under the 2013 Building and Energy Efficiency Standards.

Assumptions: The 2008 Building and Energy Efficiency Standards are 15% more energy efficient (residential + non-residential) than the 2005 Building and Energy Efficiency Standards. The 2013 Building and Energy Efficiency Standards are 25% (residential) and 30% (non-residential) more energy efficient than the 2008 Building and Energy Efficiency Standards.

Electricity Use	2010 (avg) Kwh/Year	New Buildings 2012 Kwh/Year	New Buildings 2020 Kwh/Year	New Building 2035 Kwh/Year	Total 2020 Kwh/Year	Total 2035 Kwh/Year	New Building P-2035 Kwh/Year	New Building P-2035 Alt 2 Kwh/Year	Total P-2035 Kwh/Year	Total P-2035 Alt 2 Kwh/Year
Residential	196,150,755	5,727,792	20,871,740	39,134,512	222,750,286	261,884,798	133,819,031	132,574,792	395,703,828	394,459,589
Commercial	82,419,568	96,451,824	2,802,476	5,254,643	181,673,868	186,928,511	646,589,825	766,832,420	833,518,336	953,760,931
Industrial	7,816,930	9,507,565	300,545	563,522	17,625,040	18,188,562	69,342,057	82,237,201	87,530,619	100,425,763
Municipal	2,599,838	0	568,529	431,061	3,168,367	3,599,427	3,490,580	3,863,143	7,090,008	7,462,570
Total	288,987,091	111,687,180	24,543,290	45,383,737	425,217,561	470,601,298	853,241,492	985,507,554	1,323,842,791	1,456,108,853

Electricity GHG	2010 w/2020 CO_2e MTons/Year	2010 w/2020 CO_2e MTons/Year	2020 CO_2e MTons/Year	2035 CO_2e MTons/Year	Total 2020 CO_2e MTons/Year	Total 2035 CO_2e MTons/Year	New Building P-2035 CO_2e MTons/Year	New Building P-2035 Alt 2 CO_2e MTons/Year	Total P-2035 CO_2e MTons/Year	Total P-2035 Alt 2 CO_2e MTons/Year
Residential	47,268	1,380	5,030	9,431	53,678	63,109	32,248	31,948	95,356	95,056
Commercial	19,861	23,243	675	1,266	43,780	45,046	155,815	184,790	200,860	229,836
Industrial	1,884	2,291	72	136	4,247	4,383	16,710	19,817	21,093	24,200
Municipal	627	0	137	104	764	867	841	931	1,709	1,798
Total	69,640	26,914	5,914	10,937	102,468	113,405	205,613	237,487	319,018	350,892

Natural Gas Use	2010 (avg) Therms/Year	New Buildings 2012 Therms/Year	New Buildings 2020 Therms/Year	New Building 2035 Therms/Year	Total 2020 Therms/Year	Total 2035 Therms/Year	New Building P-2035 Therms/Year	New Building P-2035 Alt 2 Therms/Year	Total P-2035 Therms/Year	Total P-2035 Alt 2 Therms/Year
Residential	9,008,460	170,933	635,739	1,192,011	9,815,132	11,007,143	4,076,037	4,038,138	15,083,180	15,045,281
Commercial + Industrial	1,308,742	1,093,054	35,192	65,985	2,436,988	2,502,973	8,119,510	9,629,449	10,622,483	12,132,421
Municipal	351	0	61	46	411	457	372	412	829	869
Total	10,317,553	1,263,987	670,992	1,258,042	12,252,531	13,510,572	12,195,919	13,667,999	25,706,492	27,178,571

Natural Gas GHG	2010 w/2020 CO_2e MTons/Year	New Buildings 2012 CO_2e MTons/Year	New Buildings 2020 CO_2e MTons/Year	New Building 2035 CO_2e MTons/Year	Total 2020 CO_2e MTons/Year	Total 2035 CO_2e MTons/Year	New Building P-2035 CO_2e MTons/Year	New Building P-2035 Alt 2 CO_2e MTons/Year	Total P-2035 CO_2e MTons/Year	Total P-2035 Alt 2 CO_2e MTons/Year
Residential	47,885	909	3,379	6,336	52,173	58,510	21,667	21,465	80,176	79,975
Commercial + Industrial	6,957	5,810	187	351	12,954	13,305	43,160	51,186	56,465	64,491
Municipal	2	0	0	0	2	2	2	2	4	5
Total	54,844	6,719	3,567	6,687	65,130	71,817	64,829	72,654	136,645	144,470

TOTAL GHG w/Title 24	2010 CO_2e MTons/Year	2012 CO_2e MTons/Year	2020 BAU CO_2e MTons/Year	2035 BAU CO_2e MTons/Year	Adjusted 2020 CO_2e MTons/Year	Adjusted 2035 CO_2e MTons/Year	Adjusted P-2035 CO_2e MTons/Year	Adjusted P-2035 Alt 2 CO_2e MTons/Year
Residential	104,703	107,797	119,307	140,887	105,851	121,618	112,424	111,922
Commercial + Industrial	33,095	73,713	75,021	77,473	60,981	62,734	278,418	318,528
Municipal	755	755	947	1,092	1,175	1,324	2,538	2,667
Total	138,553	182,265	195,274	219,452	168,007	185,676	393,380	433,118
Reduction from BAU				Total Reduction Title 24 + RPS	-27,267	-33,775		
					-14%	-15%		
				Reductions from Title 24	-6,269	-10,459		
					-3%	-5%		

Adjusted Forecast - SMART Grid

The California Public Utilities Commission (CPUC) has initiated a rulemaking R.08-12-009 to for California investor-owned electric utilities to develop a smarter electric grid in the state. Pursuant to Senate Bill 17, the CPUC developed requirements for a Smart Grid deployment plan. In July 2011, California Utilities filed with the CPUC 10-year Smart Grid Deployment Plans. New Smart Meters provide real-time electricity use information to consumers.

Reduction in Energy Consumption

	Low	High	% Reduction
Residential	1%	10%	3%
Commercial/Office	1%	10%	3%

Source: Pacific Northwest National Laboratory. 2010, January. The Smart Grid: An Estimation of the Energy and CO2 Benefits. http://energyenvironment.pnnl.gov/news/pdf/PNNL-19112_Revision_1_Final.pdf. Table 3.3 Estimated Direct Impacts of the Conservation Effect of Consumer Information and Feedback Systems.

Energy Savings Applied to Existing Land Uses Only and does not apply to Industrial

Electricity Use	2010 (avg) Adjusted **Kwh/Year**	New Buildings 2012 **Kwh/Year**	New Buildings 2020 **Kwh/Year**	New Building 2035 **Kwh/Year**	Total 2020 **Kwh/Year**	Total 2035 **Kwh/Year**	New Building P-2035 **Kwh/Year**	New Building P-2035 Alt 2 **Kwh/Year**	Total P-2035 **Kwh/Year**	Total P-2035 Alt 2 **Kwh/Year**
Residential	190,266,232	5,727,792	20,871,740	39,134,512	216,865,764	256,000,275	133,819,031	132,574,792	389,819,306	388,575,067
Commercial	79,946,981	96,451,824	2,802,476	5,254,643	179,201,281	184,455,924	646,589,825	766,832,420	831,045,749	951,288,343
Industrial	7,816,930	9,507,565	300,545	563,522	17,625,040	18,188,562	69,342,057	82,237,201	87,530,619	100,425,763
Municipal	2,521,843	0	568,529	431,061	3,090,372	3,521,432	3,490,580	3,863,143	7,012,012	7,384,575
Total	280,551,986	111,687,180	24,543,290	45,383,737	416,782,456	462,166,193	853,241,492	985,507,554	1,315,407,686	1,447,673,748

Electricity GHG	2010 w/2020 (Adjusted) **CO_2e MTons/Year**	New Buildings 2012 **CO_2e MTons/Year**	New Buildings 2020 **CO_2e MTons/Year**	New Building 2035 **CO_2e MTons/Year**	Total 2020 **CO_2e MTons/Year**	Total 2035 **CO_2e MTons/Year**	New Building P-2035 **CO_2e MTons/Year**	New Building P-2035 Alt 2 **CO_2e MTons/Year**	Total P-2035 **CO_2e MTons/Year**	Total P-2035 Alt 2 **CO_2e MTons/Year**
Residential	45,850	1,380	5,030	9,431	52,260	61,691	32,248	31,948	93,938	93,638
Commercial	19,266	23,243	675	1,266	43,184	44,450	155,815	184,790	200,265	229,240
Industrial	1,884	2,291	72	136	4,247	4,383	16,710	19,817	21,093	24,200
Municipal	608	0	137	104	745	849	841	931	1,690	1,780
Total	67,607	26,914	5,914	10,937	100,436	111,372	205,613	237,487	316,986	348,859

No change **Natural Gas GHG**	2010 w/2020 **CO_2e MTons/Year**	New Buildings 2012 **CO_2e MTons/Year**	New Buildings 2020 **CO_2e MTons/Year**	New Building 2035 **CO_2e MTons/Year**	Total 2020 **CO_2e MTons/Year**	Total 2035 **CO_2e MTons/Year**	New Building P-2035 **CO_2e MTons/Year**	New Building P-2035 Alt 2 **CO_2e MTons/Year**	Total P-2035 **CO_2e MTons/Year**	Total P-2035 Alt 2 **CO_2e MTons/Year**
Residential	47,885	909	3,379	6,336	52,173	58,510	21,667	21,465	80,176	79,975
Commercial + Industrial	6,957	5,810	187	351	12,954	13,305	43,160	51,186	56,465	64,491
Municipal	2	0	0	0	2	2	2	2	4	5
Total	54,844	6,719	3,567	6,687	65,130	71,817	64,829	72,654	136,645	144,470

For Natural Gas for the Adjusted Forecast - see Title 24 Updates

TOTAL ADJUSTED BAU GHG	**2010 BAU CO_2e MTons/Year**	**2012 BAU CO_2e MTons/Year**	**2020 BAU CO_2e MTons/Year**	**2035 BAU CO_2e MTons/Year**	**Adjusted 2020 CO_2e MTons/Year**	**Adjusted 2035 CO_2e MTons/Year**	**Adjusted P-2035 CO_2e MTons/Year**	**Adjusted P-2035 Alt 2 CO_2e MTons/Year**
Residential	104,703	107,797	119,307	140,887	104,433	120,200	174,114	173,613
Commercial + Industrial	33,095	73,713	75,021	77,473	60,385	62,138	277,822	317,932
Municipal	755	755	947	1,092	747	851	1,694	1,784
Total	138,553	182,265	195,274	219,452	165,565	183,189	453,631	493,329
Reduction from BAU		Total Reductions (Smart Grid, 33% RPS, Building Code)			-29,709	-36,263		
					-15%	-17%		
			Reductions from Smart Grid		-2,442	-2,487		
					-1%	-1%		

California Electricity Consumption by End Use

Source: Brown, Richard E. and Koomey, Jonathan G., 2002, May. *Electricity Use in California: Past Trends and Present Usage Patterns.* University of California, Berkeley (UCB), Energy analysis Department, Environmental Energy Technologies Division, Ernest Orlando Lawrence Berkeley National Laboratory. lBL-47992. http://enduse.lbl.gov/Projects/CAdata.html

	Annual Energy TWh	Annual Energy % Total	% of Sector	Non-Title 24	Title 24
Commercial					
Air Conditioning	13.8	5%	15%		15%
Interior Lighting	30.3	12%	34%		34%
Other	19.9	8%	22%	22%	
Ventilation	9.1	4%	10%		10%
Refrigeration	6.5	3%	7%	7%	
Office Equipment	1.6	1%	2%	2%	
Domestic Hot Water	0.5	0%	1%		1%
Exterior Lighting	5.0	2%	6%		6%
Cooking	0.6	0%	1%	1%	
Space Heating	2.1	1%	2%		2%
Total Commercial	*89.5*	*36%*	100%	*32%*	*68%*
Residential					
Air Conditioning	4.8	2%	6%		6%
Miscellaneous	24.6	10%	33%	33%	
Refrigerator	13.7	5%	18%	18%	
Cooking	3.6	1%	5%	5%	
Dryer	5.7	2%	8%	8%	
Pools & Spas	4.1	2%	5%	5%	
Domestic Hot Water	4.2	2%	6%		6%
Television	3.4	1%	5%	5%	
Freezer	2.5	1%	3%	3%	
Dishwasher	2.0	1%	3%	3%	
Waterbed Heater	2.1	1%	3%	3%	
Clothes Washer	0.7	0%	1%	1%	
Space Heating	0.4	2%	1%		1%
Total Residential	*75.4*	*30%*	100%	83%	12%
Industrial					
Assembly	33	13%	62%	62%	
Process	14	6%	26%	26%	
Other	6.1	2%	11%	11%	
Total Industrial	*53.5*	*21%*	100%	99%	
Agricultural					
Total Industrial	*17.8*	*7%*	100%	100%	
Transport & Street Lighting					
Total Transport & Lighting	*15.3*	*6%*	100%	100%	
Total Statewide	251.6	100%			

Southern California Edison (SCE) - Usage Reports

Electricity	2009 kWH/Year	2010 kWH/Year	2011 kWH/Year	Average kWH/Year
Residential	194,086,882	189,982,025	204,383,358	196,150,755
Commercial	86,735,224	78,723,915	81,799,566	82,419,568
Industrial	9,117,197	7,233,497	7,100,096	7,816,930
Municipal*		2,599,838		2,599,838
Total (Excluding Municipal)	289,939,303	278,539,275	293,283,020	288,987,091

Source: Edison Nonconfidential Usage Reports 2009-2011

*Approximately 69,000 kWH of municapl energy was negative, meaning it was genrated onsite and transimitted to the suppply grid. This amount was counted against the net total usage.

Southern California Gas Company (SoCal Gas) - Usage Reports

Natural Gas	2007 Therms/Year	2008 Therms/Year	2009 Therms/Year	2010 Therms/Year	2011 Therms/Year	Average Therms/Year
Residential	9,043,799	9,035,675	8,945,906	n/a	n/a	9,008,460
Commercial/Industrial	1,303,969	1,330,345	1,291,912	n/a	n/a	1,308,742
Municipal	n/a	n/a	n/a	347	354	351
Total	10,347,768	10,366,020	10,237,818	347	354	10,317,553

Source: Residential and Commercial/Industrial natural gas usage data provided by SoCal Gas. Municipal natural gas usage provided by the City of Menifee.

California Natural Gas Use by End Use

Source: California Energy Commission.Residential End Use Survey. http://energyalmanac.ca.gov/naturalgas/residential_use.html

Residential	Annual Energy % Total	Non-Title 24	Title 24
Water Heating	44%		44%
Space Heating	44%		44%
Pools, Spas, Misc.	2%	2%	
Clothes Dryers	3%	3%	
Cooking	7%	7%	
Total	100%	12%	88%

Source: California Energy Commission. 2006, March. California Commercial End-Use Survey. Prepared by Itron. CEC-400-2006-005. http://www.energy.ca.gov/2006publications/CEC-400-2006-005/CEC-400-2006-005.PDF

Commercial	Annual Energy % Total	Non-Title 24	Title 24
Water Heating	31.8%		32%
Heating	36.4%		36%
Cooling	1.5%	2%	
Process	5.9%	6%	
Miscellaneous	1.8%	2%	
Cooking	22.6%	23%	
Total	100%	32%	68%

Criteria Air Pollutants from Natural Gas

Rate	lbs/MBTU					
Natural Gas	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Residential	0.01078431	0.09215686	0.03921569	0.00058824	0.00745098	0.00745098
Non-Residential	0.01078431	0.09803922	0.08235294	0.00058824	0.00745098	0.00745098

Source: CalEEMod Version 2011.1.1.

Natural Gas	2012 lbs/day					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Residential	27	234	100	1	19	19
Commercial + Industrial	9	78	66	0	6	6
City	0	0	0	0	0	0
Total	36	312	165	2	25	25

Natural Gas	2020 lbs/day					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Residential	30	259	110	2	21	21
Commercial + Industrial	9	80	67	0	6	6
City	0	0	0	0	0	0
Total	39	339	177	2	27	27
Increase from Baseline	3	26	12	0	2	2

Natural Gas	2035 lbs/day					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Residential	36	306	130	2	25	25
Commercial + Industrial	9	82	69	0	6	6
City	0	0	0	0	0	0
Total	45	388	199	2	31	31
Increase from Baseline	9	76	34	0	6	6

Natural Gas	P-2035 lbs/day					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Residential	55	466	198	3	38	38
Commercial + Industrial	44	403	338	2	31	31
City	0	0	0	0	0	0
Total	99	869	537	5	68	68
Increase from Baseline	63	557	371	3	43	43

Natural Gas	P-2035 Alt2 lbs/day					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Residential	54	465	198	3	38	38
Commercial + Industrial	51	462	388	3	35	35
City	0	0	0	0	0	0
Total	105	927	586	6	73	73
Increase from Baseline	105	927	586	6	73	73

General Conversion Factors	
Mmbtu to Therm	0.1
lbs to Tons	2000
Tons to MTon	0.9071847

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

City of Menifee--Municipal GHG Inventory--Natural Gas and Water Usage Table

Please summarize in the rows below, natural gas usage (in Therms) and water usage (in Hundred Cubic Feet) for all City-owned and operated facilities. If resources are limited to complete this task, please complete only the highlighted rows to provide quarterly usage estimates that will be averaged.

	Natural Gas Usage (Therms)	Water Usage (Hundred Cubic Feet)
2008 January		
2008 February		
2008 March		
2008 April		
2008 May		
2008 June		
2008 July		
2008 August		
2008 September		
2008 October		
2008 November		
2008 December		
2009 January		
2009 February		
2009 March		
2009 April		
2009 May		
2009 June		4000
2009 July	10	3813
2009 August	8	1452
2009 September	9	4944
2009 October	9	3491
2009 November	23	2571
2009 December	75	204
2010 January	87	456
2010 February	59	594
2010 March	43	936
2010 April	29	2914
2010 May	11	1960
2010 June	9	4693
2010 July	8	8272
2010 August	8	5582
2010 September	7	2686
2010 October	8	3483
2010 November	12	1061
2010 December	66	489
2011 January	69	1349
2011 February	65	658
2011 March	48	1273
2011 April	24	2572
2011 May	12	5947
2011 June	11	4954
2011 July	9	6271
2011 August	6	8631
2011 September	8	3488
2011 October	9	1375
2011 November	35	4132
2011 December	58	513

Menifee 2007	Category	Annual Therms	# of meters
	Industrual/Commercial	1,303,969	212
	Single Family Residential	8,377,392	21,869
	Multi-Family Resdential	666,407	44
Total Therms		10,347,768	22,125
Menifee 2008	Category	Annual Therms	# of meters
	Industrual/Commercial	1,330,345	259
	Single Family Residential	8,409,832	22,310
	Multi-Family Resdential	625,843	45
Total Therms		10,366,020	22,614
Menifee 2009	Category	Annual Therms	# of meters
	Industrual/Commercial	1,291,912	259
	Single Family Residential	8,343,808	22,922
	Multi-Family Resdential	602,098	46
Total Therms		10,237,818	23,227

Please note that in oder to preserve customer confidentiality some accounts have been excluded from the Industrial and Commercial therm count.

2007 Utility-Specific Emissions Factors

Utility Name	Emission Factor	
	lbs/MWh	lbs/KWh
Anaheim Public Utilities	1543.28	1.54328
Austin Energy	1,117.37	1.11737
Burbank Water & Power	1,096.12	1.09612
City of Palo Alto Public Utilities	426.82	0.42682
Imperial Irrigation District	1181.61	1.18161
Los Angeles Department of Water and Power	1,227.89	1.22789
Martinez Cogen Ltd. Partnership	937.44	0.93744
Modesto Irrigation District	833.46	0.83346
PacifiCorp	1,775.28	1.77528
PG&E	635.67	0.63567
Platte River Power Authority	1847.88	1.84788
Riverside Public Utilities	1325.65	1.32565
Sacramento Municipal Utility District	714.31	0.71431
Salt River Project	1469.9	1.46990
San Diego Gas & Electric	806.27	0.80627
Seattle City Light	17.77	0.01777
Sierra Pacific Resources	1442.78	1.44278
Southern California Edison	630.89	0.63089
Turlock Irrigation District	807	0.80700
Roseville Electric	793.8	0.79380

2006 Utility-Specific Emission Factors

Utility Name	Emission Factor	
	lbs/MWh	lbs/KWh
Anaheim Public Utilities	1416.74	1.41674
Austin Energy	1,077.97	1.07797
Burbank Water & Power	1,276.59	1.27659
City of Palo Alto Public Utilities	39.02	0.03902
Imperial Irrigation District	1124.79	1.12479
Los Angeles Department of Water and Power	1,238.52	1.23852
PacifiCorp	1,747.30	1.74730
Pasadena Water & Power	1,664.14	1.66414
PG&E	455.81	0.45581
Platte River Power Authority	1955.66	1.95566
Riverside Public Utilities	1346.15	1.34615
Roseville Electric	565.52	0.56552
Southern California Edison	641.26	0.64126
San Diego Gas & Electric	780.79	0.78079
Sacramento Municipal Utility District	555.26	0.55526
Turlock Irrigation District	682.48	0.68248

2005 Utility-Specific Emission Factors

Utility Name	Emission Factor	
	lbs/MWh	lbs/KWh
Anaheim Public Utilities	1399.80	1.39980
Austin Energy	1127.37	1.12737
City of Palo Alto Public Utilities	320.94	0.32094
City & County of San Francisco	76.28	0.07628
East Bay MUD	239.16	0.23916
Glendale Water & Power	1065.00	1.06500
Los Angeles Department of Water and Power	1303.58	1.30358
Northern California Power Agency	55.38	0.05538
PacifiCorp	1812.22	1.81222
Pasadena Water & Power	1409.65	1.40965
PG&E	489.16	0.48916
Platte River Power Authority	1970.93	1.97093
Riverside Public Utilities	1333.45	1.33345
Southern California Edison	665.72	0.66572
San Diego Gas & Electric	546.46	0.54646
Sacramento Municipal Utility District	616.07	0.61607

2004 Utility-Specific Emission Factors

Utility Name	Emission Factor	
	lbs/MWh	lbs/KWh
Los Angeles Department of Water and Power	1360.60	1.36060
PacifiCorp	1811.00	1.81100
PG&E	566.20	0.56620
Southern California Edison	678.88	0.67888
San Diego Gas & Electric	613.75	0.61375
Sacramento Municipal Utility District	769.00	0.76900
West Coast Power	1252.94	1.25294

Electricity Use Report
For City of Menifee
Period November 1, 2009 – October 31, 2010

Prepared by

Southern California Edison

Version 5.0

June 19, 2012

I. Introduction

The purpose of this report is to fulfill your request for overall energy consumption data for the City of Menifee. SCE has made every effort to fulfill this request. However, our legal responsibility of maintaining confidentiality of individual customer data limits us to providing only the following information:

- Customer Classifications grouped by California Energy Commission (CEC) sectors: Residential, Commercial, Industrial, and Agriculture,
- kWh consumption,
- kW demand for Commercial, Industrial, and Agriculture Sectors with demand meters; no kW demand data is available for Residential Sector, and
- Number of Accounts

II. Data Description

The summaries provided in the Table below in page 3, are based on 12 months usage data ending October, 2010 for SCE installed service accounts within the city's boundaries. The accounts included in the dataset were extracted from SCE's Customer Service System based on the Public Authority Code for the City of Menifee. This code is used to identify accounts by municipality for the purpose of calculating state and local taxes. Public Authority Code is permanently retained as a part of each premise's identification regardless of occupancy. The only time a Public Authority Code changes is when a city or county annexes a given piece of property into its territory or a particular piece of property is transferred from one public authority to another through other means.

III. Summary of Results (November 1, 2009 – October 31, 2010)

Table – Total of Account Summary Data for Bundled and Direct Access Customers

CALIFORNIA ENERGY COMMISSION (CEC) SECTOR GROUP	ANNUAL KWH	% of TOTAL	KW DEMAND	NUMBER OF ACCOUNTS	% of TOTAL
COMMERCIAL	78,723,915	28.5%	26,412	1,264	5.1%
INDUSTRIAL	7,233,497	2.6%	3,970	82	0.3%
RESIDENTIAL	189,982,025	68.8%	-	23,377	94.6%
Grand Total	275,939,437			24,723	
DA % of kWh	5.6%				

Application of 15/15 Rule (Section V. Release of Aggregated Customer Information, p. 4)
The Agricultural Sector was combined into the Commercial Sector

IV. Public Goods Charge Energy Efficiency Funds

SCE estimated the City of Menifee's proportional share of Public Goods Charge (PGC) funded energy efficiency activities that the California Public Utilities Commission might make available to the customers in the City of Menifee if it became a community choice aggregator ("CCA") but did not implement energy efficiency programs in the CCA territory. SCE performed the estimated proportional share calculation in accordance with the directives of Decision (D.) 03-07-034 of the California Public Utilities Commission, and determined that the City of Menifee's estimated proportional share is $ 541,251. Please note that the estimated proportional share calculation does not necessarily represent an amount of funds that would be made available for energy efficiency programs in the City of Menifee's territory should the City of Menifee become a CCA. As stated in D.03-07-034, the proportional share calculation is only used to estimate non-CCA expenditures in a CCA's territory. Also note that the proportional share estimate is not equal to the amount of PGC funds collected from ratepayers in the City of Menifee, since the PGC rate includes authorized amounts for energy efficiency as well as other public interest programs.

V. Release of Aggregated Customer Information

The 15/15 Rule is intended to protect customer confidentiality by reducing the possibility of identifying customers through the release of usage information. SCE will apply the 15/15 Rule in releasing aggregated customer information. The rule was initially implemented by the California Public Utilities Commission during Direct Access proceedings in 1997 and was adopted through D. 97-10-031.

The 15/15 rule requires that any aggregated information provided by the Utilities must be made up of at least 15 customers, and a customer's load must be less than 15% of an assigned category. If the number of customers in the compiled data is below 15, or if a single customer's load is more than 15% of the total data, categories (e.g., rate classes) must be combined before the information is released. The rule further requires that if the 15/15 rule is triggered for a second tie after the data has been screened once already using the 15/15 rule, then the customer is dropped from the information provided.

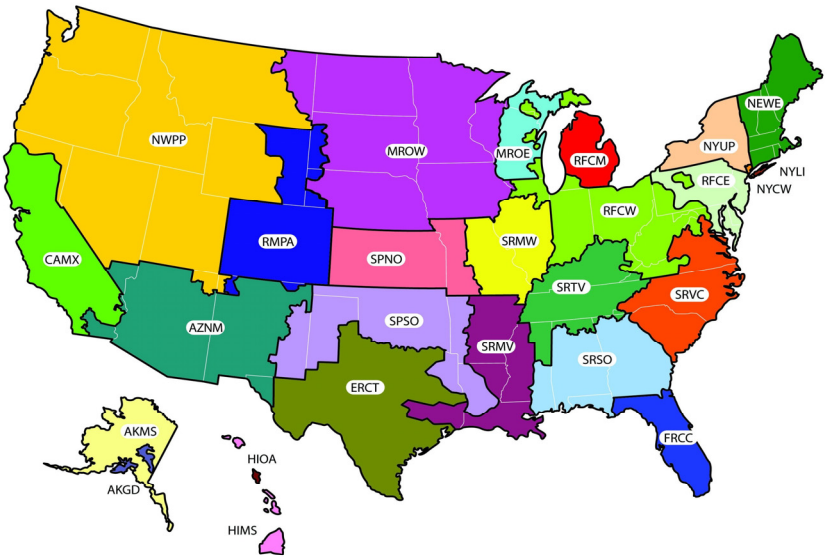
VI. Disclaimer

Southern California Edison Company has provided the above information at your request. The data presented here represents 12 months ending October, 2010. These estimates are provided for informational purposes only, and are not intended to, nor do they, predict what energy usage and loads within your city boundaries will be in the future. The actual future loads and energy consumption will vary from these estimates for a variety of reasons, including changes in energy usage, demand levels, and weather patterns. Southern California Edison Company assumes no liability for the use of the information provided above. If you have any questions regarding this information, please contact your Southern California Edison Company Account Representative.

eGRID2012 Version 1.0 Year 2009 GHG Annual Output Emission Rates

Annual total output emission rates for greenhouse gases (GHGs) can be used as default factors for estimating GHG emissions from electricity use when developing a carbon footprint or emission inventory. Annual non-baseload output emission rates should not be used for those purposes, but can be used to estimate GHG emissions reductions from reductions in electricity use.

eGRID subregion acronym	eGRID subregion name	Annual total output emission rates			Annual non-baseload output emission rates		
		Carbon dioxide (CO_2) (lb/MWh)	Methane (CH_4) (lb/GWh)	Nitrous oxide (N_2O) (lb/GWh)	Carbon dioxide (CO_2) (lb/MWh)	Methane (CH_4) (lb/GWh)	Nitrous oxide (N_2O) (lb/GWh)
AKGD	ASCC Alaska Grid	1,280.86	27.74	7.69	1,320.75	33.16	6.34
AKMS	ASCC Miscellaneous	521.26	21.78	4.28	1,469.44	61.53	12.10
AZNM	WECC Southwest	1,191.35	19.13	15.58	1,187.67	22.25	9.12
CAMX	WECC California	658.68	28.94	6.17	993.89	33.52	4.07
ERCT	ERCOT All	1,181.73	16.70	13.10	1,155.44	19.66	7.59
FRCC	FRCC All	1,176.61	39.24	13.53	1,301.40	36.04	11.91
HIMS	HICC Miscellaneous	1,351.66	72.40	13.80	1,615.98	91.06	17.19
HIOA	HICC Oahu	1,593.35	101.74	21.98	1,621.42	107.94	18.73
MROE	MRO East	1,591.65	23.98	27.04	1,868.23	29.40	30.40
MROW	MRO West	1,628.60	28.80	27.79	2,114.93	61.83	37.41
NEWE	NPCC New England	728.41	75.68	13.86	1,157.44	61.72	14.43
NWPP	WECC Northwest	819.21	15.29	12.50	1,404.55	38.56	18.79
NYCW	NPCC NYC/Westchester	610.67	23.75	2.81	1,118.06	22.47	2.31
NYLI	NPCC Long Island	1,347.99	96.86	12.37	1,336.59	30.78	3.51
NYUP	NPCC Upstate NY	497.92	15.94	6.77	1,347.12	41.08	16.87
RFCE	RFC East	947.42	26.84	14.96	1,628.97	32.94	22.46
RFCM	RFC Michigan	1,659.46	31.41	27.89	1,834.66	35.17	29.15
RFCW	RFC West	1,520.59	18.12	25.13	2,001.76	24.56	32.10
RMPA	WECC Rockies	1,824.51	22.25	27.19	1,756.62	23.54	22.51
SPNO	SPP North	1,815.76	21.01	28.89	2,147.53	26.32	31.82
SPSO	SPP South	1,599.02	23.25	21.79	1,513.73	25.22	15.11
SRMV	SERC Mississippi Valley	1,002.41	19.45	10.65	1,201.66	25.72	7.11
SRMW	SERC Midwest	1,749.75	19.57	28.98	2,192.85	25.04	35.89
SRSO	SERC South	1,325.68	22.27	20.78	1,622.00	27.22	23.50
SRTV	SERC Tennessee Valley	1,357.71	17.28	22.09	1,921.12	25.16	30.61
SRVC	SERC Virginia/Carolina	1,035.87	21.51	17.45	1,677.35	38.55	25.56
U.S.		**1,216.18**	**24.03**	**18.08**	**1,555.48**	**30.83**	**19.76**



This is a representational map; many of the boundaries shown on this map are approximate because they are based on companies, not on strictly geographical boundaries.

http://www.epa.gov/egrid

California Department of Resources Recycling and Recovery (CalRecycle)
Disposal Reporting System (DRS)

Jurisdiction Disposal By Facility

With Reported Alternative Daily Cover (ADC) and Alternative Intermediate Cover (AIC)

Disposal during 2010 for Menifee

Destination Facility	SWISNo	Qtr	Instate Ton	Transform Ton	Export Ton	Total ADC	Total AIC
Badlands Sanitary Landfill	33-AA-0006		18,005			9	
Bakersfield Metropolitan (Bena) SLF	15-AA-0273						
El Sobrante Landfill	33-AA-0217		24,333				
Lamb Canyon Sanitary Landfill	33-AA-0007		244			1	
Yearly Totals:			42,582.81.	..	..	10.24.	..

Notes:
1. Disposal tonnage is subject to change due to revisions. Report is based upon information provided by County disposal reports.
2. AIC information was not collected prior to 2006.
Print Date: 9/20/2012 5:38:09 PM

California Department of Resources Recycling and Recovery (CalRecycle)
Disposal Reporting System (DRS)

Jurisdiction Disposal By Facility

With Reported Alternative Daily Cover (ADC) and Alternative Intermediate Cover (AIC)

Disposal during 2011 for Menifee

Destination Facility	SWISNo	Qtr	Instate Ton	Transform Ton	Export Ton	Total ADC	Total AIC
Badlands Sanitary Landfill	33-AA-0006		16,967				
El Sobrante Landfill	33-AA-0217		27,924				
Lamb Canyon Sanitary Landfill	33-AA-0007		256			14	
Sycamore Sanitary Landfill	37-AA-0023						
Yearly Totals:			45,146.51.		..	13.62.	..

Notes:
1. Disposal tonnage is subject to change due to revisions. Report is based upon information provided by County disposal reports.
2. AIC information was not collected prior to 2006.
Print Date: 9/20/2012 5:42:37 PM

California Department of Resources Recycling and Recovery (CalRecycle)
Disposal Reporting System (DRS)

Jurisdiction Disposal By Facility

With Reported Alternative Daily Cover (ADC) and Alternative Intermediate Cover (AIC)

Disposal during 2012 for Menifee

Destination Facility	SWISNo	Qtr	Instate Ton	Transform Ton	Export Ton	Total ADC	Total AIC
Badlands Sanitary Landfill	33-AA-0006		16,463				
El Sobrante Landfill	33-AA-0217		26,585				
Lamb Canyon Sanitary Landfill	33-AA-0007		434				
Sycamore Sanitary Landfill	37-AA-0023		1				
Yearly Totals:			43,482.7.	..	..	..	..

Notes:
1. Disposal tonnage is subject to change due to revisions. Report is based upon information provided by County disposal reports.
2. AIC information was not collected prior to 2006.
Print Date: 8/13/2013 11:08:39 AM

CalRecycle Disposal By Facility - City of Menifee (Disposal Reporting System)

Year	Interstate Tons + Transform Tons	ADC+AIC
2012	43,483	0
2011	45,147	14
2010	42,583	10
Average 2012-2010	43,737	8

Average 3-year disposal used to forecast waste disposal in 2020, 2035, and Post-2035

Source: http://www.calrecycle.ca.gov/LGCentral/Reports/DRS/Destination/JurDspFa.aspx

California Air Resources Board's Implementation of IPCC's Mathematically Exact First-Order Decay Model

Release date: November 14, 2011

This tool is designed to estimate greenhouse gas emissions from a landfill in support of the Local Government Operations Protocol.

Please follow these steps to estimate emissions:

1) Read the ***Methodology*** page to become familiar with the equations and the assumptions underlying the calculations.

2) Enter the landfill specific data on the ***Landfill Model Inputs*** page. **This is the only page where data needs to be added or modified.**

Data Type	Field or Column Name	Description
Landfill Specific Data	k Value	Decay factor (see ***Methodology*** page).
	State/Country	State or country where the landfill is located. Will determine the waste characterization data used.
Waste Deposit Data	Year	Year of the data entry values.
	Waste Deposited (Tons)	Amount of waste deposited in that year.
	Waste Deposited (% ANDOC)	Percent of the waste that is degradable, based on waste characterization data.
	Greenwaste & Compost - Daily Cover (Tons)	Amount of daily cover materials of the given type used in that year.
	Greenwaste & Compost - Daily Cover (% ANDOC)	Percent of the daily cover that is degradable, based on waste characterization data.
	Sludge - Daily Cover (Tons)	Amount of daily cover materials of the given type used in that year.
	Sludge - Daily Cover (% ANDOC)	Percent of the daily cover that is degradable, based on waste characterization data.
Note: Required data fields on the **Landfill Model Inputs** page are highlighted in rose		

The rose colored field names indicate which fields require data entry, all others have defaults that will be used in the calculations.

3) If you wish to overwrite the default % ANDOC value with your own value, you can use the calculator on the ***Landfill Specific ANDOC Values*** page (the last page in this tool) and then type your calculated landfill specific value over the default ANDOC% value.

4) Estimates of the emissions reflecting the current inputs are listed on the ***Landfill Emissions Output*** page and estimates of captured gas heat are available on the ***Landfill Gas Heat Output*** page.

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	Tons	% ANDOC		Tons	% ANDOC	Tons	% ANDOC
1900							
1901							
1902							
1903							
1904							
1905							
1906							
1907							
1908							
1909							
1910							
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1950							
1951							

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	Tons	% ANDOC		Tons	% ANDOC	Tons	% ANDOC
1952							
1953							
1954							
1955							
1956							
1957							
1958							
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2002							
2003							

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	**Tons**	**% ANDOC**		**Tons**	**% ANDOC**	**Tons**	**% ANDOC**
2004							
2005							
2006							
2007							
2008							
2009							
2010	42,583	7.52%		10	6.24%		
2011							
2012							
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							

Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
1900		
1901		
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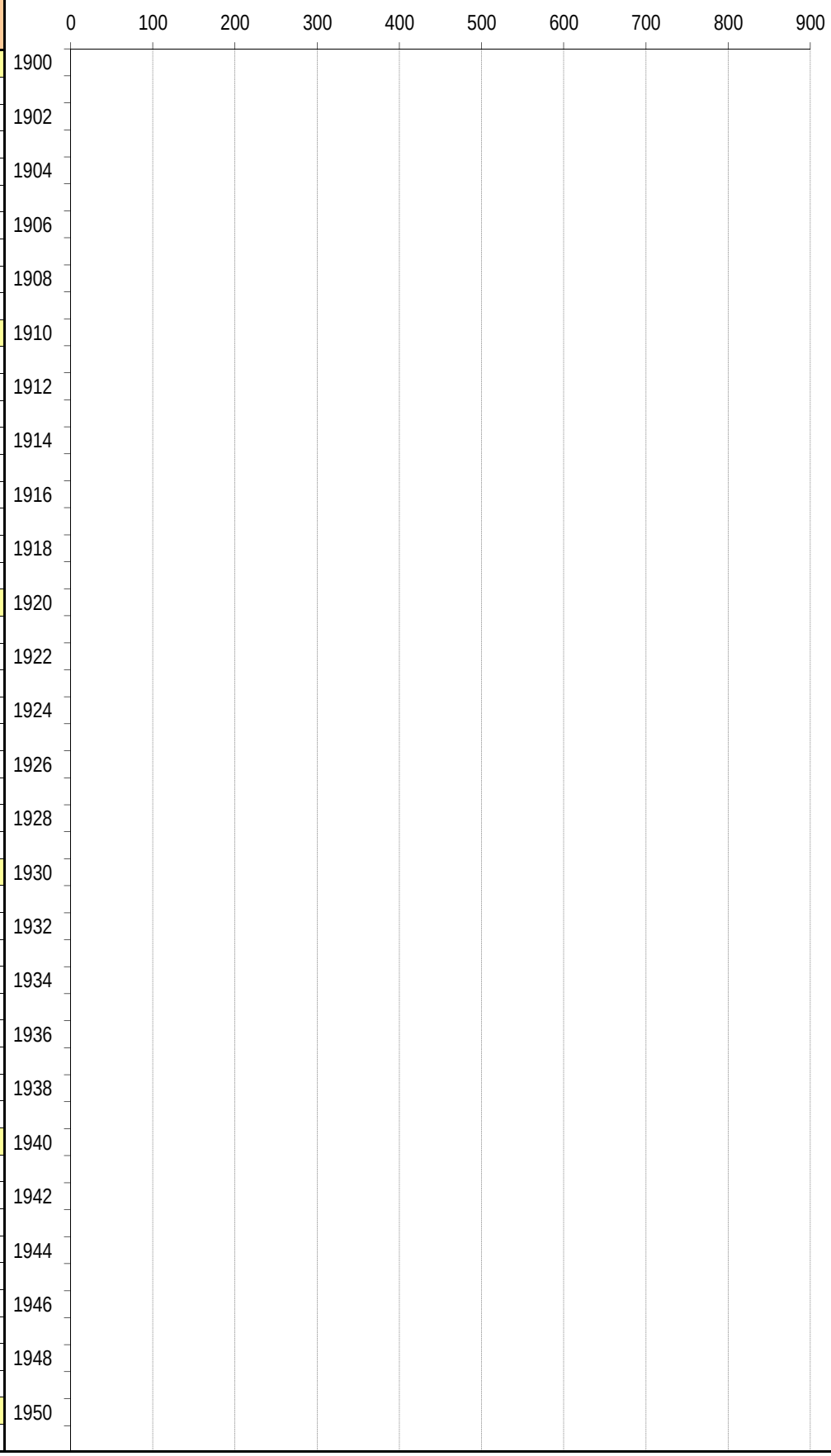

Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
1952		
1953		
1954		
1955		
1956		
1957		
1958		
1959		
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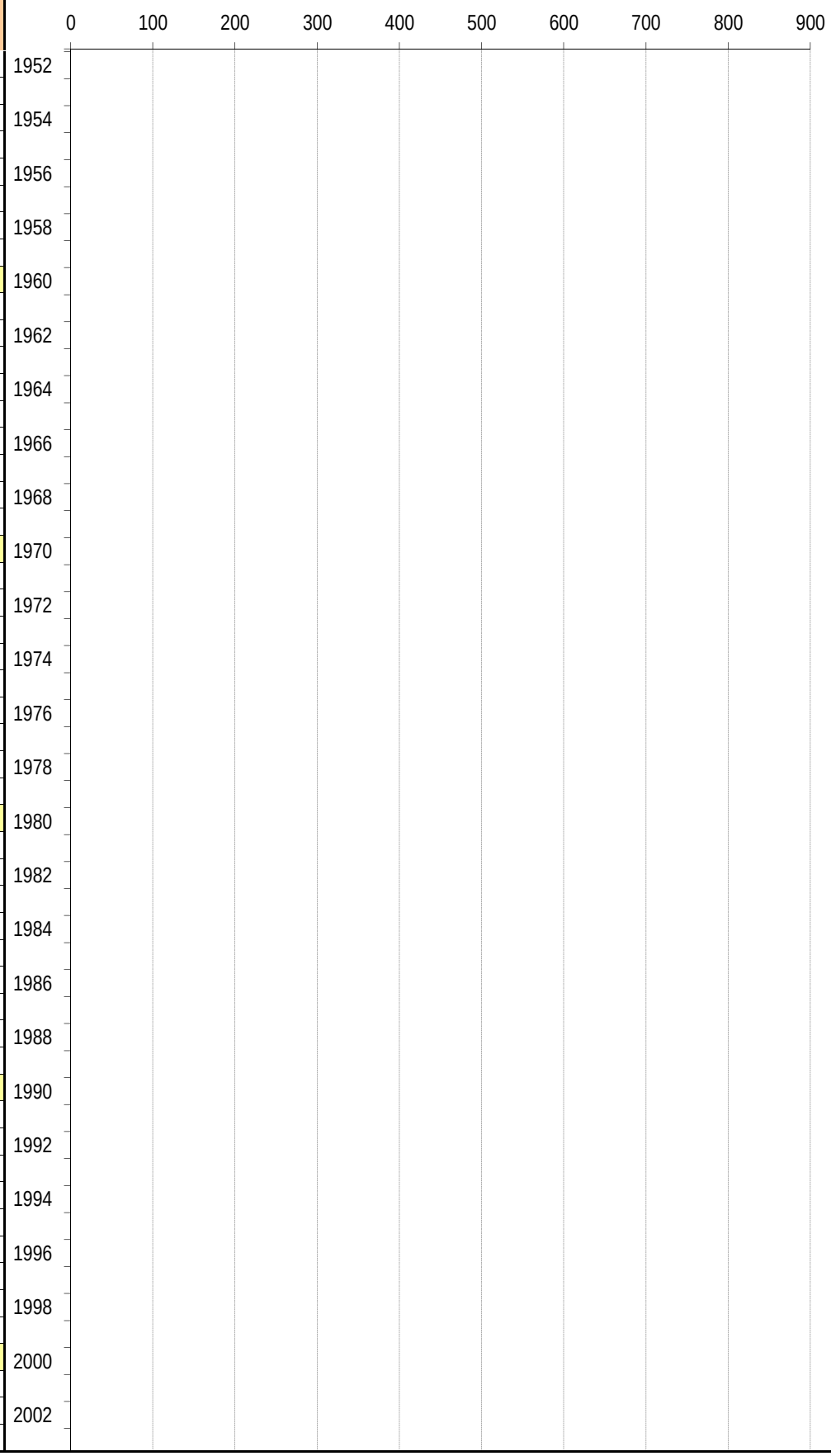
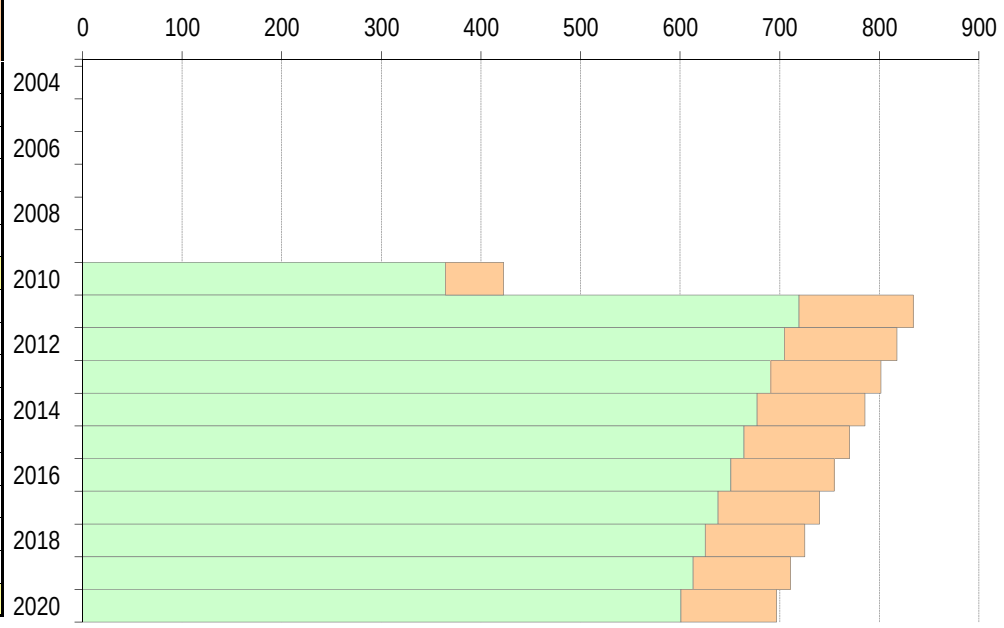


Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
Year Opened: 1986
State: CA
If Closed, Year:
k Value: 0.020
City/County: Corona/Riverside
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
2004		
2005		
2006		
2007		
2008		
2009		
2010	364	58
2011	719	115
2012	705	113
2013	691	110
2014	677	108
2015	664	106
2016	651	104
2017	638	102
2018	625	100
2019	613	98
2020	601	96



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
1900		
1901		
1902		
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1911		
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1949		
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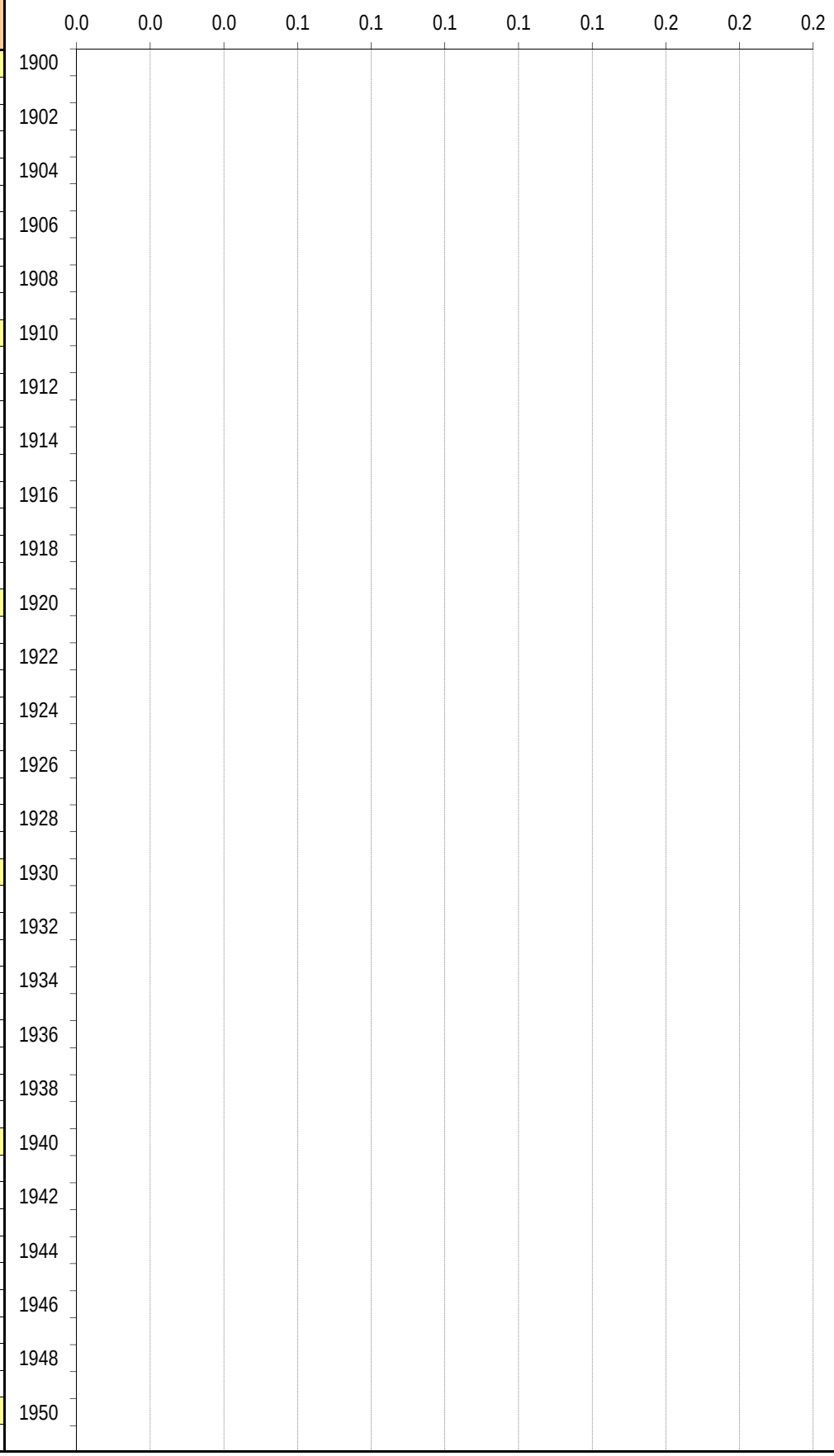
1951		



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
1952		
1953		
1954		
1955		
1956		
1957		
1958		
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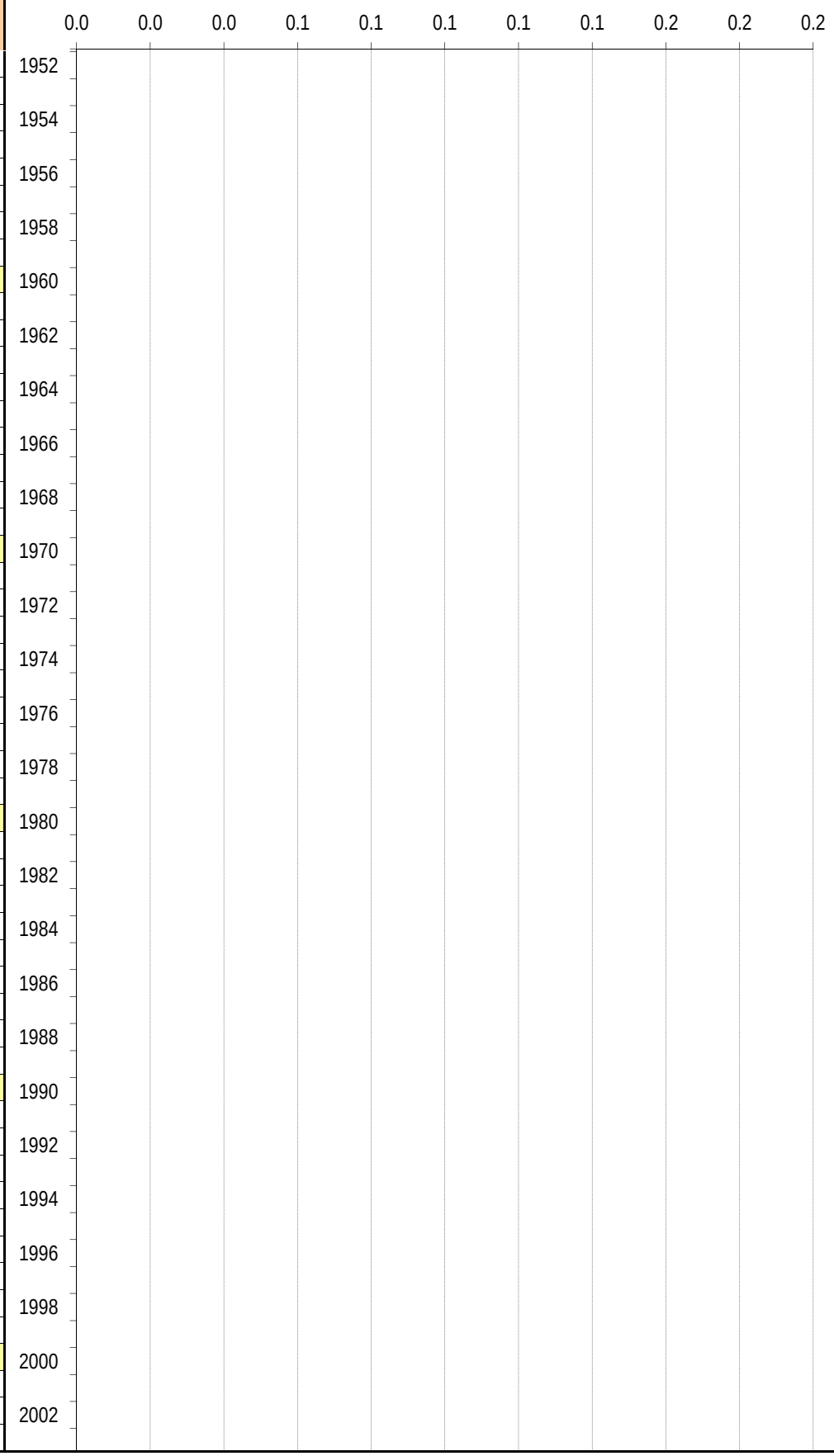
2003		

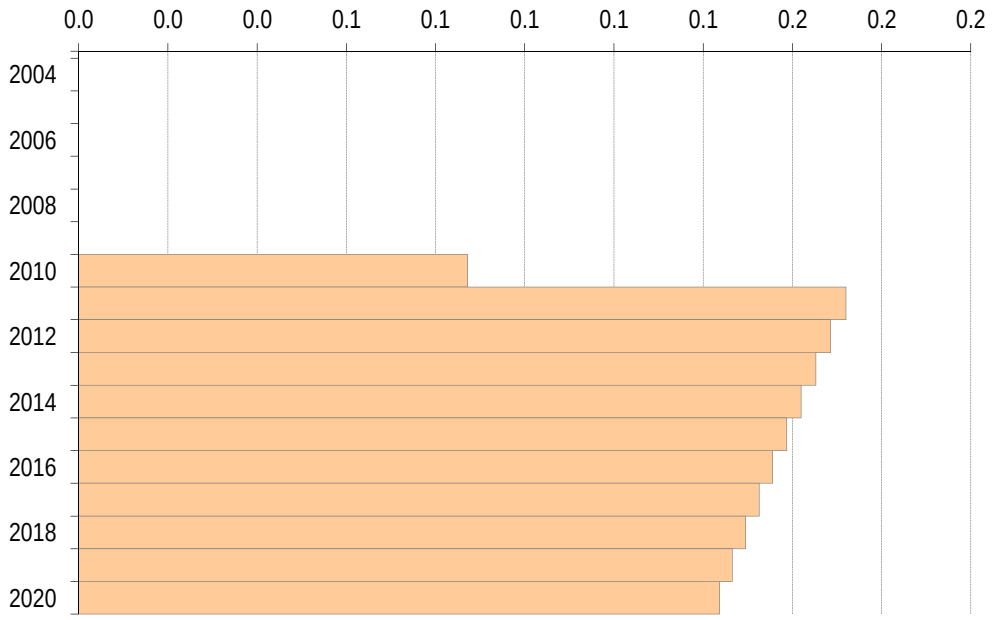


Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
Year Opened: 1986
State: CA
If Closed, Year:
k Value: 0.020
City/County: Corona/Riverside
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
2004		
2005		
2006		
2007		
2008		
2009		
2010	3	0.1
2011	6	0.2
2012	6	0.2
2013	5	0.2
2014	5	0.2
2015	5	0.2
2016	5	0.2
2017	5	0.2
2018	5	0.1
2019	5	0.1
2020	5	0.1



Landfill Methane Emissions Estimation Methodology

The calculations made by this tool are based on:

1) The following equations from IPCC's Mathematically Exact First-Order Decay Model, see section 3A1.6.3 of the 2006 IPCC Guidelines available online at:
http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/5_Volume5/V5_3_Ch3_SWDS.pdf

ANDOC% = Σ *WIPFRAC* $_i$ x *TDOC* $_i$ x *DANF* $_i$	
ANDOC%	Percent of the waste that is degradable
WIPFRAC $_i$	Fraction of the ith component in the Waste-in-Place (WIP)
TDOC $_i$	Total Degradable Organic Carbon fraction of the ith waste component (Mg of that component/Mg of Total WIP)
DANF $_i$	Decomposable Anaerobic Fraction of the ith waste component. That is, the fraction capable of decomposition in anaerobic conditions (Mg of decomposable carbon for that component/Mg TDOCi for that component)

ANDOC = WIP (Tons) x 0.9072 (Mg/Ton) x **ANDOC%**	
ANDOC	Anaerobically Degradable Organic Carbon, carbon that is capable of decomposition in an anaerobic environment (Mg of carbon)
WIP	Waste-in-Place estimate of all the landfilled waste (wet weight) as reported to the CIWMB (Tons)

$$\mathbf{ANDOC_{year\text{-}end}} = \mathbf{ANDOC_{year\text{-}start}} \times e^{-[k]}$$
$$+ \mathbf{ANDOC_{deposited\text{-}last\ year}} \times [1/k \times (e^{-[k \times (1-M/12)]} - e^{-[k]}) - (M/12) \times e^{-[k]}]$$
$$+ \mathbf{ANDOC_{deposited\text{-}same\ year}} \times [(1/k) \times (1-e^{-[k \times (1-M/12)]}) + (M/12)]$$

ANDOC $_{\text{year-end}}$	ANDOC remaining undecomposed at the end of the inventory year in question
ANDOC $_{\text{year-start}}$	ANDOC in place at the beginning of the inventory year in question
ANDOC $_{\text{deposited-last year}}$	ANDOC deposited during the previous inventory year
ANDOC $_{\text{deposited-same year}}$	ANDOC deposited during the inventory year in question
M	Assumed delay before newly deposited waste begins to undergo anaerobic decomposition (Months, Default=6)
k	Assumed rate constant for anaerobic decomposition; k = ln2/half-life (years); half-life is the number of years required for half of the original mass of carbon to degrade

$$\mathbf{CH_4\ Generation} = \{\mathbf{ANDOC_{year\text{-}start}} \times [1-e^{-[k]}]$$
$$- \mathbf{ANDOC_{deposited\text{-}last\ year}} \times [1/k \times (e^{-[k \times (1-M/12)]} - e^{-[k]}) - (M/12) \times e^{-[k]}]$$
$$+ \mathbf{ANDOC_{deposited\text{-}same\ year}} \times [1-((1/k) \times (1-e^{-[k \times (1-M/12)]}) + (M/12))]\} \times \mathbf{FCH_4} \times 16/12$$

CH_4 Generation	CH_4 generated in the inventory year in question (Mg of CH_4)
FCH_4	Fraction of decomposing carbon converted into CH_4 (Default = 0.5)

CH_4 Emitted = CH_4 Generation x (1-**OX**)	
CH_4 Emitted	CH_4 emitted to the atmosphere in the inventory year in question (Mg of CH_4)
OX	Fraction of escaping CH_4 that is oxidized to CO_2 in the cover soil (Default = 0.1)

2) Using an iterative approach (where the $ANDOC_{year\text{-}start}$ for the next inventory year equals the the $ANDOC_{year\text{-}end}$ of the previous inventory year), starting with the landfill's opening year and working through each subsequent years to arrive at the year for which an estimate is desired.

3) Choosing the rate of anaerobic decomposition (k). For the US and Mexico, select one of the following k values from EPA depending on the local average rainfall:

Average Rainfall (Inches/Year)		
<20	20-40	>40
k = 0.02	k = 0.038	k = 0.057

Where to input k values

For Canada, select the k value that corresponds to the province/territory :

Province/Territories	k
Alberta	0.012
British Columbia	0.082
Manitoba	0.019
New Brunswick	0.062
Newfoundland & Labrador	0.078
Nova Scotia	0.077
Northwest Territories	0.005
Nunavut	0.005
Ontario	0.045
Prince Edward Island	0.060
Quebec	0.056
Sakatchewan	0.010
Yukon	0.001

4) Using IPCC default value for the percent of methane oxidized while passing through the landfill to atmosphere:

Percent oxidation: 10%

Note: *Items 5 & 6 below only pertain when using this tool to assist in compliance with the Early Action Landfill Rule, and only affect the results shown in the Landfill Gas Heat Output page.*

5) Using EPA default value for the percent of methane captured by a landfill gas collection system:

Percent collection: 75%

6) Using EPA value for heat content of methane:

Methane heat content: 1,012 btu/scf

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for California

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 1: EPA 1960 Waste Characterization Study (Applies for waste deposited up to 1964)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

Table 2: EPA 1970 Waste Characterization Study (Applies for waste deposited from 1965 to 1974)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	11.30%	38.54%	87.03%	3.79%
Corrugated Boxes	13.50%	44.84%	44.25%	2.68%
Coated Paper	2.00%	33.03%	24.31%	0.16%
Food	11.30%	14.83%	86.52%	1.45%
Grass	10.25%	13.30%	47.36%	0.65%
Leaves	5.13%	29.13%	7.30%	0.11%
Branches	5.13%	44.24%	23.14%	0.52%
Lumber	3.30%	43.00%	23.26%	0.33%
Textiles	1.80%	24.00%	50.00%	0.22%
Diapers	0.30%	24.00%	50.00%	0.04%
Construction/Demolition	2.50%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.44%**

Table 3: EPA 1980 Waste Characterization Study (Applies for waste deposited from 1975 to 1984)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	5.90%	47.09%	15.05%	0.42%
Office Paper	12.00%	38.54%	87.03%	4.02%
Corrugated Boxes	11.50%	44.84%	44.25%	2.28%
Coated Paper	2.40%	33.03%	24.31%	0.19%
Food	9.50%	14.83%	86.52%	1.22%
Grass	10.05%	13.30%	47.36%	0.63%
Leaves	5.03%	29.13%	7.30%	0.11%
Branches	5.03%	44.24%	23.14%	0.51%
Lumber	5.10%	43.00%	23.26%	0.51%
Textiles	1.70%	24.00%	50.00%	0.20%
Diapers	1.40%	24.00%	50.00%	0.17%
Construction/Demolition	3.50%	4.00%	50.00%	0.07%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.34%**

Table 4: EPA 1990 Waste Characterization Study (Applies for waste deposited from 1985 to 1992)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.80%	47.09%	15.05%	0.34%
Office Paper	13.10%	38.54%	87.03%	4.39%
Corrugated Boxes	10.50%	44.84%	44.25%	2.08%
Coated Paper	2.10%	33.03%	24.31%	0.17%
Food	12.10%	14.83%	86.52%	1.55%
Grass	8.95%	13.30%	47.36%	0.56%
Leaves	4.48%	29.13%	7.30%	0.10%
Branches	4.48%	44.24%	23.14%	0.46%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	3.30%	24.00%	50.00%	0.40%
Diapers	1.60%	24.00%	50.00%	0.19%
Construction/Demolition	3.90%	4.00%	50.00%	0.08%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.02%**

Table 5: EPA 1995 Waste Characterization Study (Applies for waste deposited from 1993 to 1995)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.90%	47.09%	15.05%	0.28%
Office Paper	15.00%	38.54%	87.03%	5.03%
Corrugated Boxes	10.30%	44.84%	44.25%	2.04%
Coated Paper	1.80%	33.03%	24.31%	0.14%
Food	13.40%	14.83%	86.52%	1.72%
Grass	6.55%	13.30%	47.36%	0.41%
Leaves	3.28%	29.13%	7.30%	0.07%
Branches	3.28%	44.24%	23.14%	0.34%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	4.50%	24.00%	50.00%	0.54%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.50%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.62%**

Table 6: CIWMB 1999 Waste Characterization Study (Applies for waste deposited from 1996 to 2002)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.28%	47.09%	15.05%	0.30%
Office Paper	4.44%	38.54%	87.03%	1.49%
Corrugated Boxes	4.59%	44.84%	44.25%	0.91%
Coated Paper	16.92%	33.03%	24.31%	1.36%
Food	15.72%	14.83%	86.52%	2.02%
Grass	5.27%	13.30%	47.36%	0.33%
Leaves	2.63%	29.13%	7.30%	0.06%
Branches	2.37%	44.24%	23.14%	0.24%
Lumber	4.91%	43.00%	23.26%	0.49%
Textiles	2.11%	24.00%	50.00%	0.25%
Diapers	6.91%	24.00%	50.00%	0.83%
Construction/Demolition	6.65%	4.00%	50.00%	0.13%
Medical Waste	0.02%	15.00%	50.00%	0.00%
Sludge/Manure	0.14%	5.00%	50.00%	0.00%
MSW Total				**8.42%**

Table 7: CIWMB 2004 Waste Characterization Study (Applies for waste deposited from 2003 to 2006)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.20%	47.09%	15.05%	0.16%
Office Paper	1.95%	38.54%	87.03%	0.65%
Corrugated Boxes	5.75%	44.84%	44.25%	1.14%
Coated Paper	11.09%	33.03%	24.31%	0.89%
Food	14.55%	14.83%	86.52%	1.87%
Grass	2.81%	13.30%	47.36%	0.18%
Leaves	1.41%	29.13%	7.30%	0.03%
Branches	2.59%	44.24%	23.14%	0.26%
Lumber	9.65%	43.00%	23.26%	0.96%
Textiles	4.44%	24.00%	50.00%	0.53%

Diapers	4.36%	24.00%	50.00%	0.52%
Construction/Demolition	12.06%	4.00%	50.00%	0.24%
Medical Waste	0.04%	15.00%	50.00%	0.00%
Sludge/Manure	0.09%	5.00%	50.00%	0.00%
MSW Total				**7.45%**

Table 8: CIWMB 2008 Waste Characterization Study (Applies for waste deposited from 2007 to the present)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.65%	47.09%	15.05%	0.12%
Office Paper	1.84%	38.54%	87.03%	0.62%
Corrugated Boxes	4.80%	44.84%	44.25%	0.95%
Coated Paper	8.98%	33.03%	24.31%	0.72%
Food	15.50%	14.83%	86.52%	1.99%
Grass	1.90%	13.30%	47.36%	0.12%
Leaves	3.24%	29.13%	7.30%	0.07%
Branches	1.95%	44.24%	23.14%	0.20%
Lumber	14.51%	43.00%	23.26%	1.45%
Textiles	5.47%	24.00%	50.00%	0.66%
Diapers	4.33%	24.00%	50.00%	0.52%
Construction/Demolition	5.48%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.05%	5.00%	50.00%	0.00%
MSW Total				**7.52%**

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for Canada and Mexico

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 18: IPCC 2006 Waste Characterization Defaults - Central America (Applies for all years of waste deposited)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.64%	47.09%	15.05%	0.12%
Office Paper	6.30%	38.54%	87.03%	2.11%
Corrugated Boxes	4.93%	44.84%	44.25%	0.98%
Coated Paper	0.82%	33.03%	24.31%	0.07%
Food	43.80%	14.83%	86.52%	5.62%
Grass	0.00%	13.30%	47.36%	0.00%
Leaves	0.00%	29.13%	7.30%	0.00%
Branches	0.00%	44.24%	23.14%	0.00%
Lumber	13.50%	43.00%	23.26%	1.35%
Textiles	4.40%	24.00%	50.00%	0.53%
Diapers	0.00%	24.00%	50.00%	0.00%
Construction/Demolition	0.00%	4.00%	50.00%	0.00%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.77%**

Table 19: IPCC 2006 Waste Characterization Defaults - North America (Applies for all years of waste deposited)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.78%	47.09%	15.05%	0.20%
Office Paper	10.67%	38.54%	87.03%	3.58%
Corrugated Boxes	8.35%	44.84%	44.25%	1.66%
Coated Paper	1.39%	33.03%	24.31%	0.11%
Food	33.90%	14.83%	86.52%	4.35%
Grass	0.00%	13.30%	47.36%	0.00%
Leaves	0.00%	29.13%	7.30%	0.00%
Branches	0.00%	44.24%	23.14%	0.00%
Lumber	6.20%	43.00%	23.26%	0.62%
Textiles	5.30%	24.00%	50.00%	0.64%
Diapers	0.00%	24.00%	50.00%	0.00%
Construction/Demolition	0.00%	4.00%	50.00%	0.00%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.15%**

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for United States (other than California)

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 1: EPA 1960 Waste Characterization Study (Applies for waste deposited up to 1964)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

Table 2: EPA 1970 Waste Characterization Study (Applies for waste deposited from 1965 to 1974)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	11.30%	38.54%	87.03%	3.79%
Corrugated Boxes	13.50%	44.84%	44.25%	2.68%
Coated Paper	2.00%	33.03%	24.31%	0.16%
Food	11.30%	14.83%	86.52%	1.45%
Grass	10.25%	13.30%	47.36%	0.65%
Leaves	5.13%	29.13%	7.30%	0.11%
Branches	5.13%	44.24%	23.14%	0.52%
Lumber	3.30%	43.00%	23.26%	0.33%
Textiles	1.80%	24.00%	50.00%	0.22%
Diapers	0.30%	24.00%	50.00%	0.04%
Construction/Demolition	2.50%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.44%**

Table 3: EPA 1980 Waste Characterization Study (Applies for waste deposited from 1975 to 1984)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	5.90%	47.09%	15.05%	0.42%
Office Paper	12.00%	38.54%	87.03%	4.02%
Corrugated Boxes	11.50%	44.84%	44.25%	2.28%
Coated Paper	2.40%	33.03%	24.31%	0.19%
Food	9.50%	14.83%	86.52%	1.22%
Grass	10.05%	13.30%	47.36%	0.63%
Leaves	5.03%	29.13%	7.30%	0.11%
Branches	5.03%	44.24%	23.14%	0.51%
Lumber	5.10%	43.00%	23.26%	0.51%
Textiles	1.70%	24.00%	50.00%	0.20%
Diapers	1.40%	24.00%	50.00%	0.17%
Construction/Demolition	3.50%	4.00%	50.00%	0.07%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.34%**

Table 4: EPA 1990 Waste Characterization Study (Applies for waste deposited from 1985 to 1992)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.80%	47.09%	15.05%	0.34%

Office Paper	13.10%	38.54%	87.03%	4.39%
Corrugated Boxes	10.50%	44.84%	44.25%	2.08%
Coated Paper	2.10%	33.03%	24.31%	0.17%
Food	12.10%	14.83%	86.52%	1.55%
Grass	8.95%	13.30%	47.36%	0.56%
Leaves	4.48%	29.13%	7.30%	0.10%
Branches	4.48%	44.24%	23.14%	0.46%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	3.30%	24.00%	50.00%	0.40%
Diapers	1.60%	24.00%	50.00%	0.19%
Construction/Demolition	3.90%	4.00%	50.00%	0.08%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.02%**

Table 5: EPA 1995 Waste Characterization Study (Applies for waste deposited from 1993 to 1997)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.90%	47.09%	15.05%	0.28%
Office Paper	15.00%	38.54%	87.03%	5.03%
Corrugated Boxes	10.30%	44.84%	44.25%	2.04%
Coated Paper	1.80%	33.03%	24.31%	0.14%
Food	13.40%	14.83%	86.52%	1.72%
Grass	6.55%	13.30%	47.36%	0.41%
Leaves	3.28%	29.13%	7.30%	0.07%
Branches	3.28%	44.24%	23.14%	0.34%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	4.50%	24.00%	50.00%	0.54%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.50%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.62%**

Table 9: EPA 2000 Waste Characterization Study (Applies for waste deposited from 1998 to 2000)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.60%	47.09%	15.05%	0.26%
Office Paper	14.50%	38.54%	87.03%	4.86%
Corrugated Boxes	10.00%	44.84%	44.25%	1.98%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	15.40%	14.83%	86.52%	1.98%
Grass	4.35%	13.30%	47.36%	0.27%
Leaves	2.18%	29.13%	7.30%	0.05%
Branches	2.18%	44.24%	23.14%	0.22%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	5.20%	24.00%	50.00%	0.62%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.70%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.39%**

Table 10: EPA 2001 Waste Characterization Study (Applies for waste deposited in 2001)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.10%	47.09%	15.05%	0.15%
Office Paper	14.50%	38.54%	87.03%	4.86%
Corrugated Boxes	9.80%	44.84%	44.25%	1.94%
Coated Paper	1.30%	33.03%	24.31%	0.10%
Food	16.20%	14.83%	86.52%	2.08%
Grass	3.75%	13.30%	47.36%	0.24%
Leaves	1.88%	29.13%	7.30%	0.04%
Branches	1.88%	44.24%	23.14%	0.19%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.60%	24.00%	50.00%	0.67%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%

MSW Total				**11.37%**

Table 11: EPA 2002 Waste Characterization Study (Applies for waste deposited in 2002)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.90%	47.09%	15.05%	0.13%
Office Paper	14.70%	38.54%	87.03%	4.93%
Corrugated Boxes	9.80%	44.84%	44.25%	1.94%
Coated Paper	1.20%	33.03%	24.31%	0.10%
Food	16.10%	14.83%	86.52%	2.07%
Grass	3.75%	13.30%	47.36%	0.24%
Leaves	1.88%	29.13%	7.30%	0.04%
Branches	1.88%	44.24%	23.14%	0.19%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.70%	24.00%	50.00%	0.68%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.10%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.42%**

Table 12: EPA 2003 Waste Characterization Study (Applies for waste deposited in 2003)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.90%	47.09%	15.05%	0.13%
Office Paper	13.60%	38.54%	87.03%	4.56%
Corrugated Boxes	9.20%	44.84%	44.25%	1.83%
Coated Paper	1.40%	33.03%	24.31%	0.11%
Food	16.60%	14.83%	86.52%	2.13%
Grass	3.90%	13.30%	47.36%	0.25%
Leaves	1.95%	29.13%	7.30%	0.04%
Branches	1.95%	44.24%	23.14%	0.20%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.90%	24.00%	50.00%	0.71%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.04%**

Table 13: EPA 2004 Waste Characterization Study (Applies for waste deposited in 2004)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.50%	47.09%	15.05%	0.18%
Office Paper	13.00%	38.54%	87.03%	4.36%
Corrugated Boxes	9.60%	44.84%	44.25%	1.90%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	16.70%	14.83%	86.52%	2.14%
Grass	3.50%	13.30%	47.36%	0.22%
Leaves	1.75%	29.13%	7.30%	0.04%
Branches	1.75%	44.24%	23.14%	0.18%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	5.90%	24.00%	50.00%	0.71%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.92%**

Table 14: EPA 2005 Waste Characterization Study (Applies for waste deposited in 2005)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.00%	47.09%	15.05%	0.14%
Office Paper	12.80%	38.54%	87.03%	4.29%
Corrugated Boxes	8.80%	44.84%	44.25%	1.75%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	17.30%	14.83%	86.52%	2.22%
Grass	3.60%	13.30%	47.36%	0.23%
Leaves	1.80%	29.13%	7.30%	0.04%
Branches	1.80%	44.24%	23.14%	0.18%
Lumber	7.50%	43.00%	23.26%	0.75%

Textiles	6.10%	24.00%	50.00%	0.73%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.20%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.80%**

Table 15: EPA 2006 Waste Characterization Study (Applies for waste deposited in 2006)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.80%	47.09%	15.05%	0.13%
Office Paper	12.10%	38.54%	87.03%	4.06%
Corrugated Boxes	8.70%	44.84%	44.25%	1.73%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	17.60%	14.83%	86.52%	2.26%
Grass	3.60%	13.30%	47.36%	0.23%
Leaves	1.80%	29.13%	7.30%	0.04%
Branches	1.80%	44.24%	23.14%	0.18%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	6.30%	24.00%	50.00%	0.76%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.30%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.59%**

Table 16: EPA 2007 Waste Characterization Study (Applies for waste deposited in 2007)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.30%	47.09%	15.05%	0.09%
Office Paper	11.20%	38.54%	87.03%	3.76%
Corrugated Boxes	8.20%	44.84%	44.25%	1.63%
Coated Paper	1.40%	33.03%	24.31%	0.11%
Food	18.10%	14.83%	86.52%	2.32%
Grass	3.45%	13.30%	47.36%	0.22%
Leaves	1.73%	29.13%	7.30%	0.04%
Branches	1.73%	44.24%	23.14%	0.18%
Lumber	8.50%	43.00%	23.26%	0.85%
Textiles	6.40%	24.00%	50.00%	0.77%
Diapers	2.20%	24.00%	50.00%	0.26%
Construction/Demolition	5.50%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.33%**

Table 17: EPA 2008 Waste Characterization Study (Applies for waste deposited from 2008 to the present)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	0.60%	47.09%	15.05%	0.04%
Office Paper	11.50%	38.54%	87.03%	3.86%
Corrugated Boxes	7.40%	44.84%	44.25%	1.47%
Coated Paper	1.30%	33.03%	24.31%	0.10%
Food	18.60%	14.83%	86.52%	2.39%
Grass	3.50%	13.30%	47.36%	0.22%
Leaves	1.75%	29.13%	7.30%	0.04%
Branches	1.75%	44.24%	23.14%	0.18%
Lumber	8.90%	43.00%	23.26%	0.89%
Textiles	6.90%	24.00%	50.00%	0.83%
Diapers	2.30%	24.00%	50.00%	0.28%
Construction/Demolition	5.80%	4.00%	50.00%	0.12%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.41%**

Landfill Specific Value Calculator for the Percent of Anaerobically Degradable Carbon (ANDOC%)

Landfill specific Waste Characterization Data

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

1) Enter your landfill specific waste characterization data (WIPFRAC).
2) Copy the result of the calculation (MSW total) and overwrite the default %ANDOC value for the particular year on the ***Landfill Model Inputs*** page.
Note: Only the data for the Fraction of the Waste in Place (WIPFRAC) should be altered. If you wish to modify the TDOC or DANF values, please contact ARB staff.

California Air Resources Board's Implementation of IPCC's Mathematically Exact First-Order Decay Model

Release date: November 14, 2011

This tool is designed to estimate greenhouse gas emissions from a landfill in support of the Local Government Operations Protocol.

Please follow these steps to estimate emissions:

1) Read the ***Methodology*** page to become familiar with the equations and the assumptions underlying the calculations.

2) Enter the landfill specific data on the ***Landfill Model Inputs*** page. **This is the only page where data needs to be added or modified.**

Data Type	Field or Column Name	Description
Landfill Specific Data	k Value	Decay factor (see ***Methodology*** page).
	State/Country	State or country where the landfill is located. Will determine the waste characterization data used.
Waste Deposit Data	Year	Year of the data entry values.
	Waste Deposited (Tons)	Amount of waste deposited in that year.
	Waste Deposited (% ANDOC)	Percent of the waste that is degradable, based on waste characterization data.
	Greenwaste & Compost - Daily Cover (Tons)	Amount of daily cover materials of the given type used in that year.
	Greenwaste & Compost - Daily Cover (% ANDOC)	Percent of the daily cover that is degradable, based on waste characterization data.
	Sludge - Daily Cover (Tons)	Amount of daily cover materials of the given type used in that year.
	Sludge - Daily Cover (% ANDOC)	Percent of the daily cover that is degradable, based on waste characterization data.
Note: Required data fields on the **Landfill Model Inputs** page are highlighted in rose		

The rose colored field names indicate which fields require data entry, all others have defaults that will be used in the calculations.

3) If you wish to overwrite the default % ANDOC value with your own value, you can use the calculator on the ***Landfill Specific ANDOC Values*** page (the last page in this tool) and then type your calculated landfill specific value over the default ANDOC% value.

4) Estimates of the emissions reflecting the current inputs are listed on the ***Landfill Emissions Output*** page and estimates of captured gas heat are available on the ***Landfill Gas Heat Output*** page.

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	Tons	% ANDOC		Tons	% ANDOC	Tons	% ANDOC
1900							
1901							
1902							
1903							
1904							
1905							
1906							
1907							
1908							
1909							
1910							
1911							
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1943							
1944							
1945							
1946							
1947							
1948							
1949							
1950							
1951							

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	Tons	% ANDOC		Tons	% ANDOC	Tons	% ANDOC
1952							
1953							
1954							
1955							
1956							
1957							
1958							
1959							
1960							
1961							
1962							
1963							
1964							
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2000							
2001							
2002							
2003							

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	**Tons**	**% ANDOC**		**Tons**	**% ANDOC**	**Tons**	**% ANDOC**
2004							
2005							
2006							
2007							
2008							
2009							
2010							
2011							
2012	47,641	7.52%		9	6.24%		
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							

Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
1900		
1901		
1902		
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1911		
1912		
1913		
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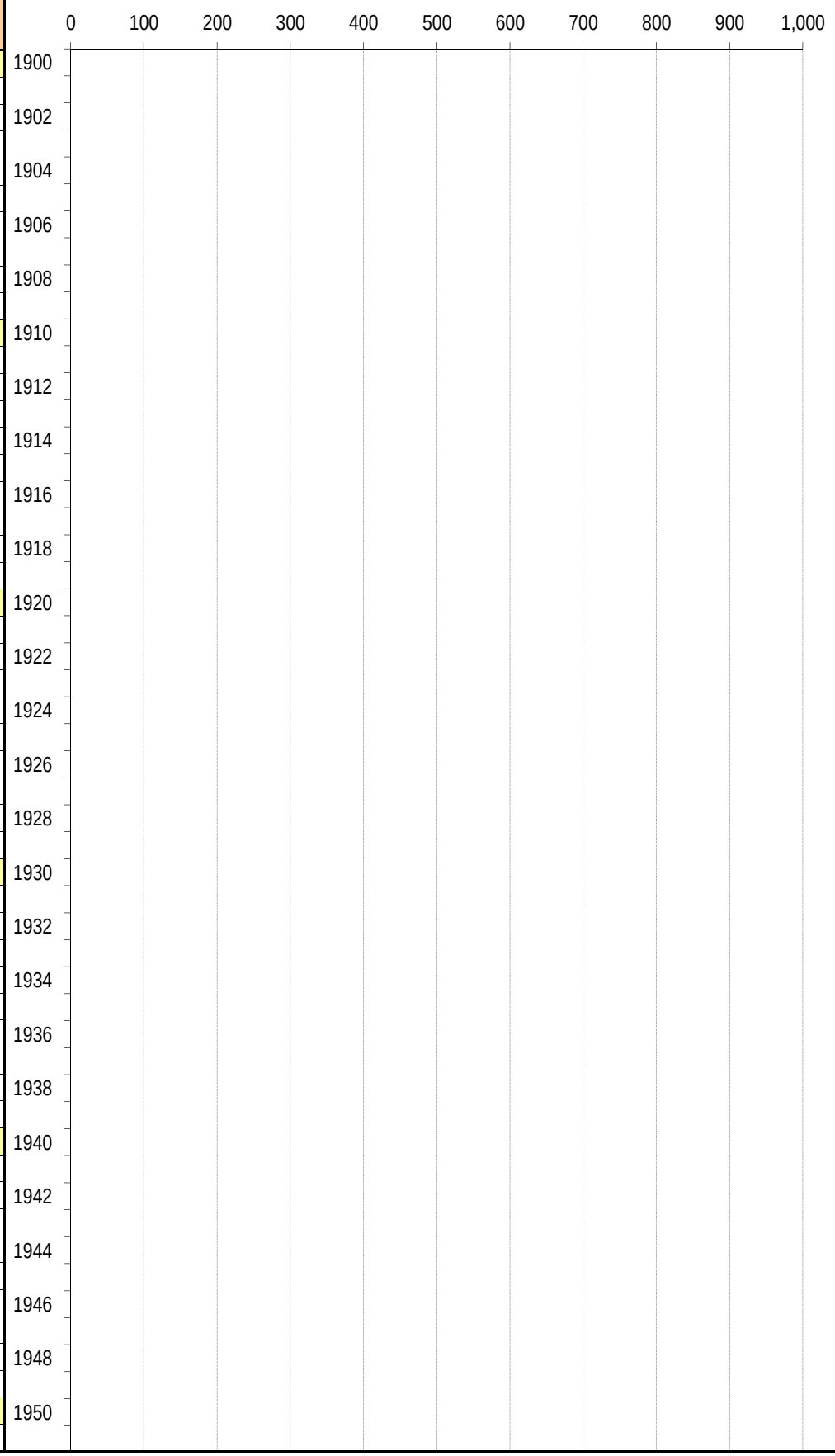
1951		



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
1952		
1953		
1954		
1955		
1956		
1957		
1958		
1959		
1960		
1961		
1962		
1963		
1964		
1965		
1966		
1967		
1968		
1969		
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1971		
1972		
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1974		
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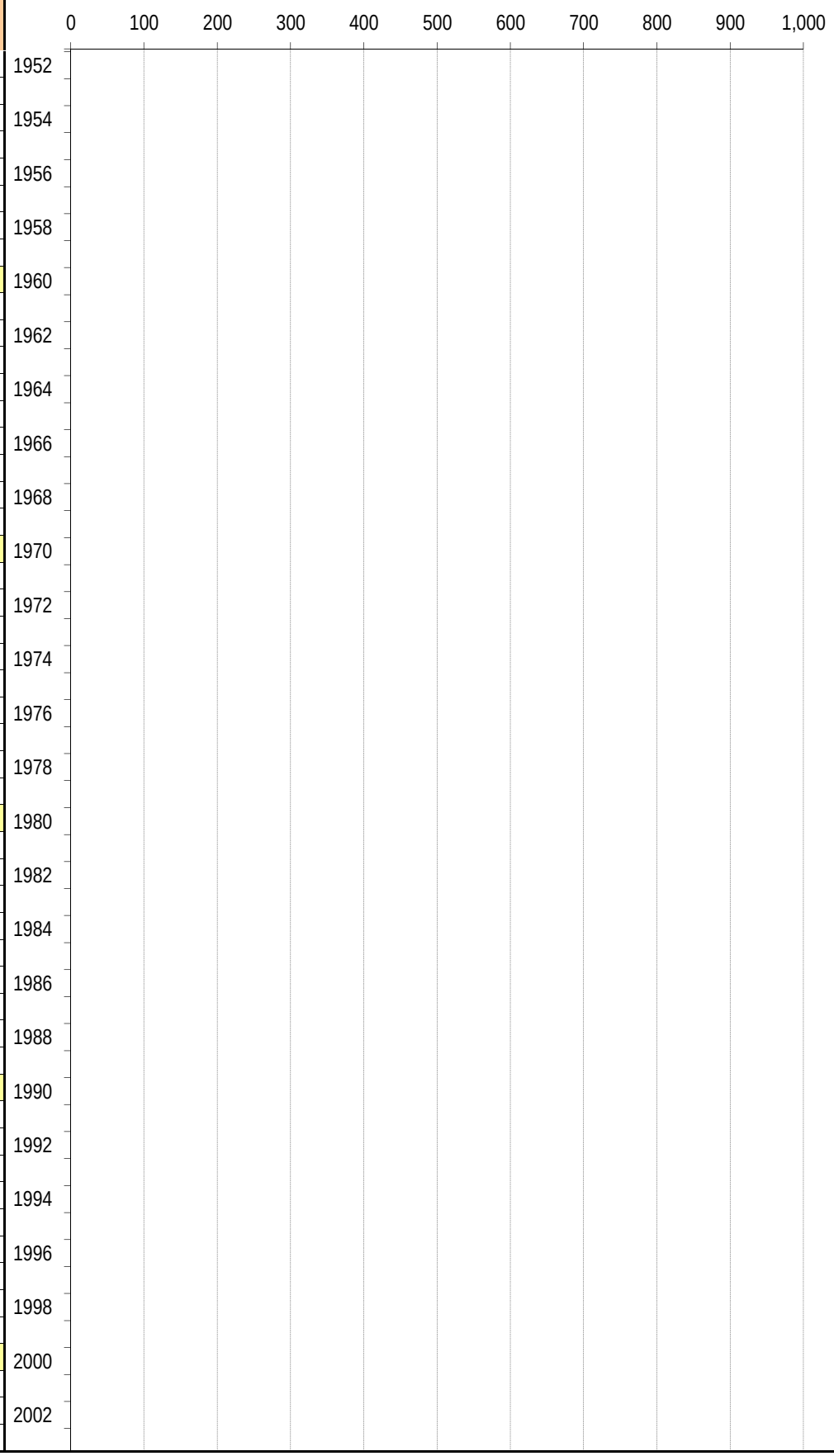
2002		
2003		

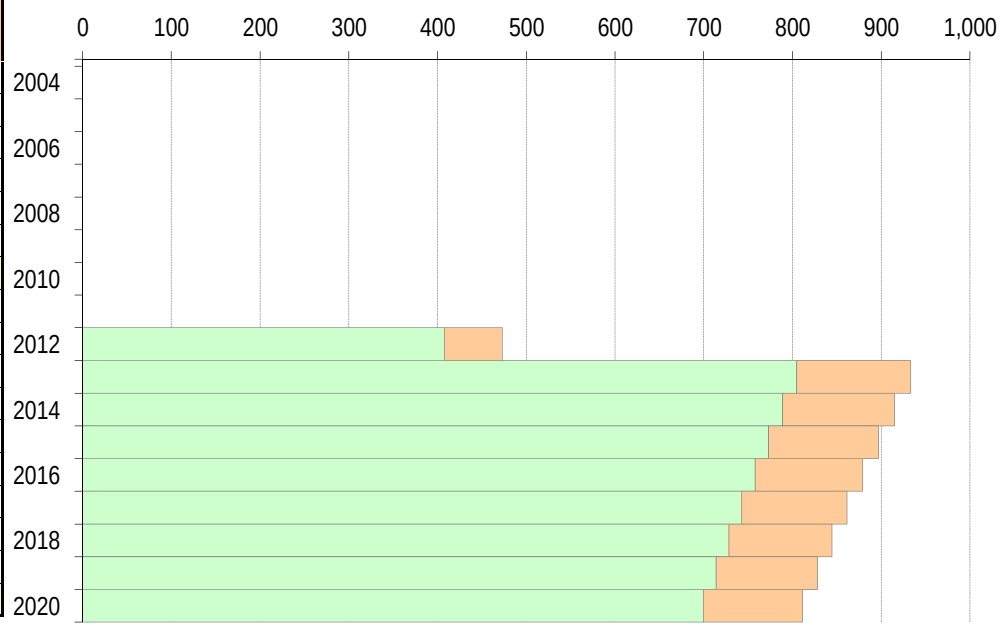


Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
2004		
2005		
2006		
2007		
2008		
2009		
2010		
2011		
2012	408	65
2013	805	129
2014	789	126
2015	773	123
2016	758	121
2017	743	119
2018	728	116
2019	714	114
2020	700	112



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
1900		
1901		
1902		
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1911		
1912		
1913		
1914		
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1917		
1918		
1919		
1920		
1921		
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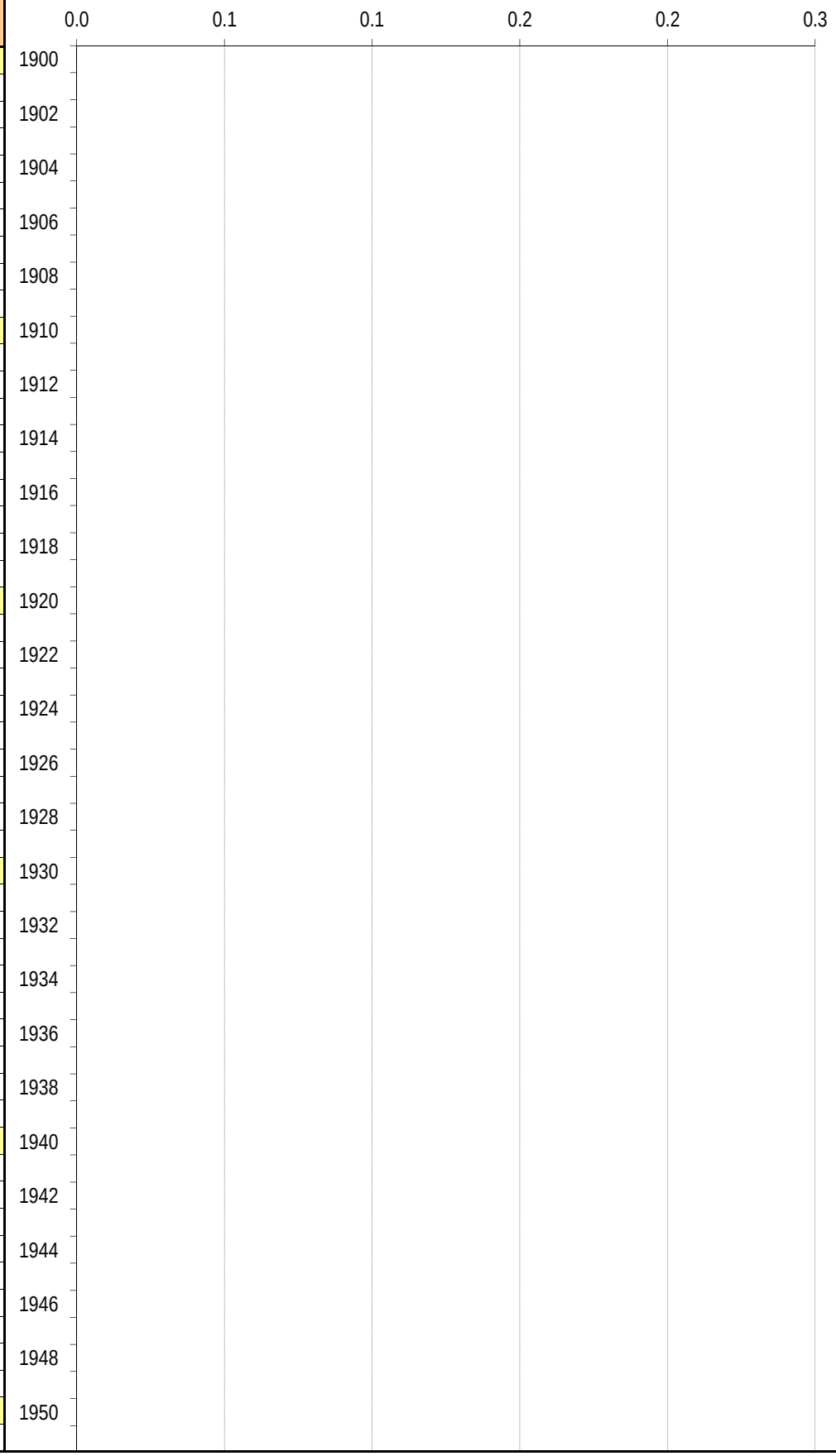
1945		
1946		
1947		
1948		
1949		
1950		
1951		



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
Year Opened: 1986
State: CA
If Closed, Year:
k Value: 0.020
City/County: Corona/Riverside
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
1952		
1953		
1954		
1955		
1956		
1957		
1958		
1959		
1960		
1961		
1962		
1963		
1964		
1965		
1966		
1967		
1968		
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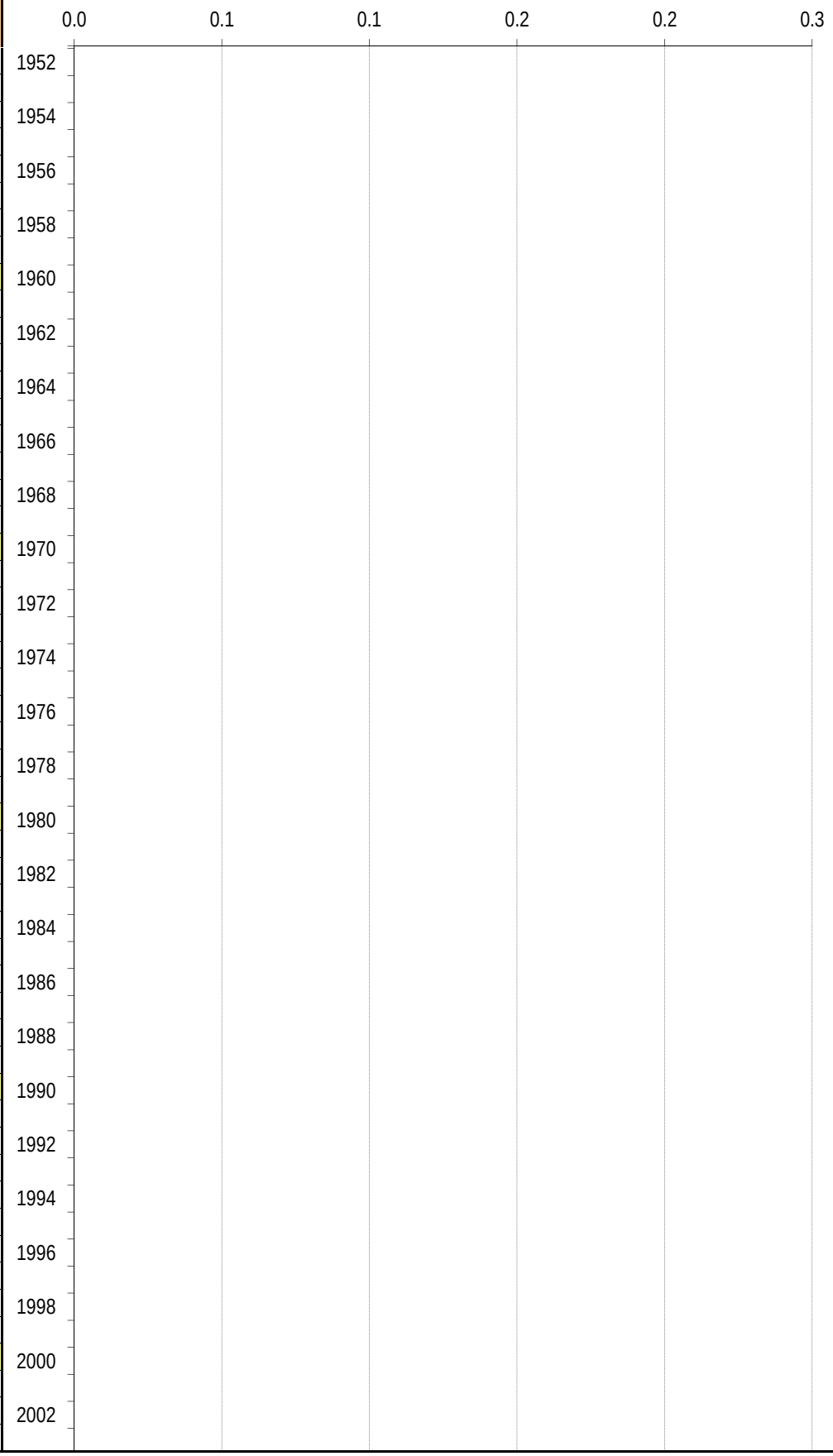
2001		
2002		
2003		

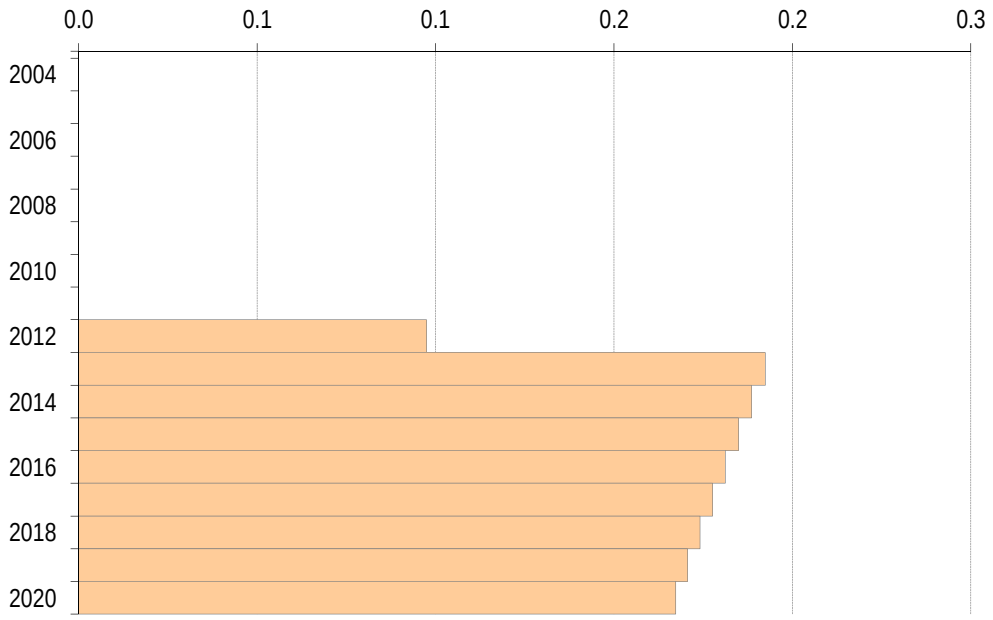


Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
Year Opened: 1986
State: CA
If Closed, Year:
k Value: 0.020
City/County: Corona/Riverside
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
2004		
2005		
2006		
2007		
2008		
2009		
2010		
2011		
2012	3	0.1
2013	6	0.2
2014	6	0.2
2015	6	0.2
2016	6	0.2
2017	6	0.2
2018	6	0.2
2019	6	0.2
2020	6	0.2



Landfill Methane Emissions Estimation Methodology

The calculations made by this tool are based on:

1) The following equations from IPCC's Mathematically Exact First-Order Decay Model, see section 3A1.6.3 of the 2006 IPCC Guidelines available online at:
http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/5_Volume5/V5_3_Ch3_SWDS.pdf

ANDOC% = Σ *WIPFRAC* $_i$ x *TDOC* $_i$ x *DANF* $_i$	
ANDOC%	Percent of the waste that is degradable
WIPFRAC $_i$	Fraction of the ith component in the Waste-in-Place (WIP)
TDOC $_i$	Total Degradable Organic Carbon fraction of the ith waste component (Mg of that component/Mg of Total WIP)
DANF $_i$	Decomposable Anaerobic Fraction of the ith waste component. That is, the fraction capable of decomposition in anaerobic conditions (Mg of decomposable carbon for that component/Mg TDOCi for that component)

ANDOC = WIP (Tons) x 0.9072 (Mg/Ton) x **ANDOC%**	
ANDOC	Anaerobically Degradable Organic Carbon, carbon that is capable of decomposition in an anaerobic environment (Mg of carbon)
WIP	Waste-in-Place estimate of all the landfilled waste (wet weight) as reported to the CIWMB (Tons)

$$\mathbf{ANDOC_{year\text{-}end}} = \mathbf{ANDOC_{year\text{-}start}} \times e^{-[k]}$$
$$+ \mathbf{ANDOC_{deposited\text{-}last\ year}} \times [1/k \times (e^{-[k \times (1-M/12)]} - e^{-[k]}) - (M/12) \times e^{-[k]}]$$
$$+ \mathbf{ANDOC_{deposited\text{-}same\ year}} \times [(1/k) \times (1-e^{-[k \times (1-M/12)]}) + (M/12)]$$

ANDOC $_{\text{year-end}}$	ANDOC remaining undecomposed at the end of the inventory year in question
ANDOC $_{\text{year-start}}$	ANDOC in place at the beginning of the inventory year in question
ANDOC $_{\text{deposited-last year}}$	ANDOC deposited during the previous inventory year
ANDOC $_{\text{deposited-same year}}$	ANDOC deposited during the inventory year in question
M	Assumed delay before newly deposited waste begins to undergo anaerobic decomposition (Months, Default=6)
k	Assumed rate constant for anaerobic decomposition; k = ln2/half-life (years); half-life is the number of years required for half of the original mass of carbon to degrade

$$\mathbf{CH_4\ Generation} = \{\mathbf{ANDOC_{year\text{-}start}} \times [1-e^{-[k]}]$$
$$- \mathbf{ANDOC_{deposited\text{-}last\ year}} \times [1/k \times (e^{-[k \times (1-M/12)]} - e^{-[k]}) - (M/12) \times e^{-[k]}]$$
$$+ \mathbf{ANDOC_{deposited\text{-}same\ year}} \times [1-((1/k) \times (1-e^{-[k \times (1-M/12)]}) + (M/12))]\} \times \mathbf{FCH_4} \times 16/12$$

CH_4 Generation	CH_4 generated in the inventory year in question (Mg of CH_4)
FCH_4	Fraction of decomposing carbon converted into CH_4 (Default = 0.5)

CH_4 Emitted = CH_4 Generation x (1-**OX**)	
CH_4 Emitted	CH_4 emitted to the atmosphere in the inventory year in question (Mg of CH_4)
OX	Fraction of escaping CH_4 that is oxidized to CO_2 in the cover soil (Default = 0.1)

2) Using an iterative approach (where the $ANDOC_{year\text{-}start}$ for the next inventory year equals the the $ANDOC_{year\text{-}end}$ of the previous inventory year), starting with the landfill's opening year and working through each subsequent years to arrive at the year for which an estimate is desired.

3) Choosing the rate of anaerobic decomposition (k). For the US and Mexico, select one of the following k values from EPA depending on the local average rainfall:

Average Rainfall (Inches/Year)		
<20	20-40	>40
k = 0.02	k = 0.038	k = 0.057

Where to input k values

For Canada, select the k value that corresponds to the province/territory :

Province/Territories	k
Alberta	0.012
British Columbia	0.082
Manitoba	0.019
New Brunswick	0.062
Newfoundland & Labrador	0.078
Nova Scotia	0.077
Northwest Territories	0.005
Nunavut	0.005
Ontario	0.045
Prince Edward Island	0.060
Quebec	0.056
Sakatchewan	0.010
Yukon	0.001

4) Using IPCC default value for the percent of methane oxidized while passing through the landfill to atmosphere:

Percent oxidation: 10%

Note: *Items 5 & 6 below only pertain when using this tool to assist in compliance with the Early Action Landfill Rule, and only affect the results shown in the Landfill Gas Heat Output page.*

5) Using EPA default value for the percent of methane captured by a landfill gas collection system:

Percent collection: 75%

6) Using EPA value for heat content of methane:

Methane heat content: 1,012 btu/scf

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for California

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 1: EPA 1960 Waste Characterization Study (Applies for waste deposited up to 1964)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

Table 2: EPA 1970 Waste Characterization Study (Applies for waste deposited from 1965 to 1974)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	11.30%	38.54%	87.03%	3.79%
Corrugated Boxes	13.50%	44.84%	44.25%	2.68%
Coated Paper	2.00%	33.03%	24.31%	0.16%
Food	11.30%	14.83%	86.52%	1.45%
Grass	10.25%	13.30%	47.36%	0.65%
Leaves	5.13%	29.13%	7.30%	0.11%
Branches	5.13%	44.24%	23.14%	0.52%
Lumber	3.30%	43.00%	23.26%	0.33%
Textiles	1.80%	24.00%	50.00%	0.22%
Diapers	0.30%	24.00%	50.00%	0.04%
Construction/Demolition	2.50%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.44%**

Table 3: EPA 1980 Waste Characterization Study (Applies for waste deposited from 1975 to 1984)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	5.90%	47.09%	15.05%	0.42%
Office Paper	12.00%	38.54%	87.03%	4.02%
Corrugated Boxes	11.50%	44.84%	44.25%	2.28%
Coated Paper	2.40%	33.03%	24.31%	0.19%
Food	9.50%	14.83%	86.52%	1.22%
Grass	10.05%	13.30%	47.36%	0.63%
Leaves	5.03%	29.13%	7.30%	0.11%
Branches	5.03%	44.24%	23.14%	0.51%
Lumber	5.10%	43.00%	23.26%	0.51%
Textiles	1.70%	24.00%	50.00%	0.20%
Diapers	1.40%	24.00%	50.00%	0.17%
Construction/Demolition	3.50%	4.00%	50.00%	0.07%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.34%**

Table 4: EPA 1990 Waste Characterization Study (Applies for waste deposited from 1985 to 1992)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.80%	47.09%	15.05%	0.34%
Office Paper	13.10%	38.54%	87.03%	4.39%
Corrugated Boxes	10.50%	44.84%	44.25%	2.08%
Coated Paper	2.10%	33.03%	24.31%	0.17%
Food	12.10%	14.83%	86.52%	1.55%
Grass	8.95%	13.30%	47.36%	0.56%
Leaves	4.48%	29.13%	7.30%	0.10%
Branches	4.48%	44.24%	23.14%	0.46%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	3.30%	24.00%	50.00%	0.40%
Diapers	1.60%	24.00%	50.00%	0.19%
Construction/Demolition	3.90%	4.00%	50.00%	0.08%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.02%**

Table 5: EPA 1995 Waste Characterization Study (Applies for waste deposited from 1993 to 1995)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.90%	47.09%	15.05%	0.28%
Office Paper	15.00%	38.54%	87.03%	5.03%
Corrugated Boxes	10.30%	44.84%	44.25%	2.04%
Coated Paper	1.80%	33.03%	24.31%	0.14%
Food	13.40%	14.83%	86.52%	1.72%
Grass	6.55%	13.30%	47.36%	0.41%
Leaves	3.28%	29.13%	7.30%	0.07%
Branches	3.28%	44.24%	23.14%	0.34%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	4.50%	24.00%	50.00%	0.54%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.50%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.62%**

Table 6: CIWMB 1999 Waste Characterization Study (Applies for waste deposited from 1996 to 2002)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.28%	47.09%	15.05%	0.30%
Office Paper	4.44%	38.54%	87.03%	1.49%
Corrugated Boxes	4.59%	44.84%	44.25%	0.91%
Coated Paper	16.92%	33.03%	24.31%	1.36%
Food	15.72%	14.83%	86.52%	2.02%
Grass	5.27%	13.30%	47.36%	0.33%
Leaves	2.63%	29.13%	7.30%	0.06%
Branches	2.37%	44.24%	23.14%	0.24%
Lumber	4.91%	43.00%	23.26%	0.49%
Textiles	2.11%	24.00%	50.00%	0.25%
Diapers	6.91%	24.00%	50.00%	0.83%
Construction/Demolition	6.65%	4.00%	50.00%	0.13%
Medical Waste	0.02%	15.00%	50.00%	0.00%
Sludge/Manure	0.14%	5.00%	50.00%	0.00%
MSW Total				**8.42%**

Table 7: CIWMB 2004 Waste Characterization Study (Applies for waste deposited from 2003 to 2006)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.20%	47.09%	15.05%	0.16%
Office Paper	1.95%	38.54%	87.03%	0.65%
Corrugated Boxes	5.75%	44.84%	44.25%	1.14%
Coated Paper	11.09%	33.03%	24.31%	0.89%
Food	14.55%	14.83%	86.52%	1.87%
Grass	2.81%	13.30%	47.36%	0.18%
Leaves	1.41%	29.13%	7.30%	0.03%
Branches	2.59%	44.24%	23.14%	0.26%
Lumber	9.65%	43.00%	23.26%	0.96%
Textiles	4.44%	24.00%	50.00%	0.53%

Diapers	4.36%	24.00%	50.00%	0.52%
Construction/Demolition	12.06%	4.00%	50.00%	0.24%
Medical Waste	0.04%	15.00%	50.00%	0.00%
Sludge/Manure	0.09%	5.00%	50.00%	0.00%
MSW Total				**7.45%**

Table 8: CIWMB 2008 Waste Characterization Study (Applies for waste deposited from 2007 to the present)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.65%	47.09%	15.05%	0.12%
Office Paper	1.84%	38.54%	87.03%	0.62%
Corrugated Boxes	4.80%	44.84%	44.25%	0.95%
Coated Paper	8.98%	33.03%	24.31%	0.72%
Food	15.50%	14.83%	86.52%	1.99%
Grass	1.90%	13.30%	47.36%	0.12%
Leaves	3.24%	29.13%	7.30%	0.07%
Branches	1.95%	44.24%	23.14%	0.20%
Lumber	14.51%	43.00%	23.26%	1.45%
Textiles	5.47%	24.00%	50.00%	0.66%
Diapers	4.33%	24.00%	50.00%	0.52%
Construction/Demolition	5.48%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.05%	5.00%	50.00%	0.00%
MSW Total				**7.52%**

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for Canada and Mexico

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 18: IPCC 2006 Waste Characterization Defaults - Central America (Applies for all years of waste deposited)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.64%	47.09%	15.05%	0.12%
Office Paper	6.30%	38.54%	87.03%	2.11%
Corrugated Boxes	4.93%	44.84%	44.25%	0.98%
Coated Paper	0.82%	33.03%	24.31%	0.07%
Food	43.80%	14.83%	86.52%	5.62%
Grass	0.00%	13.30%	47.36%	0.00%
Leaves	0.00%	29.13%	7.30%	0.00%
Branches	0.00%	44.24%	23.14%	0.00%
Lumber	13.50%	43.00%	23.26%	1.35%
Textiles	4.40%	24.00%	50.00%	0.53%
Diapers	0.00%	24.00%	50.00%	0.00%
Construction/Demolition	0.00%	4.00%	50.00%	0.00%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.77%**

Table 19: IPCC 2006 Waste Characterization Defaults - North America (Applies for all years of waste deposited)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.78%	47.09%	15.05%	0.20%
Office Paper	10.67%	38.54%	87.03%	3.58%
Corrugated Boxes	8.35%	44.84%	44.25%	1.66%
Coated Paper	1.39%	33.03%	24.31%	0.11%
Food	33.90%	14.83%	86.52%	4.35%
Grass	0.00%	13.30%	47.36%	0.00%
Leaves	0.00%	29.13%	7.30%	0.00%
Branches	0.00%	44.24%	23.14%	0.00%
Lumber	6.20%	43.00%	23.26%	0.62%
Textiles	5.30%	24.00%	50.00%	0.64%
Diapers	0.00%	24.00%	50.00%	0.00%
Construction/Demolition	0.00%	4.00%	50.00%	0.00%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.15%**

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for United States (other than California)

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 1: EPA 1960 Waste Characterization Study (Applies for waste deposited up to 1964)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

Table 2: EPA 1970 Waste Characterization Study (Applies for waste deposited from 1965 to 1974)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	11.30%	38.54%	87.03%	3.79%
Corrugated Boxes	13.50%	44.84%	44.25%	2.68%
Coated Paper	2.00%	33.03%	24.31%	0.16%
Food	11.30%	14.83%	86.52%	1.45%
Grass	10.25%	13.30%	47.36%	0.65%
Leaves	5.13%	29.13%	7.30%	0.11%
Branches	5.13%	44.24%	23.14%	0.52%
Lumber	3.30%	43.00%	23.26%	0.33%
Textiles	1.80%	24.00%	50.00%	0.22%
Diapers	0.30%	24.00%	50.00%	0.04%
Construction/Demolition	2.50%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.44%**

Table 3: EPA 1980 Waste Characterization Study (Applies for waste deposited from 1975 to 1984)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	5.90%	47.09%	15.05%	0.42%
Office Paper	12.00%	38.54%	87.03%	4.02%
Corrugated Boxes	11.50%	44.84%	44.25%	2.28%
Coated Paper	2.40%	33.03%	24.31%	0.19%
Food	9.50%	14.83%	86.52%	1.22%
Grass	10.05%	13.30%	47.36%	0.63%
Leaves	5.03%	29.13%	7.30%	0.11%
Branches	5.03%	44.24%	23.14%	0.51%
Lumber	5.10%	43.00%	23.26%	0.51%
Textiles	1.70%	24.00%	50.00%	0.20%
Diapers	1.40%	24.00%	50.00%	0.17%
Construction/Demolition	3.50%	4.00%	50.00%	0.07%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.34%**

Table 4: EPA 1990 Waste Characterization Study (Applies for waste deposited from 1985 to 1992)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.80%	47.09%	15.05%	0.34%

Office Paper	13.10%	38.54%	87.03%	4.39%
Corrugated Boxes	10.50%	44.84%	44.25%	2.08%
Coated Paper	2.10%	33.03%	24.31%	0.17%
Food	12.10%	14.83%	86.52%	1.55%
Grass	8.95%	13.30%	47.36%	0.56%
Leaves	4.48%	29.13%	7.30%	0.10%
Branches	4.48%	44.24%	23.14%	0.46%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	3.30%	24.00%	50.00%	0.40%
Diapers	1.60%	24.00%	50.00%	0.19%
Construction/Demolition	3.90%	4.00%	50.00%	0.08%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.02%**

Table 5: EPA 1995 Waste Characterization Study (Applies for waste deposited from 1993 to 1997)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.90%	47.09%	15.05%	0.28%
Office Paper	15.00%	38.54%	87.03%	5.03%
Corrugated Boxes	10.30%	44.84%	44.25%	2.04%
Coated Paper	1.80%	33.03%	24.31%	0.14%
Food	13.40%	14.83%	86.52%	1.72%
Grass	6.55%	13.30%	47.36%	0.41%
Leaves	3.28%	29.13%	7.30%	0.07%
Branches	3.28%	44.24%	23.14%	0.34%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	4.50%	24.00%	50.00%	0.54%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.50%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.62%**

Table 9: EPA 2000 Waste Characterization Study (Applies for waste deposited from 1998 to 2000)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.60%	47.09%	15.05%	0.26%
Office Paper	14.50%	38.54%	87.03%	4.86%
Corrugated Boxes	10.00%	44.84%	44.25%	1.98%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	15.40%	14.83%	86.52%	1.98%
Grass	4.35%	13.30%	47.36%	0.27%
Leaves	2.18%	29.13%	7.30%	0.05%
Branches	2.18%	44.24%	23.14%	0.22%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	5.20%	24.00%	50.00%	0.62%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.70%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.39%**

Table 10: EPA 2001 Waste Characterization Study (Applies for waste deposited in 2001)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.10%	47.09%	15.05%	0.15%
Office Paper	14.50%	38.54%	87.03%	4.86%
Corrugated Boxes	9.80%	44.84%	44.25%	1.94%
Coated Paper	1.30%	33.03%	24.31%	0.10%
Food	16.20%	14.83%	86.52%	2.08%
Grass	3.75%	13.30%	47.36%	0.24%
Leaves	1.88%	29.13%	7.30%	0.04%
Branches	1.88%	44.24%	23.14%	0.19%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.60%	24.00%	50.00%	0.67%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%

MSW Total				**11.37%**

Table 11: EPA 2002 Waste Characterization Study (Applies for waste deposited in 2002)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.90%	47.09%	15.05%	0.13%
Office Paper	14.70%	38.54%	87.03%	4.93%
Corrugated Boxes	9.80%	44.84%	44.25%	1.94%
Coated Paper	1.20%	33.03%	24.31%	0.10%
Food	16.10%	14.83%	86.52%	2.07%
Grass	3.75%	13.30%	47.36%	0.24%
Leaves	1.88%	29.13%	7.30%	0.04%
Branches	1.88%	44.24%	23.14%	0.19%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.70%	24.00%	50.00%	0.68%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.10%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.42%**

Table 12: EPA 2003 Waste Characterization Study (Applies for waste deposited in 2003)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.90%	47.09%	15.05%	0.13%
Office Paper	13.60%	38.54%	87.03%	4.56%
Corrugated Boxes	9.20%	44.84%	44.25%	1.83%
Coated Paper	1.40%	33.03%	24.31%	0.11%
Food	16.60%	14.83%	86.52%	2.13%
Grass	3.90%	13.30%	47.36%	0.25%
Leaves	1.95%	29.13%	7.30%	0.04%
Branches	1.95%	44.24%	23.14%	0.20%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.90%	24.00%	50.00%	0.71%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.04%**

Table 13: EPA 2004 Waste Characterization Study (Applies for waste deposited in 2004)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.50%	47.09%	15.05%	0.18%
Office Paper	13.00%	38.54%	87.03%	4.36%
Corrugated Boxes	9.60%	44.84%	44.25%	1.90%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	16.70%	14.83%	86.52%	2.14%
Grass	3.50%	13.30%	47.36%	0.22%
Leaves	1.75%	29.13%	7.30%	0.04%
Branches	1.75%	44.24%	23.14%	0.18%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	5.90%	24.00%	50.00%	0.71%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.92%**

Table 14: EPA 2005 Waste Characterization Study (Applies for waste deposited in 2005)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.00%	47.09%	15.05%	0.14%
Office Paper	12.80%	38.54%	87.03%	4.29%
Corrugated Boxes	8.80%	44.84%	44.25%	1.75%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	17.30%	14.83%	86.52%	2.22%
Grass	3.60%	13.30%	47.36%	0.23%
Leaves	1.80%	29.13%	7.30%	0.04%
Branches	1.80%	44.24%	23.14%	0.18%
Lumber	7.50%	43.00%	23.26%	0.75%

Textiles	6.10%	24.00%	50.00%	0.73%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.20%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.80%**

Table 15: EPA 2006 Waste Characterization Study (Applies for waste deposited in 2006)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.80%	47.09%	15.05%	0.13%
Office Paper	12.10%	38.54%	87.03%	4.06%
Corrugated Boxes	8.70%	44.84%	44.25%	1.73%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	17.60%	14.83%	86.52%	2.26%
Grass	3.60%	13.30%	47.36%	0.23%
Leaves	1.80%	29.13%	7.30%	0.04%
Branches	1.80%	44.24%	23.14%	0.18%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	6.30%	24.00%	50.00%	0.76%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.30%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.59%**

Table 16: EPA 2007 Waste Characterization Study (Applies for waste deposited in 2007)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.30%	47.09%	15.05%	0.09%
Office Paper	11.20%	38.54%	87.03%	3.76%
Corrugated Boxes	8.20%	44.84%	44.25%	1.63%
Coated Paper	1.40%	33.03%	24.31%	0.11%
Food	18.10%	14.83%	86.52%	2.32%
Grass	3.45%	13.30%	47.36%	0.22%
Leaves	1.73%	29.13%	7.30%	0.04%
Branches	1.73%	44.24%	23.14%	0.18%
Lumber	8.50%	43.00%	23.26%	0.85%
Textiles	6.40%	24.00%	50.00%	0.77%
Diapers	2.20%	24.00%	50.00%	0.26%
Construction/Demolition	5.50%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.33%**

Table 17: EPA 2008 Waste Characterization Study (Applies for waste deposited from 2008 to the present)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	0.60%	47.09%	15.05%	0.04%
Office Paper	11.50%	38.54%	87.03%	3.86%
Corrugated Boxes	7.40%	44.84%	44.25%	1.47%
Coated Paper	1.30%	33.03%	24.31%	0.10%
Food	18.60%	14.83%	86.52%	2.39%
Grass	3.50%	13.30%	47.36%	0.22%
Leaves	1.75%	29.13%	7.30%	0.04%
Branches	1.75%	44.24%	23.14%	0.18%
Lumber	8.90%	43.00%	23.26%	0.89%
Textiles	6.90%	24.00%	50.00%	0.83%
Diapers	2.30%	24.00%	50.00%	0.28%
Construction/Demolition	5.80%	4.00%	50.00%	0.12%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.41%**

Landfill Specific Value Calculator for the Percent of Anaerobically Degradable Carbon (ANDOC%)

Landfill specific Waste Characterization Data

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

1) Enter your landfill specific waste characterization data (WIPFRAC).
2) Copy the result of the calculation (MSW total) and overwrite the default %ANDOC value for the particular year on the ***Landfill Model Inputs*** page.
Note: Only the data for the Fraction of the Waste in Place (WIPFRAC) should be altered. If you wish to modify the TDOC or DANF values, please contact ARB staff.

California Air Resources Board's Implementation of IPCC's Mathematically Exact First-Order Decay Model

Release date: November 14, 2011

This tool is designed to estimate greenhouse gas emissions from a landfill in support of the Local Government Operations Protocol.

Please follow these steps to estimate emissions:

1) Read the ***Methodology*** page to become familiar with the equations and the assumptions underlying the calculations.

2) Enter the landfill specific data on the ***Landfill Model Inputs*** page. **This is the only page where data needs to be added or modified.**

Data Type	Field or Column Name	Description
Landfill Specific Data	k Value	Decay factor (see ***Methodology*** page).
	State/Country	State or country where the landfill is located. Will determine the waste characterization data used.
Waste Deposit Data	Year	Year of the data entry values.
	Waste Deposited (Tons)	Amount of waste deposited in that year.
	Waste Deposited (% ANDOC)	Percent of the waste that is degradable, based on waste characterization data.
	Greenwaste & Compost - Daily Cover (Tons)	Amount of daily cover materials of the given type used in that year.
	Greenwaste & Compost - Daily Cover (% ANDOC)	Percent of the daily cover that is degradable, based on waste characterization data.
	Sludge - Daily Cover (Tons)	Amount of daily cover materials of the given type used in that year.
	Sludge - Daily Cover (% ANDOC)	Percent of the daily cover that is degradable, based on waste characterization data.
Note: Required data fields on the **Landfill Model Inputs** page are highlighted in rose		

The rose colored field names indicate which fields require data entry, all others have defaults that will be used in the calculations.

3) If you wish to overwrite the default % ANDOC value with your own value, you can use the calculator on the ***Landfill Specific ANDOC Values*** page (the last page in this tool) and then type your calculated landfill specific value over the default ANDOC% value.

4) Estimates of the emissions reflecting the current inputs are listed on the ***Landfill Emissions Output*** page and estimates of captured gas heat are available on the ***Landfill Gas Heat Output*** page.

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	Tons	% ANDOC		Tons	% ANDOC	Tons	% ANDOC
1900							
1901							
1902							
1903							
1904							
1905							
1906							
1907							
1908							
1909							
1910							
1911							
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1942							
1943							
1944							
1945							
1946							
1947							
1948							
1949							
1950							
1951							

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	Tons	% ANDOC		Tons	% ANDOC	Tons	% ANDOC
1952							
1953							
1954							
1955							
1956							
1957							
1958							
1959							
1960							
1961							
1962							
1963							
1964							
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1998							
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2000							
2001							
2002							
2003							

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	**Tons**	**% ANDOC**		**Tons**	**% ANDOC**	**Tons**	**% ANDOC**
2004							
2005							
2006							
2007							
2008							
2009							
2010							
2011							
2012	43,483	7.52%			6.24%		
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							

Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
1900		
1901		
1902		
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1911		
1912		
1913		
1914		
1915		
1916		
1917		
1918		
1919		
1920		
1921		
1922		
1923		
1924		
1925		
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1945		
1946		
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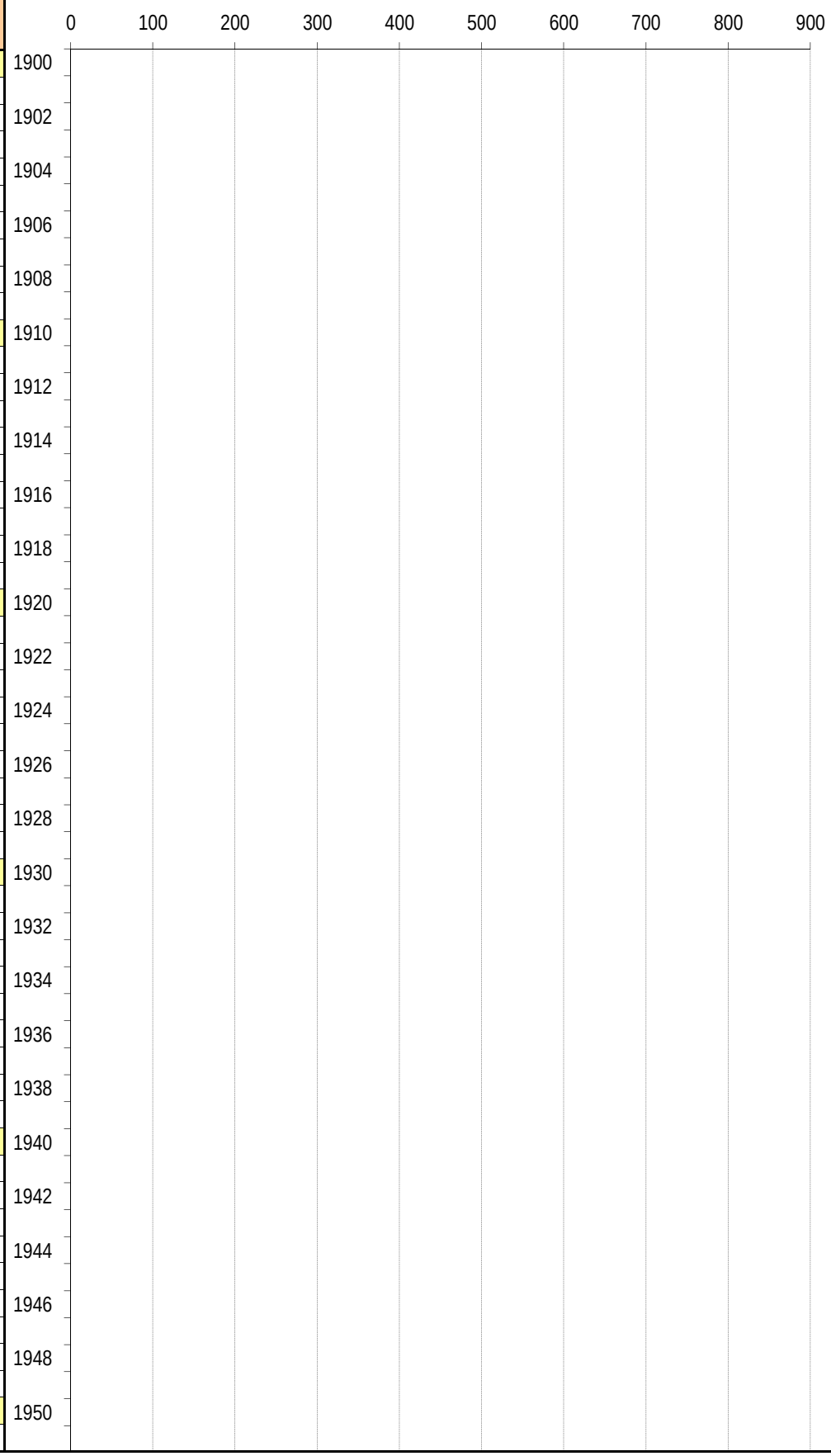
1948		
1949		
1950		
1951		



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
1952		
1953		
1954		
1955		
1956		
1957		
1958		
1959		
1960		
1961		
1962		
1963		
1964		
1965		
1966		
1967		
1968		
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1970		
1971		
1972		
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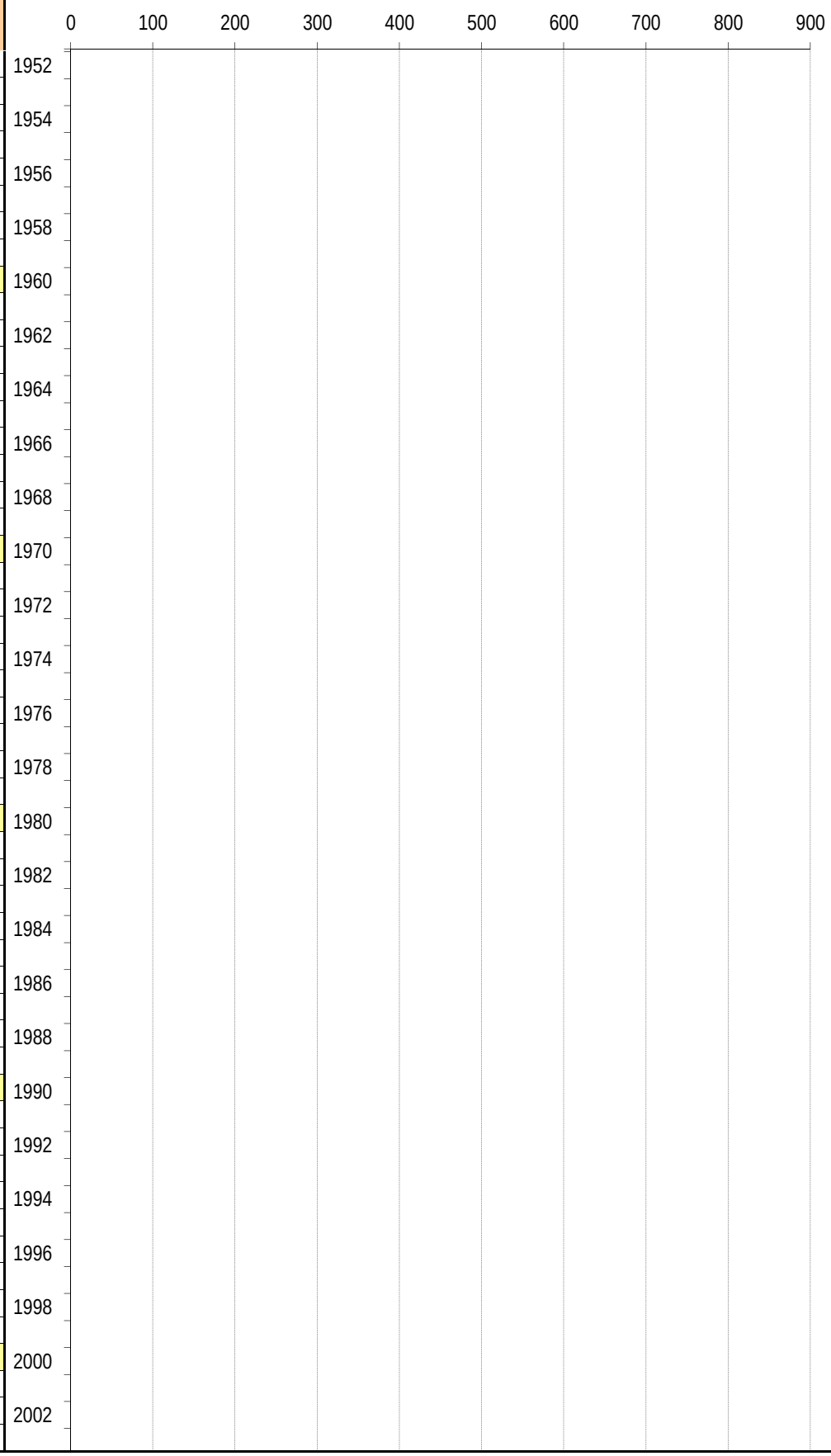
1987		
1988		
1989		
1990		
1991		
1992		
1993		
1994		
1995		
1996		
1997		
1998		
1999		
2000		
2001		
2002		
2003		

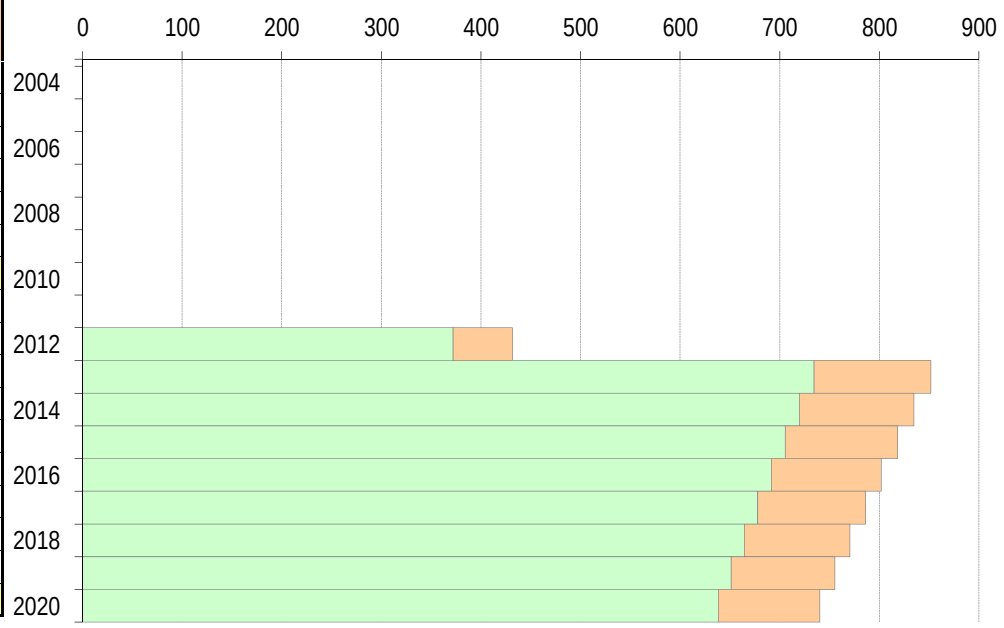


Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
2004		
2005		
2006		
2007		
2008		
2009		
2010		
2011		
2012	372	59
2013	734	117
2014	720	115
2015	706	113
2016	692	110
2017	678	108
2018	665	106
2019	651	104
2020	638	102



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
1900		
1901		
1902		
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1911		
1912		
1913		
1914		
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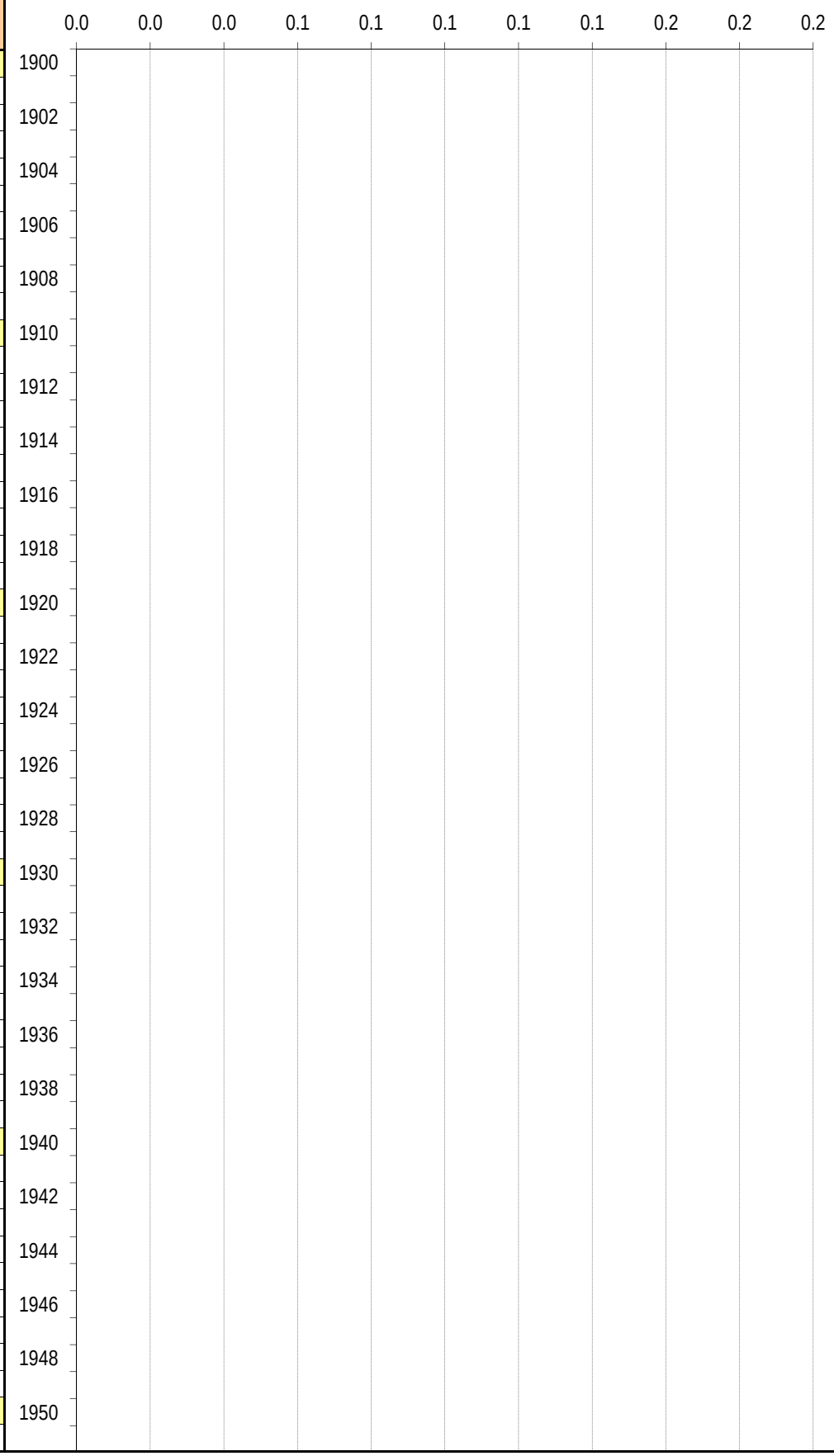
1949		
1950		
1951		



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
1952		
1953		
1954		
1955		
1956		
1957		
1958		
1959		
1960		
1961		
1962		
1963		
1964		
1965		
1966		
1967		
1968		
1969		
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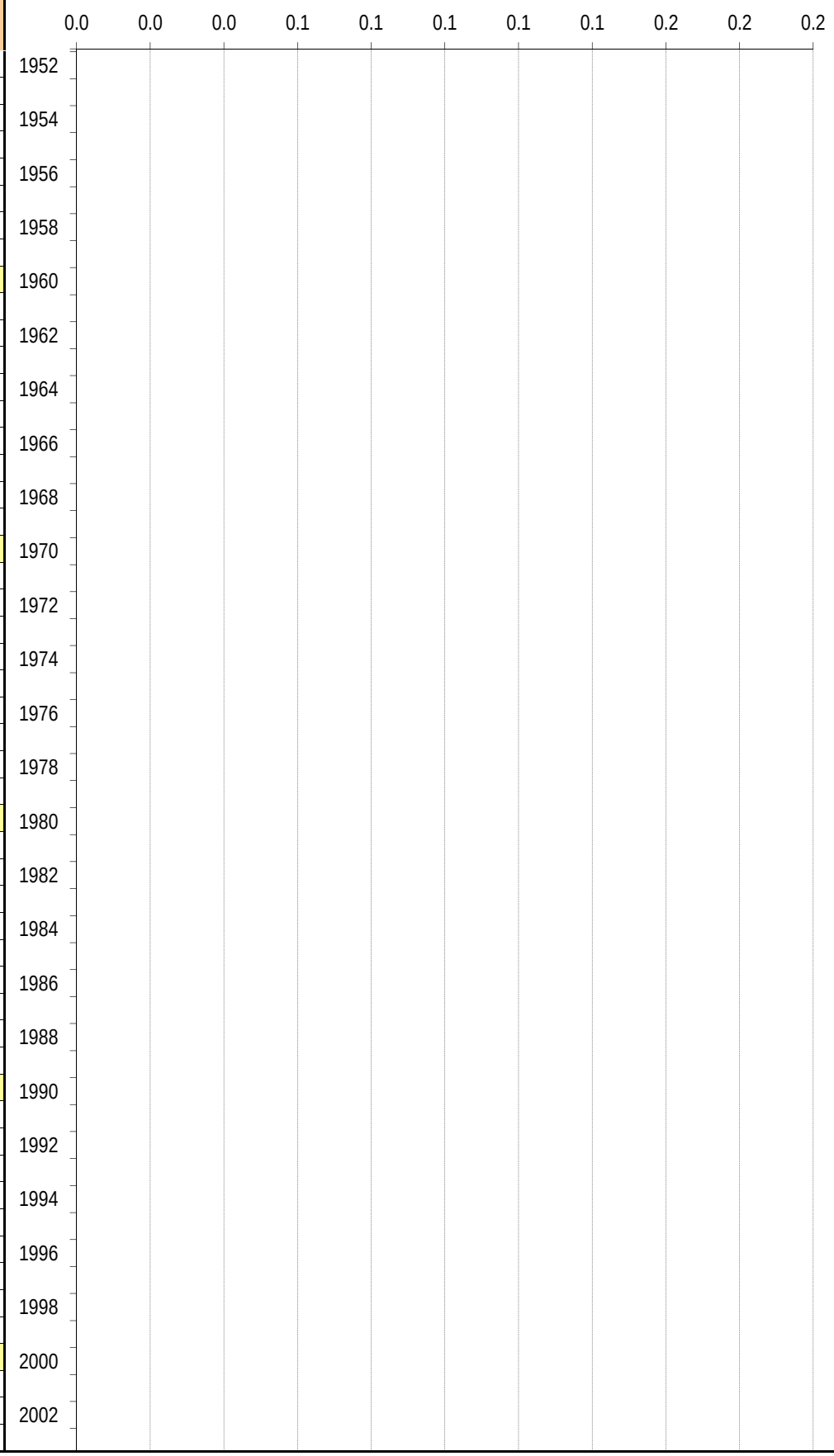
2001		
2002		
2003		

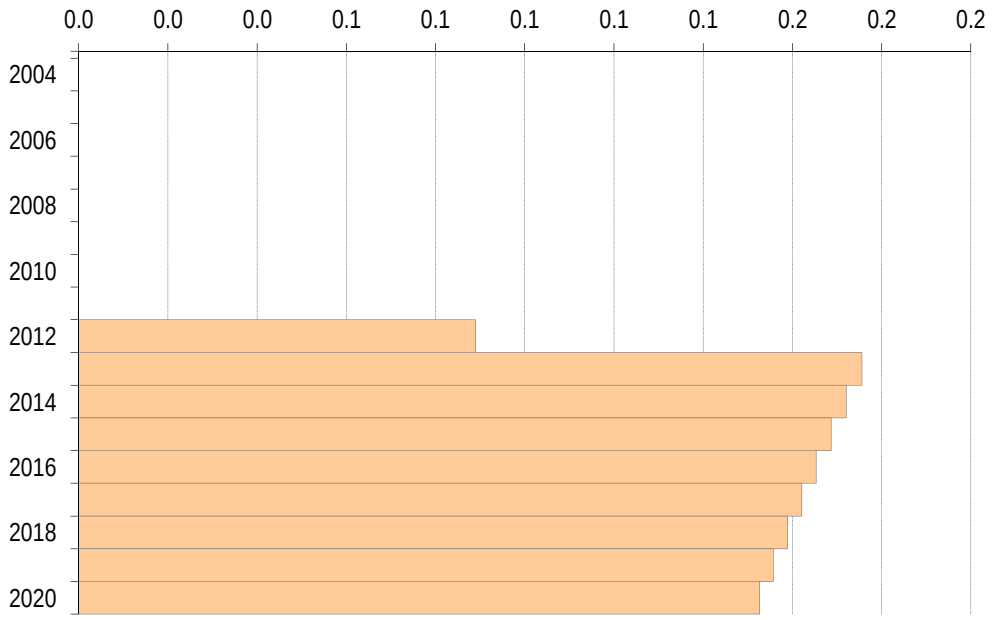


Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
2004		
2005		
2006		
2007		
2008		
2009		
2010		
2011		
2012	3	0.1
2013	6	0.2
2014	6	0.2
2015	6	0.2
2016	5	0.2
2017	5	0.2
2018	5	0.2
2019	5	0.2
2020	5	0.2



Landfill Methane Emissions Estimation Methodology

The calculations made by this tool are based on:

1) The following equations from IPCC's Mathematically Exact First-Order Decay Model, see section 3A1.6.3 of the 2006 IPCC Guidelines available online at:
http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/5_Volume5/V5_3_Ch3_SWDS.pdf

ANDOC% = Σ $WIPFRAC_i$ x $TDOC_i$ x $DANF_i$	
ANDOC%	Percent of the waste that is degradable
$WIPFRAC_i$	Fraction of the ith component in the Waste-in-Place (WIP)
$TDOC_i$	Total Degradable Organic Carbon fraction of the ith waste component (Mg of that component/Mg of Total WIP)
$DANF_i$	Decomposable Anaerobic Fraction of the ith waste component. That is, the fraction capable of decomposition in anaerobic conditions (Mg of decomposable carbon for that component/Mg TDOCi for that component)

ANDOC = WIP (Tons) x 0.9072 (Mg/Ton) x **ANDOC%**	
ANDOC	Anaerobically Degradable Organic Carbon, carbon that is capable of decomposition in an anaerobic environment (Mg of carbon)
WIP	Waste-in-Place estimate of all the landfilled waste (wet weight) as reported to the CIWMB (Tons)

$$\mathbf{ANDOC_{year\text{-}end}} = \mathbf{ANDOC_{year\text{-}start}} \times e^{-[k]}$$
$$+ \mathbf{ANDOC_{deposited\text{-}last\ year}} \times [1/k \times (e^{-[k \times (1-M/12)]} - e^{-[k]}) - (M/12) \times e^{-[k]}]$$
$$+ \mathbf{ANDOC_{deposited\text{-}same\ year}} \times [(1/k) \times (1-e^{-[k \times (1-M/12)]}) + (M/12)]$$

$ANDOC_{year\text{-}end}$	ANDOC remaining undecomposed at the end of the inventory year in question
$ANDOC_{year\text{-}start}$	ANDOC in place at the beginning of the inventory year in question
$ANDOC_{deposited\text{-}last\ year}$	ANDOC deposited during the previous inventory year
$ANDOC_{deposited\text{-}same\ year}$	ANDOC deposited during the inventory year in question
M	Assumed delay before newly deposited waste begins to undergo anaerobic decomposition (Months, Default=6)
k	Assumed rate constant for anaerobic decomposition; k = ln2/half-life (years); half-life is the number of years required for half of the original mass of carbon to degrade

$$\mathbf{CH_4\ Generation} = \{\mathbf{ANDOC_{year\text{-}start}} \times [1-e^{-[k]}]$$
$$- \mathbf{ANDOC_{deposited\text{-}last\ year}} \times [1/k \times (e^{-[k \times (1-M/12)]} - e^{-[k]}) - (M/12) \times e^{-[k]}]$$
$$+ \mathbf{ANDOC_{deposited\text{-}same\ year}} \times [1-((1/k) \times (1-e^{-[k \times (1-M/12)]}) + (M/12))]\} \times \mathbf{FCH_4} \times 16/12$$

CH_4 *Generation*	CH_4 generated in the inventory year in question (Mg of CH_4)
FCH_4	Fraction of decomposing carbon converted into CH_4 (Default = 0.5)

CH_4 Emitted = CH_4 Generation x (1-**OX**)	
CH_4 *Emitted*	CH_4 emitted to the atmosphere in the inventory year in question (Mg of CH_4)
OX	Fraction of escaping CH_4 that is oxidized to CO_2 in the cover soil (Default = 0.1)

2) Using an iterative approach (where the $ANDOC_{year\text{-}start}$ for the next inventory year equals the the $ANDOC_{year\text{-}end}$ of the previous inventory year), starting with the landfill's opening year and working through each subsequent years to arrive at the year for which an estimate is desired.

3) Choosing the rate of anaerobic decomposition (k). For the US and Mexico, select one of the following k values from EPA depending on the local average rainfall:

Average Rainfall (Inches/Year)		
<20	20-40	>40
k = 0.02	k = 0.038	k = 0.057

Where to input k values

For Canada, select the k value that corresponds to the province/territory :

Province/Territories	k
Alberta	0.012
British Columbia	0.082
Manitoba	0.019
New Brunswick	0.062
Newfoundland & Labrador	0.078
Nova Scotia	0.077
Northwest Territories	0.005
Nunavut	0.005
Ontario	0.045
Prince Edward Island	0.060
Quebec	0.056
Sakatchewan	0.010
Yukon	0.001

4) Using IPCC default value for the percent of methane oxidized while passing through the landfill to atmosphere:

Percent oxidation: 10%

Note: *Items 5 & 6 below only pertain when using this tool to assist in compliance with the Early Action Landfill Rule, and only affect the results shown in the Landfill Gas Heat Output page.*

5) Using EPA default value for the percent of methane captured by a landfill gas collection system:

Percent collection: 75%

6) Using EPA value for heat content of methane:

Methane heat content: 1,012 btu/scf

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for California

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 1: EPA 1960 Waste Characterization Study (Applies for waste deposited up to 1964)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

Table 2: EPA 1970 Waste Characterization Study (Applies for waste deposited from 1965 to 1974)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	11.30%	38.54%	87.03%	3.79%
Corrugated Boxes	13.50%	44.84%	44.25%	2.68%
Coated Paper	2.00%	33.03%	24.31%	0.16%
Food	11.30%	14.83%	86.52%	1.45%
Grass	10.25%	13.30%	47.36%	0.65%
Leaves	5.13%	29.13%	7.30%	0.11%
Branches	5.13%	44.24%	23.14%	0.52%
Lumber	3.30%	43.00%	23.26%	0.33%
Textiles	1.80%	24.00%	50.00%	0.22%
Diapers	0.30%	24.00%	50.00%	0.04%
Construction/Demolition	2.50%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.44%**

Table 3: EPA 1980 Waste Characterization Study (Applies for waste deposited from 1975 to 1984)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	5.90%	47.09%	15.05%	0.42%
Office Paper	12.00%	38.54%	87.03%	4.02%
Corrugated Boxes	11.50%	44.84%	44.25%	2.28%
Coated Paper	2.40%	33.03%	24.31%	0.19%
Food	9.50%	14.83%	86.52%	1.22%
Grass	10.05%	13.30%	47.36%	0.63%
Leaves	5.03%	29.13%	7.30%	0.11%
Branches	5.03%	44.24%	23.14%	0.51%
Lumber	5.10%	43.00%	23.26%	0.51%
Textiles	1.70%	24.00%	50.00%	0.20%
Diapers	1.40%	24.00%	50.00%	0.17%
Construction/Demolition	3.50%	4.00%	50.00%	0.07%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.34%**

Table 4: EPA 1990 Waste Characterization Study (Applies for waste deposited from 1985 to 1992)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.80%	47.09%	15.05%	0.34%
Office Paper	13.10%	38.54%	87.03%	4.39%
Corrugated Boxes	10.50%	44.84%	44.25%	2.08%
Coated Paper	2.10%	33.03%	24.31%	0.17%
Food	12.10%	14.83%	86.52%	1.55%
Grass	8.95%	13.30%	47.36%	0.56%
Leaves	4.48%	29.13%	7.30%	0.10%
Branches	4.48%	44.24%	23.14%	0.46%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	3.30%	24.00%	50.00%	0.40%
Diapers	1.60%	24.00%	50.00%	0.19%
Construction/Demolition	3.90%	4.00%	50.00%	0.08%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.02%**

Table 5: EPA 1995 Waste Characterization Study (Applies for waste deposited from 1993 to 1995)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.90%	47.09%	15.05%	0.28%
Office Paper	15.00%	38.54%	87.03%	5.03%
Corrugated Boxes	10.30%	44.84%	44.25%	2.04%
Coated Paper	1.80%	33.03%	24.31%	0.14%
Food	13.40%	14.83%	86.52%	1.72%
Grass	6.55%	13.30%	47.36%	0.41%
Leaves	3.28%	29.13%	7.30%	0.07%
Branches	3.28%	44.24%	23.14%	0.34%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	4.50%	24.00%	50.00%	0.54%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.50%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.62%**

Table 6: CIWMB 1999 Waste Characterization Study (Applies for waste deposited from 1996 to 2002)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.28%	47.09%	15.05%	0.30%
Office Paper	4.44%	38.54%	87.03%	1.49%
Corrugated Boxes	4.59%	44.84%	44.25%	0.91%
Coated Paper	16.92%	33.03%	24.31%	1.36%
Food	15.72%	14.83%	86.52%	2.02%
Grass	5.27%	13.30%	47.36%	0.33%
Leaves	2.63%	29.13%	7.30%	0.06%
Branches	2.37%	44.24%	23.14%	0.24%
Lumber	4.91%	43.00%	23.26%	0.49%
Textiles	2.11%	24.00%	50.00%	0.25%
Diapers	6.91%	24.00%	50.00%	0.83%
Construction/Demolition	6.65%	4.00%	50.00%	0.13%
Medical Waste	0.02%	15.00%	50.00%	0.00%
Sludge/Manure	0.14%	5.00%	50.00%	0.00%
MSW Total				**8.42%**

Table 7: CIWMB 2004 Waste Characterization Study (Applies for waste deposited from 2003 to 2006)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.20%	47.09%	15.05%	0.16%
Office Paper	1.95%	38.54%	87.03%	0.65%
Corrugated Boxes	5.75%	44.84%	44.25%	1.14%
Coated Paper	11.09%	33.03%	24.31%	0.89%
Food	14.55%	14.83%	86.52%	1.87%
Grass	2.81%	13.30%	47.36%	0.18%
Leaves	1.41%	29.13%	7.30%	0.03%
Branches	2.59%	44.24%	23.14%	0.26%
Lumber	9.65%	43.00%	23.26%	0.96%
Textiles	4.44%	24.00%	50.00%	0.53%

Diapers	4.36%	24.00%	50.00%	0.52%
Construction/Demolition	12.06%	4.00%	50.00%	0.24%
Medical Waste	0.04%	15.00%	50.00%	0.00%
Sludge/Manure	0.09%	5.00%	50.00%	0.00%
MSW Total				**7.45%**

Table 8: CIWMB 2008 Waste Characterization Study (Applies for waste deposited from 2007 to the present)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.65%	47.09%	15.05%	0.12%
Office Paper	1.84%	38.54%	87.03%	0.62%
Corrugated Boxes	4.80%	44.84%	44.25%	0.95%
Coated Paper	8.98%	33.03%	24.31%	0.72%
Food	15.50%	14.83%	86.52%	1.99%
Grass	1.90%	13.30%	47.36%	0.12%
Leaves	3.24%	29.13%	7.30%	0.07%
Branches	1.95%	44.24%	23.14%	0.20%
Lumber	14.51%	43.00%	23.26%	1.45%
Textiles	5.47%	24.00%	50.00%	0.66%
Diapers	4.33%	24.00%	50.00%	0.52%
Construction/Demolition	5.48%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.05%	5.00%	50.00%	0.00%
MSW Total				**7.52%**

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for Canada and Mexico

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 18: IPCC 2006 Waste Characterization Defaults - Central America (Applies for all years of waste deposited)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.64%	47.09%	15.05%	0.12%
Office Paper	6.30%	38.54%	87.03%	2.11%
Corrugated Boxes	4.93%	44.84%	44.25%	0.98%
Coated Paper	0.82%	33.03%	24.31%	0.07%
Food	43.80%	14.83%	86.52%	5.62%
Grass	0.00%	13.30%	47.36%	0.00%
Leaves	0.00%	29.13%	7.30%	0.00%
Branches	0.00%	44.24%	23.14%	0.00%
Lumber	13.50%	43.00%	23.26%	1.35%
Textiles	4.40%	24.00%	50.00%	0.53%
Diapers	0.00%	24.00%	50.00%	0.00%
Construction/Demolition	0.00%	4.00%	50.00%	0.00%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.77%**

Table 19: IPCC 2006 Waste Characterization Defaults - North America (Applies for all years of waste deposited)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.78%	47.09%	15.05%	0.20%
Office Paper	10.67%	38.54%	87.03%	3.58%
Corrugated Boxes	8.35%	44.84%	44.25%	1.66%
Coated Paper	1.39%	33.03%	24.31%	0.11%
Food	33.90%	14.83%	86.52%	4.35%
Grass	0.00%	13.30%	47.36%	0.00%
Leaves	0.00%	29.13%	7.30%	0.00%
Branches	0.00%	44.24%	23.14%	0.00%
Lumber	6.20%	43.00%	23.26%	0.62%
Textiles	5.30%	24.00%	50.00%	0.64%
Diapers	0.00%	24.00%	50.00%	0.00%
Construction/Demolition	0.00%	4.00%	50.00%	0.00%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.15%**

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for United States (other than California)

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 1: EPA 1960 Waste Characterization Study (Applies for waste deposited up to 1964)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

Table 2: EPA 1970 Waste Characterization Study (Applies for waste deposited from 1965 to 1974)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	11.30%	38.54%	87.03%	3.79%
Corrugated Boxes	13.50%	44.84%	44.25%	2.68%
Coated Paper	2.00%	33.03%	24.31%	0.16%
Food	11.30%	14.83%	86.52%	1.45%
Grass	10.25%	13.30%	47.36%	0.65%
Leaves	5.13%	29.13%	7.30%	0.11%
Branches	5.13%	44.24%	23.14%	0.52%
Lumber	3.30%	43.00%	23.26%	0.33%
Textiles	1.80%	24.00%	50.00%	0.22%
Diapers	0.30%	24.00%	50.00%	0.04%
Construction/Demolition	2.50%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.44%**

Table 3: EPA 1980 Waste Characterization Study (Applies for waste deposited from 1975 to 1984)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	5.90%	47.09%	15.05%	0.42%
Office Paper	12.00%	38.54%	87.03%	4.02%
Corrugated Boxes	11.50%	44.84%	44.25%	2.28%
Coated Paper	2.40%	33.03%	24.31%	0.19%
Food	9.50%	14.83%	86.52%	1.22%
Grass	10.05%	13.30%	47.36%	0.63%
Leaves	5.03%	29.13%	7.30%	0.11%
Branches	5.03%	44.24%	23.14%	0.51%
Lumber	5.10%	43.00%	23.26%	0.51%
Textiles	1.70%	24.00%	50.00%	0.20%
Diapers	1.40%	24.00%	50.00%	0.17%
Construction/Demolition	3.50%	4.00%	50.00%	0.07%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.34%**

Table 4: EPA 1990 Waste Characterization Study (Applies for waste deposited from 1985 to 1992)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.80%	47.09%	15.05%	0.34%

Office Paper	13.10%	38.54%	87.03%	4.39%
Corrugated Boxes	10.50%	44.84%	44.25%	2.08%
Coated Paper	2.10%	33.03%	24.31%	0.17%
Food	12.10%	14.83%	86.52%	1.55%
Grass	8.95%	13.30%	47.36%	0.56%
Leaves	4.48%	29.13%	7.30%	0.10%
Branches	4.48%	44.24%	23.14%	0.46%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	3.30%	24.00%	50.00%	0.40%
Diapers	1.60%	24.00%	50.00%	0.19%
Construction/Demolition	3.90%	4.00%	50.00%	0.08%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.02%**

Table 5: EPA 1995 Waste Characterization Study (Applies for waste deposited from 1993 to 1997)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.90%	47.09%	15.05%	0.28%
Office Paper	15.00%	38.54%	87.03%	5.03%
Corrugated Boxes	10.30%	44.84%	44.25%	2.04%
Coated Paper	1.80%	33.03%	24.31%	0.14%
Food	13.40%	14.83%	86.52%	1.72%
Grass	6.55%	13.30%	47.36%	0.41%
Leaves	3.28%	29.13%	7.30%	0.07%
Branches	3.28%	44.24%	23.14%	0.34%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	4.50%	24.00%	50.00%	0.54%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.50%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.62%**

Table 9: EPA 2000 Waste Characterization Study (Applies for waste deposited from 1998 to 2000)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.60%	47.09%	15.05%	0.26%
Office Paper	14.50%	38.54%	87.03%	4.86%
Corrugated Boxes	10.00%	44.84%	44.25%	1.98%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	15.40%	14.83%	86.52%	1.98%
Grass	4.35%	13.30%	47.36%	0.27%
Leaves	2.18%	29.13%	7.30%	0.05%
Branches	2.18%	44.24%	23.14%	0.22%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	5.20%	24.00%	50.00%	0.62%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.70%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.39%**

Table 10: EPA 2001 Waste Characterization Study (Applies for waste deposited in 2001)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.10%	47.09%	15.05%	0.15%
Office Paper	14.50%	38.54%	87.03%	4.86%
Corrugated Boxes	9.80%	44.84%	44.25%	1.94%
Coated Paper	1.30%	33.03%	24.31%	0.10%
Food	16.20%	14.83%	86.52%	2.08%
Grass	3.75%	13.30%	47.36%	0.24%
Leaves	1.88%	29.13%	7.30%	0.04%
Branches	1.88%	44.24%	23.14%	0.19%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.60%	24.00%	50.00%	0.67%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%

MSW Total				**11.37%**

Table 11: EPA 2002 Waste Characterization Study (Applies for waste deposited in 2002)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.90%	47.09%	15.05%	0.13%
Office Paper	14.70%	38.54%	87.03%	4.93%
Corrugated Boxes	9.80%	44.84%	44.25%	1.94%
Coated Paper	1.20%	33.03%	24.31%	0.10%
Food	16.10%	14.83%	86.52%	2.07%
Grass	3.75%	13.30%	47.36%	0.24%
Leaves	1.88%	29.13%	7.30%	0.04%
Branches	1.88%	44.24%	23.14%	0.19%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.70%	24.00%	50.00%	0.68%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.10%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.42%**

Table 12: EPA 2003 Waste Characterization Study (Applies for waste deposited in 2003)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.90%	47.09%	15.05%	0.13%
Office Paper	13.60%	38.54%	87.03%	4.56%
Corrugated Boxes	9.20%	44.84%	44.25%	1.83%
Coated Paper	1.40%	33.03%	24.31%	0.11%
Food	16.60%	14.83%	86.52%	2.13%
Grass	3.90%	13.30%	47.36%	0.25%
Leaves	1.95%	29.13%	7.30%	0.04%
Branches	1.95%	44.24%	23.14%	0.20%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.90%	24.00%	50.00%	0.71%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.04%**

Table 13: EPA 2004 Waste Characterization Study (Applies for waste deposited in 2004)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.50%	47.09%	15.05%	0.18%
Office Paper	13.00%	38.54%	87.03%	4.36%
Corrugated Boxes	9.60%	44.84%	44.25%	1.90%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	16.70%	14.83%	86.52%	2.14%
Grass	3.50%	13.30%	47.36%	0.22%
Leaves	1.75%	29.13%	7.30%	0.04%
Branches	1.75%	44.24%	23.14%	0.18%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	5.90%	24.00%	50.00%	0.71%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.92%**

Table 14: EPA 2005 Waste Characterization Study (Applies for waste deposited in 2005)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.00%	47.09%	15.05%	0.14%
Office Paper	12.80%	38.54%	87.03%	4.29%
Corrugated Boxes	8.80%	44.84%	44.25%	1.75%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	17.30%	14.83%	86.52%	2.22%
Grass	3.60%	13.30%	47.36%	0.23%
Leaves	1.80%	29.13%	7.30%	0.04%
Branches	1.80%	44.24%	23.14%	0.18%
Lumber	7.50%	43.00%	23.26%	0.75%

Textiles	6.10%	24.00%	50.00%	0.73%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.20%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.80%**

Table 15: EPA 2006 Waste Characterization Study (Applies for waste deposited in 2006)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.80%	47.09%	15.05%	0.13%
Office Paper	12.10%	38.54%	87.03%	4.06%
Corrugated Boxes	8.70%	44.84%	44.25%	1.73%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	17.60%	14.83%	86.52%	2.26%
Grass	3.60%	13.30%	47.36%	0.23%
Leaves	1.80%	29.13%	7.30%	0.04%
Branches	1.80%	44.24%	23.14%	0.18%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	6.30%	24.00%	50.00%	0.76%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.30%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.59%**

Table 16: EPA 2007 Waste Characterization Study (Applies for waste deposited in 2007)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.30%	47.09%	15.05%	0.09%
Office Paper	11.20%	38.54%	87.03%	3.76%
Corrugated Boxes	8.20%	44.84%	44.25%	1.63%
Coated Paper	1.40%	33.03%	24.31%	0.11%
Food	18.10%	14.83%	86.52%	2.32%
Grass	3.45%	13.30%	47.36%	0.22%
Leaves	1.73%	29.13%	7.30%	0.04%
Branches	1.73%	44.24%	23.14%	0.18%
Lumber	8.50%	43.00%	23.26%	0.85%
Textiles	6.40%	24.00%	50.00%	0.77%
Diapers	2.20%	24.00%	50.00%	0.26%
Construction/Demolition	5.50%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.33%**

Table 17: EPA 2008 Waste Characterization Study (Applies for waste deposited from 2008 to the present)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	0.60%	47.09%	15.05%	0.04%
Office Paper	11.50%	38.54%	87.03%	3.86%
Corrugated Boxes	7.40%	44.84%	44.25%	1.47%
Coated Paper	1.30%	33.03%	24.31%	0.10%
Food	18.60%	14.83%	86.52%	2.39%
Grass	3.50%	13.30%	47.36%	0.22%
Leaves	1.75%	29.13%	7.30%	0.04%
Branches	1.75%	44.24%	23.14%	0.18%
Lumber	8.90%	43.00%	23.26%	0.89%
Textiles	6.90%	24.00%	50.00%	0.83%
Diapers	2.30%	24.00%	50.00%	0.28%
Construction/Demolition	5.80%	4.00%	50.00%	0.12%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.41%**

Landfill Specific Value Calculator for the Percent of Anaerobically Degradable Carbon (ANDOC%)

Landfill specific Waste Characterization Data

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

1) Enter your landfill specific waste characterization data (WIPFRAC).
2) Copy the result of the calculation (MSW total) and overwrite the default %ANDOC value for the particular year on the ***Landfill Model Inputs*** page.
Note: Only the data for the Fraction of the Waste in Place (WIPFRAC) should be altered. If you wish to modify the TDOC or DANF values, please contact ARB staff.

California Air Resources Board's Implementation of IPCC's Mathematically Exact First-Order Decay Model

Release date: November 14, 2011

This tool is designed to estimate greenhouse gas emissions from a landfill in support of the Local Government Operations Protocol.

Please follow these steps to estimate emissions:

1) Read the ***Methodology*** page to become familiar with the equations and the assumptions underlying the calculations.

2) Enter the landfill specific data on the ***Landfill Model Inputs*** page. **This is the only page where data needs to be added or modified.**

Data Type	Field or Column Name	Description
Landfill Specific Data	k Value	Decay factor (see ***Methodology*** page).
	State/Country	State or country where the landfill is located. Will determine the waste characterization data used.
Waste Deposit Data	Year	Year of the data entry values.
	Waste Deposited (Tons)	Amount of waste deposited in that year.
	Waste Deposited (% ANDOC)	Percent of the waste that is degradable, based on waste characterization data.
	Greenwaste & Compost - Daily Cover (Tons)	Amount of daily cover materials of the given type used in that year.
	Greenwaste & Compost - Daily Cover (% ANDOC)	Percent of the daily cover that is degradable, based on waste characterization data.
	Sludge - Daily Cover (Tons)	Amount of daily cover materials of the given type used in that year.
	Sludge - Daily Cover (% ANDOC)	Percent of the daily cover that is degradable, based on waste characterization data.
Note: Required data fields on the **Landfill Model Inputs** page are highlighted in rose		

The rose colored field names indicate which fields require data entry, all others have defaults that will be used in the calculations.

3) If you wish to overwrite the default % ANDOC value with your own value, you can use the calculator on the ***Landfill Specific ANDOC Values*** page (the last page in this tool) and then type your calculated landfill specific value over the default ANDOC% value.

4) Estimates of the emissions reflecting the current inputs are listed on the ***Landfill Emissions Output*** page and estimates of captured gas heat are available on the ***Landfill Gas Heat Output*** page.

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	Tons	% ANDOC		Tons	% ANDOC	Tons	% ANDOC
1900							
1901							
1902							
1903							
1904							
1905							
1906							
1907							
1908							
1909							
1910							
1911							
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1943							
1944							
1945							
1946							
1947							
1948							
1949							
1950							
1951							

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	Tons	% ANDOC		Tons	% ANDOC	Tons	% ANDOC
1952							
1953							
1954							
1955							
1956							
1957							
1958							
1959							
1960							
1961							
1962							
1963							
1964							
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2000							
2001							
2002							
2003							

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	**Tons**	**% ANDOC**		**Tons**	**% ANDOC**	**Tons**	**% ANDOC**
2004							
2005							
2006							
2007							
2008							
2009							
2010							
2011							
2012	54,961	7.52%		10	6.24%		
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							

Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
1900		
1901		
1902		
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1911		
1912		
1913		
1914		
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1917		
1918		
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1920		
1921		
1922		
1923		
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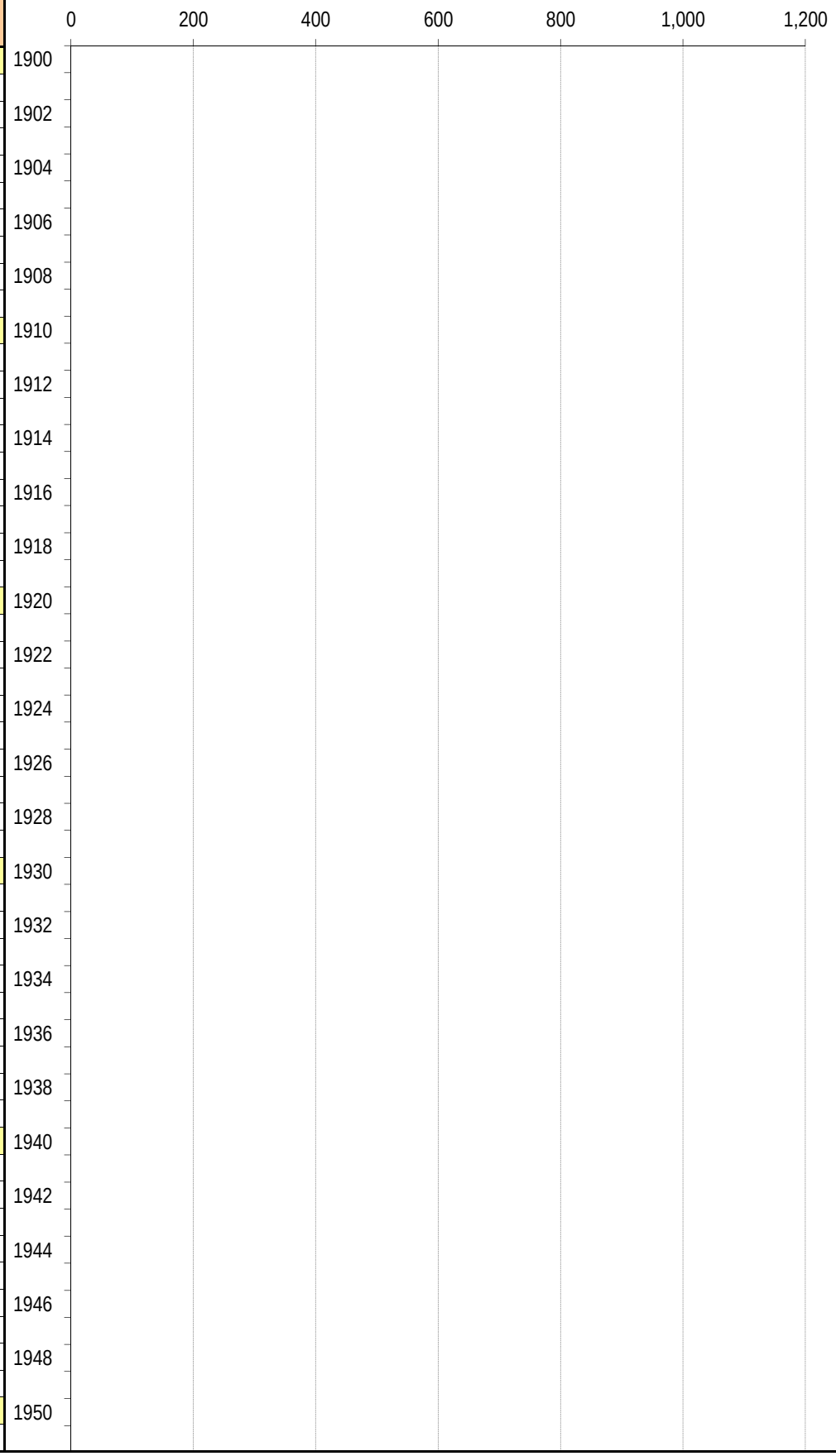
1950		
1951		



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
1952		
1953		
1954		
1955		
1956		
1957		
1958		
1959		
1960		
1961		
1962		
1963		
1964		
1965		
1966		
1967		
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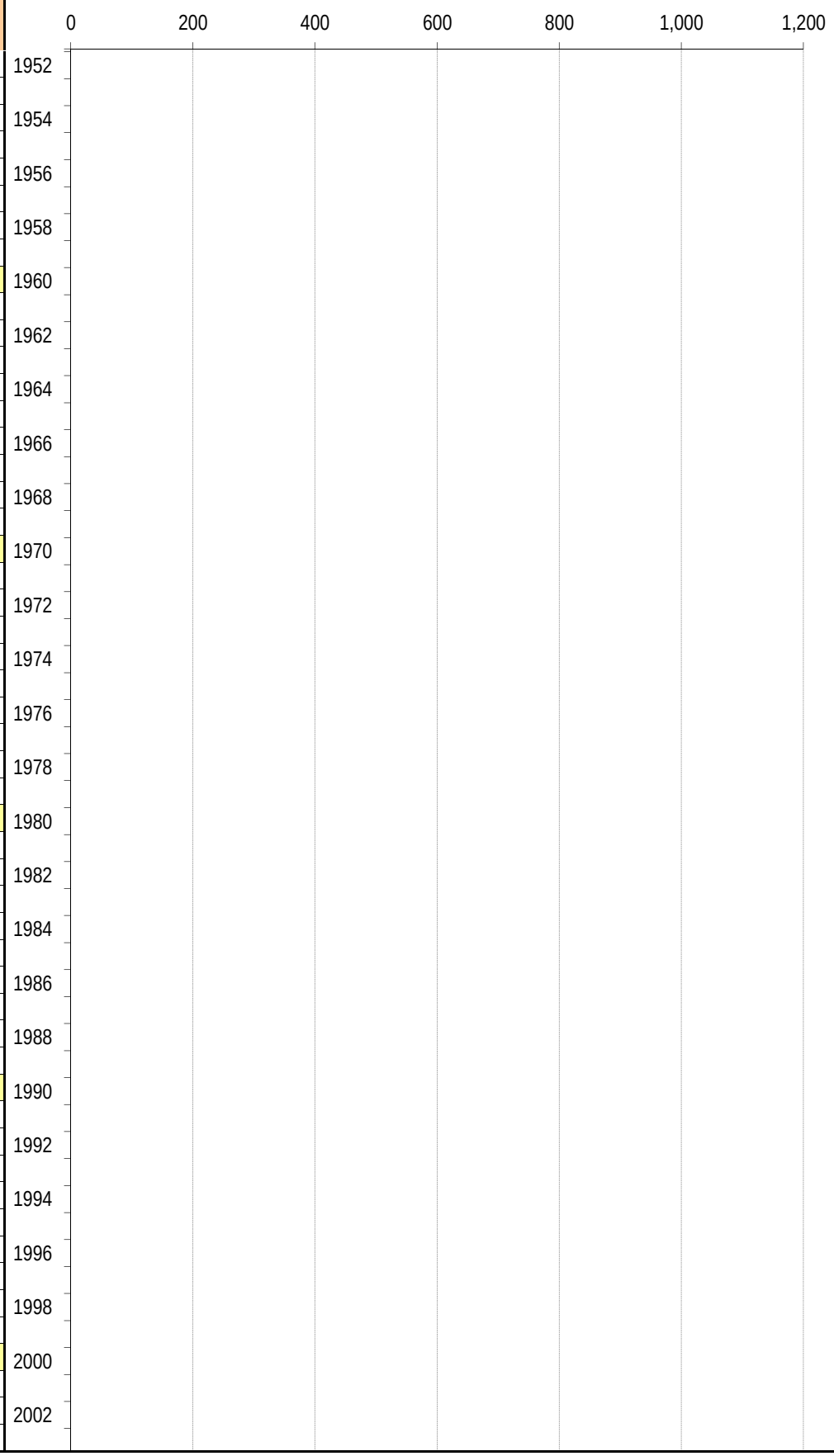
2003		

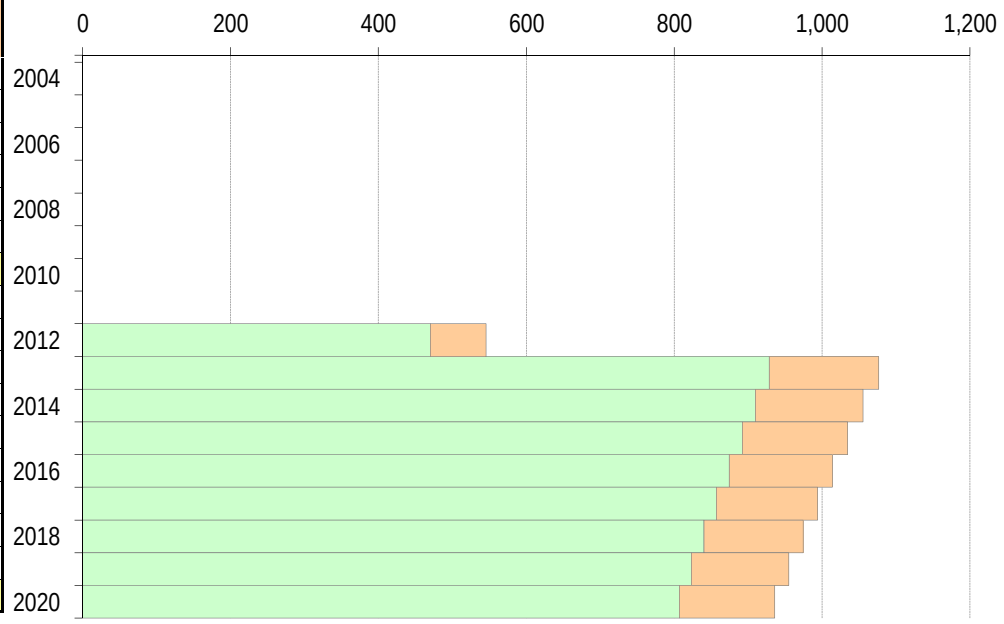


Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
Year Opened: 1986
State: CA
If Closed, Year:
k Value: 0.020
City/County: Corona/Riverside
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
2004		
2005		
2006		
2007		
2008		
2009		
2010		
2011		
2012	470	75
2013	928	148
2014	910	145
2015	892	142
2016	874	140
2017	857	137
2018	840	134
2019	823	131
2020	807	129



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
1900		
1901		
1902		
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1911		
1912		
1913		
1914		
1915		
1916		
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1918		
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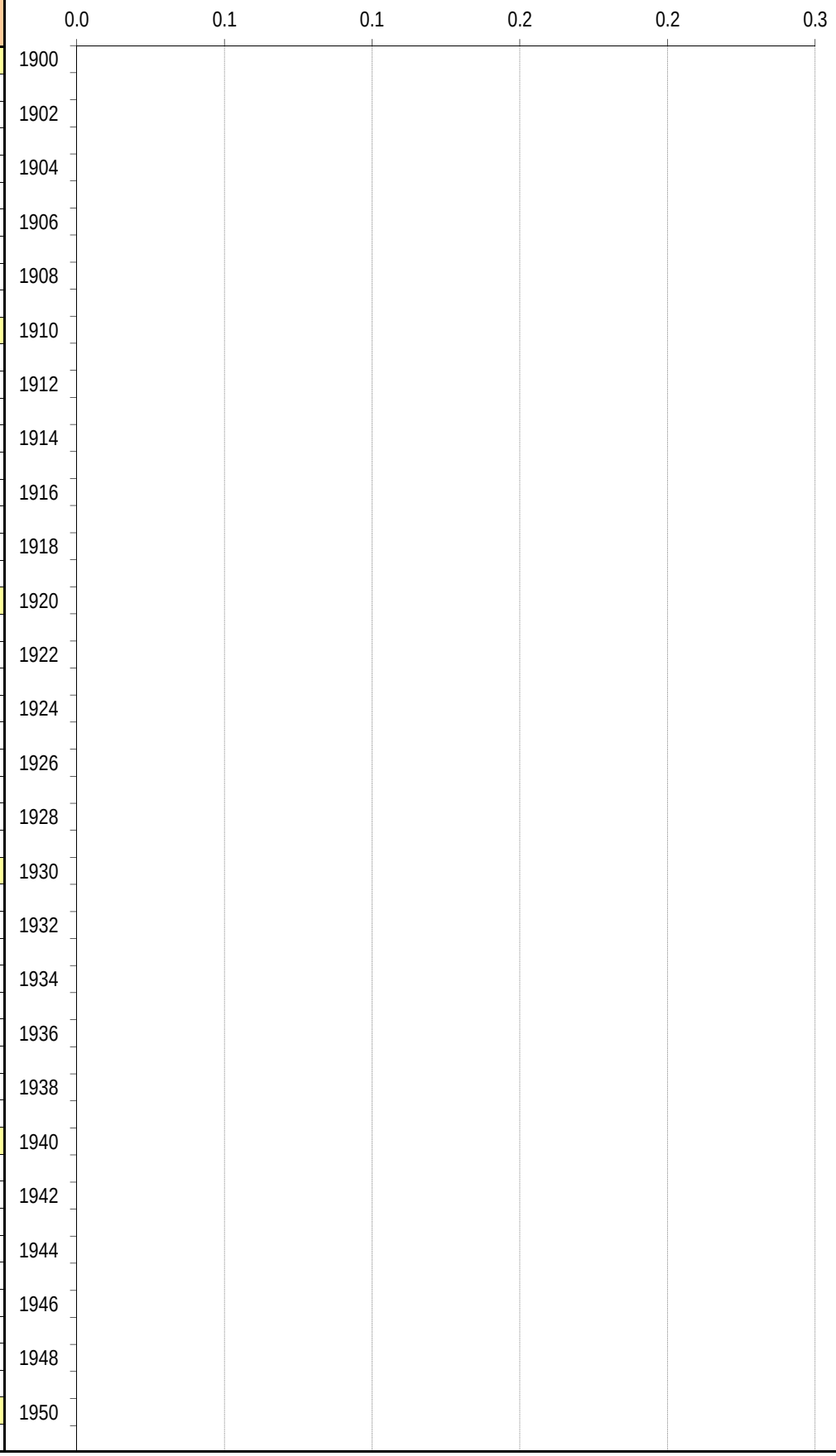
1946		
1947		
1948		
1949		
1950		
1951		



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
Year Opened: 1986
State: CA
If Closed, Year:
k Value: 0.020
City/County: Corona/Riverside
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
1952		
1953		
1954		
1955		
1956		
1957		
1958		
1959		
1960		
1961		
1962		
1963		
1964		
1965		
1966		
1967		
1968		
1969		
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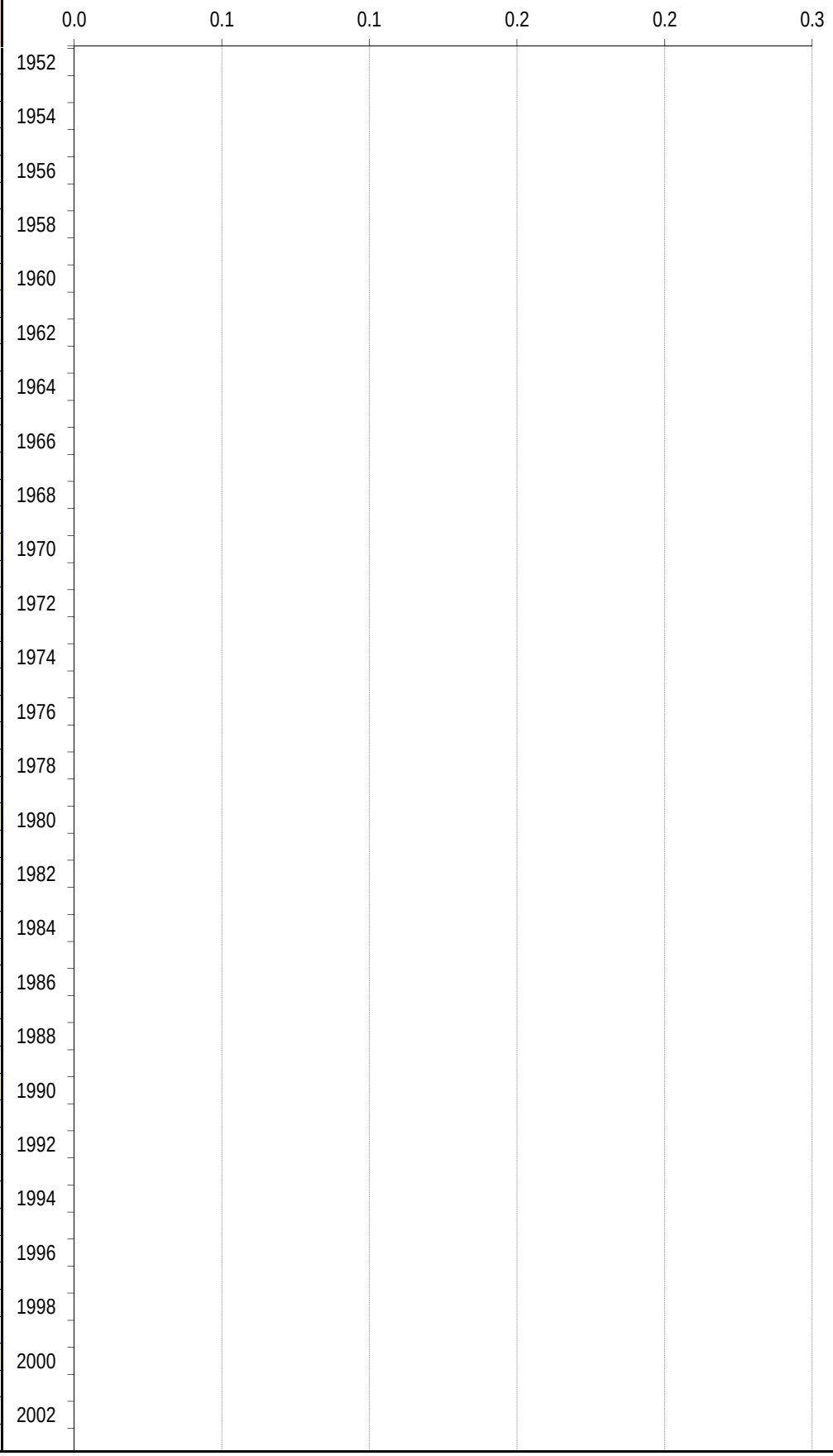
2001		
2002		
2003		

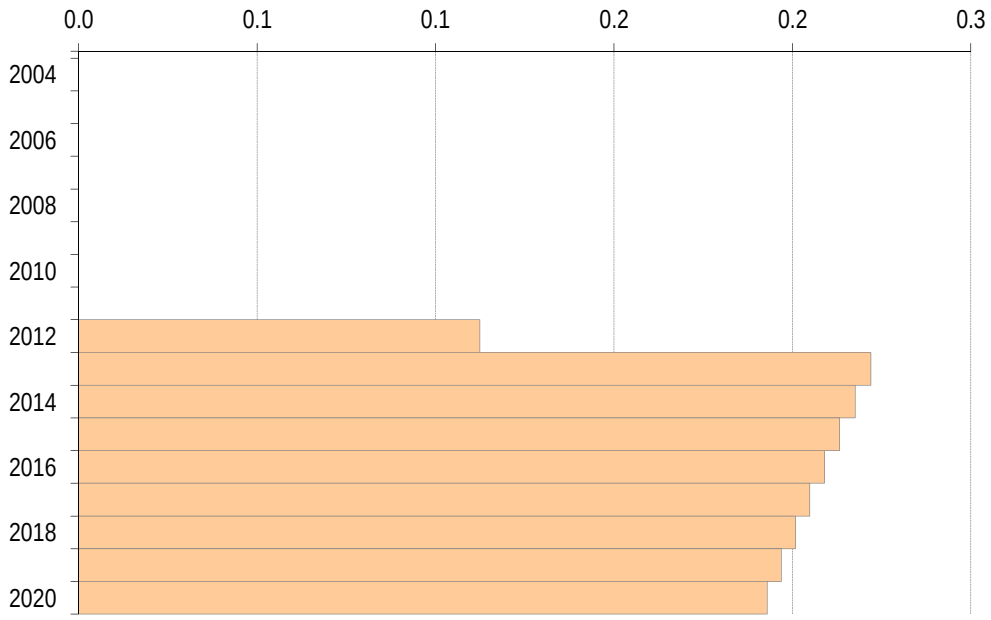


Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
2004		
2005		
2006		
2007		
2008		
2009		
2010		
2011		
2012	4	0.1
2013	7	0.2
2014	7	0.2
2015	7	0.2
2016	7	0.2
2017	7	0.2
2018	7	0.2
2019	6	0.2
2020	6	0.2



Landfill Methane Emissions Estimation Methodology

The calculations made by this tool are based on:

1) The following equations from IPCC's Mathematically Exact First-Order Decay Model, see section 3A1.6.3 of the 2006 IPCC Guidelines available online at:
http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/5_Volume5/V5_3_Ch3_SWDS.pdf

ANDOC% = Σ $WIPFRAC_i$ x $TDOC_i$ x $DANF_i$	
ANDOC%	Percent of the waste that is degradable
$WIPFRAC_i$	Fraction of the ith component in the Waste-in-Place (WIP)
$TDOC_i$	Total Degradable Organic Carbon fraction of the ith waste component (Mg of that component/Mg of Total WIP)
$DANF_i$	Decomposable Anaerobic Fraction of the ith waste component. That is, the fraction capable of decomposition in anaerobic conditions (Mg of decomposable carbon for that component/Mg TDOCi for that component)

ANDOC = WIP (Tons) x 0.9072 (Mg/Ton) x **ANDOC%**	
ANDOC	Anaerobically Degradable Organic Carbon, carbon that is capable of decomposition in an anaerobic environment (Mg of carbon)
WIP	Waste-in-Place estimate of all the landfilled waste (wet weight) as reported to the CIWMB (Tons)

$$\mathbf{ANDOC_{year\text{-}end}} = \mathbf{ANDOC_{year\text{-}start}} \times e^{-[k]}$$
$$+ \mathbf{ANDOC_{deposited\text{-}last\ year}} \times [1/k \times (e^{-[k \times (1-M/12)]} - e^{-[k]}) - (M/12) \times e^{-[k]}]$$
$$+ \mathbf{ANDOC_{deposited\text{-}same\ year}} \times [(1/k) \times (1-e^{-[k \times (1-M/12)]}) + (M/12)]$$

$ANDOC_{year\text{-}end}$	ANDOC remaining undecomposed at the end of the inventory year in question
$ANDOC_{year\text{-}start}$	ANDOC in place at the beginning of the inventory year in question
$ANDOC_{deposited\text{-}last\ year}$	ANDOC deposited during the previous inventory year
$ANDOC_{deposited\text{-}same\ year}$	ANDOC deposited during the inventory year in question
M	Assumed delay before newly deposited waste begins to undergo anaerobic decomposition (Months, Default=6)
k	Assumed rate constant for anaerobic decomposition; k = ln2/half-life (years); half-life is the number of years required for half of the original mass of carbon to degrade

$$\mathbf{CH_4\ Generation} = \{\mathbf{ANDOC_{year\text{-}start}} \times [1-e^{-[k]}]$$
$$- \mathbf{ANDOC_{deposited\text{-}last\ year}} \times [1/k \times (e^{-[k \times (1-M/12)]} - e^{-[k]}) - (M/12) \times e^{-[k]}]$$
$$+ \mathbf{ANDOC_{deposited\text{-}same\ year}} \times [1-((1/k) \times (1-e^{-[k \times (1-M/12)]}) + (M/12))]\} \times \mathbf{FCH_4} \times 16/12$$

CH_4 *Generation*	CH_4 generated in the inventory year in question (Mg of CH_4)
FCH_4	Fraction of decomposing carbon converted into CH_4 (Default = 0.5)

CH_4 Emitted = CH_4 Generation x (1-**OX**)	
CH_4 *Emitted*	CH_4 emitted to the atmosphere in the inventory year in question (Mg of CH_4)
OX	Fraction of escaping CH_4 that is oxidized to CO_2 in the cover soil (Default = 0.1)

2) Using an iterative approach (where the $ANDOC_{year\text{-}start}$ for the next inventory year equals the the $ANDOC_{year\text{-}end}$ of the previous inventory year), starting with the landfill's opening year and working through each subsequent years to arrive at the year for which an estimate is desired.

3) Choosing the rate of anaerobic decomposition (k). For the US and Mexico, select one of the following k values from EPA depending on the local average rainfall:

Average Rainfall (Inches/Year)		
<20	20-40	>40
k = 0.02	k = 0.038	k = 0.057

Where to input k values

For Canada, select the k value that corresponds to the province/territory :

Province/Territories	k
Alberta	0.012
British Columbia	0.082
Manitoba	0.019
New Brunswick	0.062
Newfoundland & Labrador	0.078
Nova Scotia	0.077
Northwest Territories	0.005
Nunavut	0.005
Ontario	0.045
Prince Edward Island	0.060
Quebec	0.056
Sakatchewan	0.010
Yukon	0.001

4) Using IPCC default value for the percent of methane oxidized while passing through the landfill to atmosphere:

Percent oxidation: 10%

Note: *Items 5 & 6 below only pertain when using this tool to assist in compliance with the Early Action Landfill Rule, and only affect the results shown in the Landfill Gas Heat Output page.*

5) Using EPA default value for the percent of methane captured by a landfill gas collection system:

Percent collection: 75%

6) Using EPA value for heat content of methane:

Methane heat content: 1,012 btu/scf

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for California

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 1: EPA 1960 Waste Characterization Study (Applies for waste deposited up to 1964)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

Table 2: EPA 1970 Waste Characterization Study (Applies for waste deposited from 1965 to 1974)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	11.30%	38.54%	87.03%	3.79%
Corrugated Boxes	13.50%	44.84%	44.25%	2.68%
Coated Paper	2.00%	33.03%	24.31%	0.16%
Food	11.30%	14.83%	86.52%	1.45%
Grass	10.25%	13.30%	47.36%	0.65%
Leaves	5.13%	29.13%	7.30%	0.11%
Branches	5.13%	44.24%	23.14%	0.52%
Lumber	3.30%	43.00%	23.26%	0.33%
Textiles	1.80%	24.00%	50.00%	0.22%
Diapers	0.30%	24.00%	50.00%	0.04%
Construction/Demolition	2.50%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.44%**

Table 3: EPA 1980 Waste Characterization Study (Applies for waste deposited from 1975 to 1984)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	5.90%	47.09%	15.05%	0.42%
Office Paper	12.00%	38.54%	87.03%	4.02%
Corrugated Boxes	11.50%	44.84%	44.25%	2.28%
Coated Paper	2.40%	33.03%	24.31%	0.19%
Food	9.50%	14.83%	86.52%	1.22%
Grass	10.05%	13.30%	47.36%	0.63%
Leaves	5.03%	29.13%	7.30%	0.11%
Branches	5.03%	44.24%	23.14%	0.51%
Lumber	5.10%	43.00%	23.26%	0.51%
Textiles	1.70%	24.00%	50.00%	0.20%
Diapers	1.40%	24.00%	50.00%	0.17%
Construction/Demolition	3.50%	4.00%	50.00%	0.07%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.34%**

Table 4: EPA 1990 Waste Characterization Study (Applies for waste deposited from 1985 to 1992)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.80%	47.09%	15.05%	0.34%
Office Paper	13.10%	38.54%	87.03%	4.39%
Corrugated Boxes	10.50%	44.84%	44.25%	2.08%
Coated Paper	2.10%	33.03%	24.31%	0.17%
Food	12.10%	14.83%	86.52%	1.55%
Grass	8.95%	13.30%	47.36%	0.56%
Leaves	4.48%	29.13%	7.30%	0.10%
Branches	4.48%	44.24%	23.14%	0.46%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	3.30%	24.00%	50.00%	0.40%
Diapers	1.60%	24.00%	50.00%	0.19%
Construction/Demolition	3.90%	4.00%	50.00%	0.08%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.02%**

Table 5: EPA 1995 Waste Characterization Study (Applies for waste deposited from 1993 to 1995)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.90%	47.09%	15.05%	0.28%
Office Paper	15.00%	38.54%	87.03%	5.03%
Corrugated Boxes	10.30%	44.84%	44.25%	2.04%
Coated Paper	1.80%	33.03%	24.31%	0.14%
Food	13.40%	14.83%	86.52%	1.72%
Grass	6.55%	13.30%	47.36%	0.41%
Leaves	3.28%	29.13%	7.30%	0.07%
Branches	3.28%	44.24%	23.14%	0.34%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	4.50%	24.00%	50.00%	0.54%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.50%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.62%**

Table 6: CIWMB 1999 Waste Characterization Study (Applies for waste deposited from 1996 to 2002)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.28%	47.09%	15.05%	0.30%
Office Paper	4.44%	38.54%	87.03%	1.49%
Corrugated Boxes	4.59%	44.84%	44.25%	0.91%
Coated Paper	16.92%	33.03%	24.31%	1.36%
Food	15.72%	14.83%	86.52%	2.02%
Grass	5.27%	13.30%	47.36%	0.33%
Leaves	2.63%	29.13%	7.30%	0.06%
Branches	2.37%	44.24%	23.14%	0.24%
Lumber	4.91%	43.00%	23.26%	0.49%
Textiles	2.11%	24.00%	50.00%	0.25%
Diapers	6.91%	24.00%	50.00%	0.83%
Construction/Demolition	6.65%	4.00%	50.00%	0.13%
Medical Waste	0.02%	15.00%	50.00%	0.00%
Sludge/Manure	0.14%	5.00%	50.00%	0.00%
MSW Total				**8.42%**

Table 7: CIWMB 2004 Waste Characterization Study (Applies for waste deposited from 2003 to 2006)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.20%	47.09%	15.05%	0.16%
Office Paper	1.95%	38.54%	87.03%	0.65%
Corrugated Boxes	5.75%	44.84%	44.25%	1.14%
Coated Paper	11.09%	33.03%	24.31%	0.89%
Food	14.55%	14.83%	86.52%	1.87%
Grass	2.81%	13.30%	47.36%	0.18%
Leaves	1.41%	29.13%	7.30%	0.03%
Branches	2.59%	44.24%	23.14%	0.26%
Lumber	9.65%	43.00%	23.26%	0.96%
Textiles	4.44%	24.00%	50.00%	0.53%

Diapers	4.36%	24.00%	50.00%	0.52%
Construction/Demolition	12.06%	4.00%	50.00%	0.24%
Medical Waste	0.04%	15.00%	50.00%	0.00%
Sludge/Manure	0.09%	5.00%	50.00%	0.00%
MSW Total				**7.45%**

Table 8: CIWMB 2008 Waste Characterization Study (Applies for waste deposited from 2007 to the present)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.65%	47.09%	15.05%	0.12%
Office Paper	1.84%	38.54%	87.03%	0.62%
Corrugated Boxes	4.80%	44.84%	44.25%	0.95%
Coated Paper	8.98%	33.03%	24.31%	0.72%
Food	15.50%	14.83%	86.52%	1.99%
Grass	1.90%	13.30%	47.36%	0.12%
Leaves	3.24%	29.13%	7.30%	0.07%
Branches	1.95%	44.24%	23.14%	0.20%
Lumber	14.51%	43.00%	23.26%	1.45%
Textiles	5.47%	24.00%	50.00%	0.66%
Diapers	4.33%	24.00%	50.00%	0.52%
Construction/Demolition	5.48%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.05%	5.00%	50.00%	0.00%
MSW Total				**7.52%**

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for Canada and Mexico

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 18: IPCC 2006 Waste Characterization Defaults - Central America (Applies for all years of waste deposited)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.64%	47.09%	15.05%	0.12%
Office Paper	6.30%	38.54%	87.03%	2.11%
Corrugated Boxes	4.93%	44.84%	44.25%	0.98%
Coated Paper	0.82%	33.03%	24.31%	0.07%
Food	43.80%	14.83%	86.52%	5.62%
Grass	0.00%	13.30%	47.36%	0.00%
Leaves	0.00%	29.13%	7.30%	0.00%
Branches	0.00%	44.24%	23.14%	0.00%
Lumber	13.50%	43.00%	23.26%	1.35%
Textiles	4.40%	24.00%	50.00%	0.53%
Diapers	0.00%	24.00%	50.00%	0.00%
Construction/Demolition	0.00%	4.00%	50.00%	0.00%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.77%**

Table 19: IPCC 2006 Waste Characterization Defaults - North America (Applies for all years of waste deposited)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.78%	47.09%	15.05%	0.20%
Office Paper	10.67%	38.54%	87.03%	3.58%
Corrugated Boxes	8.35%	44.84%	44.25%	1.66%
Coated Paper	1.39%	33.03%	24.31%	0.11%
Food	33.90%	14.83%	86.52%	4.35%
Grass	0.00%	13.30%	47.36%	0.00%
Leaves	0.00%	29.13%	7.30%	0.00%
Branches	0.00%	44.24%	23.14%	0.00%
Lumber	6.20%	43.00%	23.26%	0.62%
Textiles	5.30%	24.00%	50.00%	0.64%
Diapers	0.00%	24.00%	50.00%	0.00%
Construction/Demolition	0.00%	4.00%	50.00%	0.00%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.15%**

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for United States (other than California)

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 1: EPA 1960 Waste Characterization Study (Applies for waste deposited up to 1964)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

Table 2: EPA 1970 Waste Characterization Study (Applies for waste deposited from 1965 to 1974)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	11.30%	38.54%	87.03%	3.79%
Corrugated Boxes	13.50%	44.84%	44.25%	2.68%
Coated Paper	2.00%	33.03%	24.31%	0.16%
Food	11.30%	14.83%	86.52%	1.45%
Grass	10.25%	13.30%	47.36%	0.65%
Leaves	5.13%	29.13%	7.30%	0.11%
Branches	5.13%	44.24%	23.14%	0.52%
Lumber	3.30%	43.00%	23.26%	0.33%
Textiles	1.80%	24.00%	50.00%	0.22%
Diapers	0.30%	24.00%	50.00%	0.04%
Construction/Demolition	2.50%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.44%**

Table 3: EPA 1980 Waste Characterization Study (Applies for waste deposited from 1975 to 1984)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	5.90%	47.09%	15.05%	0.42%
Office Paper	12.00%	38.54%	87.03%	4.02%
Corrugated Boxes	11.50%	44.84%	44.25%	2.28%
Coated Paper	2.40%	33.03%	24.31%	0.19%
Food	9.50%	14.83%	86.52%	1.22%
Grass	10.05%	13.30%	47.36%	0.63%
Leaves	5.03%	29.13%	7.30%	0.11%
Branches	5.03%	44.24%	23.14%	0.51%
Lumber	5.10%	43.00%	23.26%	0.51%
Textiles	1.70%	24.00%	50.00%	0.20%
Diapers	1.40%	24.00%	50.00%	0.17%
Construction/Demolition	3.50%	4.00%	50.00%	0.07%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.34%**

Table 4: EPA 1990 Waste Characterization Study (Applies for waste deposited from 1985 to 1992)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.80%	47.09%	15.05%	0.34%

Office Paper	13.10%	38.54%	87.03%	4.39%
Corrugated Boxes	10.50%	44.84%	44.25%	2.08%
Coated Paper	2.10%	33.03%	24.31%	0.17%
Food	12.10%	14.83%	86.52%	1.55%
Grass	8.95%	13.30%	47.36%	0.56%
Leaves	4.48%	29.13%	7.30%	0.10%
Branches	4.48%	44.24%	23.14%	0.46%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	3.30%	24.00%	50.00%	0.40%
Diapers	1.60%	24.00%	50.00%	0.19%
Construction/Demolition	3.90%	4.00%	50.00%	0.08%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.02%**

Table 5: EPA 1995 Waste Characterization Study (Applies for waste deposited from 1993 to 1997)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.90%	47.09%	15.05%	0.28%
Office Paper	15.00%	38.54%	87.03%	5.03%
Corrugated Boxes	10.30%	44.84%	44.25%	2.04%
Coated Paper	1.80%	33.03%	24.31%	0.14%
Food	13.40%	14.83%	86.52%	1.72%
Grass	6.55%	13.30%	47.36%	0.41%
Leaves	3.28%	29.13%	7.30%	0.07%
Branches	3.28%	44.24%	23.14%	0.34%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	4.50%	24.00%	50.00%	0.54%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.50%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.62%**

Table 9: EPA 2000 Waste Characterization Study (Applies for waste deposited from 1998 to 2000)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.60%	47.09%	15.05%	0.26%
Office Paper	14.50%	38.54%	87.03%	4.86%
Corrugated Boxes	10.00%	44.84%	44.25%	1.98%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	15.40%	14.83%	86.52%	1.98%
Grass	4.35%	13.30%	47.36%	0.27%
Leaves	2.18%	29.13%	7.30%	0.05%
Branches	2.18%	44.24%	23.14%	0.22%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	5.20%	24.00%	50.00%	0.62%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.70%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.39%**

Table 10: EPA 2001 Waste Characterization Study (Applies for waste deposited in 2001)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.10%	47.09%	15.05%	0.15%
Office Paper	14.50%	38.54%	87.03%	4.86%
Corrugated Boxes	9.80%	44.84%	44.25%	1.94%
Coated Paper	1.30%	33.03%	24.31%	0.10%
Food	16.20%	14.83%	86.52%	2.08%
Grass	3.75%	13.30%	47.36%	0.24%
Leaves	1.88%	29.13%	7.30%	0.04%
Branches	1.88%	44.24%	23.14%	0.19%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.60%	24.00%	50.00%	0.67%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%

MSW Total				**11.37%**

Table 11: EPA 2002 Waste Characterization Study (Applies for waste deposited in 2002)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.90%	47.09%	15.05%	0.13%
Office Paper	14.70%	38.54%	87.03%	4.93%
Corrugated Boxes	9.80%	44.84%	44.25%	1.94%
Coated Paper	1.20%	33.03%	24.31%	0.10%
Food	16.10%	14.83%	86.52%	2.07%
Grass	3.75%	13.30%	47.36%	0.24%
Leaves	1.88%	29.13%	7.30%	0.04%
Branches	1.88%	44.24%	23.14%	0.19%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.70%	24.00%	50.00%	0.68%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.10%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.42%**

Table 12: EPA 2003 Waste Characterization Study (Applies for waste deposited in 2003)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.90%	47.09%	15.05%	0.13%
Office Paper	13.60%	38.54%	87.03%	4.56%
Corrugated Boxes	9.20%	44.84%	44.25%	1.83%
Coated Paper	1.40%	33.03%	24.31%	0.11%
Food	16.60%	14.83%	86.52%	2.13%
Grass	3.90%	13.30%	47.36%	0.25%
Leaves	1.95%	29.13%	7.30%	0.04%
Branches	1.95%	44.24%	23.14%	0.20%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.90%	24.00%	50.00%	0.71%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.04%**

Table 13: EPA 2004 Waste Characterization Study (Applies for waste deposited in 2004)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.50%	47.09%	15.05%	0.18%
Office Paper	13.00%	38.54%	87.03%	4.36%
Corrugated Boxes	9.60%	44.84%	44.25%	1.90%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	16.70%	14.83%	86.52%	2.14%
Grass	3.50%	13.30%	47.36%	0.22%
Leaves	1.75%	29.13%	7.30%	0.04%
Branches	1.75%	44.24%	23.14%	0.18%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	5.90%	24.00%	50.00%	0.71%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.92%**

Table 14: EPA 2005 Waste Characterization Study (Applies for waste deposited in 2005)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.00%	47.09%	15.05%	0.14%
Office Paper	12.80%	38.54%	87.03%	4.29%
Corrugated Boxes	8.80%	44.84%	44.25%	1.75%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	17.30%	14.83%	86.52%	2.22%
Grass	3.60%	13.30%	47.36%	0.23%
Leaves	1.80%	29.13%	7.30%	0.04%
Branches	1.80%	44.24%	23.14%	0.18%
Lumber	7.50%	43.00%	23.26%	0.75%

Textiles	6.10%	24.00%	50.00%	0.73%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.20%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.80%**

Table 15: EPA 2006 Waste Characterization Study (Applies for waste deposited in 2006)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.80%	47.09%	15.05%	0.13%
Office Paper	12.10%	38.54%	87.03%	4.06%
Corrugated Boxes	8.70%	44.84%	44.25%	1.73%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	17.60%	14.83%	86.52%	2.26%
Grass	3.60%	13.30%	47.36%	0.23%
Leaves	1.80%	29.13%	7.30%	0.04%
Branches	1.80%	44.24%	23.14%	0.18%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	6.30%	24.00%	50.00%	0.76%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.30%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.59%**

Table 16: EPA 2007 Waste Characterization Study (Applies for waste deposited in 2007)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.30%	47.09%	15.05%	0.09%
Office Paper	11.20%	38.54%	87.03%	3.76%
Corrugated Boxes	8.20%	44.84%	44.25%	1.63%
Coated Paper	1.40%	33.03%	24.31%	0.11%
Food	18.10%	14.83%	86.52%	2.32%
Grass	3.45%	13.30%	47.36%	0.22%
Leaves	1.73%	29.13%	7.30%	0.04%
Branches	1.73%	44.24%	23.14%	0.18%
Lumber	8.50%	43.00%	23.26%	0.85%
Textiles	6.40%	24.00%	50.00%	0.77%
Diapers	2.20%	24.00%	50.00%	0.26%
Construction/Demolition	5.50%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.33%**

Table 17: EPA 2008 Waste Characterization Study (Applies for waste deposited from 2008 to the present)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	0.60%	47.09%	15.05%	0.04%
Office Paper	11.50%	38.54%	87.03%	3.86%
Corrugated Boxes	7.40%	44.84%	44.25%	1.47%
Coated Paper	1.30%	33.03%	24.31%	0.10%
Food	18.60%	14.83%	86.52%	2.39%
Grass	3.50%	13.30%	47.36%	0.22%
Leaves	1.75%	29.13%	7.30%	0.04%
Branches	1.75%	44.24%	23.14%	0.18%
Lumber	8.90%	43.00%	23.26%	0.89%
Textiles	6.90%	24.00%	50.00%	0.83%
Diapers	2.30%	24.00%	50.00%	0.28%
Construction/Demolition	5.80%	4.00%	50.00%	0.12%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.41%**

Landfill Specific Value Calculator for the Percent of Anaerobically Degradable Carbon (ANDOC%)

Landfill specific Waste Characterization Data

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

1) Enter your landfill specific waste characterization data (WIPFRAC).
2) Copy the result of the calculation (MSW total) and overwrite the default %ANDOC value for the particular year on the ***Landfill Model Inputs*** page.
Note: Only the data for the Fraction of the Waste in Place (WIPFRAC) should be altered. If you wish to modify the TDOC or DANF values, please contact ARB staff.

California Air Resources Board's Implementation of IPCC's Mathematically Exact First-Order Decay Model

Release date: November 14, 2011

This tool is designed to estimate greenhouse gas emissions from a landfill in support of the Local Government Operations Protocol.

Please follow these steps to estimate emissions:

1) Read the ***Methodology*** page to become familiar with the equations and the assumptions underlying the calculations.

2) Enter the landfill specific data on the ***Landfill Model Inputs*** page. **This is the only page where data needs to be added or modified.**

Data Type	Field or Column Name	Description
Landfill Specific Data	k Value	Decay factor (see ***Methodology*** page).
	State/Country	State or country where the landfill is located. Will determine the waste characterization data used.
Waste Deposit Data	Year	Year of the data entry values.
	Waste Deposited (Tons)	Amount of waste deposited in that year.
	Waste Deposited (% ANDOC)	Percent of the waste that is degradable, based on waste characterization data.
	Greenwaste & Compost - Daily Cover (Tons)	Amount of daily cover materials of the given type used in that year.
	Greenwaste & Compost - Daily Cover (% ANDOC)	Percent of the daily cover that is degradable, based on waste characterization data.
	Sludge - Daily Cover (Tons)	Amount of daily cover materials of the given type used in that year.
	Sludge - Daily Cover (% ANDOC)	Percent of the daily cover that is degradable, based on waste characterization data.
Note: Required data fields on the **Landfill Model Inputs** page are highlighted in rose		

The rose colored field names indicate which fields require data entry, all others have defaults that will be used in the calculations.

3) If you wish to overwrite the default % ANDOC value with your own value, you can use the calculator on the ***Landfill Specific ANDOC Values*** page (the last page in this tool) and then type your calculated landfill specific value over the default ANDOC% value.

4) Estimates of the emissions reflecting the current inputs are listed on the ***Landfill Emissions Output*** page and estimates of captured gas heat are available on the ***Landfill Gas Heat Output*** page.

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	Tons	% ANDOC		Tons	% ANDOC	Tons	% ANDOC
1900							
1901							
1902							
1903							
1904							
1905							
1906							
1907							
1908							
1909							
1910							
1911							
1912							
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1943							
1944							
1945							
1946							
1947							
1948							
1949							
1950							
1951							

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	Tons	% ANDOC		Tons	% ANDOC	Tons	% ANDOC
1952							
1953							
1954							
1955							
1956							
1957							
1958							
1959							
1960							
1961							
1962							
1963							
1964							
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1999							
2000							
2001							
2002							
2003							

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	**Tons**	**% ANDOC**		**Tons**	**% ANDOC**	**Tons**	**% ANDOC**
2004							
2005							
2006							
2007							
2008							
2009							
2010							
2011							
2012	120,557	7.52%		22	6.24%		
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							

Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside

Year Opened: 1986
If Closed, Year:

k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
1900		
1901		
1902		
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1911		
1912		
1913		
1914		
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1916		
1917		
1918		
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1920		
1921		
1922		
1923		
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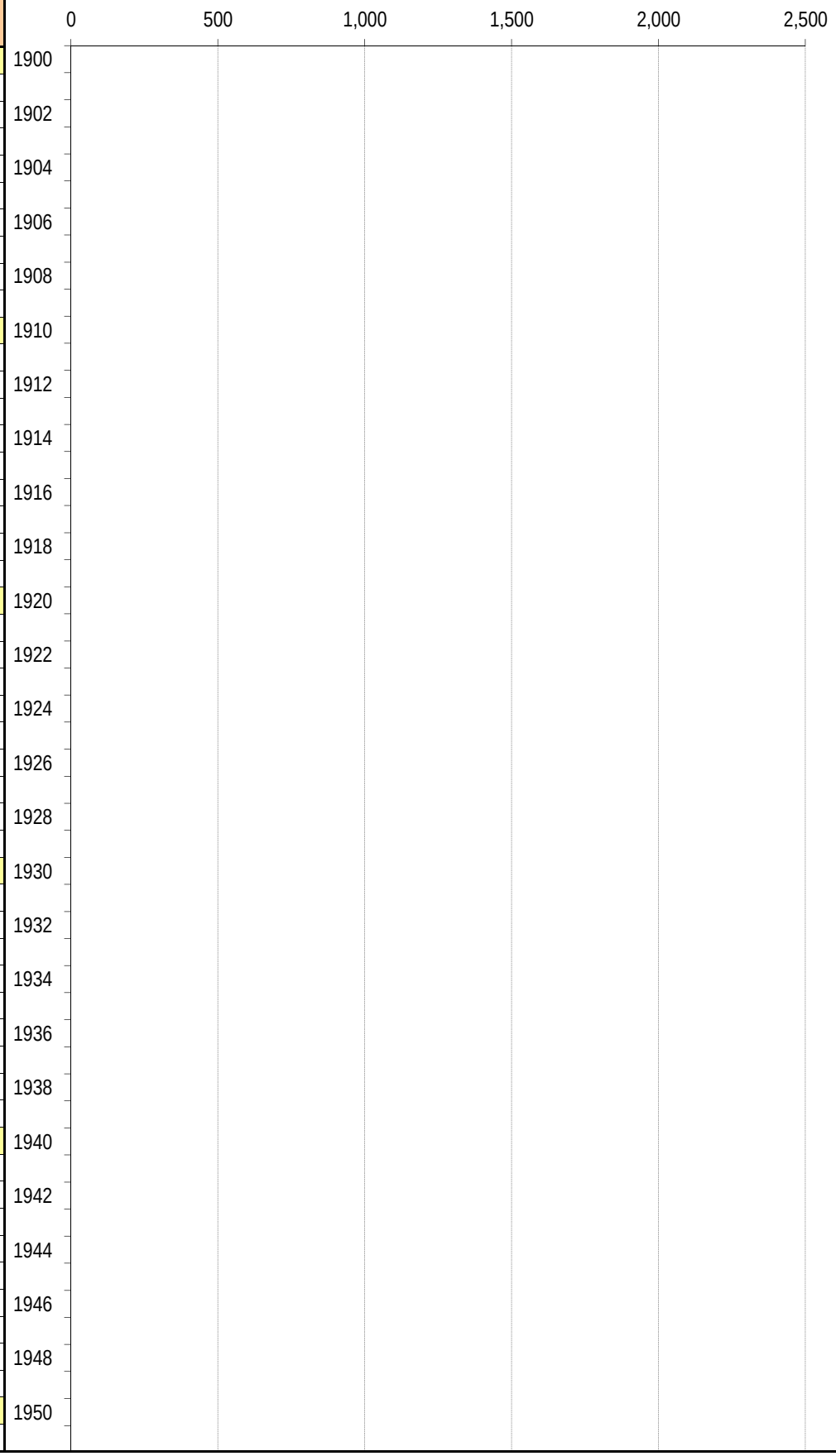
1950		
1951		



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
1952		
1953		
1954		
1955		
1956		
1957		
1958		
1959		
1960		
1961		
1962		
1963		
1964		
1965		
1966		
1967		
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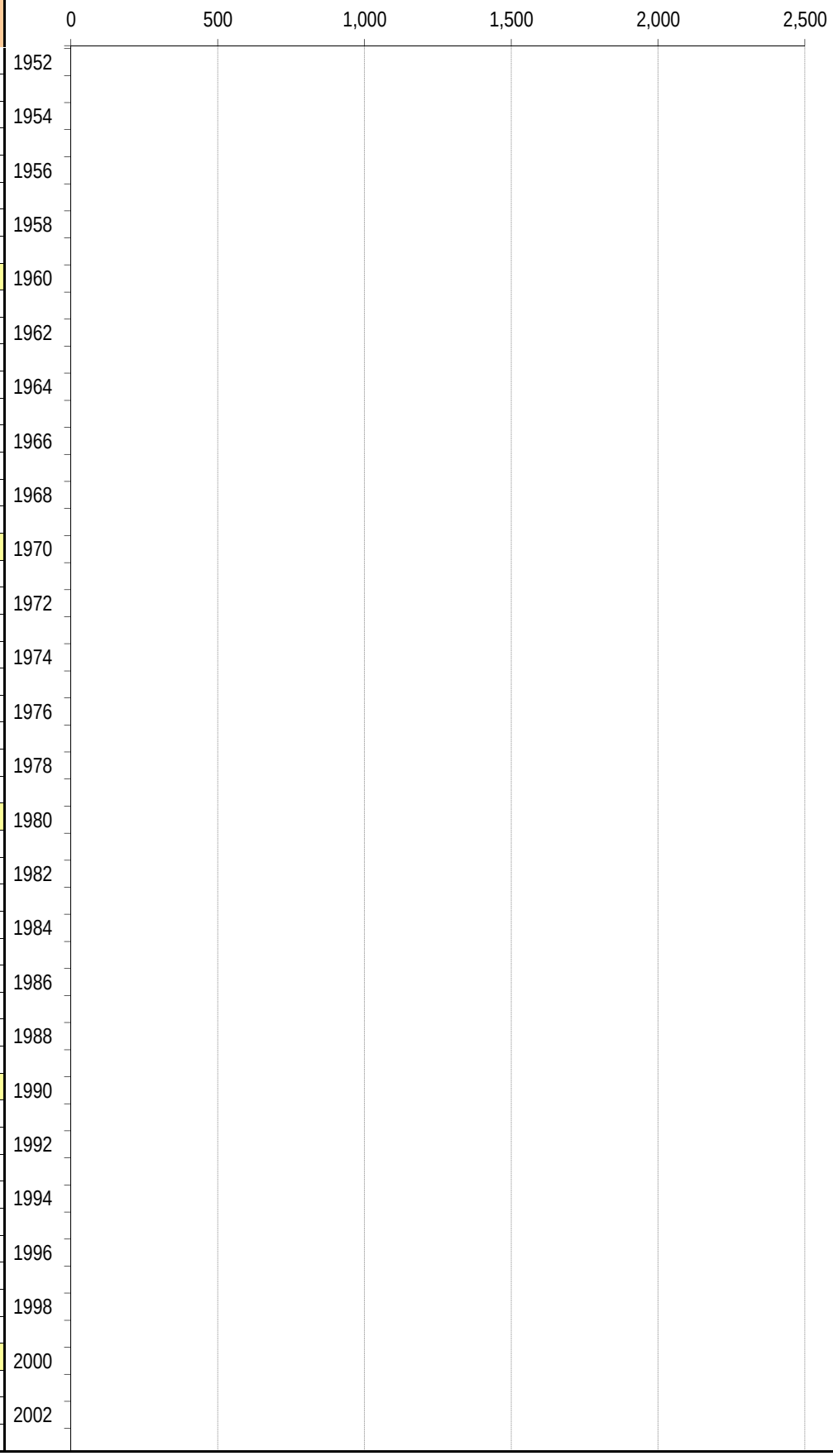
2003		

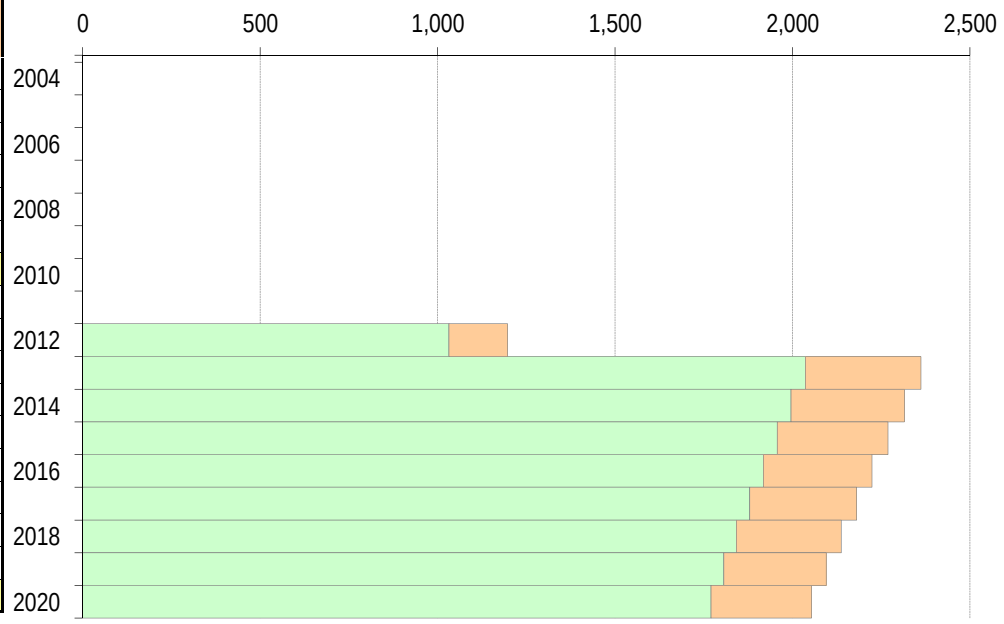


Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
2004		
2005		
2006		
2007		
2008		
2009		
2010		
2011		
2012	1,032	165
2013	2,036	325
2014	1,996	319
2015	1,957	312
2016	1,918	306
2017	1,880	300
2018	1,843	294
2019	1,806	288
2020	1,770	283



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
1900		
1901		
1902		
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
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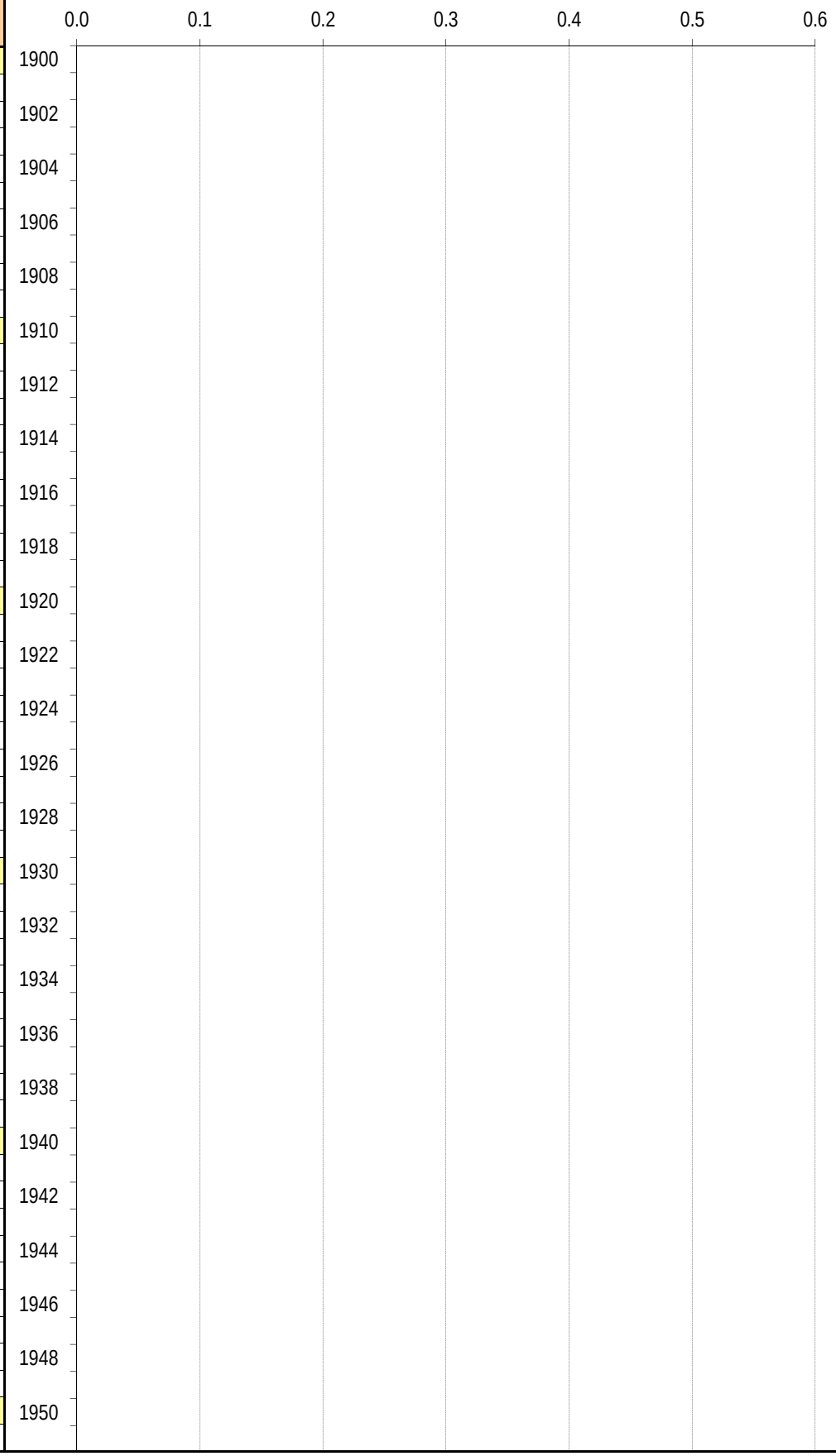

Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
1952		
1953		
1954		
1955		
1956		
1957		
1958		
1959		
1960		
1961		
1962		
1963		
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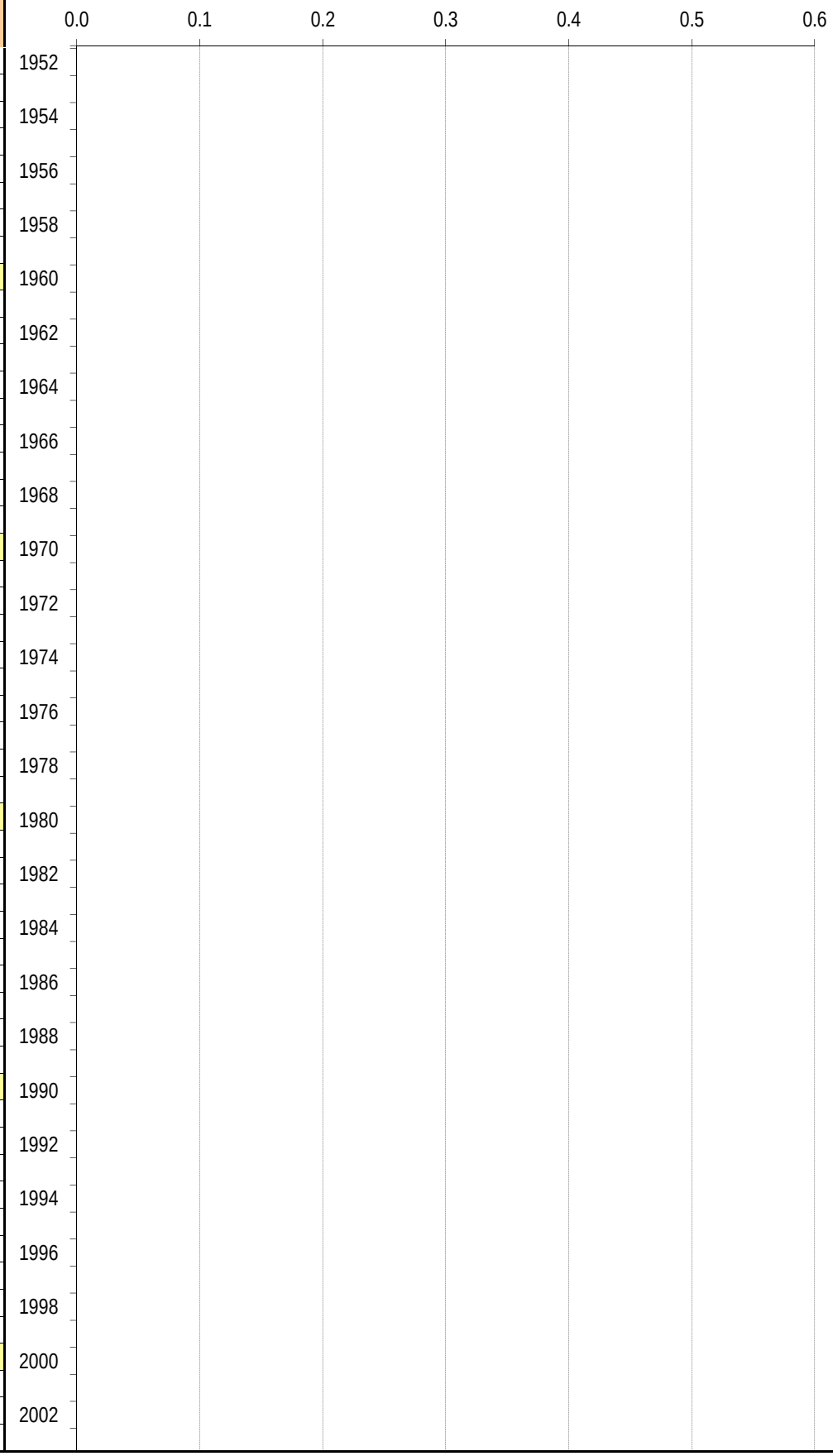
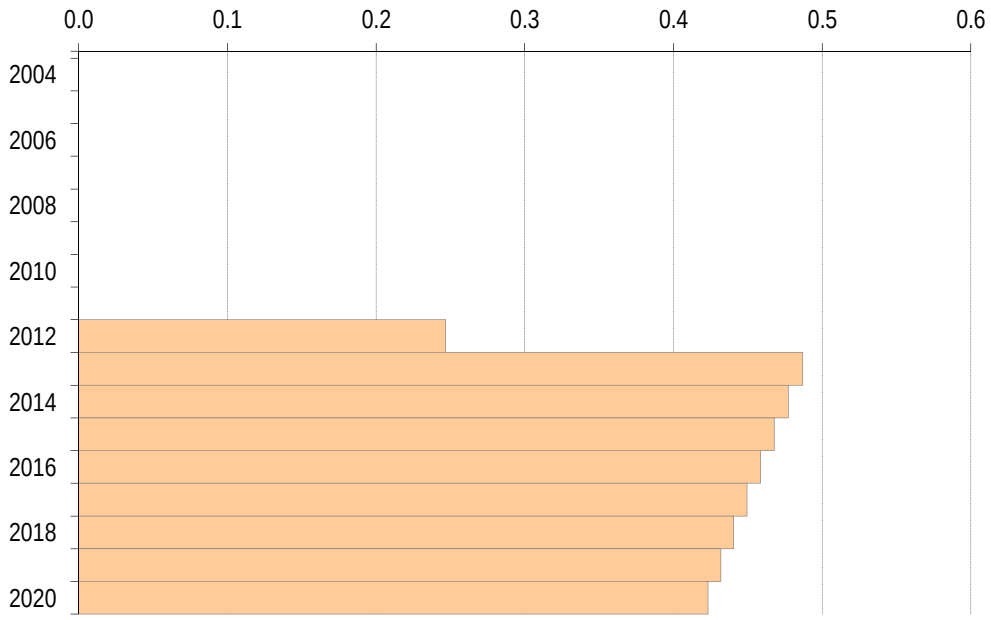


Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
2004		
2005		
2006		
2007		
2008		
2009		
2010		
2011		
2012	8	0.2
2013	16	0.5
2014	16	0.5
2015	15	0.5
2016	15	0.5
2017	15	0.4
2018	15	0.4
2019	14	0.4
2020	14	0.4



Landfill Methane Emissions Estimation Methodology

The calculations made by this tool are based on:

1) The following equations from IPCC's Mathematically Exact First-Order Decay Model, see section 3A1.6.3 of the 2006 IPCC Guidelines available online at:
http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/5_Volume5/V5_3_Ch3_SWDS.pdf

ANDOC% = Σ *WIPFRAC* $_i$ x *TDOC* $_i$ x *DANF* $_i$	
ANDOC%	Percent of the waste that is degradable
WIPFRAC $_i$	Fraction of the ith component in the Waste-in-Place (WIP)
TDOC $_i$	Total Degradable Organic Carbon fraction of the ith waste component (Mg of that component/Mg of Total WIP)
DANF $_i$	Decomposable Anaerobic Fraction of the ith waste component. That is, the fraction capable of decomposition in anaerobic conditions (Mg of decomposable carbon for that component/Mg TDOCi for that component)

ANDOC = WIP (Tons) x 0.9072 (Mg/Ton) x **ANDOC%**	
ANDOC	Anaerobically Degradable Organic Carbon, carbon that is capable of decomposition in an anaerobic environment (Mg of carbon)
WIP	Waste-in-Place estimate of all the landfilled waste (wet weight) as reported to the CIWMB (Tons)

$$\mathbf{ANDOC_{year\text{-}end}} = \mathbf{ANDOC_{year\text{-}start}} \times e^{-[k]}$$
$$+ \mathbf{ANDOC_{deposited\text{-}last\ year}} \times [1/k \times (e^{-[k \times (1-M/12)]} - e^{-[k]}) - (M/12) \times e^{-[k]}]$$
$$+ \mathbf{ANDOC_{deposited\text{-}same\ year}} \times [(1/k) \times (1-e^{-[k \times (1-M/12)]}) + (M/12)]$$

ANDOC $_{\text{year-end}}$	ANDOC remaining undecomposed at the end of the inventory year in question
ANDOC $_{\text{year-start}}$	ANDOC in place at the beginning of the inventory year in question
ANDOC $_{\text{deposited-last year}}$	ANDOC deposited during the previous inventory year
ANDOC $_{\text{deposited-same year}}$	ANDOC deposited during the inventory year in question
M	Assumed delay before newly deposited waste begins to undergo anaerobic decomposition (Months, Default=6)
k	Assumed rate constant for anaerobic decomposition; k = ln2/half-life (years); half-life is the number of years required for half of the original mass of carbon to degrade

$$\mathbf{CH_4\ Generation} = \{\mathbf{ANDOC_{year\text{-}start}} \times [1-e^{-[k]}]$$
$$- \mathbf{ANDOC_{deposited\text{-}last\ year}} \times [1/k \times (e^{-[k \times (1-M/12)]} - e^{-[k]}) - (M/12) \times e^{-[k]}]$$
$$+ \mathbf{ANDOC_{deposited\text{-}same\ year}} \times [1-((1/k) \times (1-e^{-[k \times (1-M/12)]}) + (M/12))]\} \times \mathbf{FCH_4} \times 16/12$$

CH_4 Generation	CH_4 generated in the inventory year in question (Mg of CH_4)
FCH_4	Fraction of decomposing carbon converted into CH_4 (Default = 0.5)

CH_4 Emitted = CH_4 Generation x (1-**OX**)	
CH_4 Emitted	CH_4 emitted to the atmosphere in the inventory year in question (Mg of CH_4)
OX	Fraction of escaping CH_4 that is oxidized to CO_2 in the cover soil (Default = 0.1)

2) Using an iterative approach (where the $ANDOC_{year\text{-}start}$ for the next inventory year equals the the $ANDOC_{year\text{-}end}$ of the previous inventory year), starting with the landfill's opening year and working through each subsequent years to arrive at the year for which an estimate is desired.

3) Choosing the rate of anaerobic decomposition (k). For the US and Mexico, select one of the following k values from EPA depending on the local average rainfall:

Average Rainfall (Inches/Year)		
<20	20-40	>40
k = 0.02	k = 0.038	k = 0.057

Where to input k values

For Canada, select the k value that corresponds to the province/territory :

Province/Territories	k
Alberta	0.012
British Columbia	0.082
Manitoba	0.019
New Brunswick	0.062
Newfoundland & Labrador	0.078
Nova Scotia	0.077
Northwest Territories	0.005
Nunavut	0.005
Ontario	0.045
Prince Edward Island	0.060
Quebec	0.056
Sakatchewan	0.010
Yukon	0.001

4) Using IPCC default value for the percent of methane oxidized while passing through the landfill to atmosphere:

Percent oxidation: 10%

Note: *Items 5 & 6 below only pertain when using this tool to assist in compliance with the Early Action Landfill Rule, and only affect the results shown in the Landfill Gas Heat Output page.*

5) Using EPA default value for the percent of methane captured by a landfill gas collection system:

Percent collection: 75%

6) Using EPA value for heat content of methane:

Methane heat content: 1,012 btu/scf

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for California

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 1: EPA 1960 Waste Characterization Study (Applies for waste deposited up to 1964)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

Table 2: EPA 1970 Waste Characterization Study (Applies for waste deposited from 1965 to 1974)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	11.30%	38.54%	87.03%	3.79%
Corrugated Boxes	13.50%	44.84%	44.25%	2.68%
Coated Paper	2.00%	33.03%	24.31%	0.16%
Food	11.30%	14.83%	86.52%	1.45%
Grass	10.25%	13.30%	47.36%	0.65%
Leaves	5.13%	29.13%	7.30%	0.11%
Branches	5.13%	44.24%	23.14%	0.52%
Lumber	3.30%	43.00%	23.26%	0.33%
Textiles	1.80%	24.00%	50.00%	0.22%
Diapers	0.30%	24.00%	50.00%	0.04%
Construction/Demolition	2.50%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.44%**

Table 3: EPA 1980 Waste Characterization Study (Applies for waste deposited from 1975 to 1984)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	5.90%	47.09%	15.05%	0.42%
Office Paper	12.00%	38.54%	87.03%	4.02%
Corrugated Boxes	11.50%	44.84%	44.25%	2.28%
Coated Paper	2.40%	33.03%	24.31%	0.19%
Food	9.50%	14.83%	86.52%	1.22%
Grass	10.05%	13.30%	47.36%	0.63%
Leaves	5.03%	29.13%	7.30%	0.11%
Branches	5.03%	44.24%	23.14%	0.51%
Lumber	5.10%	43.00%	23.26%	0.51%
Textiles	1.70%	24.00%	50.00%	0.20%
Diapers	1.40%	24.00%	50.00%	0.17%
Construction/Demolition	3.50%	4.00%	50.00%	0.07%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.34%**

Table 4: EPA 1990 Waste Characterization Study (Applies for waste deposited from 1985 to 1992)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.80%	47.09%	15.05%	0.34%
Office Paper	13.10%	38.54%	87.03%	4.39%
Corrugated Boxes	10.50%	44.84%	44.25%	2.08%
Coated Paper	2.10%	33.03%	24.31%	0.17%
Food	12.10%	14.83%	86.52%	1.55%
Grass	8.95%	13.30%	47.36%	0.56%
Leaves	4.48%	29.13%	7.30%	0.10%
Branches	4.48%	44.24%	23.14%	0.46%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	3.30%	24.00%	50.00%	0.40%
Diapers	1.60%	24.00%	50.00%	0.19%
Construction/Demolition	3.90%	4.00%	50.00%	0.08%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.02%**

Table 5: EPA 1995 Waste Characterization Study (Applies for waste deposited from 1993 to 1995)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.90%	47.09%	15.05%	0.28%
Office Paper	15.00%	38.54%	87.03%	5.03%
Corrugated Boxes	10.30%	44.84%	44.25%	2.04%
Coated Paper	1.80%	33.03%	24.31%	0.14%
Food	13.40%	14.83%	86.52%	1.72%
Grass	6.55%	13.30%	47.36%	0.41%
Leaves	3.28%	29.13%	7.30%	0.07%
Branches	3.28%	44.24%	23.14%	0.34%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	4.50%	24.00%	50.00%	0.54%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.50%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.62%**

Table 6: CIWMB 1999 Waste Characterization Study (Applies for waste deposited from 1996 to 2002)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.28%	47.09%	15.05%	0.30%
Office Paper	4.44%	38.54%	87.03%	1.49%
Corrugated Boxes	4.59%	44.84%	44.25%	0.91%
Coated Paper	16.92%	33.03%	24.31%	1.36%
Food	15.72%	14.83%	86.52%	2.02%
Grass	5.27%	13.30%	47.36%	0.33%
Leaves	2.63%	29.13%	7.30%	0.06%
Branches	2.37%	44.24%	23.14%	0.24%
Lumber	4.91%	43.00%	23.26%	0.49%
Textiles	2.11%	24.00%	50.00%	0.25%
Diapers	6.91%	24.00%	50.00%	0.83%
Construction/Demolition	6.65%	4.00%	50.00%	0.13%
Medical Waste	0.02%	15.00%	50.00%	0.00%
Sludge/Manure	0.14%	5.00%	50.00%	0.00%
MSW Total				**8.42%**

Table 7: CIWMB 2004 Waste Characterization Study (Applies for waste deposited from 2003 to 2006)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.20%	47.09%	15.05%	0.16%
Office Paper	1.95%	38.54%	87.03%	0.65%
Corrugated Boxes	5.75%	44.84%	44.25%	1.14%
Coated Paper	11.09%	33.03%	24.31%	0.89%
Food	14.55%	14.83%	86.52%	1.87%
Grass	2.81%	13.30%	47.36%	0.18%
Leaves	1.41%	29.13%	7.30%	0.03%
Branches	2.59%	44.24%	23.14%	0.26%
Lumber	9.65%	43.00%	23.26%	0.96%
Textiles	4.44%	24.00%	50.00%	0.53%

Diapers	4.36%	24.00%	50.00%	0.52%
Construction/Demolition	12.06%	4.00%	50.00%	0.24%
Medical Waste	0.04%	15.00%	50.00%	0.00%
Sludge/Manure	0.09%	5.00%	50.00%	0.00%
MSW Total				**7.45%**

Table 8: CIWMB 2008 Waste Characterization Study (Applies for waste deposited from 2007 to the present)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.65%	47.09%	15.05%	0.12%
Office Paper	1.84%	38.54%	87.03%	0.62%
Corrugated Boxes	4.80%	44.84%	44.25%	0.95%
Coated Paper	8.98%	33.03%	24.31%	0.72%
Food	15.50%	14.83%	86.52%	1.99%
Grass	1.90%	13.30%	47.36%	0.12%
Leaves	3.24%	29.13%	7.30%	0.07%
Branches	1.95%	44.24%	23.14%	0.20%
Lumber	14.51%	43.00%	23.26%	1.45%
Textiles	5.47%	24.00%	50.00%	0.66%
Diapers	4.33%	24.00%	50.00%	0.52%
Construction/Demolition	5.48%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.05%	5.00%	50.00%	0.00%
MSW Total				**7.52%**

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for Canada and Mexico

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 18: IPCC 2006 Waste Characterization Defaults - Central America (Applies for all years of waste deposited)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.64%	47.09%	15.05%	0.12%
Office Paper	6.30%	38.54%	87.03%	2.11%
Corrugated Boxes	4.93%	44.84%	44.25%	0.98%
Coated Paper	0.82%	33.03%	24.31%	0.07%
Food	43.80%	14.83%	86.52%	5.62%
Grass	0.00%	13.30%	47.36%	0.00%
Leaves	0.00%	29.13%	7.30%	0.00%
Branches	0.00%	44.24%	23.14%	0.00%
Lumber	13.50%	43.00%	23.26%	1.35%
Textiles	4.40%	24.00%	50.00%	0.53%
Diapers	0.00%	24.00%	50.00%	0.00%
Construction/Demolition	0.00%	4.00%	50.00%	0.00%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.77%**

Table 19: IPCC 2006 Waste Characterization Defaults - North America (Applies for all years of waste deposited)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.78%	47.09%	15.05%	0.20%
Office Paper	10.67%	38.54%	87.03%	3.58%
Corrugated Boxes	8.35%	44.84%	44.25%	1.66%
Coated Paper	1.39%	33.03%	24.31%	0.11%
Food	33.90%	14.83%	86.52%	4.35%
Grass	0.00%	13.30%	47.36%	0.00%
Leaves	0.00%	29.13%	7.30%	0.00%
Branches	0.00%	44.24%	23.14%	0.00%
Lumber	6.20%	43.00%	23.26%	0.62%
Textiles	5.30%	24.00%	50.00%	0.64%
Diapers	0.00%	24.00%	50.00%	0.00%
Construction/Demolition	0.00%	4.00%	50.00%	0.00%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.15%**

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for United States (other than California)

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 1: EPA 1960 Waste Characterization Study (Applies for waste deposited up to 1964)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

Table 2: EPA 1970 Waste Characterization Study (Applies for waste deposited from 1965 to 1974)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	11.30%	38.54%	87.03%	3.79%
Corrugated Boxes	13.50%	44.84%	44.25%	2.68%
Coated Paper	2.00%	33.03%	24.31%	0.16%
Food	11.30%	14.83%	86.52%	1.45%
Grass	10.25%	13.30%	47.36%	0.65%
Leaves	5.13%	29.13%	7.30%	0.11%
Branches	5.13%	44.24%	23.14%	0.52%
Lumber	3.30%	43.00%	23.26%	0.33%
Textiles	1.80%	24.00%	50.00%	0.22%
Diapers	0.30%	24.00%	50.00%	0.04%
Construction/Demolition	2.50%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.44%**

Table 3: EPA 1980 Waste Characterization Study (Applies for waste deposited from 1975 to 1984)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	5.90%	47.09%	15.05%	0.42%
Office Paper	12.00%	38.54%	87.03%	4.02%
Corrugated Boxes	11.50%	44.84%	44.25%	2.28%
Coated Paper	2.40%	33.03%	24.31%	0.19%
Food	9.50%	14.83%	86.52%	1.22%
Grass	10.05%	13.30%	47.36%	0.63%
Leaves	5.03%	29.13%	7.30%	0.11%
Branches	5.03%	44.24%	23.14%	0.51%
Lumber	5.10%	43.00%	23.26%	0.51%
Textiles	1.70%	24.00%	50.00%	0.20%
Diapers	1.40%	24.00%	50.00%	0.17%
Construction/Demolition	3.50%	4.00%	50.00%	0.07%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.34%**

Table 4: EPA 1990 Waste Characterization Study (Applies for waste deposited from 1985 to 1992)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.80%	47.09%	15.05%	0.34%

Office Paper	13.10%	38.54%	87.03%	4.39%
Corrugated Boxes	10.50%	44.84%	44.25%	2.08%
Coated Paper	2.10%	33.03%	24.31%	0.17%
Food	12.10%	14.83%	86.52%	1.55%
Grass	8.95%	13.30%	47.36%	0.56%
Leaves	4.48%	29.13%	7.30%	0.10%
Branches	4.48%	44.24%	23.14%	0.46%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	3.30%	24.00%	50.00%	0.40%
Diapers	1.60%	24.00%	50.00%	0.19%
Construction/Demolition	3.90%	4.00%	50.00%	0.08%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.02%**

Table 5: EPA 1995 Waste Characterization Study (Applies for waste deposited from 1993 to 1997)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.90%	47.09%	15.05%	0.28%
Office Paper	15.00%	38.54%	87.03%	5.03%
Corrugated Boxes	10.30%	44.84%	44.25%	2.04%
Coated Paper	1.80%	33.03%	24.31%	0.14%
Food	13.40%	14.83%	86.52%	1.72%
Grass	6.55%	13.30%	47.36%	0.41%
Leaves	3.28%	29.13%	7.30%	0.07%
Branches	3.28%	44.24%	23.14%	0.34%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	4.50%	24.00%	50.00%	0.54%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.50%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.62%**

Table 9: EPA 2000 Waste Characterization Study (Applies for waste deposited from 1998 to 2000)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.60%	47.09%	15.05%	0.26%
Office Paper	14.50%	38.54%	87.03%	4.86%
Corrugated Boxes	10.00%	44.84%	44.25%	1.98%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	15.40%	14.83%	86.52%	1.98%
Grass	4.35%	13.30%	47.36%	0.27%
Leaves	2.18%	29.13%	7.30%	0.05%
Branches	2.18%	44.24%	23.14%	0.22%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	5.20%	24.00%	50.00%	0.62%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.70%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.39%**

Table 10: EPA 2001 Waste Characterization Study (Applies for waste deposited in 2001)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.10%	47.09%	15.05%	0.15%
Office Paper	14.50%	38.54%	87.03%	4.86%
Corrugated Boxes	9.80%	44.84%	44.25%	1.94%
Coated Paper	1.30%	33.03%	24.31%	0.10%
Food	16.20%	14.83%	86.52%	2.08%
Grass	3.75%	13.30%	47.36%	0.24%
Leaves	1.88%	29.13%	7.30%	0.04%
Branches	1.88%	44.24%	23.14%	0.19%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.60%	24.00%	50.00%	0.67%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%

MSW Total				**11.37%**

Table 11: EPA 2002 Waste Characterization Study (Applies for waste deposited in 2002)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.90%	47.09%	15.05%	0.13%
Office Paper	14.70%	38.54%	87.03%	4.93%
Corrugated Boxes	9.80%	44.84%	44.25%	1.94%
Coated Paper	1.20%	33.03%	24.31%	0.10%
Food	16.10%	14.83%	86.52%	2.07%
Grass	3.75%	13.30%	47.36%	0.24%
Leaves	1.88%	29.13%	7.30%	0.04%
Branches	1.88%	44.24%	23.14%	0.19%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.70%	24.00%	50.00%	0.68%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.10%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.42%**

Table 12: EPA 2003 Waste Characterization Study (Applies for waste deposited in 2003)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.90%	47.09%	15.05%	0.13%
Office Paper	13.60%	38.54%	87.03%	4.56%
Corrugated Boxes	9.20%	44.84%	44.25%	1.83%
Coated Paper	1.40%	33.03%	24.31%	0.11%
Food	16.60%	14.83%	86.52%	2.13%
Grass	3.90%	13.30%	47.36%	0.25%
Leaves	1.95%	29.13%	7.30%	0.04%
Branches	1.95%	44.24%	23.14%	0.20%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.90%	24.00%	50.00%	0.71%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.04%**

Table 13: EPA 2004 Waste Characterization Study (Applies for waste deposited in 2004)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.50%	47.09%	15.05%	0.18%
Office Paper	13.00%	38.54%	87.03%	4.36%
Corrugated Boxes	9.60%	44.84%	44.25%	1.90%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	16.70%	14.83%	86.52%	2.14%
Grass	3.50%	13.30%	47.36%	0.22%
Leaves	1.75%	29.13%	7.30%	0.04%
Branches	1.75%	44.24%	23.14%	0.18%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	5.90%	24.00%	50.00%	0.71%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.92%**

Table 14: EPA 2005 Waste Characterization Study (Applies for waste deposited in 2005)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.00%	47.09%	15.05%	0.14%
Office Paper	12.80%	38.54%	87.03%	4.29%
Corrugated Boxes	8.80%	44.84%	44.25%	1.75%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	17.30%	14.83%	86.52%	2.22%
Grass	3.60%	13.30%	47.36%	0.23%
Leaves	1.80%	29.13%	7.30%	0.04%
Branches	1.80%	44.24%	23.14%	0.18%
Lumber	7.50%	43.00%	23.26%	0.75%

Textiles	6.10%	24.00%	50.00%	0.73%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.20%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.80%**

Table 15: EPA 2006 Waste Characterization Study (Applies for waste deposited in 2006)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.80%	47.09%	15.05%	0.13%
Office Paper	12.10%	38.54%	87.03%	4.06%
Corrugated Boxes	8.70%	44.84%	44.25%	1.73%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	17.60%	14.83%	86.52%	2.26%
Grass	3.60%	13.30%	47.36%	0.23%
Leaves	1.80%	29.13%	7.30%	0.04%
Branches	1.80%	44.24%	23.14%	0.18%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	6.30%	24.00%	50.00%	0.76%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.30%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.59%**

Table 16: EPA 2007 Waste Characterization Study (Applies for waste deposited in 2007)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.30%	47.09%	15.05%	0.09%
Office Paper	11.20%	38.54%	87.03%	3.76%
Corrugated Boxes	8.20%	44.84%	44.25%	1.63%
Coated Paper	1.40%	33.03%	24.31%	0.11%
Food	18.10%	14.83%	86.52%	2.32%
Grass	3.45%	13.30%	47.36%	0.22%
Leaves	1.73%	29.13%	7.30%	0.04%
Branches	1.73%	44.24%	23.14%	0.18%
Lumber	8.50%	43.00%	23.26%	0.85%
Textiles	6.40%	24.00%	50.00%	0.77%
Diapers	2.20%	24.00%	50.00%	0.26%
Construction/Demolition	5.50%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.33%**

Table 17: EPA 2008 Waste Characterization Study (Applies for waste deposited from 2008 to the present)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	0.60%	47.09%	15.05%	0.04%
Office Paper	11.50%	38.54%	87.03%	3.86%
Corrugated Boxes	7.40%	44.84%	44.25%	1.47%
Coated Paper	1.30%	33.03%	24.31%	0.10%
Food	18.60%	14.83%	86.52%	2.39%
Grass	3.50%	13.30%	47.36%	0.22%
Leaves	1.75%	29.13%	7.30%	0.04%
Branches	1.75%	44.24%	23.14%	0.18%
Lumber	8.90%	43.00%	23.26%	0.89%
Textiles	6.90%	24.00%	50.00%	0.83%
Diapers	2.30%	24.00%	50.00%	0.28%
Construction/Demolition	5.80%	4.00%	50.00%	0.12%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.41%**

Landfill Specific Value Calculator for the Percent of Anaerobically Degradable Carbon (ANDOC%)

Landfill specific Waste Characterization Data

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

1) Enter your landfill specific waste characterization data (WIPFRAC).
2) Copy the result of the calculation (MSW total) and overwrite the default %ANDOC value for the particular year on the ***Landfill Model Inputs*** page.
Note: Only the data for the Fraction of the Waste in Place (WIPFRAC) should be altered. If you wish to modify the TDOC or DANF values, please contact ARB staff.

California Air Resources Board's Implementation of IPCC's Mathematically Exact First-Order Decay Model

Release date: November 14, 2011

This tool is designed to estimate greenhouse gas emissions from a landfill in support of the Local Government Operations Protocol.

Please follow these steps to estimate emissions:

1) Read the ***Methodology*** page to become familiar with the equations and the assumptions underlying the calculations.

2) Enter the landfill specific data on the ***Landfill Model Inputs*** page. **This is the only page where data needs to be added or modified.**

Data Type	Field or Column Name	Description
Landfill Specific Data	k Value	Decay factor (see ***Methodology*** page).
	State/Country	State or country where the landfill is located. Will determine the waste characterization data used.
Waste Deposit Data	Year	Year of the data entry values.
	Waste Deposited (Tons)	Amount of waste deposited in that year.
	Waste Deposited (% ANDOC)	Percent of the waste that is degradable, based on waste characterization data.
	Greenwaste & Compost - Daily Cover (Tons)	Amount of daily cover materials of the given type used in that year.
	Greenwaste & Compost - Daily Cover (% ANDOC)	Percent of the daily cover that is degradable, based on waste characterization data.
	Sludge - Daily Cover (Tons)	Amount of daily cover materials of the given type used in that year.
	Sludge - Daily Cover (% ANDOC)	Percent of the daily cover that is degradable, based on waste characterization data.
Note: Required data fields on the **Landfill Model Inputs** page are highlighted in rose		

The rose colored field names indicate which fields require data entry, all others have defaults that will be used in the calculations.

3) If you wish to overwrite the default % ANDOC value with your own value, you can use the calculator on the ***Landfill Specific ANDOC Values*** page (the last page in this tool) and then type your calculated landfill specific value over the default ANDOC% value.

4) Estimates of the emissions reflecting the current inputs are listed on the ***Landfill Emissions Output*** page and estimates of captured gas heat are available on the ***Landfill Gas Heat Output*** page.

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	Tons	% ANDOC		Tons	% ANDOC	Tons	% ANDOC
1900							
1901							
1902							
1903							
1904							
1905							
1906							
1907							
1908							
1909							
1910							
1911							
1912							
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1946							
1947							
1948							
1949							
1950							
1951							

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	Tons	% ANDOC		Tons	% ANDOC	Tons	% ANDOC
1952							
1953							
1954							
1955							
1956							
1957							
1958							
1959							
1960							
1961							
1962							
1963							
1964							
1965							
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1998							
1999							
2000							
2001							
2002							
2003							

Data Input: Lanfill Characteristics

Landfill Name:	El Sobrante	**Year Opened:**	1986	Click for lists of k values	
State/Country:	CA	**If Closed, Year:**		**k Value:**	0.020
City/County:	Corona/Riverside			**M Value:**	

Data Input: Waste Deposit History

	Waste			Daily Cover			
	Waste Deposited			Greenwaste & Compost		Sludge	
Year	**Tons**	**% ANDOC**		**Tons**	**% ANDOC**	**Tons**	**% ANDOC**
2004							
2005							
2006							
2007							
2008							
2009							
2010							
2011							
2012	114,231	7.52%		21	6.24%		
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							

Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside

Year Opened: 1986
If Closed, Year:

k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
1900		
1901		
1902		
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1911		
1912		
1913		
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1916		
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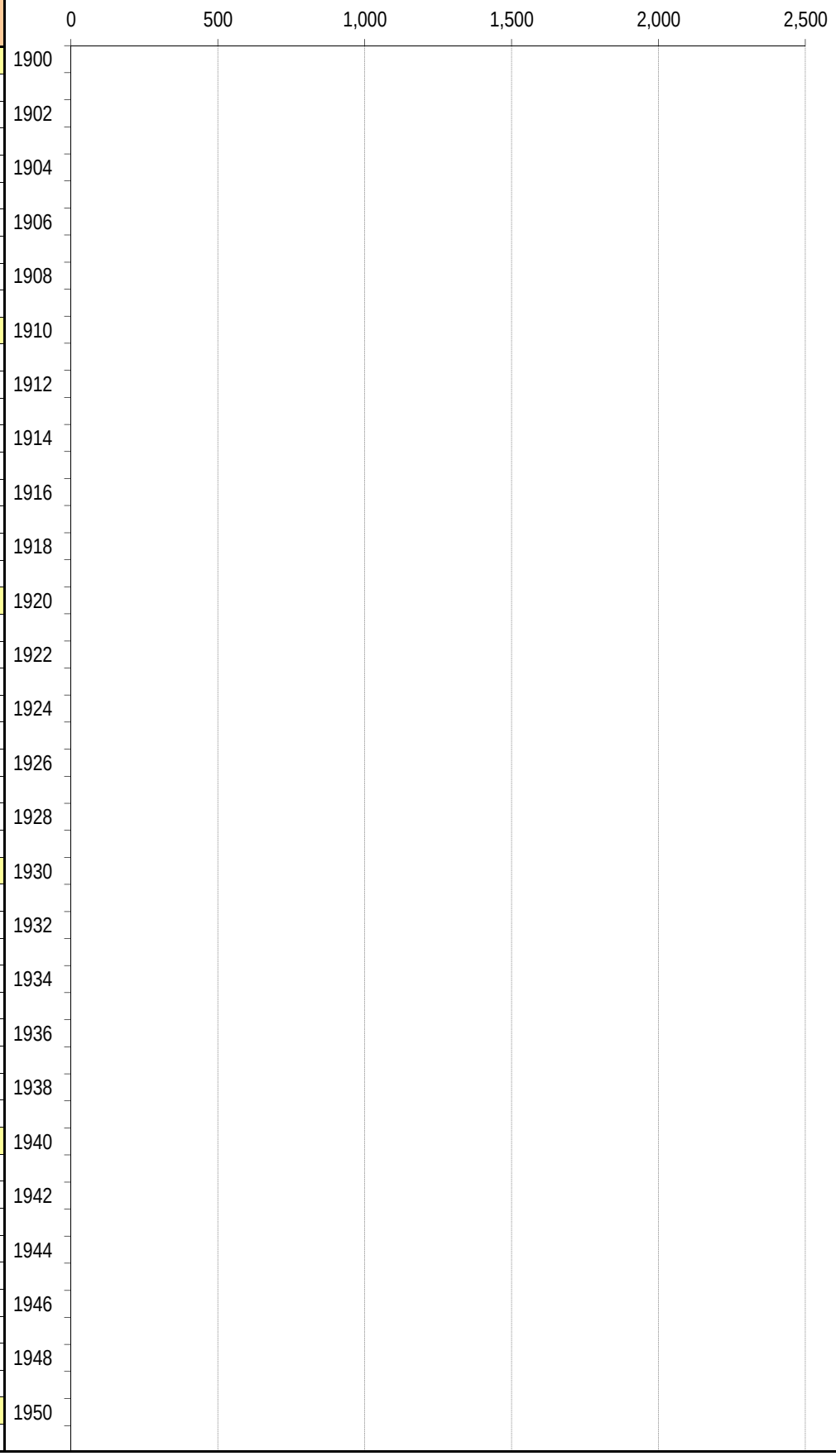
1951		



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
1952		
1953		
1954		
1955		
1956		
1957		
1958		
1959		
1960		
1961		
1962		
1963		
1964		
1965		
1966		
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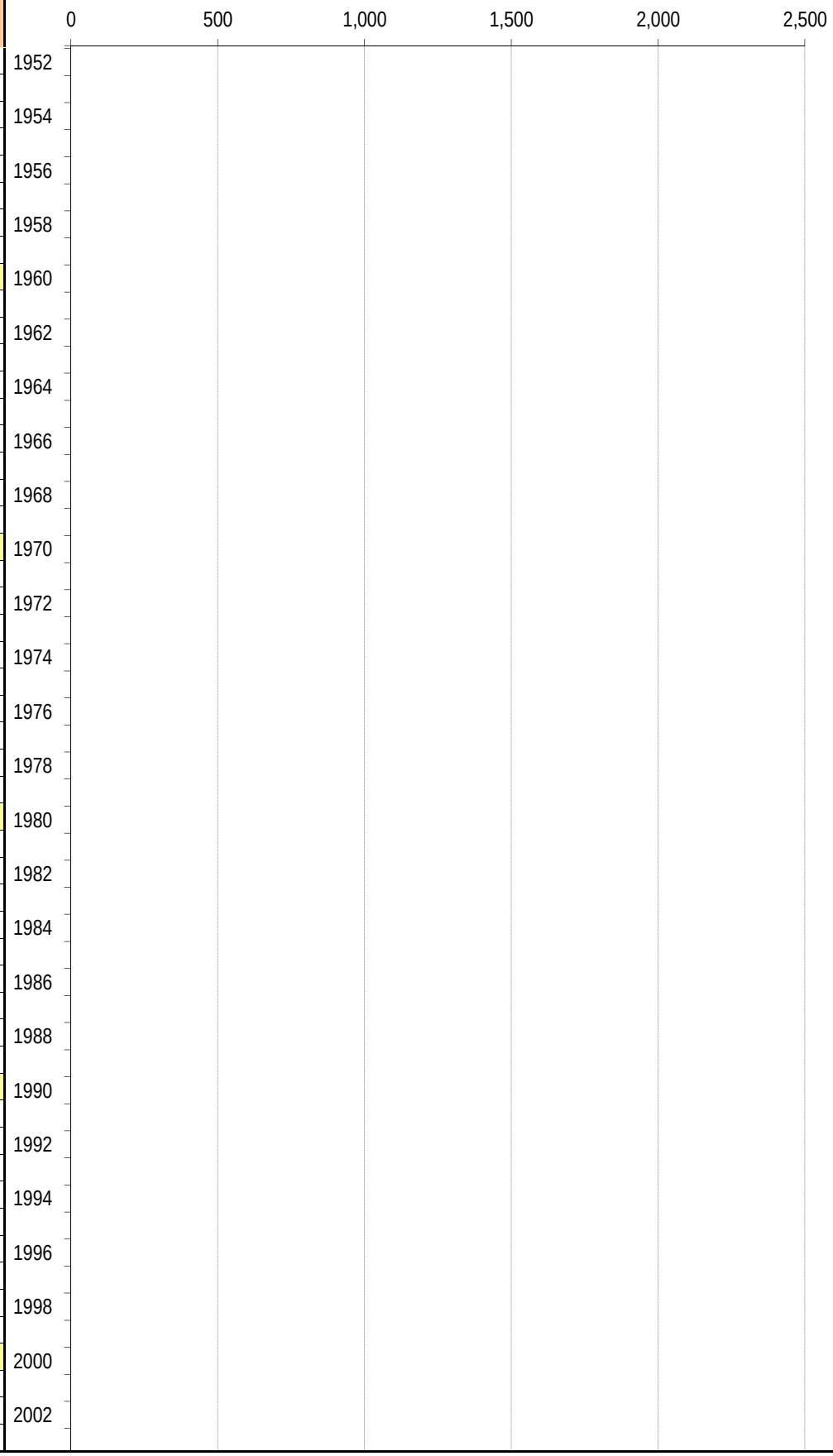
2003		

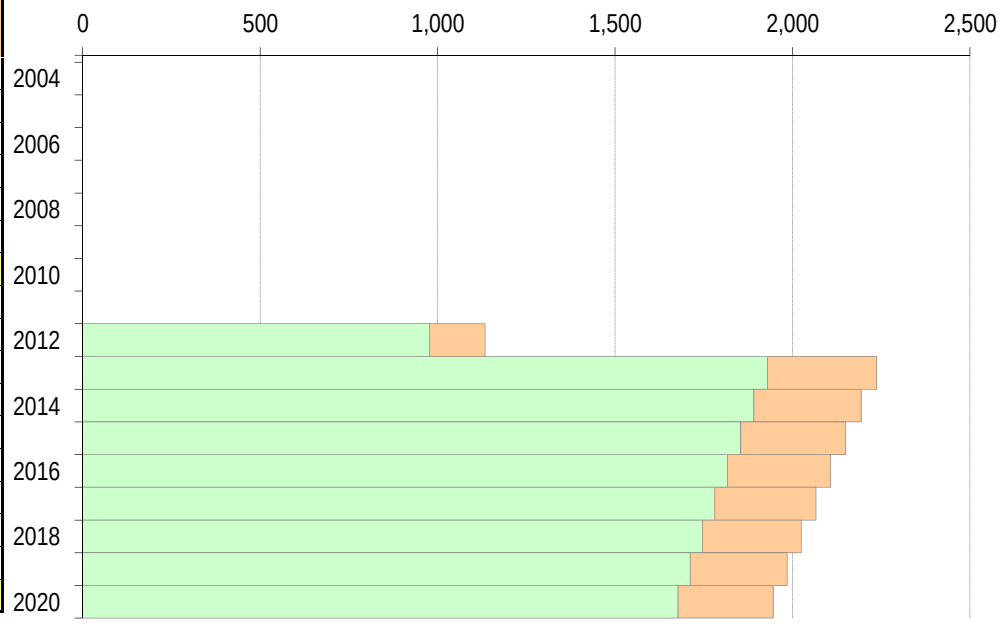


Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Methane and Carbon Dioxide Emissions (metric tonnes of CO_2 equivalent)

Year	CH_4	CO_2
2004		
2005		
2006		
2007		
2008		
2009		
2010		
2011		
2012	978	156
2013	1,930	308
2014	1,891	302
2015	1,854	296
2016	1,817	290
2017	1,781	284
2018	1,746	279
2019	1,711	273
2020	1,678	268



Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
1900		
1901		
1902		
1903		
1904		
1905		
1906		
1907		
1908		
1909		
1910		
1911		
1912		
1913		
1914		
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1916		
1917		
1918		
1919		
1920		
1921		
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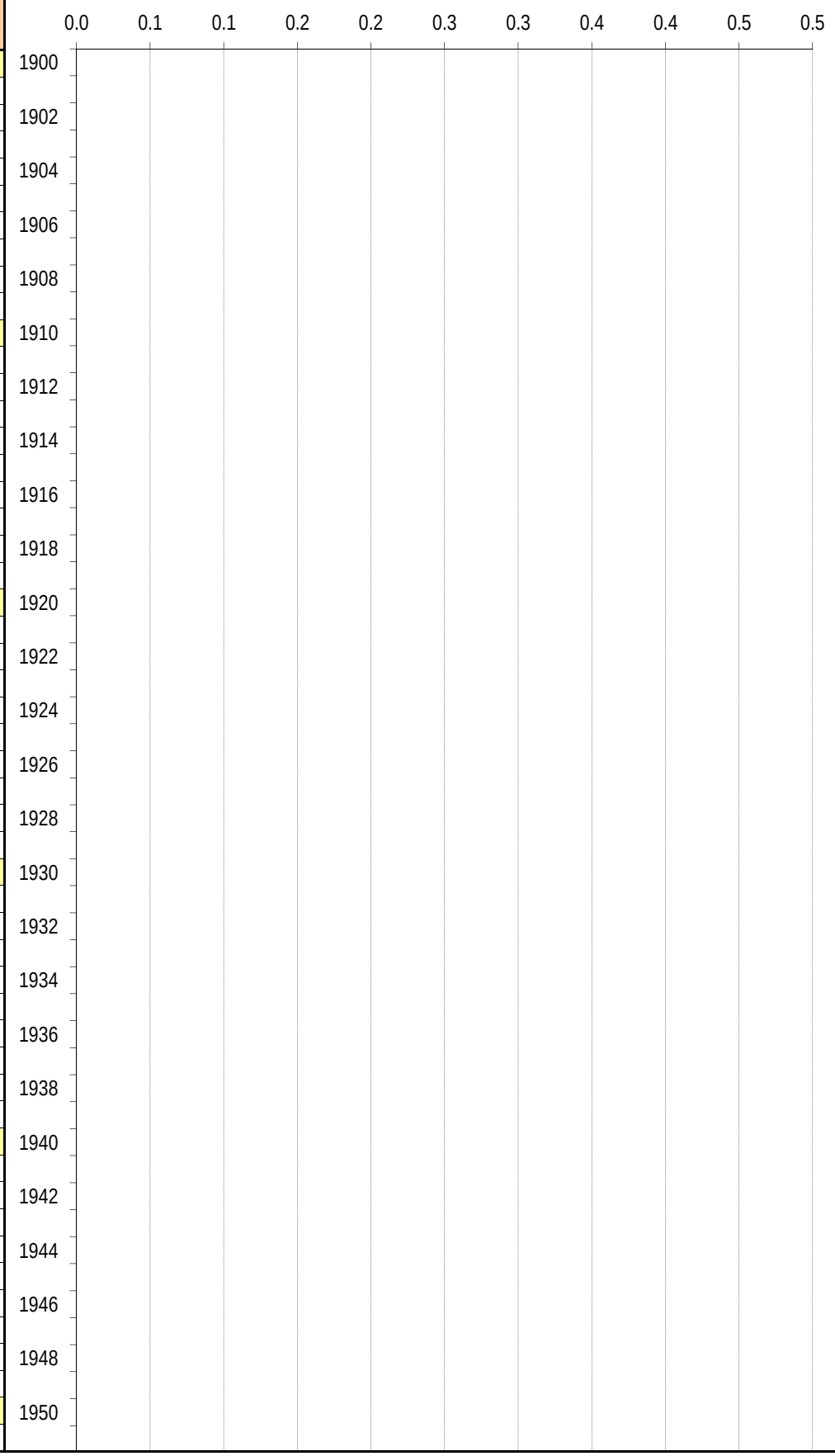
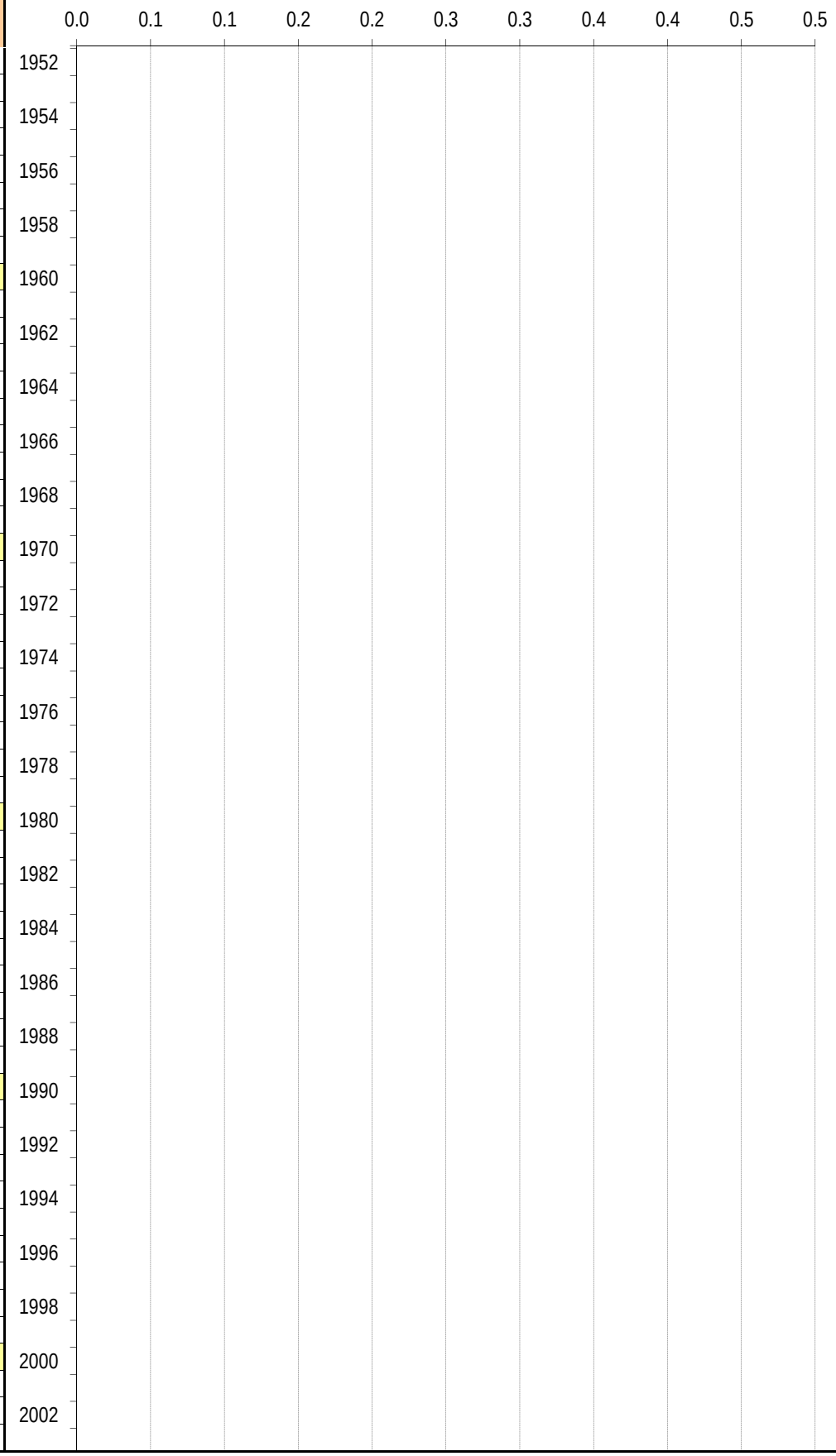


Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
1952		
1953		
1954		
1955		
1956		
1957		
1958		
1959		
1960		
1961		
1962		
1963		
1964		
1965		
1966		
1967		
1968		
1969		
1970		
1971		
1972		
1973		
1974		
1975		
1976		
1977		
1978		
1979		
1980		
1981		
1982		
1983		
1984		
1985		
1986		
1987		
1988		
1989		
1990		
1991		
1992		
1993		
1994		
1995		
1996		
1997		
1998		
1999		
2000		
2001		
2002		
2003		

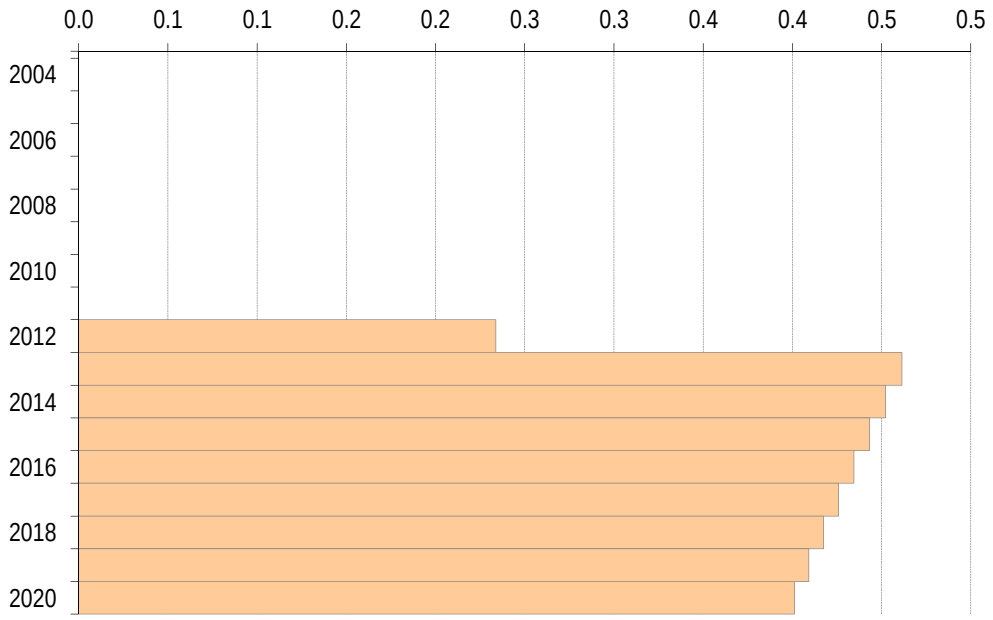


Model Output: Lanfill Characteristics

Landfill Name: El Sobrante
State: CA
City/County: Corona/Riverside
Year Opened: 1986
If Closed, Year:
k Value: 0.020
M Value: 6

Model Output: Landfill Gas Captured and Captured Gas Heat (graph values in MMbtu/hr)

Year	Landfill Gas Captured (scf/min)	Captured Gas Heat (MMbtu/hr)
2004		
2005		
2006		
2007		
2008		
2009		
2010		
2011		
2012	8	0.2
2013	15	0.5
2014	15	0.5
2015	15	0.4
2016	14	0.4
2017	14	0.4
2018	14	0.4
2019	13	0.4
2020	13	0.4



Landfill Methane Emissions Estimation Methodology

The calculations made by this tool are based on:

1) The following equations from IPCC's Mathematically Exact First-Order Decay Model, see section 3A1.6.3 of the 2006 IPCC Guidelines available online at:
http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/5_Volume5/V5_3_Ch3_SWDS.pdf

ANDOC% = Σ $WIPFRAC_i$ x $TDOC_i$ x $DANF_i$	
ANDOC%	Percent of the waste that is degradable
$WIPFRAC_i$	Fraction of the ith component in the Waste-in-Place (WIP)
$TDOC_i$	Total Degradable Organic Carbon fraction of the ith waste component (Mg of that component/Mg of Total WIP)
$DANF_i$	Decomposable Anaerobic Fraction of the ith waste component. That is, the fraction capable of decomposition in anaerobic conditions (Mg of decomposable carbon for that component/Mg TDOCi for that component)

ANDOC = WIP (Tons) x 0.9072 (Mg/Ton) x **ANDOC%**	
ANDOC	Anaerobically Degradable Organic Carbon, carbon that is capable of decomposition in an anaerobic environment (Mg of carbon)
WIP	Waste-in-Place estimate of all the landfilled waste (wet weight) as reported to the CIWMB (Tons)

$$\mathbf{ANDOC_{year\text{-}end}} = \mathbf{ANDOC_{year\text{-}start}} \times e^{-[k]}$$
$$+ \mathbf{ANDOC_{deposited\text{-}last\ year}} \times [1/k \times (e^{-[k \times (1-M/12)]} - e^{-[k]}) - (M/12) \times e^{-[k]}]$$
$$+ \mathbf{ANDOC_{deposited\text{-}same\ year}} \times [(1/k) \times (1-e^{-[k \times (1-M/12)]}) + (M/12)]$$

$ANDOC_{year\text{-}end}$	ANDOC remaining undecomposed at the end of the inventory year in question
$ANDOC_{year\text{-}start}$	ANDOC in place at the beginning of the inventory year in question
$ANDOC_{deposited\text{-}last\ year}$	ANDOC deposited during the previous inventory year
$ANDOC_{deposited\text{-}same\ year}$	ANDOC deposited during the inventory year in question
M	Assumed delay before newly deposited waste begins to undergo anaerobic decomposition (Months, Default=6)
k	Assumed rate constant for anaerobic decomposition; k = ln2/half-life (years); half-life is the number of years required for half of the original mass of carbon to degrade

$$\mathbf{CH_4\ Generation} = \{\mathbf{ANDOC_{year\text{-}start}} \times [1-e^{-[k]}]$$
$$- \mathbf{ANDOC_{deposited\text{-}last\ year}} \times [1/k \times (e^{-[k \times (1-M/12)]} - e^{-[k]}) - (M/12) \times e^{-[k]}]$$
$$+ \mathbf{ANDOC_{deposited\text{-}same\ year}} \times [1-((1/k) \times (1-e^{-[k \times (1-M/12)]}) + (M/12))]\} \times \mathbf{FCH_4} \times 16/12$$

CH_4 *Generation*	CH_4 generated in the inventory year in question (Mg of CH_4)
FCH_4	Fraction of decomposing carbon converted into CH_4 (Default = 0.5)

CH_4 Emitted = CH_4 Generation x (1-**OX**)	
CH_4 *Emitted*	CH_4 emitted to the atmosphere in the inventory year in question (Mg of CH_4)
OX	Fraction of escaping CH_4 that is oxidized to CO_2 in the cover soil (Default = 0.1)

2) Using an iterative approach (where the $ANDOC_{year\text{-}start}$ for the next inventory year equals the the $ANDOC_{year\text{-}end}$ of the previous inventory year), starting with the landfill's opening year and working through each subsequent years to arrive at the year for which an estimate is desired.

3) Choosing the rate of anaerobic decomposition (k). For the US and Mexico, select one of the following k values from EPA depending on the local average rainfall:

Average Rainfall (Inches/Year)		
<20	20-40	>40
k = 0.02	k = 0.038	k = 0.057

Where to input k values

For Canada, select the k value that corresponds to the province/territory :

Province/Territories	k
Alberta	0.012
British Columbia	0.082
Manitoba	0.019
New Brunswick	0.062
Newfoundland & Labrador	0.078
Nova Scotia	0.077
Northwest Territories	0.005
Nunavut	0.005
Ontario	0.045
Prince Edward Island	0.060
Quebec	0.056
Sakatchewan	0.010
Yukon	0.001

4) Using IPCC default value for the percent of methane oxidized while passing through the landfill to atmosphere:

Percent oxidation: 10%

Note: *Items 5 & 6 below only pertain when using this tool to assist in compliance with the Early Action Landfill Rule, and only affect the results shown in the Landfill Gas Heat Output page.*

5) Using EPA default value for the percent of methane captured by a landfill gas collection system:

Percent collection: 75%

6) Using EPA value for heat content of methane:

Methane heat content: 1,012 btu/scf

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for California

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 1: EPA 1960 Waste Characterization Study (Applies for waste deposited up to 1964)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

Table 2: EPA 1970 Waste Characterization Study (Applies for waste deposited from 1965 to 1974)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	11.30%	38.54%	87.03%	3.79%
Corrugated Boxes	13.50%	44.84%	44.25%	2.68%
Coated Paper	2.00%	33.03%	24.31%	0.16%
Food	11.30%	14.83%	86.52%	1.45%
Grass	10.25%	13.30%	47.36%	0.65%
Leaves	5.13%	29.13%	7.30%	0.11%
Branches	5.13%	44.24%	23.14%	0.52%
Lumber	3.30%	43.00%	23.26%	0.33%
Textiles	1.80%	24.00%	50.00%	0.22%
Diapers	0.30%	24.00%	50.00%	0.04%
Construction/Demolition	2.50%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.44%**

Table 3: EPA 1980 Waste Characterization Study (Applies for waste deposited from 1975 to 1984)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	5.90%	47.09%	15.05%	0.42%
Office Paper	12.00%	38.54%	87.03%	4.02%
Corrugated Boxes	11.50%	44.84%	44.25%	2.28%
Coated Paper	2.40%	33.03%	24.31%	0.19%
Food	9.50%	14.83%	86.52%	1.22%
Grass	10.05%	13.30%	47.36%	0.63%
Leaves	5.03%	29.13%	7.30%	0.11%
Branches	5.03%	44.24%	23.14%	0.51%
Lumber	5.10%	43.00%	23.26%	0.51%
Textiles	1.70%	24.00%	50.00%	0.20%
Diapers	1.40%	24.00%	50.00%	0.17%
Construction/Demolition	3.50%	4.00%	50.00%	0.07%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.34%**

Table 4: EPA 1990 Waste Characterization Study (Applies for waste deposited from 1985 to 1992)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.80%	47.09%	15.05%	0.34%
Office Paper	13.10%	38.54%	87.03%	4.39%
Corrugated Boxes	10.50%	44.84%	44.25%	2.08%
Coated Paper	2.10%	33.03%	24.31%	0.17%
Food	12.10%	14.83%	86.52%	1.55%
Grass	8.95%	13.30%	47.36%	0.56%
Leaves	4.48%	29.13%	7.30%	0.10%
Branches	4.48%	44.24%	23.14%	0.46%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	3.30%	24.00%	50.00%	0.40%
Diapers	1.60%	24.00%	50.00%	0.19%
Construction/Demolition	3.90%	4.00%	50.00%	0.08%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.02%**

Table 5: EPA 1995 Waste Characterization Study (Applies for waste deposited from 1993 to 1995)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.90%	47.09%	15.05%	0.28%
Office Paper	15.00%	38.54%	87.03%	5.03%
Corrugated Boxes	10.30%	44.84%	44.25%	2.04%
Coated Paper	1.80%	33.03%	24.31%	0.14%
Food	13.40%	14.83%	86.52%	1.72%
Grass	6.55%	13.30%	47.36%	0.41%
Leaves	3.28%	29.13%	7.30%	0.07%
Branches	3.28%	44.24%	23.14%	0.34%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	4.50%	24.00%	50.00%	0.54%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.50%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.62%**

Table 6: CIWMB 1999 Waste Characterization Study (Applies for waste deposited from 1996 to 2002)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.28%	47.09%	15.05%	0.30%
Office Paper	4.44%	38.54%	87.03%	1.49%
Corrugated Boxes	4.59%	44.84%	44.25%	0.91%
Coated Paper	16.92%	33.03%	24.31%	1.36%
Food	15.72%	14.83%	86.52%	2.02%
Grass	5.27%	13.30%	47.36%	0.33%
Leaves	2.63%	29.13%	7.30%	0.06%
Branches	2.37%	44.24%	23.14%	0.24%
Lumber	4.91%	43.00%	23.26%	0.49%
Textiles	2.11%	24.00%	50.00%	0.25%
Diapers	6.91%	24.00%	50.00%	0.83%
Construction/Demolition	6.65%	4.00%	50.00%	0.13%
Medical Waste	0.02%	15.00%	50.00%	0.00%
Sludge/Manure	0.14%	5.00%	50.00%	0.00%
MSW Total				**8.42%**

Table 7: CIWMB 2004 Waste Characterization Study (Applies for waste deposited from 2003 to 2006)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.20%	47.09%	15.05%	0.16%
Office Paper	1.95%	38.54%	87.03%	0.65%
Corrugated Boxes	5.75%	44.84%	44.25%	1.14%
Coated Paper	11.09%	33.03%	24.31%	0.89%
Food	14.55%	14.83%	86.52%	1.87%
Grass	2.81%	13.30%	47.36%	0.18%
Leaves	1.41%	29.13%	7.30%	0.03%
Branches	2.59%	44.24%	23.14%	0.26%
Lumber	9.65%	43.00%	23.26%	0.96%
Textiles	4.44%	24.00%	50.00%	0.53%

Diapers	4.36%	24.00%	50.00%	0.52%
Construction/Demolition	12.06%	4.00%	50.00%	0.24%
Medical Waste	0.04%	15.00%	50.00%	0.00%
Sludge/Manure	0.09%	5.00%	50.00%	0.00%
MSW Total				**7.45%**

Table 8: CIWMB 2008 Waste Characterization Study (Applies for waste deposited from 2007 to the present)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.65%	47.09%	15.05%	0.12%
Office Paper	1.84%	38.54%	87.03%	0.62%
Corrugated Boxes	4.80%	44.84%	44.25%	0.95%
Coated Paper	8.98%	33.03%	24.31%	0.72%
Food	15.50%	14.83%	86.52%	1.99%
Grass	1.90%	13.30%	47.36%	0.12%
Leaves	3.24%	29.13%	7.30%	0.07%
Branches	1.95%	44.24%	23.14%	0.20%
Lumber	14.51%	43.00%	23.26%	1.45%
Textiles	5.47%	24.00%	50.00%	0.66%
Diapers	4.33%	24.00%	50.00%	0.52%
Construction/Demolition	5.48%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.05%	5.00%	50.00%	0.00%
MSW Total				**7.52%**

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for Canada and Mexico

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 18: IPCC 2006 Waste Characterization Defaults - Central America (Applies for all years of waste deposited)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.64%	47.09%	15.05%	0.12%
Office Paper	6.30%	38.54%	87.03%	2.11%
Corrugated Boxes	4.93%	44.84%	44.25%	0.98%
Coated Paper	0.82%	33.03%	24.31%	0.07%
Food	43.80%	14.83%	86.52%	5.62%
Grass	0.00%	13.30%	47.36%	0.00%
Leaves	0.00%	29.13%	7.30%	0.00%
Branches	0.00%	44.24%	23.14%	0.00%
Lumber	13.50%	43.00%	23.26%	1.35%
Textiles	4.40%	24.00%	50.00%	0.53%
Diapers	0.00%	24.00%	50.00%	0.00%
Construction/Demolition	0.00%	4.00%	50.00%	0.00%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.77%**

Table 19: IPCC 2006 Waste Characterization Defaults - North America (Applies for all years of waste deposited)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.78%	47.09%	15.05%	0.20%
Office Paper	10.67%	38.54%	87.03%	3.58%
Corrugated Boxes	8.35%	44.84%	44.25%	1.66%
Coated Paper	1.39%	33.03%	24.31%	0.11%
Food	33.90%	14.83%	86.52%	4.35%
Grass	0.00%	13.30%	47.36%	0.00%
Leaves	0.00%	29.13%	7.30%	0.00%
Branches	0.00%	44.24%	23.14%	0.00%
Lumber	6.20%	43.00%	23.26%	0.62%
Textiles	5.30%	24.00%	50.00%	0.64%
Diapers	0.00%	24.00%	50.00%	0.00%
Construction/Demolition	0.00%	4.00%	50.00%	0.00%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.15%**

Percent of Anaerobically Degradable Carbon (ANDOC%): Default Values Used for United States (other than California)

For documentation on these values, see the ARB's Local Government Operations Protocol, available online at:
http://www.arb.ca.gov/cc/protocols/localgov/pubs/pubs.htm

Table 1: EPA 1960 Waste Characterization Study (Applies for waste deposited up to 1964)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

Table 2: EPA 1970 Waste Characterization Study (Applies for waste deposited from 1965 to 1974)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	11.30%	38.54%	87.03%	3.79%
Corrugated Boxes	13.50%	44.84%	44.25%	2.68%
Coated Paper	2.00%	33.03%	24.31%	0.16%
Food	11.30%	14.83%	86.52%	1.45%
Grass	10.25%	13.30%	47.36%	0.65%
Leaves	5.13%	29.13%	7.30%	0.11%
Branches	5.13%	44.24%	23.14%	0.52%
Lumber	3.30%	43.00%	23.26%	0.33%
Textiles	1.80%	24.00%	50.00%	0.22%
Diapers	0.30%	24.00%	50.00%	0.04%
Construction/Demolition	2.50%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.44%**

Table 3: EPA 1980 Waste Characterization Study (Applies for waste deposited from 1975 to 1984)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	5.90%	47.09%	15.05%	0.42%
Office Paper	12.00%	38.54%	87.03%	4.02%
Corrugated Boxes	11.50%	44.84%	44.25%	2.28%
Coated Paper	2.40%	33.03%	24.31%	0.19%
Food	9.50%	14.83%	86.52%	1.22%
Grass	10.05%	13.30%	47.36%	0.63%
Leaves	5.03%	29.13%	7.30%	0.11%
Branches	5.03%	44.24%	23.14%	0.51%
Lumber	5.10%	43.00%	23.26%	0.51%
Textiles	1.70%	24.00%	50.00%	0.20%
Diapers	1.40%	24.00%	50.00%	0.17%
Construction/Demolition	3.50%	4.00%	50.00%	0.07%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.34%**

Table 4: EPA 1990 Waste Characterization Study (Applies for waste deposited from 1985 to 1992)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	4.80%	47.09%	15.05%	0.34%

Office Paper	13.10%	38.54%	87.03%	4.39%
Corrugated Boxes	10.50%	44.84%	44.25%	2.08%
Coated Paper	2.10%	33.03%	24.31%	0.17%
Food	12.10%	14.83%	86.52%	1.55%
Grass	8.95%	13.30%	47.36%	0.56%
Leaves	4.48%	29.13%	7.30%	0.10%
Branches	4.48%	44.24%	23.14%	0.46%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	3.30%	24.00%	50.00%	0.40%
Diapers	1.60%	24.00%	50.00%	0.19%
Construction/Demolition	3.90%	4.00%	50.00%	0.08%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.02%**

Table 5: EPA 1995 Waste Characterization Study (Applies for waste deposited from 1993 to 1997)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.90%	47.09%	15.05%	0.28%
Office Paper	15.00%	38.54%	87.03%	5.03%
Corrugated Boxes	10.30%	44.84%	44.25%	2.04%
Coated Paper	1.80%	33.03%	24.31%	0.14%
Food	13.40%	14.83%	86.52%	1.72%
Grass	6.55%	13.30%	47.36%	0.41%
Leaves	3.28%	29.13%	7.30%	0.07%
Branches	3.28%	44.24%	23.14%	0.34%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	4.50%	24.00%	50.00%	0.54%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.50%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.62%**

Table 9: EPA 2000 Waste Characterization Study (Applies for waste deposited from 1998 to 2000)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	3.60%	47.09%	15.05%	0.26%
Office Paper	14.50%	38.54%	87.03%	4.86%
Corrugated Boxes	10.00%	44.84%	44.25%	1.98%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	15.40%	14.83%	86.52%	1.98%
Grass	4.35%	13.30%	47.36%	0.27%
Leaves	2.18%	29.13%	7.30%	0.05%
Branches	2.18%	44.24%	23.14%	0.22%
Lumber	7.00%	43.00%	23.26%	0.70%
Textiles	5.20%	24.00%	50.00%	0.62%
Diapers	1.90%	24.00%	50.00%	0.23%
Construction/Demolition	4.70%	4.00%	50.00%	0.09%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.39%**

Table 10: EPA 2001 Waste Characterization Study (Applies for waste deposited in 2001)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.10%	47.09%	15.05%	0.15%
Office Paper	14.50%	38.54%	87.03%	4.86%
Corrugated Boxes	9.80%	44.84%	44.25%	1.94%
Coated Paper	1.30%	33.03%	24.31%	0.10%
Food	16.20%	14.83%	86.52%	2.08%
Grass	3.75%	13.30%	47.36%	0.24%
Leaves	1.88%	29.13%	7.30%	0.04%
Branches	1.88%	44.24%	23.14%	0.19%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.60%	24.00%	50.00%	0.67%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%

MSW Total				**11.37%**

Table 11: EPA 2002 Waste Characterization Study (Applies for waste deposited in 2002)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.90%	47.09%	15.05%	0.13%
Office Paper	14.70%	38.54%	87.03%	4.93%
Corrugated Boxes	9.80%	44.84%	44.25%	1.94%
Coated Paper	1.20%	33.03%	24.31%	0.10%
Food	16.10%	14.83%	86.52%	2.07%
Grass	3.75%	13.30%	47.36%	0.24%
Leaves	1.88%	29.13%	7.30%	0.04%
Branches	1.88%	44.24%	23.14%	0.19%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.70%	24.00%	50.00%	0.68%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.10%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.42%**

Table 12: EPA 2003 Waste Characterization Study (Applies for waste deposited in 2003)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.90%	47.09%	15.05%	0.13%
Office Paper	13.60%	38.54%	87.03%	4.56%
Corrugated Boxes	9.20%	44.84%	44.25%	1.83%
Coated Paper	1.40%	33.03%	24.31%	0.11%
Food	16.60%	14.83%	86.52%	2.13%
Grass	3.90%	13.30%	47.36%	0.25%
Leaves	1.95%	29.13%	7.30%	0.04%
Branches	1.95%	44.24%	23.14%	0.20%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	5.90%	24.00%	50.00%	0.71%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**11.04%**

Table 13: EPA 2004 Waste Characterization Study (Applies for waste deposited in 2004)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.50%	47.09%	15.05%	0.18%
Office Paper	13.00%	38.54%	87.03%	4.36%
Corrugated Boxes	9.60%	44.84%	44.25%	1.90%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	16.70%	14.83%	86.52%	2.14%
Grass	3.50%	13.30%	47.36%	0.22%
Leaves	1.75%	29.13%	7.30%	0.04%
Branches	1.75%	44.24%	23.14%	0.18%
Lumber	7.30%	43.00%	23.26%	0.73%
Textiles	5.90%	24.00%	50.00%	0.71%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.00%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.92%**

Table 14: EPA 2005 Waste Characterization Study (Applies for waste deposited in 2005)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	2.00%	47.09%	15.05%	0.14%
Office Paper	12.80%	38.54%	87.03%	4.29%
Corrugated Boxes	8.80%	44.84%	44.25%	1.75%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	17.30%	14.83%	86.52%	2.22%
Grass	3.60%	13.30%	47.36%	0.23%
Leaves	1.80%	29.13%	7.30%	0.04%
Branches	1.80%	44.24%	23.14%	0.18%
Lumber	7.50%	43.00%	23.26%	0.75%

Textiles	6.10%	24.00%	50.00%	0.73%
Diapers	2.00%	24.00%	50.00%	0.24%
Construction/Demolition	5.20%	4.00%	50.00%	0.10%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.80%**

Table 15: EPA 2006 Waste Characterization Study (Applies for waste deposited in 2006)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.80%	47.09%	15.05%	0.13%
Office Paper	12.10%	38.54%	87.03%	4.06%
Corrugated Boxes	8.70%	44.84%	44.25%	1.73%
Coated Paper	1.50%	33.03%	24.31%	0.12%
Food	17.60%	14.83%	86.52%	2.26%
Grass	3.60%	13.30%	47.36%	0.23%
Leaves	1.80%	29.13%	7.30%	0.04%
Branches	1.80%	44.24%	23.14%	0.18%
Lumber	7.40%	43.00%	23.26%	0.74%
Textiles	6.30%	24.00%	50.00%	0.76%
Diapers	2.10%	24.00%	50.00%	0.25%
Construction/Demolition	5.30%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.59%**

Table 16: EPA 2007 Waste Characterization Study (Applies for waste deposited in 2007)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	1.30%	47.09%	15.05%	0.09%
Office Paper	11.20%	38.54%	87.03%	3.76%
Corrugated Boxes	8.20%	44.84%	44.25%	1.63%
Coated Paper	1.40%	33.03%	24.31%	0.11%
Food	18.10%	14.83%	86.52%	2.32%
Grass	3.45%	13.30%	47.36%	0.22%
Leaves	1.73%	29.13%	7.30%	0.04%
Branches	1.73%	44.24%	23.14%	0.18%
Lumber	8.50%	43.00%	23.26%	0.85%
Textiles	6.40%	24.00%	50.00%	0.77%
Diapers	2.20%	24.00%	50.00%	0.26%
Construction/Demolition	5.50%	4.00%	50.00%	0.11%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.33%**

Table 17: EPA 2008 Waste Characterization Study (Applies for waste deposited from 2008 to the present)

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	0.60%	47.09%	15.05%	0.04%
Office Paper	11.50%	38.54%	87.03%	3.86%
Corrugated Boxes	7.40%	44.84%	44.25%	1.47%
Coated Paper	1.30%	33.03%	24.31%	0.10%
Food	18.60%	14.83%	86.52%	2.39%
Grass	3.50%	13.30%	47.36%	0.22%
Leaves	1.75%	29.13%	7.30%	0.04%
Branches	1.75%	44.24%	23.14%	0.18%
Lumber	8.90%	43.00%	23.26%	0.89%
Textiles	6.90%	24.00%	50.00%	0.83%
Diapers	2.30%	24.00%	50.00%	0.28%
Construction/Demolition	5.80%	4.00%	50.00%	0.12%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.41%**

Landfill Specific Value Calculator for the Percent of Anaerobically Degradable Carbon (ANDOC%)

Landfill specific Waste Characterization Data

Waste Type	WIPFRAC	TDOC	DANF	%ANDOC
Newspaper	6.40%	47.09%	15.05%	0.45%
Office Paper	10.70%	38.54%	87.03%	3.59%
Corrugated Boxes	10.80%	44.84%	44.25%	2.14%
Coated Paper	2.20%	33.03%	24.31%	0.18%
Food	14.80%	14.83%	86.52%	1.90%
Grass	12.10%	13.30%	47.36%	0.76%
Leaves	6.05%	29.13%	7.30%	0.13%
Branches	6.05%	44.24%	23.14%	0.62%
Lumber	3.70%	43.00%	23.26%	0.37%
Textiles	2.10%	24.00%	50.00%	0.25%
Diapers	0.05%	24.00%	50.00%	0.01%
Construction/Demolition	2.60%	4.00%	50.00%	0.05%
Medical Waste	0.00%	15.00%	50.00%	0.00%
Sludge/Manure	0.00%	5.00%	50.00%	0.00%
MSW Total				**10.45%**

1) Enter your landfill specific waste characterization data (WIPFRAC).
2) Copy the result of the calculation (MSW total) and overwrite the default %ANDOC value for the particular year on the ***Landfill Model Inputs*** page.
Note: Only the data for the Fraction of the Waste in Place (WIPFRAC) should be altered. If you wish to modify the TDOC or DANF values, please contact ARB staff.

Vehicle Categories

Index	EMFAC2011 Veh & Tech	EMFAC2011 Vehicle	Description	Source	EMFAC2007 Vehicle	CTEMFAC Vehicle
1	LDA - DSL	LDA	Passenger Cars	EMFAC2011-LDV	LDA	Non-Trucks
2	LDA - GAS			EMFAC2011-LDV	LDA	Non-Trucks
3	LDT1 - DSL	LDT1	Light-Duty Trucks (0-3750 lbs)	EMFAC2011-LDV	LDT1	Non-Trucks
4	LDT1 - GAS			EMFAC2011-LDV	LDT1	Non-Trucks
5	LDT2 - DSL	LDT2	Light-Duty Trucks (3751-5750 lbs)	EMFAC2011-LDV	LDT2	Non-Trucks
6	LDT2 - GAS			EMFAC2011-LDV	LDT2	Non-Trucks
7	LHD1 - DSL	LHD1	Light-Heavy-Duty Trucks (8501-10000 lbs)	EMFAC2011-LDV	LHDT1	Trucks
8	LHD1 - GAS			EMFAC2011-LDV	LHDT1	Trucks
9	LHD2 - DSL	LHD2	Light-Heavy-Duty Trucks (10001-14000 lbs)	EMFAC2011-LDV	LHDT2	Trucks
10	LHD2 - GAS			EMFAC2011-LDV	LHDT2	Trucks
11	MCY - GAS	MCY	Motorcycles	EMFAC2011-LDV	MCY	Non-Trucks
12	MDV - DSL	MDV	Medium-Duty Trucks (5751-8500 lbs)	EMFAC2011-LDV	MDV	Trucks
13	MDV - GAS			EMFAC2011-LDV	MDV	Trucks
14	MH - DSL	MH	Motor Homes	EMFAC2011-LDV	MH	Non-Trucks
15	MH - GAS			EMFAC2011-LDV	MH	Non-Trucks
16	T6 Ag - DSL	T6 Ag	Medium-Heavy Duty Diesel Agriculture Truck	EMFAC2011-HD	MHDT	Trucks
17	T6 CAIRP heavy - DSL	T6 CAIRP heavy	Medium-Heavy Duty Diesel CA International Registration Plan Truck with GVWR>26000 lbs	EMFAC2011-HD	MHDT	Trucks
18	T6 CAIRP small - DSL	T6 CAIRP small	Medium-Heavy Duty Diesel CA International Registration Plan Truck with GVWR<=26000 lbs	EMFAC2011-HD	MHDT	Trucks
19	T6 instate construction heavy - DSL	T6 instate construction heavy	Medium-Heavy Duty Diesel instate construction Truck with GVWR>26000 lbs	EMFAC2011-HD	MHDT	Trucks
20	T6 instate construction small - DSL	T6 instate construction small	Medium-Heavy Duty Diesel instate construction Truck with GVWR<=26000 lbs	EMFAC2011-HD	MHDT	Trucks
21	T6 instate heavy - DSL	T6 instate heavy	Medium-Heavy Duty Diesel instate Truck with GVWR>26000 lbs	EMFAC2011-HD	MHDT	Trucks
22	T6 instate small - DSL	T6 instate small	Medium-Heavy Duty Diesel instate Truck with GVWR<=26000 lbs	EMFAC2011-HD	MHDT	Trucks
23	T6 OOS heavy - DSL	T6 OOS heavy	Medium-Heavy Duty Diesel Out-of-state Truck with GVWR>26000 lbs	EMFAC2011-HD	MHDT	Trucks
24	T6 OOS small - DSL	T6 OOS small	Medium-Heavy Duty Diesel Out-of-state Truck with GVWR<=26000 lbs	EMFAC2011-HD	MHDT	Trucks
25	T6 Public - DSL	T6 Public	Medium-Heavy Duty Diesel Public Fleet Truck	EMFAC2011-HD	MHDT	Trucks
26	T6 utility - DSL	T6 utility	Medium-Heavy Duty Diesel Utility Fleet Truck	EMFAC2011-HD	MHDT	Trucks
27	T6TS - GAS	T6TS		EMFAC2011-LDV	MHDT	Trucks
28	T7 Ag - DSL	T7 Ag	Heavy-Heavy Duty Diesel Agriculture Truck	EMFAC2011-HD	HHDT	Trucks
29	T7 CAIRP - DSL	T7 CAIRP	Heavy-Heavy Duty Diesel CA International Registration Plan Truck	EMFAC2011-HD	HHDT	Trucks
30	T7 CAIRP construction - DSL	T7 CAIRP construction	Heavy-Heavy Duty Diesel CA International Registration Plan Construction Truck	EMFAC2011-HD	HHDT	Trucks
31	T7 NNOOS - DSL	T7 NNOOS	Heavy-Heavy Duty Diesel Non-Neighboring Out-of-state Truck	EMFAC2011-HD	HHDT	Trucks
32	T7 NOOS - DSL	T7 NOOS	Heavy-Heavy Duty Diesel Neighboring Out-of-state Truck	EMFAC2011-HD	HHDT	Trucks
33	T7 other port - DSL	T7 other port	Heavy-Heavy Duty Diesel Drayage Truck at Other Facilities	EMFAC2011-HD	HHDT	Trucks
34	T7 POAK - DSL	T7 POAK	Heavy-Heavy Duty Diesel Drayage Truck in Bay Area	EMFAC2011-HD	HHDT	Trucks
35	T7 POLA - DSL	T7 POLA	Heavy-Heavy Duty Diesel Drayage Truck near South Coast	EMFAC2011-HD	HHDT	Trucks
36	T7 Public - DSL	T7 Public	Heavy-Heavy Duty Diesel Public Fleet Truck	EMFAC2011-HD	HHDT	Trucks
37	T7 Single - DSL	T7 Single	Heavy-Heavy Duty Diesel Single Unit Truck	EMFAC2011-HD	HHDT	Trucks
38	T7 single construction - DSL	T7 single construction	Heavy-Heavy Duty Diesel Single Unit Construction Truck	EMFAC2011-HD	HHDT	Trucks
39	T7 SWCV - DSL	T7 SWCV	Heavy-Heavy Duty Diesel Solid Waste Collection Truck	EMFAC2011-HD	HHDT	Trucks
40	T7 tractor - DSL	T7 tractor	Heavy-Heavy Duty Diesel Tractor Truck	EMFAC2011-HD	HHDT	Trucks
41	T7 tractor construction - DSL	T7 tractor construction	Heavy-Heavy Duty Diesel Tractor Construction Truck	EMFAC2011-HD	HHDT	Trucks
42	T7 utility - DSL	T7 utility	Heavy-Heavy Duty Diesel Utility Fleet Truck	EMFAC2011-HD	HHDT	Trucks
43	T7IS - GAS	T7IS	Medium-Heavy Duty Gasoline Instate Truck with GVWR>26000 lbs	EMFAC2011-LDV	HHDT	Trucks
44	PTO - DSL	PTO	Power Take Off	EMFAC2011-HD	HHDT	Trucks
45	SBUS - DSL	SBUS	School Buses	EMFAC2011-HD	SBUS	Non-Trucks
46	SBUS - GAS		School Buses	EMFAC2011-LDV	SBUS	Non-Trucks
47	UBUS - DSL	UBUS	Urban Buses	EMFAC2011-LDV	UBUS	Non-Trucks
48	UBUS - GAS			EMFAC2011-LDV	UBUS	Non-Trucks
49	Motor Coach - DSL	Motor Coach	Motor Coach	EMFAC2011-HD	OBUS	Non-Trucks
50	OBUS - GAS	OBUS	Other Buses	EMFAC2011-LDV	OBUS	Non-Trucks
51	All Other Buses - DSL	All Other Buses	All Other Buses	EMFAC2011-HD	OBUS	Non-Trucks

2010

Based on EMFAC2011

	Emission year	Daily						
	2010	**4,908,000**			**lbs/day**			
	Percent of VMT	**Adjust % VMT**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
All Other Buses	0.02%	0.02%	1	18	3	0	1	1
LDA	47.44%	69.49%	2,417	1,801	20,506	26	363	157
LDT1	6.92%	6.21%	499	378	4,207	3	35	16
LDT2	17.13%	15.38%	548	699	5,697	8	80	34
LHD1	4.62%	0.49%	31	175	200	0	4	2
LHD2	0.79%	0.04%	2	22	10	0	0	0
MCY	0.61%	0.89%	490	139	4,071	0	5	2
MDV	17.24%	4.58%	165	257	1,925	3	24	10
MH	0.33%	0.54%	14	151	460	0	6	4
Motor Coach	0.02%	0.04%	3	62	13	0	3	2
OBUS	0.07%	0.05%	9	22	114	0	0	0
PTO	0.07%	0.00%	0	6	2	0	0	0
SBUS	0.10%	0.08%	10	86	84	0	8	5
T6 Ag	0.00%	0.00%	0	3	1	0	0	0
T6 CAIRP heavy	0.00%	0.00%	0	1	0	0	0	0
T6 CAIRP small	0.00%	0.00%	0	3	0	0	0	0
T6 instate construction heavy	0.03%	0.05%	2	52	8	0	3	2
T6 instate construction smal	0.09%	0.15%	4	118	17	0	7	5
T6 instate heavy	0.22%	0.36%	15	355	52	0	19	15
T6 instate small	0.63%	1.04%	28	799	113	1	47	35
T6 OOS heavy	0.00%	0.00%	0	1	0	0	0	0
T6 OOS small	0.00%	0.00%	0	1	0	0	0	0
T6 public	0.02%	0.04%	1	42	4	0	2	1
T6 utility	0.00%	0.01%	0	6	1	0	0	0
T6TS	0.15%	0.25%	83	104	760	0	1	1
T7 Ag	0.01%	0.00%	0	1	0	0	0	0
T7 CAIRP	0.54%	0.03%	2	36	9	0	2	2
T7 CAIRP construction	0.04%	0.00%	0	3	1	0	0	0
T7 NNOOS	0.61%	0.03%	2	31	8	0	2	1
T7 NOOS	0.20%	0.01%	1	13	3	0	1	1
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	0.58%	0.03%	1	28	7	0	1	1
T7 public	0.04%	0.00%	0	4	1	0	0	0
T7 Single	0.29%	0.02%	1	23	4	0	1	1
T7 single construction	0.10%	0.01%	0	8	1	0	0	0
T7 SWCV	0.10%	0.01%	1	10	2	0	0	0
T7 tractor	0.76%	0.04%	3	62	14	0	3	3
T7 tractor construction	0.08%	0.00%	0	6	2	0	0	0
T7 utility	0.00%	0.00%	0	0	0	0	0	0
T7IS	0.03%	0.00%	0	1	9	0	0	0
UBUS	0.11%	0.09%	11	97	95	0	5	3
TOTAL	100%	100%	**4,345**	**5,627**	**38,404**	**43**	**627**	**308**

Based on the emission factors for Riverside County - South Coast Air Basin

2012

Based on EMFAC2011

	Emission year	Daily						
	2012	**5,651,000**			**lbs/day**			
	Percent of VMT	**Adjust % VMT**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
All Other Buses	0.02%	0.02%	1	21	3	0	1	1
LDA	47.11%	69.46%	2,130	1,584	18,279	30	410	174
LDT1	7.02%	6.23%	474	343	3,813	3	39	18
LDT2	17.29%	15.36%	532	630	5,330	9	90	38
LHD1	4.52%	0.49%	34	181	205	0	4	2
LHD2	0.77%	0.04%	2	22	10	0	1	0
MCY	0.62%	0.92%	525	157	4,129	0	5	2
MDV	17.09%	4.58%	185	259	1,997	3	27	12
MH	0.33%	0.52%	12	146	369	0	7	4
Motor Coach	0.02%	0.04%	2	58	12	0	3	2
OBUS	0.06%	0.05%	10	23	123	0	0	0
PTO	0.07%	0.00%	0	6	2	0	0	0
SBUS	0.10%	0.08%	9	94	74	0	8	5
T6 Ag	0.00%	0.00%	0	3	1	0	0	0
T6 CAIRP heavy	0.00%	0.00%	0	1	0	0	0	0
T6 CAIRP small	0.00%	0.00%	0	2	0	0	0	0
T6 instate construction heavy	0.04%	0.06%	2	63	9	0	3	2
T6 instate construction smal	0.10%	0.17%	5	126	20	0	8	6
T6 instate heavy	0.23%	0.36%	14	366	52	0	19	15
T6 instate small	0.63%	1.02%	28	733	118	1	47	35
T6 OOS heavy	0.00%	0.00%	0	1	0	0	0	0
T6 OOS small	0.00%	0.00%	0	1	0	0	0	0
T6 public	0.03%	0.04%	1	45	5	0	2	1
T6 utility	0.00%	0.01%	0	6	1	0	0	0
T6TS	0.17%	0.27%	71	98	681	0	2	1
T7 Ag	0.01%	0.00%	0	1	0	0	0	0
T7 CAIRP	0.57%	0.03%	2	33	10	0	2	2
T7 CAIRP construction	0.05%	0.00%	0	3	1	0	0	0
T7 NNOOS	0.64%	0.03%	2	24	9	0	2	1
T7 NOOS	0.21%	0.01%	1	12	4	0	1	1
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	0.67%	0.03%	1	33	8	0	1	1
T7 public	0.04%	0.00%	0	5	1	0	0	0
T7 Single	0.31%	0.01%	1	24	4	0	1	1
T7 single construction	0.12%	0.01%	0	9	2	0	0	0
T7 SWCV	0.11%	0.01%	0	10	1	0	0	0
T7 tractor	0.81%	0.04%	3	60	14	0	3	3
T7 tractor construction	0.09%	0.00%	0	7	2	0	0	0
T7 utility	0.00%	0.00%	0	0	0	0	0	0
T7IS	0.04%	0.00%	0	1	9	0	0	0
UBUS	0.11%	0.09%	12	109	104	0	6	3
TOTAL	100%	100%	**4,061**	**5,302**	**35,400**	**50**	**696**	**331**

Based on the emission factors for Riverside County - South Coast Air Basin

2020

Based on EMFAC2011

	Emission year	Daily						
	2020	**6,155,000**			**lbs/day**			
	Percent of VMT	**Adjust % VMT**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
All Other Buses	0.02%	0.02%	0	9	1	0	1	0
LDA	45.71%	69.39%	891	729	8,303	33	442	186
LDT1	6.87%	6.00%	262	162	1,756	3	39	17
LDT2	17.86%	15.59%	292	262	2,495	10	99	42
LHD1	4.69%	0.49%	28	113	133	0	5	2
LHD2	0.75%	0.04%	1	13	6	0	1	0
MCY	0.65%	0.99%	520	171	3,526	0	6	2
MDV	17.23%	4.58%	154	144	1,239	4	29	12
MH	0.33%	0.51%	5	91	79	0	6	3
Motor Coach	0.02%	0.04%	1	20	7	0	1	1
OBUS	0.04%	0.04%	7	14	81	0	0	0
PTO	0.08%	0.00%	0	3	0	0	0	0
SBUS	0.08%	0.08%	3	81	23	0	6	3
T6 Ag	0.00%	0.00%	0	1	0	0	0	0
T6 CAIRP heavy	0.00%	0.00%	0	0	0	0	0	0
T6 CAIRP small	0.00%	0.00%	0	1	0	0	0	0
T6 instate construction heavy	0.05%	0.08%	1	34	4	0	2	1
T6 instate construction smal	0.14%	0.21%	2	39	14	0	6	3
T6 instate heavy	0.22%	0.34%	3	136	19	0	9	5
T6 instate small	0.62%	0.97%	11	172	62	1	27	16
T6 OOS heavy	0.00%	0.00%	0	0	0	0	0	0
T6 OOS small	0.00%	0.00%	0	0	0	0	0	0
T6 public	0.03%	0.04%	0	25	2	0	1	1
T6 utility	0.00%	0.01%	0	2	0	0	0	0
T6TS	0.18%	0.28%	29	46	299	0	2	1
T7 Ag	0.01%	0.00%	0	0	0	0	0	0
T7 CAIRP	0.65%	0.03%	1	11	6	0	1	0
T7 CAIRP construction	0.06%	0.00%	0	1	1	0	0	0
T7 NNOOS	0.73%	0.03%	1	9	7	0	1	0
T7 NOOS	0.24%	0.01%	0	4	2	0	0	0
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	0.91%	0.04%	2	37	14	0	1	1
T7 public	0.04%	0.00%	0	3	0	0	0	0
T7 Single	0.35%	0.01%	0	9	2	0	0	0
T7 single construction	0.15%	0.01%	0	4	1	0	0	0
T7 SWCV	0.11%	0.00%	0	6	1	0	0	0
T7 tractor	0.91%	0.04%	1	21	6	0	1	1
T7 tractor construction	0.12%	0.00%	0	3	1	0	0	0
T7 utility	0.00%	0.00%	0	0	0	0	0	0
T7IS	0.04%	0.00%	0	1	7	0	0	0
UBUS	0.11%	0.10%	12	107	97	0	7	4
TOTAL	100%	100%	**2,231**	**2,486**	**18,197**	**54**	**695**	**303**

Based on the emission factors for Riverside County - South Coast Air Basin

2035

Based on EMFAC2011

	Emission year	Daily						
	2035	**7,101,000**				**lbs/day**		
	Percent of VMT	**Adjust % VMT**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
All Other Buses	0.02%	0.03%	0	5	2	0	1	0
LDA	43.87%	69.72%	688	656	7,366	38	520	223
LDT1	7.21%	5.97%	109	68	778	4	44	19
LDT2	18.85%	15.62%	260	181	1,927	11	116	50
LHD1	4.04%	0.49%	18	70	100	0	5	2
LHD2	0.65%	0.04%	1	7	6	0	1	0
MCY	0.41%	0.66%	406	130	2,533	0	5	2
MDV	18.05%	4.58%	126	71	750	4	34	15
MH	0.51%	0.75%	4	81	27	1	8	4
Motor Coach	0.03%	0.04%	1	12	8	0	1	1
OBUS	0.03%	0.03%	5	7	42	0	0	0
PTO	0.09%	0.00%	0	1	0	0	0	0
SBUS	0.07%	0.07%	3	39	17	0	6	3
T6 Ag	0.00%	0.00%	0	0	0	0	0	0
T6 CAIRP heavy	0.00%	0.00%	0	0	0	0	0	0
T6 CAIRP small	0.00%	0.00%	0	0	0	0	0	0
T6 instate construction heavy	0.04%	0.06%	1	9	4	0	2	1
T6 instate construction smal	0.11%	0.17%	2	24	10	0	5	3
T6 instate heavy	0.20%	0.30%	4	50	21	0	9	5
T6 instate small	0.60%	0.90%	10	127	56	1	26	14
T6 OOS heavy	0.00%	0.00%	0	0	0	0	0	0
T6 OOS small	0.00%	0.00%	0	0	0	0	0	0
T6 public	0.03%	0.04%	0	7	3	0	1	1
T6 utility	0.00%	0.01%	0	1	0	0	0	0
T6TS	0.15%	0.22%	17	21	149	0	2	1
T7 Ag	0.00%	0.00%	0	0	0	0	0	0
T7 CAIRP	0.67%	0.02%	1	10	7	0	1	0
T7 CAIRP construction	0.05%	0.00%	0	1	0	0	0	0
T7 NNOOS	0.75%	0.03%	1	9	7	0	1	0
T7 NOOS	0.24%	0.01%	0	4	3	0	0	0
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	1.49%	0.05%	2	24	14	0	2	1
T7 public	0.04%	0.00%	0	1	1	0	0	0
T7 Single	0.36%	0.01%	0	3	2	0	0	0
T7 single construction	0.12%	0.00%	0	1	1	0	0	0
T7 SWCV	0.12%	0.00%	0	3	1	0	0	0
T7 tractor	0.94%	0.03%	1	11	6	0	1	1
T7 tractor construction	0.09%	0.00%	0	1	1	0	0	0
T7 utility	0.00%	0.00%	0	0	0	0	0	0
T7IS	0.06%	0.00%	0	1	9	0	0	0
UBUS	0.11%	0.11%	8	67	72	0	8	4
TOTAL	100%	100%	**1,670**	**1,702**	**13,924**	**62**	**800**	**350**

Based on the emission factors for Riverside County - South Coast Air Basin

Existing (2012) in 2035

Based on EMFAC2011

	Emission year	Daily						
	2035	**5,651,000**				**lbs/day**		
	Percent of VMT	**Adjust % VMT**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
All Other Buses	0.02%	0.03%	0	4	1	0	1	0
LDA	43.87%	69.72%	548	522	5,862	30	414	177
LDT1	7.21%	5.97%	87	54	619	3	35	15
LDT2	18.85%	15.62%	207	144	1,533	9	92	40
LHD1	4.04%	0.49%	14	56	79	0	4	2
LHD2	0.65%	0.04%	1	5	4	0	0	0
MCY	0.41%	0.66%	323	103	2,016	0	4	1
MDV	18.05%	4.58%	100	56	597	3	27	12
MH	0.51%	0.75%	3	65	22	1	7	3
Motor Coach	0.03%	0.04%	1	10	7	0	1	1
OBUS	0.03%	0.03%	4	5	33	0	0	0
PTO	0.09%	0.00%	0	1	0	0	0	0
SBUS	0.07%	0.07%	3	31	14	0	5	2
T6 Ag	0.00%	0.00%	0	0	0	0	0	0
T6 CAIRP heavy	0.00%	0.00%	0	0	0	0	0	0
T6 CAIRP small	0.00%	0.00%	0	0	0	0	0	0
T6 instate construction heavy	0.04%	0.06%	1	7	3	0	1	1
T6 instate construction smal	0.11%	0.17%	1	19	8	0	4	2
T6 instate heavy	0.20%	0.30%	3	40	17	0	7	4
T6 instate small	0.60%	0.90%	8	101	44	1	21	11
T6 OOS heavy	0.00%	0.00%	0	0	0	0	0	0
T6 OOS small	0.00%	0.00%	0	0	0	0	0	0
T6 public	0.03%	0.04%	0	6	2	0	1	0
T6 utility	0.00%	0.01%	0	1	0	0	0	0
T6TS	0.15%	0.22%	14	17	119	0	1	0
T7 Ag	0.00%	0.00%	0	0	0	0	0	0
T7 CAIRP	0.67%	0.02%	1	8	5	0	1	0
T7 CAIRP construction	0.05%	0.00%	0	1	0	0	0	0
T7 NNOOS	0.75%	0.03%	1	8	6	0	1	0
T7 NOOS	0.24%	0.01%	0	3	2	0	0	0
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	1.49%	0.05%	2	19	11	0	1	1
T7 public	0.04%	0.00%	0	1	0	0	0	0
T7 Single	0.36%	0.01%	0	3	2	0	0	0
T7 single construction	0.12%	0.00%	0	1	1	0	0	0
T7 SWCV	0.12%	0.00%	0	2	1	0	0	0
T7 tractor	0.94%	0.03%	1	9	5	0	1	1
T7 tractor construction	0.09%	0.00%	0	1	1	0	0	0
T7 utility	0.00%	0.00%	0	0	0	0	0	0
T7IS	0.06%	0.00%	0	1	7	0	0	0
UBUS	0.11%	0.11%	6	53	57	0	7	3
TOTAL	100%	100%	**1,329**	**1,355**	**11,081**	**50**	**637**	**278**

Based on the emission factors for Riverside County - South Coast Air Basin

P-2035

Based on EMFAC2011

	Emission year	Daily						
	2035	**8,260,000**			**lbs/day**			
	Percent of VMT	**Adjust % VMT**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
All Other Buses	0.02%	0.03%	0	5	2	0	1	1
LDA	43.87%	69.72%	800	763	8,568	44	605	259
LDT1	7.21%	5.97%	126	79	905	4	52	22
LDT2	18.85%	15.62%	302	210	2,241	13	135	58
LHD1	4.04%	0.49%	21	81	116	0	6	3
LHD2	0.65%	0.04%	1	8	6	0	1	0
MCY	0.41%	0.66%	472	151	2,946	0	5	2
MDV	18.05%	4.58%	146	82	873	5	40	17
MH	0.51%	0.75%	4	94	32	1	10	5
Motor Coach	0.03%	0.04%	2	14	10	0	2	1
OBUS	0.03%	0.03%	6	8	48	0	0	0
PTO	0.09%	0.00%	0	1	0	0	0	0
SBUS	0.07%	0.07%	4	45	20	0	7	3
T6 Ag	0.00%	0.00%	0	0	0	0	0	0
T6 CAIRP heavy	0.00%	0.00%	0	0	0	0	0	0
T6 CAIRP small	0.00%	0.00%	0	1	0	0	0	0
T6 instate construction heavy	0.04%	0.06%	1	11	4	0	2	1
T6 instate construction small	0.11%	0.17%	2	27	12	0	6	3
T6 instate heavy	0.20%	0.30%	4	58	24	1	11	6
T6 instate small	0.60%	0.90%	11	148	65	2	30	16
T6 OOS heavy	0.00%	0.00%	0	0	0	0	0	0
T6 OOS small	0.00%	0.00%	0	0	0	0	0	0
T6 public	0.03%	0.04%	1	8	3	0	1	1
T6 utility	0.00%	0.01%	0	1	1	0	0	0
T6TS	0.15%	0.22%	20	25	173	0	2	1
T7 Ag	0.00%	0.00%	0	0	0	0	0	0
T7 CAIRP	0.67%	0.02%	1	11	8	0	1	1
T7 CAIRP construction	0.05%	0.00%	0	1	1	0	0	0
T7 NNOOS	0.75%	0.03%	1	11	8	0	1	1
T7 NOOS	0.24%	0.01%	1	4	3	0	0	0
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	1.49%	0.05%	3	28	16	0	2	1
T7 public	0.04%	0.00%	0	1	1	0	0	0
T7 Single	0.36%	0.01%	0	4	3	0	0	0
T7 single construction	0.12%	0.00%	0	1	1	0	0	0
T7 SWCV	0.12%	0.00%	0	3	1	0	0	0
T7 tractor	0.94%	0.03%	1	13	7	0	1	1
T7 tractor construction	0.09%	0.00%	0	1	1	0	0	0
T7 utility	0.00%	0.00%	0	0	0	0	0	0
T7IS	0.06%	0.00%	0	2	10	0	0	0
UBUS	0.11%	0.11%	9	77	84	0	10	5
TOTAL	100%	100%	**1,942**	**1,980**	**16,197**	**73**	**931**	**407**

Based on the emission factors for Riverside County - South Coast Air Basin

P-2035 Alt 2

Based on EMFAC2011

	Emission year	Daily						
	2035	**8,571,000**				**lbs/day**		
	Percent of VMT	**Adjust % VMT**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
All Other Buses	0.02%	0.03%	0	6	2	0	1	1
LDA	43.87%	69.72%	831	792	8,891	46	627	269
LDT1	7.21%	5.97%	131	82	940	5	54	23
LDT2	18.85%	15.62%	314	218	2,326	14	140	60
LHD1	4.04%	0.49%	22	84	121	1	6	3
LHD2	0.65%	0.04%	1	8	7	0	1	0
MCY	0.41%	0.66%	490	157	3,057	0	6	2
MDV	18.05%	4.58%	152	85	905	5	41	18
MH	0.51%	0.75%	5	98	33	1	10	5
Motor Coach	0.03%	0.04%	2	15	10	0	2	1
OBUS	0.03%	0.03%	6	8	50	0	0	0
PTO	0.09%	0.00%	0	1	0	0	0	0
SBUS	0.07%	0.07%	4	47	21	0	7	3
T6 Ag	0.00%	0.00%	0	0	0	0	0	0
T6 CAIRP heavy	0.00%	0.00%	0	0	0	0	0	0
T6 CAIRP small	0.00%	0.00%	0	1	0	0	0	0
T6 instate construction heavy	0.04%	0.06%	1	11	5	0	2	1
T6 instate construction smal	0.11%	0.17%	2	28	12	0	6	3
T6 instate heavy	0.20%	0.30%	4	60	25	1	11	6
T6 instate small	0.60%	0.90%	12	154	67	2	32	17
T6 OOS heavy	0.00%	0.00%	0	0	0	0	0	0
T6 OOS small	0.00%	0.00%	0	0	0	0	0	0
T6 public	0.03%	0.04%	1	8	3	0	1	1
T6 utility	0.00%	0.01%	0	1	1	0	0	0
T6TS	0.15%	0.22%	21	26	180	0	2	1
T7 Ag	0.00%	0.00%	0	0	0	0	0	0
T7 CAIRP	0.67%	0.02%	1	12	8	0	1	1
T7 CAIRP construction	0.05%	0.00%	0	1	1	0	0	0
T7 NNOOS	0.75%	0.03%	1	11	9	0	1	1
T7 NOOS	0.24%	0.01%	1	4	3	0	0	0
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	1.49%	0.05%	3	29	17	0	2	1
T7 public	0.04%	0.00%	0	1	1	0	0	0
T7 Single	0.36%	0.01%	0	4	3	0	0	0
T7 single construction	0.12%	0.00%	0	1	1	0	0	0
T7 SWCV	0.12%	0.00%	0	3	1	0	0	0
T7 tractor	0.94%	0.03%	1	13	8	0	1	1
T7 tractor construction	0.09%	0.00%	0	1	1	0	0	0
T7 utility	0.00%	0.00%	0	0	0	0	0	0
T7IS	0.06%	0.00%	0	2	11	0	0	0
UBUS	0.11%	0.11%	9	80	87	0	10	5
TOTAL	100%	100%	**2,015**	**2,054**	**16,806**	**75**	**966**	**422**

Based on the emission factors for Riverside County - South Coast Air Basin

2010

Based on EMFAC2011

	Emission year	Annual VMT		GWP	GWP			
	2010	**1,703,076,000**		**310**	**1**	**MTons**		**MTons**
	Percent of VMT	**Adjust % VMT**	**NOx**	**N2O**	**CO2**	**CO2e**	**CO2w/Pavley + LCF**	**CO2e w/ Pavley + LCFS**
All Other Buses	0.02%	0.02%	3	0	338	366	338	366
LDA	47.44%	69.49%	283	9	407,554	410,348	405,607	408,401
LDT1	6.92%	6.21%	60	2	41,705	42,292	41,532	42,119
LDT2	17.13%	15.38%	110	4	122,961	124,046	122,354	123,439
LHD1	4.62%	0.49%	28	1	4,751	5,024	4,751	5,024
LHD2	0.79%	0.04%	3	0	396	430	396	430
MCY	0.61%	0.89%	22	1	2,158	2,373	2,158	2,373
MDV	17.24%	4.58%	40	1	46,451	46,850	46,320	46,719
MH	0.33%	0.54%	24	1	6,042	6,276	6,042	6,276
Motor Coach	0.02%	0.04%	10	0	1,114	1,210	1,114	1,210
OBUS	0.07%	0.05%	3	0	563	597	563	597
PTO	0.07%	0.00%	1	0	133	143	133	143
SBUS	0.10%	0.08%	13	0	1,633	1,765	1,633	1,765
T6 Ag	0.00%	0.00%	0	0	52	56	52	56
T6 CAIRP heavy	0.00%	0.00%	0	0	22	23	22	23
T6 CAIRP small	0.00%	0.00%	0	0	74	79	74	79
T6 instate construction heavy	0.03%	0.05%	8	0	972	1,054	972	1,054
T6 instate construction small	0.09%	0.15%	19	1	2,771	2,954	2,771	2,954
T6 instate heavy	0.22%	0.36%	56	2	6,654	7,204	6,654	7,204
T6 instate small	0.63%	1.04%	126	4	19,042	20,282	19,042	20,282
T6 OOS heavy	0.00%	0.00%	0	0	13	13	13	13
T6 OOS small	0.00%	0.00%	0	0	43	45	43	45
T6 public	0.02%	0.04%	7	0	761	827	761	827
T6 utility	0.00%	0.01%	1	0	139	149	139	149
T6TS	0.15%	0.25%	16	1	2,655	2,817	2,655	2,817
T7 Ag	0.01%	0.00%	0	0	11	12	11	12
T7 CAIRP	0.54%	0.03%	6	0	812	868	812	868
T7 CAIRP construction	0.04%	0.00%	0	0	60	64	60	64
T7 NNOOS	0.61%	0.03%	5	0	932	979	932	979
T7 NOOS	0.20%	0.01%	2	0	298	319	298	319
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	0.58%	0.03%	4	0	888	931	888	931
T7 public	0.04%	0.00%	1	0	66	73	66	73
T7 Single	0.29%	0.02%	4	0	431	467	431	467
T7 single construction	0.10%	0.01%	1	0	153	166	153	166
T7 SWCV	0.10%	0.01%	2	0	166	182	166	182
T7 tractor	0.76%	0.04%	10	0	1,120	1,217	1,120	1,217
T7 tractor construction	0.08%	0.00%	1	0	114	124	114	124
T7 utility	0.00%	0.00%	0	0	8	9	8	9
T7IS	0.03%	0.00%	0	0	16	18	16	18
UBUS	0.11%	0.09%	15	0	2,517	2,667	2,517	2,667
TOTAL		100%	**886**	**28**	**676,587**	**685,318**	**673,731**	**682,462**

N2O emissions were calculated using an off-model adjustment provided by CARB in AB 32 Technical Appendices. The off-model adjustment uses a linear regression correlating N2O with NOx. (N2O = 0.0167 + 0.0318 x NOx)

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Based on the emission factors for Riverside County - South Coast Air Basin

2012

Based on EMFAC2011

	Emission year	Annual VMT		GWP	GWP			
	2012	**1,960,897,000**		**310**	**1**	**MTons**		**MTons**
	Percent of VMT	**Adjust % VMT**	**NOx**	**N2O**	**CO2**	**CO2e**	**CO2w/Pavley + LCF**	**CO2e w/ Pavley + LCFS**
All Other Buses	0.02%	0.02%	3	0	422	455	420	453
LDA	47.11%	69.46%	249	8	469,237	471,695	443,687	446,145
LDT1	7.02%	6.23%	54	2	48,280	48,812	45,881	46,413
LDT2	17.29%	15.36%	99	3	141,255	142,232	135,530	136,507
LHD1	4.52%	0.49%	29	1	5,462	5,744	5,435	5,716
LHD2	0.77%	0.04%	3	0	455	490	453	487
MCY	0.62%	0.92%	25	1	2,751	2,995	2,737	2,981
MDV	17.09%	4.58%	41	1	53,594	53,996	51,985	52,387
MH	0.33%	0.52%	23	1	6,683	6,910	6,650	6,877
Motor Coach	0.02%	0.04%	9	0	1,288	1,378	1,282	1,371
OBUS	0.06%	0.05%	4	0	596	632	593	629
PTO	0.07%	0.00%	1	0	150	159	149	159
SBUS	0.10%	0.08%	15	0	1,927	2,073	1,917	2,064
T6 Ag	0.00%	0.00%	0	0	57	61	57	61
T6 CAIRP heavy	0.00%	0.00%	0	0	25	27	25	27
T6 CAIRP small	0.00%	0.00%	0	0	85	88	85	88
T6 instate construction heavy	0.04%	0.06%	10	0	1,285	1,383	1,279	1,376
T6 instate construction small	0.10%	0.17%	20	1	3,527	3,722	3,509	3,704
T6 instate heavy	0.23%	0.36%	58	2	7,715	8,284	7,677	8,245
T6 instate small	0.63%	1.02%	115	4	21,519	22,656	21,411	22,548
T6 OOS heavy	0.00%	0.00%	0	0	15	15	15	15
T6 OOS small	0.00%	0.00%	0	0	49	51	48	50
T6 public	0.03%	0.04%	7	0	879	949	875	945
T6 utility	0.00%	0.01%	1	0	159	169	159	168
T6TS	0.17%	0.27%	15	0	3,129	3,281	3,113	3,265
T7 Ag	0.01%	0.00%	0	0	11	12	11	12
T7 CAIRP	0.57%	0.03%	5	0	925	977	921	972
T7 CAIRP construction	0.05%	0.00%	0	0	74	78	73	78
T7 NNOOS	0.64%	0.03%	4	0	1,058	1,095	1,053	1,090
T7 NOOS	0.21%	0.01%	2	0	340	359	339	357
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	0.67%	0.03%	5	0	1,094	1,145	1,089	1,139
T7 public	0.04%	0.00%	1	0	73	81	73	80
T7 Single	0.31%	0.01%	4	0	487	524	485	522
T7 single construction	0.12%	0.01%	1	0	187	201	186	200
T7 SWCV	0.11%	0.01%	2	0	186	202	185	202
T7 tractor	0.81%	0.04%	10	0	1,266	1,360	1,260	1,353
T7 tractor construction	0.09%	0.00%	1	0	139	150	139	149
T7 utility	0.00%	0.00%	0	0	9	9	9	9
T7IS	0.04%	0.00%	0	0	21	23	21	23
UBUS	0.11%	0.09%	17	1	2,919	3,088	2,904	3,074
TOTAL		100%	**835**	**27**	**779,335**	**787,562**	**743,716**	**751,943**

N2O emissions were calculated using an off-model adjustment provided by CARB in AB 32 Technical Appendices. The off-model adjustment uses a linear regression correlating N2O with NOx. (N2O = 0.0167 + 0.0318 x NOx)

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Based on the emission factors for Riverside County - South Coast Air Basin

2020

Based on EMFAC2011

	Emission year	Annual VMT		GWP	GWP			
	2020	**2,135,785,000**		**310**	**1**	**MTons**		**MTons**
	Percent of VMT	**Adjust % VMT**	**NOx**	**N2O**	**CO2**	**CO2e**	**CO2w/Pavley + LCF**	**CO2e w/ Pavley + LCFS**
All Other Buses	0.02%	0.02%	1	0	525	539	473	486
LDA	45.71%	69.39%	115	4	510,700	511,831	348,203	349,334
LDT1	6.87%	6.00%	26	1	50,910	51,161	36,356	36,607
LDT2	17.86%	15.59%	41	1	155,631	156,038	115,918	116,325
LHD1	4.69%	0.49%	18	1	5,901	6,076	5,311	5,486
LHD2	0.75%	0.04%	2	0	493	514	444	465
MCY	0.65%	0.99%	27	1	3,587	3,853	3,229	3,494
MDV	17.23%	4.58%	23	1	58,640	58,865	45,386	45,610
MH	0.33%	0.51%	14	0	6,997	7,138	6,297	6,438
Motor Coach	0.02%	0.04%	3	0	1,403	1,434	1,263	1,294
OBUS	0.04%	0.04%	2	0	515	537	463	486
PTO	0.08%	0.00%	0	0	155	159	140	144
SBUS	0.08%	0.08%	13	0	2,046	2,171	1,841	1,966
T6 Ag	0.00%	0.00%	0	0	52	53	46	48
T6 CAIRP heavy	0.00%	0.00%	0	0	26	27	24	24
T6 CAIRP small	0.00%	0.00%	0	0	90	91	81	82
T6 instate construction heavy	0.05%	0.08%	5	0	1,790	1,843	1,611	1,664
T6 instate construction small	0.14%	0.21%	6	0	4,796	4,857	4,316	4,378
T6 instate heavy	0.22%	0.34%	21	1	7,877	8,088	7,090	7,301
T6 instate small	0.62%	0.97%	27	1	22,118	22,384	19,906	20,172
T6 OOS heavy	0.00%	0.00%	0	0	15	15	14	14
T6 OOS small	0.00%	0.00%	0	0	52	52	46	47
T6 public	0.03%	0.04%	4	0	972	1,011	875	914
T6 utility	0.00%	0.01%	0	0	170	173	153	156
T6TS	0.18%	0.28%	7	0	3,479	3,550	3,131	3,202
T7 Ag	0.01%	0.00%	0	0	9	9	8	8
T7 CAIRP	0.65%	0.03%	2	0	981	998	883	900
T7 CAIRP construction	0.06%	0.00%	0	0	91	92	82	83
T7 NNOOS	0.73%	0.03%	1	0	1,113	1,127	1,002	1,016
T7 NOOS	0.24%	0.01%	1	0	363	370	327	333
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	0.91%	0.04%	6	0	1,374	1,431	1,236	1,293
T7 public	0.04%	0.00%	0	0	71	76	64	69
T7 Single	0.35%	0.01%	1	0	513	527	462	476
T7 single construction	0.15%	0.01%	1	0	228	234	205	211
T7 SWCV	0.11%	0.00%	1	0	176	185	158	168
T7 tractor	0.91%	0.04%	3	0	1,320	1,352	1,188	1,220
T7 tractor construction	0.12%	0.00%	0	0	170	174	153	157
T7 utility	0.00%	0.00%	0	0	8	8	7	7
T7IS	0.04%	0.00%	0	0	21	23	19	20
UBUS	0.11%	0.10%	17	1	3,387	3,553	3,048	3,214
TOTAL		100%	**391**	**12**	**848,762**	**852,619**	**611,456**	**615,313**

N2O emissions were calculated using an off-model adjustment provided by CARB in AB 32 Technical Appendices. The off-model adjustment uses a linear regression correlating N2O with NOx. (N2O = 0.0167 + 0.0318 x NOx)

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Based on the emission factors for Riverside County - South Coast Air Basin

2035

Based on EMFAC2011

	Emission year	Annual VMT		GWP	GWP			
	2035	**2,464,047,000**		**310**	**1**	**MTons**		**MTons**
	Percent of VMT	**Adjust % VMT**	**NOx**	**N2O**	**CO2**	**CO2e**	**CO2w/Pavley + LCF**	**CO2e w/ Pavley + LCFS**
All Other Buses	0.02%	0.03%	1	0	668	675	601	609
LDA	43.87%	69.72%	103	3	594,361	595,379	353,695	354,714
LDT1	7.21%	5.97%	11	0	59,039	59,144	36,107	36,212
LDT2	18.85%	15.62%	28	1	180,380	180,661	122,565	122,845
LHD1	4.04%	0.49%	11	0	6,807	6,915	6,126	6,235
LHD2	0.65%	0.04%	1	0	568	579	512	522
MCY	0.41%	0.66%	20	1	2,802	3,004	2,522	2,724
MDV	18.05%	4.58%	11	0	68,106	68,215	47,305	47,414
MH	0.51%	0.75%	13	0	11,941	12,067	10,747	10,873
Motor Coach	0.03%	0.04%	2	0	1,577	1,596	1,419	1,438
OBUS	0.03%	0.03%	1	0	463	474	417	427
PTO	0.09%	0.00%	0	0	160	162	144	146
SBUS	0.07%	0.07%	6	0	2,070	2,130	1,863	1,923
T6 Ag	0.00%	0.00%	0	0	43	43	38	39
T6 CAIRP heavy	0.00%	0.00%	0	0	28	29	26	26
T6 CAIRP small	0.00%	0.00%	0	0	98	99	88	89
T6 instate construction heavy	0.04%	0.06%	1	0	1,478	1,492	1,330	1,344
T6 instate construction small	0.11%	0.17%	4	0	4,361	4,398	3,925	3,962
T6 instate heavy	0.20%	0.30%	8	0	8,015	8,093	7,214	7,291
T6 instate small	0.60%	0.90%	20	1	23,602	23,800	21,242	21,440
T6 OOS heavy	0.00%	0.00%	0	0	16	16	15	15
T6 OOS small	0.00%	0.00%	0	0	56	57	51	51
T6 public	0.03%	0.04%	1	0	1,126	1,137	1,013	1,024
T6 utility	0.00%	0.01%	0	0	193	194	174	175
T6TS	0.15%	0.22%	3	0	3,101	3,134	2,791	2,824
T7 Ag	0.00%	0.00%	0	0	7	7	6	6
T7 CAIRP	0.67%	0.02%	2	0	1,026	1,041	924	939
T7 CAIRP construction	0.05%	0.00%	0	0	74	75	67	68
T7 NNOOS	0.75%	0.03%	1	0	1,162	1,177	1,046	1,061
T7 NOOS	0.24%	0.01%	1	0	380	386	342	348
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	1.49%	0.05%	4	0	2,217	2,253	1,995	2,032
T7 public	0.04%	0.00%	0	0	75	77	68	69
T7 Single	0.36%	0.01%	1	0	534	539	481	486
T7 single construction	0.12%	0.00%	0	0	185	187	167	169
T7 SWCV	0.12%	0.00%	0	0	186	190	167	171
T7 tractor	0.94%	0.03%	2	0	1,370	1,387	1,233	1,250
T7 tractor construction	0.09%	0.00%	0	0	138	140	124	126
T7 utility	0.00%	0.00%	0	0	8	8	7	8
T7IS	0.06%	0.00%	0	0	28	30	25	27
UBUS	0.11%	0.11%	10	0	4,115	4,218	3,703	3,807
TOTAL	100%	100%	**268**	**9**	**982,567**	**985,208**	**632,285**	**634,927**

N2O emissions were calculated using an off-model adjustment provided by CARB in AB 32 Technical Appendices. The off-model adjustment uses a linear regression correlating N2O with NOx. (N2O = 0.0167 + 0.0318 x NOx)

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Based on the emission factors for Riverside County - South Coast Air Basin

P-2035

Based on EMFAC2011

	Emission year	Annual VMT		GWP	GWP			
	2035	**2,866,220,000**		**310**	**1**	**MTons**		**MTons**
	Percent of VMT	**Adjust % VMT**	**NOx**	**N2O**	**CO2**	**CO2e**	**CO2w/Pavley + LCF**	**CO2e w/ Pavley + LCFS**
All Other Buses	0.02%	0.03%	1	0	777	786	699	708
LDA	43.87%	69.72%	120	4	691,370	692,555	411,424	412,609
LDT1	7.21%	5.97%	12	0	68,675	68,797	42,000	42,122
LDT2	18.85%	15.62%	33	1	209,821	210,147	142,570	142,896
LHD1	4.04%	0.49%	13	0	7,918	8,044	7,126	7,252
LHD2	0.65%	0.04%	1	0	661	673	595	607
MCY	0.41%	0.66%	24	1	3,259	3,494	2,933	3,168
MDV	18.05%	4.58%	13	0	79,222	79,349	55,026	55,153
MH	0.51%	0.75%	15	0	13,890	14,036	12,501	12,647
Motor Coach	0.03%	0.04%	2	0	1,834	1,856	1,651	1,673
OBUS	0.03%	0.03%	1	0	539	551	485	497
PTO	0.09%	0.00%	0	0	186	188	168	170
SBUS	0.07%	0.07%	7	0	2,408	2,478	2,167	2,237
T6 Ag	0.00%	0.00%	0	0	50	50	45	45
T6 CAIRP heavy	0.00%	0.00%	0	0	33	33	30	30
T6 CAIRP small	0.00%	0.00%	0	0	114	115	103	104
T6 instate construction heavy	0.04%	0.06%	2	0	1,719	1,736	1,547	1,564
T6 instate construction small	0.11%	0.17%	4	0	5,073	5,115	4,566	4,608
T6 instate heavy	0.20%	0.30%	9	0	9,324	9,414	8,391	8,481
T6 instate small	0.60%	0.90%	23	1	27,455	27,684	24,709	24,939
T6 OOS heavy	0.00%	0.00%	0	0	19	19	17	17
T6 OOS small	0.00%	0.00%	0	0	65	66	59	59
T6 public	0.03%	0.04%	1	0	1,310	1,322	1,179	1,191
T6 utility	0.00%	0.01%	0	0	225	226	202	204
T6TS	0.15%	0.22%	4	0	3,607	3,645	3,246	3,284
T7 Ag	0.00%	0.00%	0	0	8	8	7	7
T7 CAIRP	0.67%	0.02%	2	0	1,194	1,211	1,074	1,092
T7 CAIRP construction	0.05%	0.00%	0	0	86	87	78	79
T7 NNOOS	0.75%	0.03%	2	0	1,352	1,369	1,217	1,234
T7 NOOS	0.24%	0.01%	1	0	442	449	398	405
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	1.49%	0.05%	4	0	2,578	2,621	2,321	2,363
T7 public	0.04%	0.00%	0	0	87	89	79	81
T7 Single	0.36%	0.01%	1	0	621	627	559	565
T7 single construction	0.12%	0.00%	0	0	216	218	194	196
T7 SWCV	0.12%	0.00%	0	0	216	221	195	199
T7 tractor	0.94%	0.03%	2	0	1,594	1,614	1,435	1,454
T7 tractor construction	0.09%	0.00%	0	0	161	163	145	147
T7 utility	0.00%	0.00%	0	0	10	10	9	9
T7IS	0.06%	0.00%	0	0	32	35	29	31
UBUS	0.11%	0.11%	12	0	4,786	4,906	4,308	4,428
TOTAL	100%	100%	**312**	**10**	**1,142,938**	**1,146,010**	**735,485**	**738,557**

N2O emissions were calculated using an off-model adjustment provided by CARB in AB 32 Technical Appendices. The off-model adjustment uses a linear regression correlating N2O with NOx. (N2O = 0.0167 + 0.0318 x NOx)

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Based on the emission factors for Riverside County - South Coast Air Basin

P-2035 Alt 2

Based on EMFAC2011

	Emission year	Annual VMT		GWP	GWP			
	2035	**2,974,137,000**		**310**	**1**	**MTons**		**MTons**
	Percent of VMT	**Adjust % VMT**	**NOx**	**N2O**	**CO2**	**CO2e**	**CO2w/Pavley + LCF**	**CO2e w/ Pavley + LCFS**
All Other Buses	0.02%	0.03%	1	0	806	815	726	735
LDA	43.87%	69.72%	125	4	717,401	718,630	426,915	428,144
LDT1	7.21%	5.97%	13	0	71,261	71,387	43,582	43,708
LDT2	18.85%	15.62%	34	1	217,721	218,060	147,938	148,276
LHD1	4.04%	0.49%	13	0	8,216	8,347	7,394	7,525
LHD2	0.65%	0.04%	1	0	686	699	618	630
MCY	0.41%	0.66%	25	1	3,382	3,626	3,044	3,287
MDV	18.05%	4.58%	13	0	82,204	82,337	57,098	57,230
MH	0.51%	0.75%	15	0	14,413	14,565	12,972	13,124
Motor Coach	0.03%	0.04%	2	0	1,903	1,926	1,713	1,736
OBUS	0.03%	0.03%	1	0	559	572	503	516
PTO	0.09%	0.00%	0	0	193	195	174	176
SBUS	0.07%	0.07%	7	0	2,498	2,571	2,248	2,321
T6 Ag	0.00%	0.00%	0	0	51	52	46	47
T6 CAIRP heavy	0.00%	0.00%	0	0	34	34	31	31
T6 CAIRP small	0.00%	0.00%	0	0	118	119	106	107
T6 instate construction heavy	0.04%	0.06%	2	0	1,784	1,801	1,605	1,623
T6 instate construction small	0.11%	0.17%	4	0	5,264	5,308	4,738	4,782
T6 instate heavy	0.20%	0.30%	9	0	9,675	9,768	8,707	8,801
T6 instate small	0.60%	0.90%	24	1	28,488	28,727	25,639	25,878
T6 OOS heavy	0.00%	0.00%	0	0	20	20	18	18
T6 OOS small	0.00%	0.00%	0	0	68	68	61	62
T6 public	0.03%	0.04%	1	0	1,359	1,372	1,223	1,236
T6 utility	0.00%	0.01%	0	0	233	235	210	211
T6TS	0.15%	0.22%	4	0	3,743	3,782	3,369	3,408
T7 Ag	0.00%	0.00%	0	0	8	8	7	8
T7 CAIRP	0.67%	0.02%	2	0	1,239	1,257	1,115	1,133
T7 CAIRP construction	0.05%	0.00%	0	0	89	91	80	82
T7 NNOOS	0.75%	0.03%	2	0	1,403	1,420	1,262	1,280
T7 NOOS	0.24%	0.01%	1	0	459	466	413	420
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	1.49%	0.05%	4	0	2,675	2,720	2,408	2,452
T7 public	0.04%	0.00%	0	0	91	93	82	84
T7 Single	0.36%	0.01%	1	0	645	651	580	587
T7 single construction	0.12%	0.00%	0	0	224	226	201	204
T7 SWCV	0.12%	0.00%	0	0	225	229	202	207
T7 tractor	0.94%	0.03%	2	0	1,654	1,674	1,489	1,509
T7 tractor construction	0.09%	0.00%	0	0	167	169	150	152
T7 utility	0.00%	0.00%	0	0	10	10	9	9
T7IS	0.06%	0.00%	0	0	33	36	30	33
UBUS	0.11%	0.11%	13	0	4,967	5,091	4,470	4,595
TOTAL	100%	100%	**323**	**10**	**1,185,971**	**1,189,159**	**763,177**	**766,365**

N2O emissions were calculated using an off-model adjustment provided by CARB in AB 32 Technical Appendices. The off-model adjustment uses a linear regression correlating N2O with NOx. (N2O = 0.0167 + 0.0318 x NOx)

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Based on the emission factors for Riverside County - South Coast Air Basin

2020 Reduction

Based on EMFAC2011

	Emission year	Annual VMT		GWP	GWP			
	2020	**(55,656,718)**		**310**	**1**	**MTons**		**MTons**
	Percent of VMT	**Adjust % VMT**	**NOx**	**N2O**	**CO2**	**CO2e**	**CO2w/Pavley + LCF**	**CO2e w/ Pavley + LCFS**
All Other Buses	0.02%	0.02%	0	0	-14	-14	-12	-13
LDA	45.71%	69.39%	-3	0	-13,308	-13,338	-9,074	-9,103
LDT1	6.87%	6.00%	-1	0	-1,327	-1,333	-947	-954
LDT2	17.86%	15.59%	-1	0	-4,056	-4,066	-3,021	-3,031
LHD1	4.69%	0.49%	0	0	-154	-158	-138	-143
LHD2	0.75%	0.04%	0	0	-13	-13	-12	-12
MCY	0.65%	0.99%	-1	0	-93	-100	-84	-91
MDV	17.23%	4.58%	-1	0	-1,528	-1,534	-1,183	-1,189
MH	0.33%	0.51%	0	0	-182	-186	-164	-168
Motor Coach	0.02%	0.04%	0	0	-37	-37	-33	-34
OBUS	0.04%	0.04%	0	0	-13	-14	-12	-13
PTO	0.08%	0.00%	0	0	-4	-4	-4	-4
SBUS	0.08%	0.08%	0	0	-53	-57	-48	-51
T6 Ag	0.00%	0.00%	0	0	-1	-1	-1	-1
T6 CAIRP heavy	0.00%	0.00%	0	0	-1	-1	-1	-1
T6 CAIRP small	0.00%	0.00%	0	0	-2	-2	-2	-2
T6 instate construction heavy	0.05%	0.08%	0	0	-47	-48	-42	-43
T6 instate construction small	0.14%	0.21%	0	0	-125	-127	-112	-114
T6 instate heavy	0.22%	0.34%	-1	0	-205	-211	-185	-190
T6 instate small	0.62%	0.97%	-1	0	-576	-583	-519	-526
T6 OOS heavy	0.00%	0.00%	0	0	0	0	0	0
T6 OOS small	0.00%	0.00%	0	0	-1	-1	-1	-1
T6 public	0.03%	0.04%	0	0	-25	-26	-23	-24
T6 utility	0.00%	0.01%	0	0	-4	-4	-4	-4
T6TS	0.18%	0.28%	0	0	-91	-93	-82	-83
T7 Ag	0.01%	0.00%	0	0	0	0	0	0
T7 CAIRP	0.65%	0.03%	0	0	-26	-26	-23	-23
T7 CAIRP construction	0.06%	0.00%	0	0	-2	-2	-2	-2
T7 NNOOS	0.73%	0.03%	0	0	-29	-29	-26	-26
T7 NOOS	0.24%	0.01%	0	0	-9	-10	-9	-9
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	0.91%	0.04%	0	0	-36	-37	-32	-34
T7 public	0.04%	0.00%	0	0	-2	-2	-2	-2
T7 Single	0.35%	0.01%	0	0	-13	-14	-12	-12
T7 single construction	0.15%	0.01%	0	0	-6	-6	-5	-6
T7 SWCV	0.11%	0.00%	0	0	-5	-5	-4	-4
T7 tractor	0.91%	0.04%	0	0	-34	-35	-31	-32
T7 tractor construction	0.12%	0.00%	0	0	-4	-5	-4	-4
T7 utility	0.00%	0.00%	0	0	0	0	0	0
T7IS	0.04%	0.00%	0	0	-1	-1	0	-1
UBUS	0.11%	0.10%	0	0	-88	-93	-79	-84
TOTAL		100%	**-10**	**0**	**-22,118**	**-22,219**	**-15,934**	**-16,035**

N2O emissions were calculated using an off-model adjustment provided by CARB in AB 32 Technical Appendices. The off-model adjustment uses a linear regression correlating N2O with NOx. (N2O = 0.0167 + 0.0318 x NOx)

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Based on the emission factors for Riverside County - South Coast Air Basin

2035 Reduction

Based on EMFAC2011

	Emission year	Annual VMT		GWP	GWP			
	2035	**(64,065,222)**		**310**	**1**	**MTons**		**MTons**
	Percent of VMT	**Adjust % VMT**	**NOx**	**N2O**	**CO2**	**CO2e**	**CO2w/Pavley + LCF**	**CO2e w/ Pavley + LCFS**
All Other Buses	0.02%	0.03%	0	0	-17	-18	-16	-16
LDA	43.87%	69.72%	-3	0	-15,453	-15,480	-9,196	-9,223
LDT1	7.21%	5.97%	0	0	-1,535	-1,538	-939	-942
LDT2	18.85%	15.62%	-1	0	-4,690	-4,697	-3,187	-3,194
LHD1	4.04%	0.49%	0	0	-177	-180	-159	-162
LHD2	0.65%	0.04%	0	0	-15	-15	-13	-14
MCY	0.41%	0.66%	-1	0	-73	-78	-66	-71
MDV	18.05%	4.58%	0	0	-1,771	-1,774	-1,230	-1,233
MH	0.51%	0.75%	0	0	-310	-314	-279	-283
Motor Coach	0.03%	0.04%	0	0	-41	-41	-37	-37
OBUS	0.03%	0.03%	0	0	-12	-12	-11	-11
PTO	0.09%	0.00%	0	0	-4	-4	-4	-4
SBUS	0.07%	0.07%	0	0	-54	-55	-48	-50
T6 Ag	0.00%	0.00%	0	0	-1	-1	-1	-1
T6 CAIRP heavy	0.00%	0.00%	0	0	-1	-1	-1	-1
T6 CAIRP small	0.00%	0.00%	0	0	-3	-3	-2	-2
T6 instate construction heavy	0.04%	0.06%	0	0	-38	-39	-35	-35
T6 instate construction small	0.11%	0.17%	0	0	-113	-114	-102	-103
T6 instate heavy	0.20%	0.30%	0	0	-208	-210	-188	-190
T6 instate small	0.60%	0.90%	-1	0	-614	-619	-552	-557
T6 OOS heavy	0.00%	0.00%	0	0	0	0	0	0
T6 OOS small	0.00%	0.00%	0	0	-1	-1	-1	-1
T6 public	0.03%	0.04%	0	0	-29	-30	-26	-27
T6 utility	0.00%	0.01%	0	0	-5	-5	-5	-5
T6TS	0.15%	0.22%	0	0	-81	-81	-73	-73
T7 Ag	0.00%	0.00%	0	0	0	0	0	0
T7 CAIRP	0.67%	0.02%	0	0	-27	-27	-24	-24
T7 CAIRP construction	0.05%	0.00%	0	0	-2	-2	-2	-2
T7 NNOOS	0.75%	0.03%	0	0	-30	-31	-27	-28
T7 NOOS	0.24%	0.01%	0	0	-10	-10	-9	-9
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	1.49%	0.05%	0	0	-58	-59	-52	-53
T7 public	0.04%	0.00%	0	0	-2	-2	-2	-2
T7 Single	0.36%	0.01%	0	0	-14	-14	-12	-13
T7 single construction	0.12%	0.00%	0	0	-5	-5	-4	-4
T7 SWCV	0.12%	0.00%	0	0	-5	-5	-4	-4
T7 tractor	0.94%	0.03%	0	0	-36	-36	-32	-33
T7 tractor construction	0.09%	0.00%	0	0	-4	-4	-3	-3
T7 utility	0.00%	0.00%	0	0	0	0	0	0
T7IS	0.06%	0.00%	0	0	-1	-1	-1	-1
UBUS	0.11%	0.11%	0	0	-107	-110	-96	-99
TOTAL	100%	100%	**-7**	**0**	**-25,547**	**-25,615**	**-16,439**	**-16,508**

N2O emissions were calculated using an off-model adjustment provided by CARB in AB 32 Technical Appendices. The off-model adjustment uses a linear regression correlating N2O with NOx. (N2O = 0.0167 + 0.0318 x NOx)

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Based on the emission factors for Riverside County - South Coast Air Basin

P-2035 Reduction

Based on EMFAC2011

	Emission year	Annual VMT		GWP	GWP			
	2035	**(74,521,720)**		**310**	**1**	**MTons**		**MTons**
	Percent of VMT	**Adjust % VMT**	**NOx**	**N2O**	**CO2**	**CO2e**	**CO2w/Pavley + LCF**	**CO2e w/ Pavley + LCFS**
All Other Buses	0.02%	0.03%	0	0	-20	-20	-18	-18
LDA	43.87%	69.72%	-3	0	-17,976	-18,006	-10,697	-10,728
LDT1	7.21%	5.97%	0	0	-1,786	-1,789	-1,092	-1,095
LDT2	18.85%	15.62%	-1	0	-5,455	-5,464	-3,707	-3,715
LHD1	4.04%	0.49%	0	0	-206	-209	-185	-189
LHD2	0.65%	0.04%	0	0	-17	-18	-15	-16
MCY	0.41%	0.66%	-1	0	-85	-91	-76	-82
MDV	18.05%	4.58%	0	0	-2,060	-2,063	-1,431	-1,434
MH	0.51%	0.75%	0	0	-361	-365	-325	-329
Motor Coach	0.03%	0.04%	0	0	-48	-48	-43	-43
OBUS	0.03%	0.03%	0	0	-14	-14	-13	-13
PTO	0.09%	0.00%	0	0	-5	-5	-4	-4
SBUS	0.07%	0.07%	0	0	-63	-64	-56	-58
T6 Ag	0.00%	0.00%	0	0	-1	-1	-1	-1
T6 CAIRP heavy	0.00%	0.00%	0	0	-1	-1	-1	-1
T6 CAIRP small	0.00%	0.00%	0	0	-3	-3	-3	-3
T6 instate construction heavy	0.04%	0.06%	0	0	-45	-45	-40	-41
T6 instate construction small	0.11%	0.17%	0	0	-132	-133	-119	-120
T6 instate heavy	0.20%	0.30%	0	0	-242	-245	-218	-221
T6 instate small	0.60%	0.90%	-1	0	-714	-720	-642	-648
T6 OOS heavy	0.00%	0.00%	0	0	0	0	0	0
T6 OOS small	0.00%	0.00%	0	0	-2	-2	-2	-2
T6 public	0.03%	0.04%	0	0	-34	-34	-31	-31
T6 utility	0.00%	0.01%	0	0	-6	-6	-5	-5
T6TS	0.15%	0.22%	0	0	-94	-95	-84	-85
T7 Ag	0.00%	0.00%	0	0	0	0	0	0
T7 CAIRP	0.67%	0.02%	0	0	-31	-31	-28	-28
T7 CAIRP construction	0.05%	0.00%	0	0	-2	-2	-2	-2
T7 NNOOS	0.75%	0.03%	0	0	-35	-36	-32	-32
T7 NOOS	0.24%	0.01%	0	0	-12	-12	-10	-11
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	1.49%	0.05%	0	0	-67	-68	-60	-61
T7 public	0.04%	0.00%	0	0	-2	-2	-2	-2
T7 Single	0.36%	0.01%	0	0	-16	-16	-15	-15
T7 single construction	0.12%	0.00%	0	0	-6	-6	-5	-5
T7 SWCV	0.12%	0.00%	0	0	-6	-6	-5	-5
T7 tractor	0.94%	0.03%	0	0	-41	-42	-37	-38
T7 tractor construction	0.09%	0.00%	0	0	-4	-4	-4	-4
T7 utility	0.00%	0.00%	0	0	0	0	0	0
T7IS	0.06%	0.00%	0	0	-1	-1	-1	-1
UBUS	0.11%	0.11%	0	0	-124	-128	-112	-115
TOTAL	100%	100%	**-8**	**0**	**-29,716**	**-29,796**	**-19,123**	**-19,202**

N2O emissions were calculated using an off-model adjustment provided by CARB in AB 32 Technical Appendices. The off-model adjustment uses a linear regression correlating N2O with NOx. (N2O = 0.0167 + 0.0318 x NOx)

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Based on the emission factors for Riverside County - South Coast Air Basin

P-2035 Alt 2 Reduction

Based on EMFAC2011

	Emission year	Annual VMT		GWP	GWP			
	2035	**(77,327,562)**		**310**	**1**	**MTons**		**MTons**
	Percent of VMT	**Adjust % VMT**	**NOx**	**N2O**	**CO2**	**CO2e**	**CO2w/Pavley + LCF**	**CO2e w/ Pavley + LCFS**
All Other Buses	0.02%	0.03%	0	0	-21	-21	-19	-19
LDA	43.87%	69.72%	-3	0	-18,652	-18,684	-11,100	-11,132
LDT1	7.21%	5.97%	0	0	-1,853	-1,856	-1,133	-1,136
LDT2	18.85%	15.62%	-1	0	-5,661	-5,670	-3,846	-3,855
LHD1	4.04%	0.49%	0	0	-214	-217	-192	-196
LHD2	0.65%	0.04%	0	0	-18	-18	-16	-16
MCY	0.41%	0.66%	-1	0	-88	-94	-79	-85
MDV	18.05%	4.58%	0	0	-2,137	-2,141	-1,485	-1,488
MH	0.51%	0.75%	0	0	-375	-379	-337	-341
Motor Coach	0.03%	0.04%	0	0	-49	-50	-45	-45
OBUS	0.03%	0.03%	0	0	-15	-15	-13	-13
PTO	0.09%	0.00%	0	0	-5	-5	-5	-5
SBUS	0.07%	0.07%	0	0	-65	-67	-58	-60
T6 Ag	0.00%	0.00%	0	0	-1	-1	-1	-1
T6 CAIRP heavy	0.00%	0.00%	0	0	-1	-1	-1	-1
T6 CAIRP small	0.00%	0.00%	0	0	-3	-3	-3	-3
T6 instate construction heavy	0.04%	0.06%	0	0	-46	-47	-42	-42
T6 instate construction small	0.11%	0.17%	0	0	-137	-138	-123	-124
T6 instate heavy	0.20%	0.30%	0	0	-252	-254	-226	-229
T6 instate small	0.60%	0.90%	-1	0	-741	-747	-667	-673
T6 OOS heavy	0.00%	0.00%	0	0	-1	-1	0	0
T6 OOS small	0.00%	0.00%	0	0	-2	-2	-2	-2
T6 public	0.03%	0.04%	0	0	-35	-36	-32	-32
T6 utility	0.00%	0.01%	0	0	-6	-6	-5	-5
T6TS	0.15%	0.22%	0	0	-97	-98	-88	-89
T7 Ag	0.00%	0.00%	0	0	0	0	0	0
T7 CAIRP	0.67%	0.02%	0	0	-32	-33	-29	-29
T7 CAIRP construction	0.05%	0.00%	0	0	-2	-2	-2	-2
T7 NNOOS	0.75%	0.03%	0	0	-36	-37	-33	-33
T7 NOOS	0.24%	0.01%	0	0	-12	-12	-11	-11
T7 other port	0.00%	0.00%	0	0	0	0	0	0
T7 POAK	0.00%	0.00%	0	0	0	0	0	0
T7 POLA	1.49%	0.05%	0	0	-70	-71	-63	-64
T7 public	0.04%	0.00%	0	0	-2	-2	-2	-2
T7 Single	0.36%	0.01%	0	0	-17	-17	-15	-15
T7 single construction	0.12%	0.00%	0	0	-6	-6	-5	-5
T7 SWCV	0.12%	0.00%	0	0	-6	-6	-5	-5
T7 tractor	0.94%	0.03%	0	0	-43	-44	-39	-39
T7 tractor construction	0.09%	0.00%	0	0	-4	-4	-4	-4
T7 utility	0.00%	0.00%	0	0	0	0	0	0
T7IS	0.06%	0.00%	0	0	-1	-1	-1	-1
UBUS	0.11%	0.11%	0	0	-129	-132	-116	-119
TOTAL	100%	100%	**-8**	**0**	**-30,835**	**-30,918**	**-19,843**	**-19,925**

N2O emissions were calculated using an off-model adjustment provided by CARB in AB 32 Technical Appendices. The off-model adjustment uses a linear regression correlating N2O with NOx. (N2O = 0.0167 + 0.0318 x NOx)

Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Based on the emission factors for Riverside County - South Coast Air Basin

MENIFEE — City of Menifee Vehicle Miles Traveled

VMT with Full trip length for external (X) trips

Vacancy Rate 7.64%

VMT	Menifee											
	Population*	Population with Vacancy Rate	Employment	Service Population (SP)* Without Vacancy Rate	Service Population (SP) With Vacancy Rate	Daily VMT*	Rate (VMT/ SP*)	Adjusted Daily VMT	Annual VMT**	Percent VMT Reduction from City of Menifee VMT Reduction Strategies***	Daily VMT Reduction from VMT Reduction Strategies	Annual VMT Reduction from VMT Reduction Strategies
2020 Reduction	95,638	88,331	19,894	115,532	108,225	6,570,419	57	6,169,000	2,140,643,000	-2.6%	(160,394)	(55,656,718)
2035 Reduction	112,937	104,309	20,544	133,481	124,853	7,591,289	57	7,101,000	2,464,047,000	-2.6%	(184,626)	(64,065,222)
P-2035 Reduction	172,090	158,942	100,554	272,644	259,496	8,678,044	32	8,260,000	2,866,220,000	-2.6%	(214,760)	(74,521,720)
P-2035 Alt 2 Reduction	171,540	158,434	115,433	286,973	273,867	8,981,107	31	8,571,000	2,974,137,000	-2.6%	(222,846)	(77,327,562)

Source: 2012, 2035, P-2035 scenarios and VMT/SP is based on Urban Crossroads 2012 using the RIVTAM model, adjusted for the vacancy rate for the City of Menifee for population.

* Population is presented without the City of Menifee 7.64% vacancy rate (2009 California Department of Finance).

**Adjusted Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

***2.6% reduction based on City of Menifee General Plan Circulation Element Goals to reduce vehicle miles traveled. Urban Crossroads. 2013, July 24. *Menifee General Plan Circulation Element VMT Reduction Strategies* .

GHG EMISSIONS

	MTons/year - Business as Usual (BAU)			MTons/year - Adjusted			Percent Reduction from BAU	Percent Change from 2010
	N_2O	CO_2	CO_2e	N_2O	CO_2	CO_2e		
2010	28	676,587	685,318	28	673,731	682,462	0%	0%
2012	27	779,335	787,562	27	743,716	751,943	-5%	10%
2020	12	848,762	852,619	12	611,456	615,313	-28%	-10%
Emissions Reduction from VMT Reductions Strategies	0	-22,118	-22,219	0	-15,934	-16,035	-28%	-102%
Adjusted 2020	12	826,644	830,400	12	595,522	599,278	-28%	-13%
2035	9	982,567	985,208	9	632,285	634,927	-36%	-7%
Emissions Reduction from VMT Reductions Strategies	0	-25,547	-25,615	0	-16,439	-16,508	-36%	-102%
Adjusted 2035	8	957,020	959,592	9	615,846	618,418	-36%	-10%
P-2035 Reduction	10	1,142,938	1,146,010	10	735,485	738,557	-36%	8%
Emissions Reduction from VMT Reductions Strategies	*0*	*-29,716*	*-29,796*	*0*	*-19,123*	*-19,202*	*n/a*	*n/a*
Adjusted P-2035	10	1,113,221	1,116,214	10	716,362	719,354	-36%	5%
P-2035 Alt 2 Reduction	10	1,185,971	1,189,159	10	763,177	766,365	-36%	12%
Emissions Reduction from VMT Reductions Strategies	*0*	*-30,835*	*-30,918*	*0*	*-19,843*	*-19,925*	*n/a*	*n/a*
Adjusted P-2035 Alt 2	10	1,155,136	1,158,241	10	743,334	746,439	-36%	9%

Source: EMFAC2011-SG

Note: MTons = metric tons; CO_2e = carbon dioxide-equivalent. Adjusted BAU Includes Pavley and the Low Carbon Fuel Standard (LCFS).

State and Federal Fuel Efficiency Improvements + Low Carbon Fuel Standard (LCFS)

The Federal Government has adopted and has implemented improved Federal Corporate Economy Fuel Efficiency (CAFE) Standards for vehicles that correspond with the California Assembly Bill 1493 (AB 1493) Pavley I Fuel Efficiency Standards. In addition, the State of California has adopted the Low Carbon Fuel Standard (LCFS). In January 2012, the California Air Resources Board (CARB) adopted the Advanced Clean Car Program which implements the Pavley II Fuel Efficiency Standards and projects that by 2025, one in every seven new cars sold will be electric vehicles (PHEV or PEV). However, the Pavley II Advanced Clean Car Program is not included in the transportation emissions reductions and therefore reductions are conservative.

On December 29, 2011, the U.S. District Court for the Eastern District of California issued several rulings in the federal lawsuits challenging the LCFS. One of the court's rulings preliminarily enjoins the CARB from enforcing the regulation during the pendency of the litigation. In January 2012, CARB appealed the decision and on April 23, 2012, the Night Circuit Court granted CARB's motion for a stay of the injunction while it continues to consider CARB's appeal of the lower court's decision.

Menifee VMT Calculations

Note: Population does not include Vacancy Rate

Time Period	100% I-I, E-I, I-E Menifee VMT					I-I Menifee VMT				50% E-I, I-E Menifee VMT				Final Menifee VMT (w/RTAC)			
	Existing	Existing Adjusted	RCIP 2035	Post-2035	Alt2	Existing	RCIP 2035	Post-2035	Alt2	Existing	RCIP 2035	Post-2035	Alt2	Existing	RCIP 2035	Post-2035	Alt2
AM	527,479	1,185,000	1,492,583	1,639,194	1,702,780	21,154	475,216	545,840	548,657	253,163	508,684	546,677	577,062	781,000	984,000	1,093,000	1,126,000
MD	775,057	2,008,000	2,529,407	2,811,005	2,826,921	38,659	664,334	808,253	810,890	368,199	932,537	1,001,376	1,008,016	1,268,000	1,597,000	1,810,000	1,819,000
NT	351,704	911,000	1,147,789	1,416,867	1,435,323	19,960	1,032,560	1,094,053	1,095,605	165,872	57,615	161,407	169,859	865,000	1,090,000	1,255,000	1,265,000
PM	855,762	1,922,000	2,421,510	2,810,978	3,016,083	36,600	648,009	786,726	790,488	409,581	886,751	1,012,126	1,112,798	1,218,000	1,535,000	1,799,000	1,903,000
Daily	**2,510,002**	6,026,000	**7,591,289**	**8,678,044**	**8,981,107**	**116,373**	**2,820,119**	**3,234,872**	**3,245,640**	**1,196,815**	**2,385,587**	**2,721,586**	**2,867,735**	**4,132,000**	**5,206,000**	**5,956,000**	**6,113,000**
Population	86,412	86,412	112,937	172,090	171,540									86,412	112,937	172,090	171,540
Employment	19,548	19,548	20,544	100,554	115,433									19,548	20,544	100,554	115,433
PopEmpTot	105,960	105,960	133,481	272,644	286,973									105,960	133,481	272,644	286,973
Factor	23.69	56.87	56.87	31.83	31.30									39	39	22	21

Source: Urban Crossroads 2012, RIVTAM model output for Menifee.

The RIVTAM model population and employment for Menifee do not correspond to the population and employment land use statistics compiled for the City. Therefore, an off-model adjustment is made to Existing VMT based on the per capita (service population) VMT in 2035 and applied to Existing Conditions.

MENIFEE — TRANSPORTATION SECTOR

VMT with Full trip length for external (X) trips

Vacancy Rate 7.64%

VMT	City of Menifee								
	Population*	Population with Vacancy Rate	Employment	Service Population (SP)* Without Vacancy Rate	Service Population (SP) With Vacancy Rate	Daily VMT*	Rate (VMT/ SP*)	Adjusted Daily VMT	Annual VMT
2010	83,931	77,519	8,776	92,707	86,295	5,272,365	57	4,908,000	1,703,076,000
2012	86,412	79,810	19,547	105,959	99,357	6,026,000	57	5,651,000	1,960,897,000
2020	95,638	88,331	19,894	115,532	108,225	6,570,419	57	6,155,000	2,135,785,000
2035	112,937	104,309	20,544	133,481	124,853	7,591,289	57	7,101,000	2,464,047,000
P-2035	172,090	158,942	100,554	272,644	259,496	8,678,044	32	8,260,000	2,866,220,000
P-2035 Alt 2	171,540	158,434	115,433	286,973	273,867	8,981,107	31	8,571,000	2,974,137,000

Source: 2012, 2035, P-2035 scenarios and VMT/SP is based on Urban Crossroads 2012 using the RIVTAM model, adjusted for the vacancy rate for the City of Menifee for population.

* Population is presented without the City of Menifee 7.64% vacancy rate (2009 California Department of Finance).

2020 and 2010 daily VMT (forecasted) is approximated based on increase in population* and employment (service population*).

Adjusted Daily vehicles miles traveled (VMT) multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

CRITERIA AIR POLLUTANTS

	lbs/day					
	ROG	NOx	CO	SOx	PM10	PM2.5
2010	4,345	5,627	38,404	43	627	308
2012	4,061	5,302	35,400	50	696	331
2020	2,231	2,486	18,197	54	695	303
2035	1,670	1,702	13,924	62	800	350
P-2035	1,942	1,980	16,197	73	931	407
P-2035 Alt 2	2,015	2,054	16,806	75	966	422
Existing (2012) in 2035	1,329	1,355	11,081	50	637	278
	Tons/year					
	ROG	NOx	CO	SOx	PM10	PM2.5
2010	754	976	6,663	8	109	53
2012	705	920	6,142	9	121	57
2020	387	431	3,157	9	121	53
2035	290	295	2,416	11	139	61
P-2035	337	344	2,810	13	162	71
P-2035 Alt 2	350	356	2,916	13	168	73
Existing (2012) in 2035	231	235	1,923	9	110	48

Daily emissions multiplied by 347 days/year to account for reduced traffic on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology within the Climate Change Scoping Plan Measure Documentation Supplement.

Source: EMFAC2011-SG

GHG EMISSIONS

	MTons/year - Business as Usual (BAU)			MTons/year - Adjusted			Percent Reduction from BAU	Percent Change from 2010
	N_2O	CO_2	CO_2e	N_2O	CO_2	CO_2e		
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Source: EMFAC2011-SG

Note: MTons = metric tons; CO_2e = carbon dioxide-equivalent. Adjusted BAU Includes Pavley and the Low Carbon Fuel Standard (LCFS).

State and Federal Fuel Efficiency Improvements + Low Carbon Fuel Standard (LCFS)

California Assembly Bill 1493 (AB 1493) Pavley I Fuel Efficiency Standards. In addition, the State of California has adopted the Low Carbon Fuel Standard (LCFS). In January 2012, the California Air Resources Board (CARB) adopted the Advanced Clean Car Program which implements the Pavley II Fuel Efficiency Standards and projects that by 2025, one in every seven new cars sold will be electric vehicles (PHEV or PEV). However, the Pavley II Advanced Clean Car Program is not included in the transportation

On December 29, 2011, the U.S. District Court for the Eastern District of California issued several rulings in the federal lawsuits challenging the LCFS. One of the court's rulings preliminarily enjoins the CARB from enforcing the regulation during the pendency of the litigation. In January 2012, CARB appealed the decision and on April 23, 2012, the Night Circuit Court granted CARB's motion for a stay of the injunction while it continues to consider CARB's appeal of the lower court's decision.

Riverside County South Coast (SC) Year 2012

RecType	Sub-Area	CalYr	Season	Veh	Tech	Veh & Tech	MdlYr	Pop	VMT	Percent of VMT	ROG_TOTAL	NOx_TOTEX	CO_TOTEX	SOx_TOTEX	PM10_TOTAL	PM2_5_TOTAL	CO2_TOTEX	CO2_TOTEX (Pavley I + LCFS)
											Tons/Day							
Vh	Riverside (SC	2010	Annual	All Other Buses	TOT	All Other Buses - TOT	AllMYr	146	8,621	0%	4.114E-03	8.787E-02	1.451E-02	9.822E-05	5.629E-03	4.494E-03	1.030E+01	1.030E+01
Vh	Riverside (SC	2010	Annual	LDA	TOT	LDA - TOT	AllMYr	537,350	18,003,683	47%	6.381E+00	4.754E+00	5.413E+01	6.916E-02	9.576E-01	4.150E-01	6.835E+03	6.802E+03
Vh	Riverside (SC	2010	Annual	LDT1	TOT	LDT1 - TOT	AllMYr	80,716	2,626,204	7%	2.148E+00	1.628E+00	1.812E+01	1.170E-02	1.512E-01	7.093E-02	1.141E+03	1.136E+03
Vh	Riverside (SC	2010	Annual	LDT2	TOT	LDT2 - TOT	AllMYr	180,459	6,499,646	17%	2.359E+00	3.012E+00	2.453E+01	3.400E-02	3.438E-01	1.482E-01	3.364E+03	3.348E+03
Vh	Riverside (SC	2010	Annual	LHD1	TOT	LHD1 - TOT	AllMYr	53,993	1,752,603	5%	1.109E+00	6.377E+00	7.259E+00	1.090E-02	1.436E-01	7.073E-02	1.097E+03	1.097E+03
Vh	Riverside (SC	2010	Annual	LHD2	TOT	LHD2 - TOT	AllMYr	9,256	301,302	1%	1.137E-01	1.574E+00	7.406E-01	1.771E-03	3.522E-02	1.797E-02	1.818E+02	1.818E+02
Vh	Riverside (SC	2010	Annual	MCY	TOT	MCY - TOT	AllMYr	30,316	231,474	1%	1.294E+00	3.656E-01	1.074E+01	5.609E-04	1.206E-02	5.031E-03	3.619E+01	3.619E+01
Vh	Riverside (SC	2010	Annual	MDV	TOT	MDV - TOT	AllMYr	193,443	6,541,656	17%	2.400E+00	3.739E+00	2.799E+01	4.332E-02	3.446E-01	1.480E-01	4.291E+03	4.279E+03
Vh	Riverside (SC	2010	Annual	MH	TOT	MH - TOT	AllMYr	13,682	124,247	0%	3.332E-02	3.525E-01	1.076E+00	9.020E-04	1.474E-02	9.064E-03	8.984E+01	8.984E+01
Vh	Riverside (SC	2010	Annual	Motor Coach	TOT	Motor Coach - TOT	AllMYr	60	8,717	0%	7.103E-03	1.451E-01	3.048E-02	1.580E-04	6.594E-03	5.373E-03	1.657E+01	1.657E+01
Vh	Riverside (SC	2010	Annual	OBUS	TOT	OBUS - TOT	AllMYr	600	25,475	0%	4.317E-02	1.037E-01	5.488E-01	1.810E-04	1.350E-03	5.784E-04	1.716E+01	1.716E+01
Vh	Riverside (SC	2010	Annual	PTO	TOT	PTO - TOT	AllMYr	0	26,459	0%	2.801E-02	4.600E-01	1.394E-01	5.990E-04	1.795E-02	1.651E-02	6.279E+01	6.279E+01
Vh	Riverside (SC	2010	Annual	SBUS	TOT	SBUS - TOT	AllMYr	1,003	36,928	0%	4.864E-02	4.099E-01	4.035E-01	4.835E-04	3.995E-02	2.528E-02	4.973E+01	4.973E+01
Vh	Riverside (SC	2010	Annual	T6 Ag	TOT	T6 Ag - TOT	AllMYr	18	633	0%	3.552E-04	6.867E-03	1.171E-03	7.320E-06	4.089E-04	3.259E-04	7.673E-01	7.673E-01
Vh	Riverside (SC	2010	Annual	T6 CAIRP heavy	TOT	T6 CAIRP heavy - TOT	AllMYr	4	274	0%	7.795E-05	2.161E-03	3.099E-04	3.108E-06	1.286E-04	9.659E-05	3.258E-01	3.258E-01
Vh	Riverside (SC	2010	Annual	T6 CAIRP small	TOT	T6 CAIRP small - TOT	AllMYr	13	931	0%	1.939E-04	6.114E-03	8.842E-04	1.056E-05	4.039E-04	2.976E-04	1.107E+00	1.107E+00
Vh	Riverside (SC	2010	Annual	T6 instate construction heavy	TOT	T6 instate construction heavy - TOT	AllMYr	215	12,108	0%	5.175E-03	1.225E-01	1.795E-02	1.379E-04	6.619E-03	5.127E-03	1.446E+01	1.446E+01
Vh	Riverside (SC	2010	Annual	T6 instate construction small	TOT	T6 instate construction small - TOT	AllMYr	519	34,600	0%	9.641E-03	2.759E-01	3.882E-02	3.930E-04	1.622E-02	1.217E-02	4.120E+01	4.120E+01
Vh	Riverside (SC	2010	Annual	T6 instate heavy	TOT	T6 instate heavy - TOT	AllMYr	1,468	82,860	0%	3.507E-02	8.299E-01	1.218E-01	9.438E-04	4.497E-02	3.479E-02	9.893E+01	9.893E+01
Vh	Riverside (SC	2010	Annual	T6 instate small	TOT	T6 instate small - TOT	AllMYr	3,561	237,834	1%	6.546E-02	1.871E+00	2.640E-01	2.701E-03	1.105E-01	8.273E-02	2.831E+02	2.831E+02
Vh	Riverside (SC	2010	Annual	T6 OOS heavy	TOT	T6 OOS heavy - TOT	AllMYr	2	157	0%	4.469E-05	1.239E-03	1.777E-04	1.782E-06	7.374E-05	5.538E-05	1.868E-01	1.868E-01
Vh	Riverside (SC	2010	Annual	T6 OOS small	TOT	T6 OOS small - TOT	AllMYr	7	534	0%	1.112E-04	3.505E-03	5.069E-04	6.057E-06	2.316E-04	1.706E-04	6.348E-01	6.348E-01
Vh	Riverside (SC	2010	Annual	T6 public	TOT	T6 public - TOT	AllMYr	507	9,236	0%	2.754E-03	9.942E-02	1.010E-02	1.080E-04	4.265E-03	3.190E-03	1.132E+01	1.132E+01
Vh	Riverside (SC	2010	Annual	T6 utility	TOT	T6 utility - TOT	AllMYr	85	1,695	0%	2.620E-04	1.483E-02	1.188E-03	1.970E-05	6.104E-04	4.269E-04	2.065E+00	2.065E+00
Vh	Riverside (SC	2010	Annual	T6TS	TOT	T6TS - TOT	AllMYr	1,739	58,544	0%	1.948E-01	2.445E-01	1.779E+00	4.259E-04	3.410E-03	1.576E-03	3.948E+01	3.948E+01
Vh	Riverside (SC	2010	Annual	T7 Ag	TOT	T7 Ag - TOT	AllMYr	37	2,683	0%	2.524E-03	4.942E-02	1.081E-02	4.763E-05	2.360E-03	2.010E-03	4.992E+00	4.992E+00
Vh	Riverside (SC	2010	Annual	T7 CAIRP	TOT	T7 CAIRP - TOT	AllMYr	856	204,537	1%	1.396E-01	2.711E+00	6.640E-01	3.655E-03	1.610E-01	1.358E-01	3.831E+02	3.831E+02
Vh	Riverside (SC	2010	Annual	T7 CAIRP construction	TOT	T7 CAIRP construction - TOT	AllMYr	63	15,062	0%	1.032E-02	2.006E-01	4.905E-02	2.691E-04	1.191E-02	1.005E-02	2.821E+01	2.821E+01
Vh	Riverside (SC	2010	Annual	T7 NNOOS	TOT	T7 NNOOS - TOT	AllMYr	863	230,096	1%	1.244E-01	2.273E+00	6.289E-01	4.195E-03	1.297E-01	1.056E-01	4.397E+02	4.397E+02
Vh	Riverside (SC	2010	Annual	T7 NOOS	TOT	T7 NOOS - TOT	AllMYr	312	74,487	0%	5.258E-02	9.929E-01	2.457E-01	1.341E-03	5.893E-02	4.974E-02	1.406E+02	1.406E+02
Vh	Riverside (SC	2010	Annual	T7 other port	TOT	T7 other port - TOT	AllMYr	0	0	0%	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Vh	Riverside (SC	2010	Annual	T7 POAK	TOT	T7 POAK - TOT	AllMYr	0	0	0%	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Vh	Riverside (SC	2010	Annual	T7 POLA	TOT	T7 POLA - TOT	AllMYr	1,578	218,828	1%	8.181E-02	2.049E+00	5.136E-01	3.998E-03	9.531E-02	7.454E-02	4.191E+02	4.191E+02
Vh	Riverside (SC	2010	Annual	T7 public	TOT	T7 public - TOT	AllMYr	575	14,293	0%	1.753E-02	3.276E-01	7.018E-02	2.993E-04	1.098E-02	9.247E-03	3.137E+01	3.137E+01
Vh	Riverside (SC	2010	Annual	T7 Single	TOT	T7 Single - TOT	AllMYr	1,439	110,030	0%	6.778E-02	1.733E+00	2.950E-01	1.941E-03	7.013E-02	5.792E-02	2.035E+02	2.035E+02
Vh	Riverside (SC	2010	Annual	T7 single construction	TOT	T7 single construction - TOT	AllMYr	510	38,963	0%	2.411E-02	6.171E-01	1.049E-01	6.875E-04	2.495E-02	2.062E-02	7.206E+01	7.206E+01
Vh	Riverside (SC	2010	Annual	T7 SWCV	TOT	T7 SWCV - TOT	AllMYr	778	38,726	0%	3.761E-02	7.530E-01	1.619E-01	7.472E-04	3.146E-02	2.662E-02	7.832E+01	7.832E+01
Vh	Riverside (SC	2010	Annual	T7 tractor	TOT	T7 tractor - TOT	AllMYr	1,774	288,590	1%	2.379E-01	4.629E+00	1.055E+00	5.044E-03	2.360E-01	1.998E-01	5.287E+02	5.287E+02
Vh	Riverside (SC	2010	Annual	T7 tractor construction	TOT	T7 tractor construction - TOT	AllMYr	371	29,050	0%	2.546E-02	4.817E-01	1.116E-01	5.124E-04	2.400E-02	2.033E-02	5.371E+01	5.371E+01
Vh	Riverside (SC	2010	Annual	T7 utility	TOT	T7 utility - TOT	AllMYr	68	1,693	0%	1.186E-03	3.338E-02	5.648E-03	3.527E-05	8.301E-04	6.621E-04	3.697E+00	3.697E+00
Vh	Riverside (SC	2010	Annual	T7IS	TOT	T7IS - TOT	AllMYr	133	11,451	0%	3.550E-02	1.011E-01	6.829E-01	8.479E-05	6.278E-04	2.741E-04	7.333E+00	7.333E+00
Vh	Riverside (SC	2010	Annual	UBUS	TOT	UBUS - TOT	AllMYr	435	42,980	0%	5.118E-02	4.638E-01	4.535E-01	7.474E-04	2.600E-02	1.410E-02	7.668E+01	7.668E+01
									37,947,886									

Riverside County South Coast (SC) Year 2012 9.072E-01 **MTons/Mile**

RecType	Sub-Area	CalYr	Season	Veh	Tech	Veh & Tech	MdlYr	Pop	VMT	Percent of VMT	ROG_TOTAL	NOx_TOTEX	CO_TOTEX	SOx_TOTEX	PM10_TOTAL	PM2_5_TOTAL	CO2_TOTEX	CO2_TOTEX (Pavley I + LCFS)
Vh	Riverside (SC	2010	Annual	All Other Buses	TOT	All Other Buses - TOT	AllMYr	146	8,621	0%	4.329E-07	9.246E-06	1.527E-06	1.034E-08	5.923E-07	4.729E-07	1.083E-03	1.083E-03
Vh	Riverside (SC	2010	Annual	LDA	TOT	LDA - TOT	AllMYr	537,350	18,003,683	47%	3.215E-07	2.395E-07	2.727E-06	3.485E-09	4.825E-08	2.091E-08	3.444E-04	3.427E-04
Vh	Riverside (SC	2010	Annual	LDT1	TOT	LDT1 - TOT	AllMYr	80,716	2,626,204	7%	7.418E-07	5.624E-07	6.258E-06	4.042E-09	5.221E-08	2.450E-08	3.942E-04	3.925E-04
Vh	Riverside (SC	2010	Annual	LDT2	TOT	LDT2 - TOT	AllMYr	180,459	6,499,646	17%	3.292E-07	4.204E-07	3.424E-06	4.746E-09	4.798E-08	2.068E-08	4.695E-04	4.672E-04
Vh	Riverside (SC	2010	Annual	LHD1	TOT	LHD1 - TOT	AllMYr	53,993	1,752,603	5%	5.741E-07	3.301E-06	3.757E-06	5.644E-09	7.431E-08	3.661E-08	5.678E-04	5.678E-04
Vh	Riverside (SC	2010	Annual	LHD2	TOT	LHD2 - TOT	AllMYr	9,256	301,302	1%	3.422E-07	4.740E-06	2.230E-06	5.334E-09	1.060E-07	5.409E-08	5.473E-04	5.473E-04
Vh	Riverside (SC	2010	Annual	MCY	TOT	MCY - TOT	AllMYr	30,316	231,474	1%	5.071E-06	1.433E-06	4.211E-05	2.198E-09	4.727E-08	1.972E-08	1.418E-04	1.418E-04
Vh	Riverside (SC	2010	Annual	MDV	TOT	MDV - TOT	AllMYr	193,443	6,541,656	17%	3.329E-07	5.186E-07	3.881E-06	6.007E-09	4.779E-08	2.053E-08	5.951E-04	5.934E-04
Vh	Riverside (SC	2010	Annual	MH	TOT	MH - TOT	AllMYr	13,682	124,247	0%	2.433E-07	2.574E-06	7.855E-06	6.586E-09	1.076E-07	6.618E-08	6.559E-04	6.559E-04
Vh	Riverside (SC	2010	Annual	Motor Coach	TOT	Motor Coach - TOT	AllMYr	60	8,717	0%	7.392E-07	1.511E-05	3.172E-06	1.645E-08	6.862E-07	5.592E-07	1.724E-03	1.724E-03
Vh	Riverside (SC	2010	Annual	OBUS	TOT	OBUS - TOT	AllMYr	600	25,475	0%	1.537E-06	3.692E-06	1.954E-05	6.445E-09	4.809E-08	2.060E-08	6.110E-04	6.110E-04
Vh	Riverside (SC	2010	Annual	PTO	TOT	PTO - TOT	AllMYr	0	26,459	0%	9.605E-07	1.577E-05	4.780E-06	2.054E-08	6.155E-07	5.662E-07	2.153E-03	2.153E-03
Vh	Riverside (SC	2010	Annual	SBUS	TOT	SBUS - TOT	AllMYr	1,003	36,928	0%	1.195E-06	1.007E-05	9.912E-06	1.188E-08	9.813E-07	6.211E-07	1.222E-03	1.222E-03
Vh	Riverside (SC	2010	Annual	T6 Ag	TOT	T6 Ag - TOT	AllMYr	18	633	0%	5.092E-07	9.844E-06	1.679E-06	1.049E-08	5.862E-07	4.672E-07	1.100E-03	1.100E-03
Vh	Riverside (SC	2010	Annual	T6 CAIRP heavy	TOT	T6 CAIRP heavy - TOT	AllMYr	4	274	0%	2.585E-07	7.164E-06	1.028E-06	1.031E-08	4.265E-07	3.203E-07	1.080E-03	1.080E-03
Vh	Riverside (SC	2010	Annual	T6 CAIRP small	TOT	T6 CAIRP small - TOT	AllMYr	13	931	0%	1.890E-07	5.960E-06	8.619E-07	1.030E-08	3.937E-07	2.901E-07	1.079E-03	1.079E-03
Vh	Riverside (SC	2010	Annual	T6 instate construction heavy	TOT	T6 instate construction heavy - TOT	AllMYr	215	12,108	0%	3.877E-07	9.180E-06	1.345E-06	1.034E-08	4.959E-07	3.841E-07	1.083E-03	1.083E-03
Vh	Riverside (SC	2010	Annual	T6 instate construction small	TOT	T6 instate construction small - TOT	AllMYr	519	34,600	0%	2.528E-07	7.235E-06	1.018E-06	1.031E-08	4.252E-07	3.191E-07	1.080E-03	1.080E-03
Vh	Riverside (SC	2010	Annual	T6 instate heavy	TOT	T6 instate heavy - TOT	AllMYr	1,468	82,860	0%	3.840E-07	9.086E-06	1.333E-06	1.033E-08	4.923E-07	3.808E-07	1.083E-03	1.083E-03
Vh	Riverside (SC	2010	Annual	T6 instate small	TOT	T6 instate small - TOT	AllMYr	3,561	237,834	1%	2.497E-07	7.135E-06	1.007E-06	1.030E-08	4.214E-07	3.156E-07	1.080E-03	1.080E-03
Vh	Riverside (SC	2010	Annual	T6 OOS heavy	TOT	T6 OOS heavy - TOT	AllMYr	2	157	0%	2.585E-07	7.164E-06	1.028E-06	1.031E-08	4.265E-07	3.203E-07	1.080E-03	1.080E-03
Vh	Riverside (SC	2010	Annual	T6 OOS small	TOT	T6 OOS small - TOT	AllMYr	7	534	0%	1.890E-07	5.960E-06	8.619E-07	1.030E-08	3.937E-07	2.901E-07	1.079E-03	1.079E-03
Vh	Riverside (SC	2010	Annual	T6 public	TOT	T6 public - TOT	AllMYr	507	9,236	0%	2.705E-07	9.765E-06	9.922E-07	1.061E-08	4.190E-07	3.134E-07	1.112E-03	1.112E-03
Vh	Riverside (SC	2010	Annual	T6 utility	TOT	T6 utility - TOT	AllMYr	85	1,695	0%	1.402E-07	7.935E-06	6.356E-07	1.055E-08	3.267E-07	2.285E-07	1.105E-03	1.105E-03
Vh	Riverside (SC	2010	Annual	T6TS	TOT	T6TS - TOT	AllMYr	1,739	58,544	0%	3.019E-06	3.788E-06	2.757E-05	6.599E-09	5.284E-08	2.443E-08	6.117E-04	6.117E-04
Vh	Riverside (SC	2010	Annual	T7 Ag	TOT	T7 Ag - TOT	AllMYr	37	2,683	0%	8.535E-07	1.671E-05	3.655E-06	1.610E-08	7.978E-07	6.796E-07	1.688E-03	1.688E-03
Vh	Riverside (SC	2010	Annual	T7 CAIRP	TOT	T7 CAIRP - TOT	AllMYr	856	204,537	1%	6.192E-07	1.202E-05	2.945E-06	1.621E-08	7.139E-07	6.023E-07	1.699E-03	1.699E-03
Vh	Riverside (SC	2010	Annual	T7 CAIRP construction	TOT	T7 CAIRP construction - TOT	AllMYr	63	15,062	0%	6.215E-07	1.208E-05	2.954E-06	1.621E-08	7.172E-07	6.053E-07	1.699E-03	1.699E-03
Vh	Riverside (SC	2010	Annual	T7 NNOOS	TOT	T7 NNOOS - TOT	AllMYr	863	230,096	1%	4.906E-07	8.962E-06	2.480E-06	1.654E-08	5.115E-07	4.162E-07	1.734E-03	1.734E-03
Vh	Riverside (SC	2010	Annual	T7 NOOS	TOT	T7 NOOS - TOT	AllMYr	312	74,487	0%	6.403E-07	1.209E-05	2.992E-06	1.633E-08	7.177E-07	6.058E-07	1.712E-03	1.712E-03
Vh	Riverside (SC	2010	Annual	T7 other port	TOT	T7 other port - TOT	AllMYr	0	0	0%								
Vh	Riverside (SC	2010	Annual	T7 POAK	TOT	T7 POAK - TOT	AllMYr	0	0	0%								
Vh	Riverside (SC	2010	Annual	T7 POLA	TOT	T7 POLA - TOT	AllMYr	1,578	218,828	1%	3.392E-07	8.495E-06	2.129E-06	1.657E-08	3.951E-07	3.090E-07	1.737E-03	1.737E-03
Vh	Riverside (SC	2010	Annual	T7 public	TOT	T7 public - TOT	AllMYr	575	14,293	0%	1.113E-06	2.079E-05	4.455E-06	1.899E-08	6.971E-07	5.869E-07	1.991E-03	1.991E-03
Vh	Riverside (SC	2010	Annual	T7 Single	TOT	T7 Single - TOT	AllMYr	1,439	110,030	0%	5.588E-07	1.429E-05	2.432E-06	1.601E-08	5.782E-07	4.775E-07	1.678E-03	1.678E-03
Vh	Riverside (SC	2010	Annual	T7 single construction	TOT	T7 single construction - TOT	AllMYr	510	38,963	0%	5.614E-07	1.437E-05	2.442E-06	1.601E-08	5.810E-07	4.800E-07	1.678E-03	1.678E-03
Vh	Riverside (SC	2010	Annual	T7 SWCV	TOT	T7 SWCV - TOT	AllMYr	778	38,726	0%	8.811E-07	1.764E-05	3.792E-06	1.750E-08	7.371E-07	6.236E-07	1.835E-03	1.835E-03
Vh	Riverside (SC	2010	Annual	T7 tractor	TOT	T7 tractor - TOT	AllMYr	1,774	288,590	1%	7.478E-07	1.455E-05	3.317E-06	1.586E-08	7.420E-07	6.282E-07	1.662E-03	1.662E-03
Vh	Riverside (SC	2010	Annual	T7 tractor construction	TOT	T7 tractor construction - TOT	AllMYr	371	29,050	0%	7.952E-07	1.504E-05	3.485E-06	1.600E-08	7.494E-07	6.350E-07	1.677E-03	1.677E-03
Vh	Riverside (SC	2010	Annual	T7 utility	TOT	T7 utility - TOT	AllMYr	68	1,693	0%	6.356E-07	1.788E-05	3.026E-06	1.889E-08	4.447E-07	3.547E-07	1.980E-03	1.980E-03
Vh	Riverside (SC	2010	Annual	T7IS	TOT	T7IS - TOT	AllMYr	133	11,451	0%	2.813E-06	8.010E-06	5.410E-05	6.717E-09	4.974E-08	2.171E-08	5.809E-04	5.809E-04
Vh	Riverside (SC	2010	Annual	UBUS	TOT	UBUS - TOT	AllMYr	435	42,980	0%	1.080E-06	9.789E-06	9.573E-06	1.577E-08	5.487E-07	2.976E-07	1.618E-03	1.618E-03
									37,947,886									

Riverside County South Coast (SC) Year 2012 2.000E+03 **lbs/Mile**

RecType	Sub-Area	CalYr	Season	Veh	Tech	Veh & Tech	MdlYr	Pop	VMT	Percent of VMT	ROG_TOTAL	NOx_TOTEX	CO_TOTEX	SOx_TOTEX	PM10_TOTAL	PM2_5_TOTAL	CO2_TOTEX	CO2_TOTEX (Pavley I + LCFS)
Vh	Riverside (SC	2010	Annual	All Other Buses	TOT	All Other Buses - TOT	AllMYr	146	8,621	0%	9.545E-04	2.038E-02	3.366E-03	2.279E-05	1.306E-03	1.042E-03	2.388E+00	2.388E+00
Vh	Riverside (SC	2010	Annual	LDA	TOT	LDA - TOT	AllMYr	537,350	18,003,683	47%	7.088E-04	5.281E-04	6.013E-03	7.682E-06	1.064E-04	4.611E-05	7.592E-01	7.556E-01
Vh	Riverside (SC	2010	Annual	LDT1	TOT	LDT1 - TOT	AllMYr	80,716	2,626,204	7%	1.635E-03	1.240E-03	1.380E-02	8.912E-06	1.151E-04	5.401E-05	8.690E-01	8.654E-01
Vh	Riverside (SC	2010	Annual	LDT2	TOT	LDT2 - TOT	AllMYr	180,459	6,499,646	17%	7.259E-04	9.268E-04	7.549E-03	1.046E-05	1.058E-04	4.560E-05	1.035E+00	1.030E+00
Vh	Riverside (SC	2010	Annual	LHD1	TOT	LHD1 - TOT	AllMYr	53,993	1,752,603	5%	1.266E-03	7.277E-03	8.283E-03	1.244E-05	1.638E-04	8.071E-05	1.252E+00	1.252E+00
Vh	Riverside (SC	2010	Annual	LHD2	TOT	LHD2 - TOT	AllMYr	9,256	301,302	1%	7.544E-04	1.045E-02	4.916E-03	1.176E-05	2.338E-04	1.192E-04	1.207E+00	1.207E+00
Vh	Riverside (SC	2010	Annual	MCY	TOT	MCY - TOT	AllMYr	30,316	231,474	1%	1.118E-02	3.159E-03	9.284E-02	4.846E-06	1.042E-04	4.347E-05	3.127E-01	3.127E-01
Vh	Riverside (SC	2010	Annual	MDV	TOT	MDV - TOT	AllMYr	193,443	6,541,656	17%	7.338E-04	1.143E-03	8.556E-03	1.324E-05	1.054E-04	4.526E-05	1.312E+00	1.308E+00
Vh	Riverside (SC	2010	Annual	MH	TOT	MH - TOT	AllMYr	13,682	124,247	0%	5.364E-04	5.674E-03	1.732E-02	1.452E-05	2.372E-04	1.459E-04	1.446E+00	1.446E+00
Vh	Riverside (SC	2010	Annual	Motor Coach	TOT	Motor Coach - TOT	AllMYr	60	8,717	0%	1.630E-03	3.330E-02	6.994E-03	3.626E-05	1.513E-03	1.233E-03	3.801E+00	3.801E+00
Vh	Riverside (SC	2010	Annual	OBUS	TOT	OBUS - TOT	AllMYr	600	25,475	0%	3.389E-03	8.139E-03	4.308E-02	1.421E-05	1.060E-04	4.541E-05	1.347E+00	1.347E+00
Vh	Riverside (SC	2010	Annual	PTO	TOT	PTO - TOT	AllMYr	0	26,459	0%	2.118E-03	3.477E-02	1.054E-02	4.528E-05	1.357E-03	1.248E-03	4.746E+00	4.746E+00
Vh	Riverside (SC	2010	Annual	SBUS	TOT	SBUS - TOT	AllMYr	1,003	36,928	0%	2.634E-03	2.220E-02	2.185E-02	2.619E-05	2.163E-03	1.369E-03	2.693E+00	2.693E+00
Vh	Riverside (SC	2010	Annual	T6 Ag	TOT	T6 Ag - TOT	AllMYr	18	633	0%	1.122E-03	2.170E-02	3.702E-03	2.313E-05	1.292E-03	1.030E-03	2.425E+00	2.425E+00
Vh	Riverside (SC	2010	Annual	T6 CAIRP heavy	TOT	T6 CAIRP heavy - TOT	AllMYr	4	274	0%	5.698E-04	1.579E-02	2.266E-03	2.272E-05	9.402E-04	7.061E-04	2.382E+00	2.382E+00
Vh	Riverside (SC	2010	Annual	T6 CAIRP small	TOT	T6 CAIRP small - TOT	AllMYr	13	931	0%	4.167E-04	1.314E-02	1.900E-03	2.270E-05	8.680E-04	6.396E-04	2.380E+00	2.380E+00
Vh	Riverside (SC	2010	Annual	T6 instate construction heavy	TOT	T6 instate construction heavy - TOT	AllMYr	215	12,108	0%	8.548E-04	2.024E-02	2.964E-03	2.279E-05	1.093E-03	8.469E-04	2.388E+00	2.388E+00
Vh	Riverside (SC	2010	Annual	T6 instate construction small	TOT	T6 instate construction small - TOT	AllMYr	519	34,600	0%	5.573E-04	1.595E-02	2.244E-03	2.272E-05	9.375E-04	7.036E-04	2.381E+00	2.381E+00
Vh	Riverside (SC	2010	Annual	T6 instate heavy	TOT	T6 instate heavy - TOT	AllMYr	1,468	82,860	0%	8.465E-04	2.003E-02	2.939E-03	2.278E-05	1.085E-03	8.396E-04	2.388E+00	2.388E+00
Vh	Riverside (SC	2010	Annual	T6 instate small	TOT	T6 instate small - TOT	AllMYr	3,561	237,834	1%	5.504E-04	1.573E-02	2.220E-03	2.271E-05	9.289E-04	6.957E-04	2.381E+00	2.381E+00
Vh	Riverside (SC	2010	Annual	T6 OOS heavy	TOT	T6 OOS heavy - TOT	AllMYr	2	157	0%	5.698E-04	1.579E-02	2.266E-03	2.272E-05	9.402E-04	7.061E-04	2.382E+00	2.382E+00
Vh	Riverside (SC	2010	Annual	T6 OOS small	TOT	T6 OOS small - TOT	AllMYr	7	534	0%	4.167E-04	1.314E-02	1.900E-03	2.270E-05	8.680E-04	6.396E-04	2.380E+00	2.380E+00
Vh	Riverside (SC	2010	Annual	T6 public	TOT	T6 public - TOT	AllMYr	507	9,236	0%	5.964E-04	2.153E-02	2.188E-03	2.339E-05	9.237E-04	6.908E-04	2.452E+00	2.452E+00
Vh	Riverside (SC	2010	Annual	T6 utility	TOT	T6 utility - TOT	AllMYr	85	1,695	0%	3.092E-04	1.749E-02	1.401E-03	2.325E-05	7.203E-04	5.037E-04	2.437E+00	2.437E+00
Vh	Riverside (SC	2010	Annual	T6TS	TOT	T6TS - TOT	AllMYr	1,739	58,544	0%	6.656E-03	8.352E-03	6.078E-02	1.455E-05	1.165E-04	5.385E-05	1.349E+00	1.349E+00
Vh	Riverside (SC	2010	Annual	T7 Ag	TOT	T7 Ag - TOT	AllMYr	37	2,683	0%	1.882E-03	3.684E-02	8.057E-03	3.551E-05	1.759E-03	1.498E-03	3.722E+00	3.722E+00
Vh	Riverside (SC	2010	Annual	T7 CAIRP	TOT	T7 CAIRP - TOT	AllMYr	856	204,537	1%	1.365E-03	2.651E-02	6.493E-03	3.574E-05	1.574E-03	1.328E-03	3.746E+00	3.746E+00
Vh	Riverside (SC	2010	Annual	T7 CAIRP construction	TOT	T7 CAIRP construction - TOT	AllMYr	63	15,062	0%	1.370E-03	2.664E-02	6.512E-03	3.573E-05	1.581E-03	1.335E-03	3.745E+00	3.745E+00
Vh	Riverside (SC	2010	Annual	T7 NNOOS	TOT	T7 NNOOS - TOT	AllMYr	863	230,096	1%	1.082E-03	1.976E-02	5.467E-03	3.646E-05	1.128E-03	9.175E-04	3.822E+00	3.822E+00
Vh	Riverside (SC	2010	Annual	T7 NOOS	TOT	T7 NOOS - TOT	AllMYr	312	74,487	0%	1.412E-03	2.666E-02	6.596E-03	3.601E-05	1.582E-03	1.336E-03	3.775E+00	3.775E+00
Vh	Riverside (SC	2010	Annual	T7 other port	TOT	T7 other port - TOT	AllMYr	0	0	0%								
Vh	Riverside (SC	2010	Annual	T7 POAK	TOT	T7 POAK - TOT	AllMYr	0	0	0%								
Vh	Riverside (SC	2010	Annual	T7 POLA	TOT	T7 POLA - TOT	AllMYr	1,578	218,828	1%	7.477E-04	1.873E-02	4.695E-03	3.654E-05	8.711E-04	6.813E-04	3.830E+00	3.830E+00
Vh	Riverside (SC	2010	Annual	T7 public	TOT	T7 public - TOT	AllMYr	575	14,293	0%	2.453E-03	4.584E-02	9.821E-03	4.187E-05	1.537E-03	1.294E-03	4.389E+00	4.389E+00
Vh	Riverside (SC	2010	Annual	T7 Single	TOT	T7 Single - TOT	AllMYr	1,439	110,030	0%	1.232E-03	3.150E-02	5.362E-03	3.529E-05	1.275E-03	1.053E-03	3.699E+00	3.699E+00
Vh	Riverside (SC	2010	Annual	T7 single construction	TOT	T7 single construction - TOT	AllMYr	510	38,963	0%	1.238E-03	3.168E-02	5.383E-03	3.529E-05	1.281E-03	1.058E-03	3.699E+00	3.699E+00
Vh	Riverside (SC	2010	Annual	T7 SWCV	TOT	T7 SWCV - TOT	AllMYr	778	38,726	0%	1.942E-03	3.889E-02	8.361E-03	3.859E-05	1.625E-03	1.375E-03	4.045E+00	4.045E+00
Vh	Riverside (SC	2010	Annual	T7 tractor	TOT	T7 tractor - TOT	AllMYr	1,774	288,590	1%	1.649E-03	3.208E-02	7.312E-03	3.496E-05	1.636E-03	1.385E-03	3.664E+00	3.664E+00
Vh	Riverside (SC	2010	Annual	T7 tractor construction	TOT	T7 tractor construction - TOT	AllMYr	371	29,050	0%	1.753E-03	3.316E-02	7.683E-03	3.528E-05	1.652E-03	1.400E-03	3.698E+00	3.698E+00
Vh	Riverside (SC	2010	Annual	T7 utility	TOT	T7 utility - TOT	AllMYr	68	1,693	0%	1.401E-03	3.943E-02	6.671E-03	4.165E-05	9.804E-04	7.819E-04	4.366E+00	4.366E+00
Vh	Riverside (SC	2010	Annual	T7IS	TOT	T7IS - TOT	AllMYr	133	11,451	0%	6.201E-03	1.766E-02	1.193E-01	1.481E-05	1.097E-04	4.787E-05	1.281E+00	1.281E+00
Vh	Riverside (SC	2010	Annual	UBUS	TOT	UBUS - TOT	AllMYr	435	42,980	0%	2.382E-03	2.158E-02	2.110E-02	3.478E-05	1.210E-03	6.561E-04	3.568E+00	3.568E+00
									37,947,886									

Riverside County South Coast (SC) Year 2012

												Tons/Day							
RecType	Sub-Area	CalYr	Season	Veh	Tech	Veh & Tech	MdlYr	Pop	VMT	Percent VMT	Trips	ROG_TOTAL	NOx_TOTEX	CO_TOTEX	SOx_TOTEX	PM10_TOTAL	PM2_5_TOTAL	CO2_TOTEX	CO2_TOTEX (Pavley I + LCFS)
Vh	Riverside (SC)	2012	Annual	All Other Buses	TOT	All Other Buses - TOT	AllMYr	164	9,311	0%		3.581E-03	8.725E-02	1.333E-02	1.065E-04	5.124E-03	3.974E-03	1.117E+01	1.111E+01
Vh	Riverside (SC)	2012	Annual	LDA	TOT	LDA - TOT	AllMYr	552,720	18,615,131	47%	3,488,935	5.051E+00	3.757E+00	4.334E+01	7.130E-02	9.713E-01	4.123E-01	7.069E+03	6.684E+03
Vh	Riverside (SC)	2012	Annual	LDT1	TOT	LDT1 - TOT	AllMYr	83,279	2,771,983	7%	509,882	1.865E+00	1.350E+00	1.501E+01	1.231E-02	1.547E-01	7.053E-02	1.207E+03	1.147E+03
Vh	Riverside (SC)	2012	Annual	LDT2	TOT	LDT2 - TOT	AllMYr	189,003	6,832,877	17%	1,194,775	2.093E+00	2.481E+00	2.098E+01	3.562E-02	3.562E-01	1.511E-01	3.533E+03	3.390E+03
Vh	Riverside (SC)	2012	Annual	LHD1	TOT	LHD1 - TOT	AllMYr	56,323	1,785,184	5%	790,816	1.097E+00	5.830E+00	6.575E+00	1.108E-02	1.438E-01	6.994E-02	1.116E+03	1.110E+03
Vh	Riverside (SC)	2012	Annual	LHD2	TOT	LHD2 - TOT	AllMYr	9,637	304,605	1%	128,129	1.058E-01	1.401E+00	6.345E-01	1.787E-03	3.485E-02	1.753E-02	1.835E+02	1.826E+02
Vh	Riverside (SC)	2012	Annual	MCY	TOT	MCY - TOT	AllMYr	31,726	246,365	1%	63,446	1.246E+00	3.729E-01	9.790E+00	5.979E-04	1.260E-02	5.176E-03	4.144E+01	4.123E+01
Vh	Riverside (SC)	2012	Annual	MDV	TOT	MDV - TOT	AllMYr	203,553	6,751,134	17%	1,287,238	2.405E+00	3.377E+00	2.602E+01	4.474E-02	3.527E-01	1.501E-01	4.438E+03	4.304E+03
Vh	Riverside (SC)	2012	Annual	MH	TOT	MH - TOT	AllMYr	14,102	128,853	0%	1,411	2.683E-02	3.194E-01	8.044E-01	9.252E-04	1.459E-02	8.808E-03	9.262E+01	9.215E+01
Vh	Riverside (SC)	2012	Annual	Motor Coach	TOT	Motor Coach - TOT	AllMYr	65	9,380	0%		5.299E-03	1.261E-01	2.628E-02	1.703E-04	6.236E-03	4.991E-03	1.785E+01	1.776E+01
Vh	Riverside (SC)	2012	Annual	OBUS	TOT	OBUS - TOT	AllMYr	590	23,371	0%	26,938	4.056E-02	9.572E-02	5.097E-01	1.664E-04	1.231E-03	5.246E-04	1.576E+01	1.568E+01
Vh	Riverside (SC)	2012	Annual	PTO	TOT	PTO - TOT	AllMYr	0	29,271	0%		2.674E-02	4.545E-01	1.270E-01	6.616E-04	1.580E-02	1.453E-02	6.935E+01	6.900E+01
Vh	Riverside (SC)	2012	Annual	SBUS	TOT	SBUS - TOT	AllMYr	1,033	37,834	0%	1,184	3.639E-02	3.925E-01	3.090E-01	4.938E-04	3.533E-02	2.071E-02	5.094E+01	5.068E+01
Vh	Riverside (SC)	2012	Annual	T6 Ag	TOT	T6 Ag - TOT	AllMYr	19	651	0%		3.363E-04	6.427E-03	1.147E-03	7.524E-06	3.951E-04	3.118E-04	7.886E-01	7.847E-01
Vh	Riverside (SC)	2012	Annual	T6 CAIRP heavy	TOT	T6 CAIRP heavy - TOT	AllMYr	5	296	0%		6.525E-05	1.938E-03	2.799E-04	3.361E-06	1.144E-04	8.172E-05	3.523E-01	3.506E-01
Vh	Riverside (SC)	2012	Annual	T6 CAIRP small	TOT	T6 CAIRP small - TOT	AllMYr	14	990	0%		1.783E-04	4.944E-03	8.548E-04	1.123E-05	3.609E-04	2.534E-04	1.177E+00	1.171E+00
Vh	Riverside (SC)	2012	Annual	T6 instate construction heavy	TOT	T6 instate construction heavy - TOT	AllMYr	275	14,911	0%		5.343E-03	1.375E-01	1.952E-02	1.699E-04	7.167E-03	5.409E-03	1.781E+01	1.772E+01
Vh	Riverside (SC)	2012	Annual	T6 instate construction small	TOT	T6 instate construction small - TOT	AllMYr	633	41,050	0%		1.037E-02	2.741E-01	4.378E-02	4.663E-04	1.744E-02	1.278E-02	4.888E+01	4.863E+01
Vh	Riverside (SC)	2012	Annual	T6 instate heavy	TOT	T6 instate heavy - TOT	AllMYr	1,632	89,587	0%		3.118E-02	7.992E-01	1.143E-01	1.020E-03	4.216E-02	3.167E-02	1.069E+02	1.064E+02
Vh	Riverside (SC)	2012	Annual	T6 instate small	TOT	T6 instate small - TOT	AllMYr	3,830	250,673	1%		6.089E-02	1.598E+00	2.585E-01	2.845E-03	1.035E-01	7.533E-02	2.982E+02	2.967E+02
Vh	Riverside (SC)	2012	Annual	T6 OOS heavy	TOT	T6 OOS heavy - TOT	AllMYr	3	170	0%		3.741E-05	1.111E-03	1.605E-04	1.927E-06	6.557E-05	4.685E-05	2.020E-01	2.010E-01
Vh	Riverside (SC)	2012	Annual	T6 OOS small	TOT	T6 OOS small - TOT	AllMYr	8	567	0%		1.022E-04	2.834E-03	4.901E-04	6.440E-06	2.069E-04	1.453E-04	6.750E-01	6.716E-01
Vh	Riverside (SC)	2012	Annual	T6 public	TOT	T6 public - TOT	AllMYr	551	9,944	0%		2.723E-03	9.854E-02	1.036E-02	1.162E-04	4.282E-03	3.149E-03	1.218E+01	1.212E+01
Vh	Riverside (SC)	2012	Annual	T6 utility	TOT	T6 utility - TOT	AllMYr	92	1,814	0%		2.580E-04	1.314E-02	1.241E-03	2.108E-05	6.068E-04	4.141E-04	2.210E+00	2.199E+00
Vh	Riverside (SC)	2012	Annual	T6TS	TOT	T6TS - TOT	AllMYr	1,811	65,362	0%	36,238	1.557E-01	2.132E-01	1.486E+00	4.593E-04	3.615E-03	1.604E-03	4.336E+01	4.315E+01
Vh	Riverside (SC)	2012	Annual	T7 Ag	TOT	T7 Ag - TOT	AllMYr	40	2,781	0%		2.249E-03	4.681E-02	1.010E-02	4.951E-05	2.219E-03	1.874E-03	5.190E+00	5.164E+00
Vh	Riverside (SC)	2012	Annual	T7 CAIRP	TOT	T7 CAIRP - TOT	AllMYr	979	226,462	1%		1.311E-01	2.411E+00	6.928E-01	4.089E-03	1.497E-01	1.241E-01	4.286E+02	4.265E+02
Vh	Riverside (SC)	2012	Annual	T7 CAIRP construction	TOT	T7 CAIRP construction - TOT	AllMYr	78	18,046	0%		1.055E-02	1.949E-01	5.568E-02	3.258E-04	1.208E-02	1.003E-02	3.415E+01	3.398E+01
Vh	Riverside (SC)	2012	Annual	T7 NNOOS	TOT	T7 NNOOS - TOT	AllMYr	960	254,762	1%		1.150E-01	1.718E+00	6.375E-01	4.678E-03	1.103E-01	8.614E-02	4.903E+02	4.878E+02
Vh	Riverside (SC)	2012	Annual	T7 NOOS	TOT	T7 NOOS - TOT	AllMYr	356	82,472	0%		4.912E-02	8.862E-01	2.563E-01	1.504E-03	5.446E-02	4.515E-02	1.576E+02	1.568E+02
Vh	Riverside (SC)	2012	Annual	T7 other port	TOT	T7 other port - TOT	AllMYr	0	0	0%		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Vh	Riverside (SC)	2012	Annual	T7 POAK	TOT	T7 POAK - TOT	AllMYr	0	0	0%		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Vh	Riverside (SC)	2012	Annual	T7 POLA	TOT	T7 POLA - TOT	AllMYr	1,788	263,286	1%		9.917E-02	2.379E+00	6.194E-01	4.835E-03	8.316E-02	6.071E-02	5.068E+02	5.042E+02
Vh	Riverside (SC)	2012	Annual	T7 public	TOT	T7 public - TOT	AllMYr	625	15,512	0%		1.785E-02	3.424E-01	7.319E-02	3.244E-04	1.096E-02	9.148E-03	3.400E+01	3.383E+01
Vh	Riverside (SC)	2012	Annual	T7 Single	TOT	T7 Single - TOT	AllMYr	1,619	121,824	0%		6.510E-02	1.723E+00	2.908E-01	2.153E-03	6.652E-02	5.388E-02	2.257E+02	2.246E+02
Vh	Riverside (SC)	2012	Annual	T7 single construction	TOT	T7 single construction - TOT	AllMYr	624	46,682	0%		2.523E-02	6.706E-01	1.124E-01	8.252E-04	2.579E-02	2.093E-02	8.650E+01	8.607E+01
Vh	Riverside (SC)	2012	Annual	T7 SWCV	TOT	T7 SWCV - TOT	AllMYr	845	42,031	0%		8.076E-03	7.601E-01	3.906E-02	8.233E-04	9.045E-03	5.798E-03	8.629E+01	8.586E+01
Vh	Riverside (SC)	2012	Annual	T7 tractor	TOT	T7 tractor - TOT	AllMYr	1,997	319,526	1%		2.188E-01	4.402E+00	1.044E+00	5.594E-03	2.307E-01	1.931E-01	5.864E+02	5.835E+02
Vh	Riverside (SC)	2012	Annual	T7 tractor construction	TOT	T7 tractor construction - TOT	AllMYr	452	34,805	0%		2.604E-02	5.047E-01	1.215E-01	6.155E-04	2.564E-02	2.150E-02	6.451E+01	6.419E+01
Vh	Riverside (SC)	2012	Annual	T7 utility	TOT	T7 utility - TOT	AllMYr	73	1,827	0%		1.222E-03	3.203E-02	6.024E-03	3.806E-05	8.152E-04	6.403E-04	3.989E+00	3.969E+00
Vh	Riverside (SC)	2012	Annual	T7IS	TOT	T7IS - TOT	AllMYr	144	15,407	0%	2,886	2.637E-02	1.073E-01	6.628E-01	1.078E-04	8.011E-04	3.346E-04	9.692E+00	9.643E+00
Vh	Riverside (SC)	2012	Annual	UBUS	TOT	UBUS - TOT	AllMYr	439	43,397	0%	1,757	4.898E-02	4.548E-01	4.316E-01	7.516E-04	2.609E-02	1.409E-02	7.715E+01	7.676E+01
									39,510,134	100.0%									

Riverside County South Coast (SC) Year 2012 9.072E-01 **MTons/Mile**

RecType	Sub-Area	CalYr	Season	Veh	Tech	Veh & Tech	MdlYr	Pop	VMT	Percent VMT	Trips	ROG_TOTAL	NOx_TOTEX	CO_TOTEX	SOx_TOTEX	PM10_TOTAL	PM2_5_TOTAL	CO2_TOTEX	CO2_TOTEX (Pavley I + LCFS)
Vh	Riverside (SC)	2012	Annual	All Other Buses	TOT	All Other Buses - TOT	AllMYr	164	9,311	0%		3.489E-07	8.501E-06	1.299E-06	1.038E-08	4.992E-07	3.872E-07	1.088E-03	1.083E-03
Vh	Riverside (SC)	2012	Annual	LDA	TOT	LDA - TOT	AllMYr	552,720	18,615,131	47%	3,488,935	2.462E-07	1.831E-07	2.112E-06	3.475E-09	4.734E-08	2.009E-08	3.445E-04	3.257E-04
Vh	Riverside (SC)	2012	Annual	LDT1	TOT	LDT1 - TOT	AllMYr	83,279	2,771,983	7%	509,882	6.104E-07	4.418E-07	4.912E-06	4.029E-09	5.062E-08	2.308E-08	3.952E-04	3.755E-04
Vh	Riverside (SC)	2012	Annual	LDT2	TOT	LDT2 - TOT	AllMYr	189,003	6,832,877	17%	1,194,775	2.779E-07	3.294E-07	2.786E-06	4.729E-09	4.729E-08	2.006E-08	4.690E-04	4.500E-04
Vh	Riverside (SC)	2012	Annual	LHD1	TOT	LHD1 - TOT	AllMYr	56,323	1,785,184	5%	790,816	5.573E-07	2.963E-06	3.341E-06	5.629E-09	7.309E-08	3.554E-08	5.670E-04	5.641E-04
Vh	Riverside (SC)	2012	Annual	LHD2	TOT	LHD2 - TOT	AllMYr	9,637	304,605	1%	128,129	3.150E-07	4.173E-06	1.890E-06	5.322E-09	1.038E-07	5.220E-08	5.465E-04	5.438E-04
Vh	Riverside (SC)	2012	Annual	MCY	TOT	MCY - TOT	AllMYr	31,726	246,365	1%	63,446	4.588E-06	1.373E-06	3.605E-05	2.202E-09	4.641E-08	1.906E-08	1.526E-04	1.518E-04
Vh	Riverside (SC)	2012	Annual	MDV	TOT	MDV - TOT	AllMYr	203,553	6,751,134	17%	1,287,238	3.232E-07	4.538E-07	3.497E-06	6.013E-09	4.739E-08	2.018E-08	5.963E-04	5.784E-04
Vh	Riverside (SC)	2012	Annual	MH	TOT	MH - TOT	AllMYr	14,102	128,853	0%	1,411	1.889E-07	2.249E-06	5.663E-06	6.514E-09	1.027E-07	6.202E-08	6.521E-04	6.488E-04
Vh	Riverside (SC)	2012	Annual	Motor Coach	TOT	Motor Coach - TOT	AllMYr	65	9,380	0%		5.125E-07	1.220E-05	2.542E-06	1.647E-08	6.031E-07	4.827E-07	1.726E-03	1.718E-03
Vh	Riverside (SC)	2012	Annual	OBUS	TOT	OBUS - TOT	AllMYr	590	23,371	0%	26,938	1.574E-06	3.716E-06	1.979E-05	6.457E-09	4.779E-08	2.036E-08	6.118E-04	6.088E-04
Vh	Riverside (SC)	2012	Annual	PTO	TOT	PTO - TOT	AllMYr	0	29,271	0%		8.286E-07	1.409E-05	3.936E-06	2.050E-08	4.895E-07	4.504E-07	2.149E-03	2.138E-03
Vh	Riverside (SC)	2012	Annual	SBUS	TOT	SBUS - TOT	AllMYr	1,033	37,834	0%	1,184	8.725E-07	9.411E-06	7.410E-06	1.184E-08	8.472E-07	4.965E-07	1.221E-03	1.215E-03
Vh	Riverside (SC)	2012	Annual	T6 Ag	TOT	T6 Ag - TOT	AllMYr	19	651	0%		4.688E-07	8.959E-06	1.599E-06	1.049E-08	5.507E-07	4.346E-07	1.099E-03	1.094E-03
Vh	Riverside (SC)	2012	Annual	T6 CAIRP heavy	TOT	T6 CAIRP heavy - TOT	AllMYr	5	296	0%		2.002E-07	5.944E-06	8.587E-07	1.031E-08	3.509E-07	2.507E-07	1.081E-03	1.075E-03
Vh	Riverside (SC)	2012	Annual	T6 CAIRP small	TOT	T6 CAIRP small - TOT	AllMYr	14	990	0%		1.634E-07	4.531E-06	7.835E-07	1.030E-08	3.308E-07	2.322E-07	1.079E-03	1.074E-03
Vh	Riverside (SC)	2012	Annual	T6 instate construction heavy	TOT	T6 instate construction heavy - TOT	AllMYr	275	14,911	0%		3.251E-07	8.368E-06	1.187E-06	1.034E-08	4.360E-07	3.291E-07	1.083E-03	1.078E-03
Vh	Riverside (SC)	2012	Annual	T6 instate construction small	TOT	T6 instate construction small - TOT	AllMYr	633	41,050	0%		2.292E-07	6.058E-06	9.676E-07	1.030E-08	3.853E-07	2.824E-07	1.080E-03	1.075E-03
Vh	Riverside (SC)	2012	Annual	T6 instate heavy	TOT	T6 instate heavy - TOT	AllMYr	1,632	89,587	0%		3.157E-07	8.093E-06	1.158E-06	1.033E-08	4.269E-07	3.207E-07	1.083E-03	1.077E-03
Vh	Riverside (SC)	2012	Annual	T6 instate small	TOT	T6 instate small - TOT	AllMYr	3,830	250,673	1%		2.204E-07	5.785E-06	9.354E-07	1.030E-08	3.747E-07	2.726E-07	1.079E-03	1.074E-03
Vh	Riverside (SC)	2012	Annual	T6 OOS heavy	TOT	T6 OOS heavy - TOT	AllMYr	3	170	0%		2.002E-07	5.944E-06	8.587E-07	1.031E-08	3.509E-07	2.507E-07	1.081E-03	1.075E-03
Vh	Riverside (SC)	2012	Annual	T6 OOS small	TOT	T6 OOS small - TOT	AllMYr	8	567	0%		1.634E-07	4.531E-06	7.835E-07	1.030E-08	3.308E-07	2.322E-07	1.079E-03	1.074E-03
Vh	Riverside (SC)	2012	Annual	T6 public	TOT	T6 public - TOT	AllMYr	551	9,944	0%		2.484E-07	8.990E-06	9.455E-07	1.060E-08	3.906E-07	2.873E-07	1.111E-03	1.106E-03
Vh	Riverside (SC)	2012	Annual	T6 utility	TOT	T6 utility - TOT	AllMYr	92	1,814	0%		1.290E-07	6.572E-06	6.208E-07	1.055E-08	3.035E-07	2.071E-07	1.105E-03	1.100E-03
Vh	Riverside (SC)	2012	Annual	T6TS	TOT	T6TS - TOT	AllMYr	1,811	65,362	0%	36,238	2.161E-06	2.960E-06	2.062E-05	6.375E-09	5.017E-08	2.226E-08	6.018E-04	5.988E-04
Vh	Riverside (SC)	2012	Annual	T7 Ag	TOT	T7 Ag - TOT	AllMYr	40	2,781	0%		7.336E-07	1.527E-05	3.293E-06	1.615E-08	7.238E-07	6.114E-07	1.693E-03	1.684E-03
Vh	Riverside (SC)	2012	Annual	T7 CAIRP	TOT	T7 CAIRP - TOT	AllMYr	979	226,462	1%		5.252E-07	9.660E-06	2.775E-06	1.638E-08	5.996E-07	4.972E-07	1.717E-03	1.709E-03
Vh	Riverside (SC)	2012	Annual	T7 CAIRP construction	TOT	T7 CAIRP construction - TOT	AllMYr	78	18,046	0%		5.303E-07	9.800E-06	2.799E-06	1.638E-08	6.074E-07	5.044E-07	1.717E-03	1.708E-03
Vh	Riverside (SC)	2012	Annual	T7 NNOOS	TOT	T7 NNOOS - TOT	AllMYr	960	254,762	1%		4.095E-07	6.118E-06	2.270E-06	1.666E-08	3.926E-07	3.067E-07	1.746E-03	1.737E-03
Vh	Riverside (SC)	2012	Annual	T7 NOOS	TOT	T7 NOOS - TOT	AllMYr	356	82,472	0%		5.403E-07	9.748E-06	2.819E-06	1.654E-08	5.990E-07	4.967E-07	1.734E-03	1.725E-03
Vh	Riverside (SC)	2012	Annual	T7 other port	TOT	T7 other port - TOT	AllMYr	0	0	0%									
Vh	Riverside (SC)	2012	Annual	T7 POAK	TOT	T7 POAK - TOT	AllMYr	0	0	0%									
Vh	Riverside (SC)	2012	Annual	T7 POLA	TOT	T7 POLA - TOT	AllMYr	1,788	263,286	1%		3.417E-07	8.197E-06	2.134E-06	1.666E-08	2.866E-07	2.092E-07	1.746E-03	1.737E-03
Vh	Riverside (SC)	2012	Annual	T7 public	TOT	T7 public - TOT	AllMYr	625	15,512	0%		1.044E-06	2.002E-05	4.280E-06	1.897E-08	6.407E-07	5.350E-07	1.989E-03	1.979E-03
Vh	Riverside (SC)	2012	Annual	T7 Single	TOT	T7 Single - TOT	AllMYr	1,619	121,824	0%		4.847E-07	1.283E-05	2.165E-06	1.604E-08	4.953E-07	4.013E-07	1.681E-03	1.672E-03
Vh	Riverside (SC)	2012	Annual	T7 single construction	TOT	T7 single construction - TOT	AllMYr	624	46,682	0%		4.903E-07	1.303E-05	2.185E-06	1.604E-08	5.012E-07	4.067E-07	1.681E-03	1.673E-03
Vh	Riverside (SC)	2012	Annual	T7 SWCV	TOT	T7 SWCV - TOT	AllMYr	845	42,031	0%		1.743E-07	1.641E-05	8.431E-07	1.777E-08	1.952E-07	1.251E-07	1.863E-03	1.853E-03
Vh	Riverside (SC)	2012	Annual	T7 tractor	TOT	T7 tractor - TOT	AllMYr	1,997	319,526	1%		6.211E-07	1.250E-05	2.964E-06	1.588E-08	6.550E-07	5.481E-07	1.665E-03	1.657E-03
Vh	Riverside (SC)	2012	Annual	T7 tractor construction	TOT	T7 tractor construction - TOT	AllMYr	452	34,805	0%		6.788E-07	1.315E-05	3.166E-06	1.604E-08	6.683E-07	5.604E-07	1.682E-03	1.673E-03
Vh	Riverside (SC)	2012	Annual	T7 utility	TOT	T7 utility - TOT	AllMYr	73	1,827	0%		6.068E-07	1.590E-05	2.991E-06	1.890E-08	4.048E-07	3.180E-07	1.981E-03	1.971E-03
Vh	Riverside (SC)	2012	Annual	T7IS	TOT	T7IS - TOT	AllMYr	144	15,407	0%	2,886	1.553E-06	6.319E-06	3.903E-05	6.350E-09	4.717E-08	1.971E-08	5.707E-04	5.678E-04
Vh	Riverside (SC)	2012	Annual	UBUS	TOT	UBUS - TOT	AllMYr	439	43,397	0%	1,757	1.024E-06	9.507E-06	9.022E-06	1.571E-08	5.454E-07	2.946E-07	1.613E-03	1.605E-03
									39,510,134	100.0%									

Riverside County South Coast (SC) Year 2012 2.000E+03 **lbs/Mile**

RecType	Sub-Area	CalYr	Season	Veh	Tech	Veh & Tech	MdlYr	Pop	VMT	Percent VMT	Trips	ROG_TOTAL	NOx_TOTEX	CO_TOTEX	SOx_TOTEX	PM10_TOTAL	PM2_5_TOTAL	CO2_TOTEX	CO2_TOTEX (Pavley I + LCFS)
Vh	Riverside (SC)	2012	Annual	All Other Buses	TOT	All Other Buses - TOT	AllMYr	164	9,311	0%		7.691E-04	1.874E-02	2.864E-03	2.288E-05	1.101E-03	8.536E-04	2.399E+00	2.387E+00
Vh	Riverside (SC)	2012	Annual	LDA	TOT	LDA - TOT	AllMYr	552,720	18,615,131	47%	3,488,935	5.427E-04	4.036E-04	4.657E-03	7.661E-06	1.044E-04	4.430E-05	7.595E-01	7.181E-01
Vh	Riverside (SC)	2012	Annual	LDT1	TOT	LDT1 - TOT	AllMYr	83,279	2,771,983	7%	509,882	1.346E-03	9.740E-04	1.083E-02	8.882E-06	1.116E-04	5.089E-05	8.712E-01	8.279E-01
Vh	Riverside (SC)	2012	Annual	LDT2	TOT	LDT2 - TOT	AllMYr	189,003	6,832,877	17%	1,194,775	6.126E-04	7.261E-04	6.142E-03	1.043E-05	1.043E-04	4.421E-05	1.034E+00	9.921E-01
Vh	Riverside (SC)	2012	Annual	LHD1	TOT	LHD1 - TOT	AllMYr	56,323	1,785,184	5%	790,816	1.229E-03	6.532E-03	7.367E-03	1.241E-05	1.611E-04	7.836E-05	1.250E+00	1.244E+00
Vh	Riverside (SC)	2012	Annual	LHD2	TOT	LHD2 - TOT	AllMYr	9,637	304,605	1%	128,129	6.945E-04	9.199E-03	4.166E-03	1.173E-05	2.288E-04	1.151E-04	1.205E+00	1.199E+00
Vh	Riverside (SC)	2012	Annual	MCY	TOT	MCY - TOT	AllMYr	31,726	246,365	1%	63,446	1.011E-02	3.027E-03	7.948E-02	4.854E-06	1.023E-04	4.202E-05	3.364E-01	3.347E-01
Vh	Riverside (SC)	2012	Annual	MDV	TOT	MDV - TOT	AllMYr	203,553	6,751,134	17%	1,287,238	7.126E-04	1.000E-03	7.710E-03	1.326E-05	1.045E-04	4.448E-05	1.315E+00	1.275E+00
Vh	Riverside (SC)	2012	Annual	MH	TOT	MH - TOT	AllMYr	14,102	128,853	0%	1,411	4.164E-04	4.957E-03	1.249E-02	1.436E-05	2.265E-04	1.367E-04	1.438E+00	1.430E+00
Vh	Riverside (SC)	2012	Annual	Motor Coach	TOT	Motor Coach - TOT	AllMYr	65	9,380	0%		1.130E-03	2.690E-02	5.604E-03	3.631E-05	1.330E-03	1.064E-03	3.806E+00	3.787E+00
Vh	Riverside (SC)	2012	Annual	OBUS	TOT	OBUS - TOT	AllMYr	590	23,371	0%	26,938	3.471E-03	8.192E-03	4.362E-02	1.424E-05	1.054E-04	4.489E-05	1.349E+00	1.342E+00
Vh	Riverside (SC)	2012	Annual	PTO	TOT	PTO - TOT	AllMYr	0	29,271	0%		1.827E-03	3.106E-02	8.678E-03	4.520E-05	1.079E-03	9.929E-04	4.738E+00	4.714E+00
Vh	Riverside (SC)	2012	Annual	SBUS	TOT	SBUS - TOT	AllMYr	1,033	37,834	0%	1,184	1.924E-03	2.075E-02	1.634E-02	2.610E-05	1.868E-03	1.095E-03	2.693E+00	2.679E+00
Vh	Riverside (SC)	2012	Annual	T6 Ag	TOT	T6 Ag - TOT	AllMYr	19	651	0%		1.034E-03	1.975E-02	3.525E-03	2.312E-05	1.214E-03	9.581E-04	2.423E+00	2.411E+00
Vh	Riverside (SC)	2012	Annual	T6 CAIRP heavy	TOT	T6 CAIRP heavy - TOT	AllMYr	5	296	0%		4.413E-04	1.310E-02	1.893E-03	2.273E-05	7.735E-04	5.527E-04	2.383E+00	2.371E+00
Vh	Riverside (SC)	2012	Annual	T6 CAIRP small	TOT	T6 CAIRP small - TOT	AllMYr	14	990	0%		3.603E-04	9.990E-03	1.727E-03	2.270E-05	7.293E-04	5.120E-04	2.379E+00	2.367E+00
Vh	Riverside (SC)	2012	Annual	T6 instate construction heavy	TOT	T6 instate construction heavy - TOT	AllMYr	275	14,911	0%		7.167E-04	1.845E-02	2.618E-03	2.279E-05	9.613E-04	7.254E-04	2.389E+00	2.377E+00
Vh	Riverside (SC)	2012	Annual	T6 instate construction small	TOT	T6 instate construction small - TOT	AllMYr	633	41,050	0%		5.053E-04	1.335E-02	2.133E-03	2.272E-05	8.495E-04	6.226E-04	2.381E+00	2.369E+00
Vh	Riverside (SC)	2012	Annual	T6 instate heavy	TOT	T6 instate heavy - TOT	AllMYr	1,632	89,587	0%		6.961E-04	1.784E-02	2.552E-03	2.277E-05	9.412E-04	7.069E-04	2.387E+00	2.375E+00
Vh	Riverside (SC)	2012	Annual	T6 instate small	TOT	T6 instate small - TOT	AllMYr	3,830	250,673	1%		4.858E-04	1.275E-02	2.062E-03	2.270E-05	8.260E-04	6.010E-04	2.379E+00	2.367E+00
Vh	Riverside (SC)	2012	Annual	T6 OOS heavy	TOT	T6 OOS heavy - TOT	AllMYr	3	170	0%		4.413E-04	1.310E-02	1.893E-03	2.273E-05	7.735E-04	5.527E-04	2.383E+00	2.371E+00
Vh	Riverside (SC)	2012	Annual	T6 OOS small	TOT	T6 OOS small - TOT	AllMYr	8	567	0%		3.603E-04	9.990E-03	1.727E-03	2.270E-05	7.293E-04	5.120E-04	2.379E+00	2.367E+00
Vh	Riverside (SC)	2012	Annual	T6 public	TOT	T6 public - TOT	AllMYr	551	9,944	0%		5.477E-04	1.982E-02	2.084E-03	2.338E-05	8.612E-04	6.334E-04	2.450E+00	2.438E+00
Vh	Riverside (SC)	2012	Annual	T6 utility	TOT	T6 utility - TOT	AllMYr	92	1,814	0%		2.844E-04	1.449E-02	1.369E-03	2.325E-05	6.691E-04	4.566E-04	2.437E+00	2.425E+00
Vh	Riverside (SC)	2012	Annual	T6TS	TOT	T6TS - TOT	AllMYr	1,811	65,362	0%	36,238	4.765E-03	6.525E-03	4.547E-02	1.405E-05	1.106E-04	4.909E-05	1.327E+00	1.320E+00
Vh	Riverside (SC)	2012	Annual	T7 Ag	TOT	T7 Ag - TOT	AllMYr	40	2,781	0%		1.617E-03	3.366E-02	7.260E-03	3.561E-05	1.596E-03	1.348E-03	3.732E+00	3.713E+00
Vh	Riverside (SC)	2012	Annual	T7 CAIRP	TOT	T7 CAIRP - TOT	AllMYr	979	226,462	1%		1.158E-03	2.130E-02	6.119E-03	3.612E-05	1.322E-03	1.096E-03	3.786E+00	3.767E+00
Vh	Riverside (SC)	2012	Annual	T7 CAIRP construction	TOT	T7 CAIRP construction - TOT	AllMYr	78	18,046	0%		1.169E-03	2.161E-02	6.171E-03	3.611E-05	1.339E-03	1.112E-03	3.785E+00	3.766E+00
Vh	Riverside (SC)	2012	Annual	T7 NNOOS	TOT	T7 NNOOS - TOT	AllMYr	960	254,762	1%		9.027E-04	1.349E-02	5.005E-03	3.672E-05	8.655E-04	6.762E-04	3.849E+00	3.830E+00
Vh	Riverside (SC)	2012	Annual	T7 NOOS	TOT	T7 NOOS - TOT	AllMYr	356	82,472	0%		1.191E-03	2.149E-02	6.216E-03	3.647E-05	1.321E-03	1.095E-03	3.822E+00	3.803E+00
Vh	Riverside (SC)	2012	Annual	T7 other port	TOT	T7 other port - TOT	AllMYr	0	0	0%									
Vh	Riverside (SC)	2012	Annual	T7 POAK	TOT	T7 POAK - TOT	AllMYr	0	0	0%									
Vh	Riverside (SC)	2012	Annual	T7 POLA	TOT	T7 POLA - TOT	AllMYr	1,788	263,286	1%		7.533E-04	1.807E-02	4.705E-03	3.673E-05	6.317E-04	4.611E-04	3.849E+00	3.830E+00
Vh	Riverside (SC)	2012	Annual	T7 public	TOT	T7 public - TOT	AllMYr	625	15,512	0%		2.301E-03	4.415E-02	9.437E-03	4.183E-05	1.413E-03	1.180E-03	4.384E+00	4.362E+00
Vh	Riverside (SC)	2012	Annual	T7 Single	TOT	T7 Single - TOT	AllMYr	1,619	121,824	0%		1.069E-03	2.829E-02	4.773E-03	3.535E-05	1.092E-03	8.846E-04	3.706E+00	3.687E+00
Vh	Riverside (SC)	2012	Annual	T7 single construction	TOT	T7 single construction - TOT	AllMYr	624	46,682	0%		1.081E-03	2.873E-02	4.817E-03	3.536E-05	1.105E-03	8.965E-04	3.706E+00	3.687E+00
Vh	Riverside (SC)	2012	Annual	T7 SWCV	TOT	T7 SWCV - TOT	AllMYr	845	42,031	0%		3.843E-04	3.617E-02	1.859E-03	3.917E-05	4.304E-04	2.759E-04	4.106E+00	4.086E+00
Vh	Riverside (SC)	2012	Annual	T7 tractor	TOT	T7 tractor - TOT	AllMYr	1,997	319,526	1%		1.369E-03	2.755E-02	6.534E-03	3.502E-05	1.444E-03	1.208E-03	3.670E+00	3.652E+00
Vh	Riverside (SC)	2012	Annual	T7 tractor construction	TOT	T7 tractor construction - TOT	AllMYr	452	34,805	0%		1.496E-03	2.900E-02	6.979E-03	3.537E-05	1.473E-03	1.235E-03	3.707E+00	3.689E+00
Vh	Riverside (SC)	2012	Annual	T7 utility	TOT	T7 utility - TOT	AllMYr	73	1,827	0%		1.338E-03	3.506E-02	6.594E-03	4.166E-05	8.924E-04	7.010E-04	4.367E+00	4.345E+00
Vh	Riverside (SC)	2012	Annual	T7IS	TOT	T7IS - TOT	AllMYr	144	15,407	0%	2,886	3.423E-03	1.393E-02	8.604E-02	1.400E-05	1.040E-04	4.344E-05	1.258E+00	1.252E+00
Vh	Riverside (SC)	2012	Annual	UBUS	TOT	UBUS - TOT	AllMYr	439	43,397	0%	1,757	2.257E-03	2.096E-02	1.989E-02	3.464E-05	1.202E-03	6.494E-04	3.555E+00	3.538E+00
									39,510,134	100.0%									

Riverside County South Coast (SC) Year 2020

												Tons/Day							
RecType	Sub-Area	CalYr	Season	Veh	Tech	Veh & Tech	MdlYr	Pop	VMT	Percent of VMT	Trips	ROG_TOTAL	NOx_TOTEX	CO_TOTEX	SOx_TOTEX	PM10_TOTAL	PM2_5_TOTAL	CO2_TOTEX	CO2_TOTEX (Pavley I + LCFS)
Vh	Riverside (S	2020	Annual	All Other Buses	TOT	All Other Buses - TOT	AllMYr	206	11,384	0%		9.971E-04	3.579E-02	5.614E-03	1.284E-04	2.515E-03	1.410E-03	1.346E+01	1.211E+01
Vh	Riverside (S	2020	Annual	LDA	TOT	LDA - TOT	AllMYr	632,996	21,649,848	46%	4,009,451	2.258E+00	1.848E+00	2.104E+01	8.243E-02	1.119E+00	4.710E-01	8.224E+03	5.607E+03
Vh	Riverside (S	2020	Annual	LDT1	TOT	LDT1 - TOT	AllMYr	95,441	3,253,364	7%	582,680	1.155E+00	7.142E-01	7.739E+00	1.436E-02	1.730E-01	7.524E-02	1.426E+03	1.018E+03
Vh	Riverside (S	2020	Annual	LDT2	TOT	LDT2 - TOT	AllMYr	229,471	8,459,615	18%	1,450,503	1.289E+00	1.157E+00	1.100E+01	4.368E-02	4.370E-01	1.838E-01	4.358E+03	3.246E+03
Vh	Riverside (S	2020	Annual	LHD1	TOT	LHD1 - TOT	AllMYr	70,530	2,221,104	5%	990,290	1.011E+00	4.157E+00	4.880E+00	1.361E-02	1.674E-01	7.660E-02	1.377E+03	1.239E+03
Vh	Riverside (S	2020	Annual	LHD2	TOT	LHD2 - TOT	AllMYr	11,534	353,370	1%	153,353	7.809E-02	9.096E-01	4.160E-01	2.057E-03	3.765E-02	1.788E-02	2.117E+02	1.906E+02
Vh	Riverside (S	2020	Annual	MCY	TOT	MCY - TOT	AllMYr	39,011	308,593	1%	78,014	1.318E+00	4.332E-01	8.937E+00	7.505E-04	1.541E-02	6.193E-03	5.777E+01	5.199E+01
Vh	Riverside (S	2020	Annual	MDV	TOT	MDV - TOT	AllMYr	250,144	8,160,429	17%	1,557,312	2.229E+00	2.089E+00	1.792E+01	5.409E-02	4.238E-01	1.794E-01	5.388E+03	4.170E+03
Vh	Riverside (S	2020	Annual	MH	TOT	MH - TOT	AllMYr	16,693	154,977	0%	1,670	1.259E-02	2.249E-01	1.961E-01	1.085E-03	1.498E-02	8.300E-03	1.098E+02	9.881E+01
Vh	Riverside (S	2020	Annual	Motor Coach	TOT	Motor Coach - TOT	AllMYr	81	11,652	0%		2.823E-03	4.925E-02	1.744E-02	2.100E-04	2.987E-03	1.822E-03	2.202E+01	1.981E+01
Vh	Riverside (S	2020	Annual	OBUS	TOT	OBUS - TOT	AllMYr	577	19,666	0%	26,332	2.923E-02	5.773E-02	3.256E-01	1.374E-04	9.971E-04	4.097E-04	1.319E+01	1.187E+01
Vh	Riverside (S	2020	Annual	PTO	TOT	PTO - TOT	AllMYr	0	39,527	0%		1.074E-02	2.588E-01	3.383E-02	8.895E-04	2.195E-03	2.020E-03	9.323E+01	8.391E+01
Vh	Riverside (S	2020	Annual	SBUS	TOT	SBUS - TOT	AllMYr	1,112	39,238	0%	1,369	1.202E-02	3.254E-01	9.332E-02	5.057E-04	2.572E-02	1.189E-02	5.243E+01	4.718E+01
Vh	Riverside (S	2020	Annual	T6 Ag	TOT	T6 Ag - TOT	AllMYr	20	680	0%		1.251E-04	2.400E-03	5.817E-04	7.726E-06	2.022E-04	1.320E-04	8.098E-01	7.288E-01
Vh	Riverside (S	2020	Annual	T6 CAIRP heavy	TOT	T6 CAIRP heavy - TOT	AllMYr	5	353	0%		2.664E-05	7.187E-04	1.532E-04	3.961E-06	7.386E-05	3.990E-05	4.152E-01	3.737E-01
Vh	Riverside (S	2020	Annual	T6 CAIRP small	TOT	T6 CAIRP small - TOT	AllMYr	17	1,207	0%		9.361E-05	1.354E-03	5.471E-04	1.348E-05	2.564E-04	1.400E-04	1.413E+00	1.272E+00
Vh	Riverside (S	2020	Annual	T6 instate construction heavy	TOT	T6 instate construction heavy - TOT	AllMYr	439	23,670	0%		1.912E-03	8.451E-02	1.073E-02	2.679E-04	5.169E-03	2.875E-03	2.808E+01	2.527E+01
Vh	Riverside (S	2020	Annual	T6 instate construction small	TOT	T6 instate construction small - TOT	AllMYr	960	64,112	0%		5.834E-03	9.754E-02	3.398E-02	7.180E-04	1.488E-02	8.592E-03	7.526E+01	6.773E+01
Vh	Riverside (S	2020	Annual	T6 instate heavy	TOT	T6 instate heavy - TOT	AllMYr	1,875	104,371	0%		8.373E-03	3.359E-01	4.736E-02	1.179E-03	2.265E-02	1.254E-02	1.236E+02	1.112E+02
Vh	Riverside (S	2020	Annual	T6 instate small	TOT	T6 instate small - TOT	AllMYr	4,352	295,863	1%		2.608E-02	4.238E-01	1.520E-01	3.311E-03	6.739E-02	3.849E-02	3.471E+02	3.123E+02
Vh	Riverside (S	2020	Annual	T6 OOS heavy	TOT	T6 OOS heavy - TOT	AllMYr	3	202	0%		1.527E-05	4.121E-04	8.785E-05	2.271E-06	4.235E-05	2.288E-05	2.380E-01	2.142E-01
Vh	Riverside (S	2020	Annual	T6 OOS small	TOT	T6 OOS small - TOT	AllMYr	10	692	0%		5.367E-05	7.760E-04	3.137E-04	7.728E-06	1.470E-04	8.025E-05	8.100E-01	7.290E-01
Vh	Riverside (S	2020	Annual	T6 public	TOT	T6 public - TOT	AllMYr	692	12,477	0%		8.004E-04	6.170E-02	4.746E-03	1.456E-04	2.511E-03	1.318E-03	1.526E+01	1.373E+01
Vh	Riverside (S	2020	Annual	T6 utility	TOT	T6 utility - TOT	AllMYr	110	2,206	0%		1.454E-04	4.527E-03	9.448E-04	2.541E-05	4.324E-04	2.225E-04	2.664E+00	2.397E+00
Vh	Riverside (S	2020	Annual	T6TS	TOT	T6TS - TOT	AllMYr	2,150	85,067	0%	43,009	7.181E-02	1.136E-01	7.380E-01	5.578E-04	4.289E-03	1.750E-03	5.459E+01	4.913E+01
Vh	Riverside (S	2020	Annual	T7 Ag	TOT	T7 Ag - TOT	AllMYr	43	2,886	0%		9.986E-04	1.853E-02	5.473E-03	5.142E-05	8.972E-04	6.521E-04	5.389E+00	4.850E+00
Vh	Riverside (S	2020	Annual	T7 CAIRP	TOT	T7 CAIRP - TOT	AllMYr	1,245	306,768	1%		9.648E-02	1.008E+00	5.883E-01	5.624E-03	6.608E-02	4.238E-02	5.895E+02	5.305E+02
Vh	Riverside (S	2020	Annual	T7 CAIRP construction	TOT	T7 CAIRP construction - TOT	AllMYr	115	28,307	0%		8.894E-03	9.426E-02	5.421E-02	5.190E-04	6.099E-03	3.911E-03	5.440E+01	4.896E+01
Vh	Riverside (S	2020	Annual	T7 NNOOS	TOT	T7 NNOOS - TOT	AllMYr	1,227	345,103	1%		1.065E-01	8.773E-01	6.456E-01	6.378E-03	6.742E-02	4.131E-02	6.685E+02	6.016E+02
Vh	Riverside (S	2020	Annual	T7 NOOS	TOT	T7 NOOS - TOT	AllMYr	453	111,717	0%		3.879E-02	3.868E-01	2.346E-01	2.082E-03	2.413E-02	1.549E-02	2.182E+02	1.964E+02
Vh	Riverside (S	2020	Annual	T7 other port	TOT	T7 other port - TOT	AllMYr	0	0	0%		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Vh	Riverside (S	2020	Annual	T7 POAK	TOT	T7 POAK - TOT	AllMYr	0	0	0%		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Vh	Riverside (S	2020	Annual	T7 POLA	TOT	T7 POLA - TOT	AllMYr	2,444	428,742	1%		2.068E-01	3.458E+00	1.310E+00	7.873E-03	1.166E-01	8.154E-02	8.252E+02	7.427E+02
Vh	Riverside (S	2020	Annual	T7 public	TOT	T7 public - TOT	AllMYr	780	19,342	0%		5.916E-03	2.843E-01	3.211E-02	4.081E-04	3.738E-03	2.278E-03	4.277E+01	3.850E+01
Vh	Riverside (S	2020	Annual	T7 Single	TOT	T7 Single - TOT	AllMYr	2,118	165,024	0%		3.094E-02	8.488E-01	1.883E-01	2.939E-03	3.129E-02	1.888E-02	3.081E+02	2.773E+02
Vh	Riverside (S	2020	Annual	T7 single construction	TOT	T7 single construction - TOT	AllMYr	949	73,227	0%		1.369E-02	3.895E-01	8.325E-02	1.305E-03	1.393E-02	8.417E-03	1.368E+02	1.231E+02
Vh	Riverside (S	2020	Annual	T7 SWCV	TOT	T7 SWCV - TOT	AllMYr	1,056	52,408	0%		1.297E-02	5.926E-01	7.184E-02	1.007E-03	1.035E-02	6.373E-03	1.055E+02	9.499E+01
Vh	Riverside (S	2020	Annual	T7 tractor	TOT	T7 tractor - TOT	AllMYr	2,655	432,832	1%		9.031E-02	1.946E+00	5.669E-01	7.562E-03	9.415E-02	6.063E-02	7.927E+02	7.134E+02
Vh	Riverside (S	2020	Annual	T7 tractor construction	TOT	T7 tractor construction - TOT	AllMYr	693	54,596	0%		1.307E-02	2.807E-01	8.060E-02	9.721E-04	1.195E-02	7.719E-03	1.019E+02	9.170E+01
Vh	Riverside (S	2020	Annual	T7 utility	TOT	T7 utility - TOT	AllMYr	89	2,208	0%		9.084E-04	1.606E-02	5.276E-03	4.595E-05	3.855E-04	2.221E-04	4.816E+00	4.334E+00
Vh	Riverside (S	2020	Annual	T7IS	TOT	T7IS - TOT	AllMYr	181	20,313	0%	3,623	1.251E-02	1.059E-01	6.712E-01	1.356E-04	1.009E-03	4.043E-04	1.249E+01	1.124E+01
Vh	Riverside (S	2020	Annual	UBUS	TOT	UBUS - TOT	AllMYr	506	50,003	0%	2,025	4.779E-02	4.325E-01	3.916E-01	8.442E-04	2.894E-02	1.521E-02	8.679E+01	7.811E+01
									47,367,146										

Riverside County South Coast (SC) Year 2020 9.072E-01 **MTons/Mile**

RecType	Sub-Area	CalYr	Season	Veh	Tech	Veh & Tech	MdlYr	Pop	VMT	Percent of VMT	Trips	ROG_TOTAL	NOx_TOTEX	CO_TOTEX	SOx_TOTEX	PM10_TOTAL	PM2_5_TOTAL	CO2_TOTEX	CO2_TOTEX (Pavley I + LCFS)
Vh	Riverside (S	2020	Annual	All Other Buses	TOT	All Other Buses - TOT	AllMYr	206	11,384	0%		7.946E-08	2.852E-06	4.474E-07	1.023E-08	2.005E-07	1.123E-07	1.073E-03	9.653E-04
Vh	Riverside (S	2020	Annual	LDA	TOT	LDA - TOT	AllMYr	632,996	21,649,848	46%	4,009,451	9.462E-08	7.742E-08	8.818E-07	3.454E-09	4.689E-08	1.974E-08	3.446E-04	2.349E-04
Vh	Riverside (S	2020	Annual	LDT1	TOT	LDT1 - TOT	AllMYr	95,441	3,253,364	7%	582,680	3.222E-07	1.992E-07	2.158E-06	4.004E-09	4.823E-08	2.098E-08	3.975E-04	2.839E-04
Vh	Riverside (S	2020	Annual	LDT2	TOT	LDT2 - TOT	AllMYr	229,471	8,459,615	18%	1,450,503	1.382E-07	1.240E-07	1.179E-06	4.685E-09	4.687E-08	1.971E-08	4.673E-04	3.481E-04
Vh	Riverside (S	2020	Annual	LHD1	TOT	LHD1 - TOT	AllMYr	70,530	2,221,104	5%	990,290	4.130E-07	1.698E-06	1.993E-06	5.561E-09	6.839E-08	3.129E-08	5.623E-04	5.061E-04
Vh	Riverside (S	2020	Annual	LHD2	TOT	LHD2 - TOT	AllMYr	11,534	353,370	1%	153,353	2.005E-07	2.335E-06	1.068E-06	5.282E-09	9.665E-08	4.590E-08	5.436E-04	4.892E-04
Vh	Riverside (S	2020	Annual	MCY	TOT	MCY - TOT	AllMYr	39,011	308,593	1%	78,014	3.875E-06	1.274E-06	2.627E-05	2.206E-09	4.529E-08	1.821E-08	1.698E-04	1.528E-04
Vh	Riverside (S	2020	Annual	MDV	TOT	MDV - TOT	AllMYr	250,144	8,160,429	17%	1,557,312	2.478E-07	2.323E-07	1.993E-06	6.013E-09	4.712E-08	1.994E-08	5.990E-04	4.636E-04
Vh	Riverside (S	2020	Annual	MH	TOT	MH - TOT	AllMYr	16,693	154,977	0%	1,670	7.372E-08	1.316E-06	1.148E-06	6.349E-09	8.771E-08	4.859E-08	6.427E-04	5.784E-04
Vh	Riverside (S	2020	Annual	Motor Coach	TOT	Motor Coach - TOT	AllMYr	81	11,652	0%		2.198E-07	3.834E-06	1.358E-06	1.635E-08	2.326E-07	1.419E-07	1.714E-03	1.543E-03
Vh	Riverside (S	2020	Annual	OBUS	TOT	OBUS - TOT	AllMYr	577	19,666	0%	26,332	1.348E-06	2.663E-06	1.502E-05	6.339E-09	4.600E-08	1.890E-08	6.086E-04	5.477E-04
Vh	Riverside (S	2020	Annual	PTO	TOT	PTO - TOT	AllMYr	0	39,527	0%		2.465E-07	5.940E-06	7.764E-07	2.041E-08	5.038E-08	4.635E-08	2.140E-03	1.926E-03
Vh	Riverside (S	2020	Annual	SBUS	TOT	SBUS - TOT	AllMYr	1,112	39,238	0%	1,369	2.780E-07	7.524E-06	2.158E-06	1.169E-08	5.947E-07	2.748E-07	1.212E-03	1.091E-03
Vh	Riverside (S	2020	Annual	T6 Ag	TOT	T6 Ag - TOT	AllMYr	20	680	0%		1.669E-07	3.204E-06	7.764E-07	1.031E-08	2.698E-07	1.762E-07	1.081E-03	9.728E-04
Vh	Riverside (S	2020	Annual	T6 CAIRP heavy	TOT	T6 CAIRP heavy - TOT	AllMYr	5	353	0%		6.847E-08	1.847E-06	3.939E-07	1.018E-08	1.899E-07	1.026E-07	1.067E-03	9.605E-04
Vh	Riverside (S	2020	Annual	T6 CAIRP small	TOT	T6 CAIRP small - TOT	AllMYr	17	1,207	0%		7.035E-08	1.017E-06	4.112E-07	1.013E-08	1.927E-07	1.052E-07	1.062E-03	9.557E-04
Vh	Riverside (S	2020	Annual	T6 instate construction heavy	TOT	T6 instate construction heavy - TOT	AllMYr	439	23,670	0%		7.327E-08	3.239E-06	4.114E-07	1.027E-08	1.981E-07	1.102E-07	1.076E-03	9.686E-04
Vh	Riverside (S	2020	Annual	T6 instate construction small	TOT	T6 instate construction small - TOT	AllMYr	960	64,112	0%		8.254E-08	1.380E-06	4.809E-07	1.016E-08	2.105E-07	1.216E-07	1.065E-03	9.584E-04
Vh	Riverside (S	2020	Annual	T6 instate heavy	TOT	T6 instate heavy - TOT	AllMYr	1,875	104,371	0%		7.278E-08	2.919E-06	4.116E-07	1.025E-08	1.969E-07	1.090E-07	1.074E-03	9.669E-04
Vh	Riverside (S	2020	Annual	T6 instate small	TOT	T6 instate small - TOT	AllMYr	4,352	295,863	1%		7.997E-08	1.300E-06	4.661E-07	1.015E-08	2.066E-07	1.180E-07	1.064E-03	9.577E-04
Vh	Riverside (S	2020	Annual	T6 OOS heavy	TOT	T6 OOS heavy - TOT	AllMYr	3	202	0%		6.847E-08	1.847E-06	3.939E-07	1.018E-08	1.899E-07	1.026E-07	1.067E-03	9.605E-04
Vh	Riverside (S	2020	Annual	T6 OOS small	TOT	T6 OOS small - TOT	AllMYr	10	692	0%		7.035E-08	1.017E-06	4.112E-07	1.013E-08	1.927E-07	1.052E-07	1.062E-03	9.557E-04
Vh	Riverside (S	2020	Annual	T6 public	TOT	T6 public - TOT	AllMYr	692	12,477	0%		5.819E-08	4.486E-06	3.450E-07	1.058E-08	1.826E-07	9.586E-08	1.109E-03	9.984E-04
Vh	Riverside (S	2020	Annual	T6 utility	TOT	T6 utility - TOT	AllMYr	110	2,206	0%		5.978E-08	1.862E-06	3.885E-07	1.045E-08	1.778E-07	9.151E-08	1.095E-03	9.859E-04
Vh	Riverside (S	2020	Annual	T6TS	TOT	T6TS - TOT	AllMYr	2,150	85,067	0%	43,009	7.658E-07	1.211E-06	7.871E-06	5.948E-09	4.574E-08	1.866E-08	5.821E-04	5.239E-04
Vh	Riverside (S	2020	Annual	T7 Ag	TOT	T7 Ag - TOT	AllMYr	43	2,886	0%		3.139E-07	5.824E-06	1.720E-06	1.616E-08	2.820E-07	2.050E-07	1.694E-03	1.524E-03
Vh	Riverside (S	2020	Annual	T7 CAIRP	TOT	T7 CAIRP - TOT	AllMYr	1,245	306,768	1%		2.853E-07	2.981E-06	1.740E-06	1.663E-08	1.954E-07	1.253E-07	1.743E-03	1.569E-03
Vh	Riverside (S	2020	Annual	T7 CAIRP construction	TOT	T7 CAIRP construction - TOT	AllMYr	115	28,307	0%		2.850E-07	3.021E-06	1.737E-06	1.663E-08	1.954E-07	1.254E-07	1.743E-03	1.569E-03
Vh	Riverside (S	2020	Annual	T7 NNOOS	TOT	T7 NNOOS - TOT	AllMYr	1,227	345,103	1%		2.800E-07	2.306E-06	1.697E-06	1.677E-08	1.772E-07	1.086E-07	1.757E-03	1.582E-03
Vh	Riverside (S	2020	Annual	T7 NOOS	TOT	T7 NOOS - TOT	AllMYr	453	111,717	0%		3.150E-07	3.141E-06	1.905E-06	1.690E-08	1.959E-07	1.258E-07	1.772E-03	1.595E-03
Vh	Riverside (S	2020	Annual	T7 other port	TOT	T7 other port - TOT	AllMYr	0	0	0%									
Vh	Riverside (S	2020	Annual	T7 POAK	TOT	T7 POAK - TOT	AllMYr	0	0	0%									
Vh	Riverside (S	2020	Annual	T7 POLA	TOT	T7 POLA - TOT	AllMYr	2,444	428,742	1%		4.376E-07	7.317E-06	2.771E-06	1.666E-08	2.467E-07	1.725E-07	1.746E-03	1.571E-03
Vh	Riverside (S	2020	Annual	T7 public	TOT	T7 public - TOT	AllMYr	780	19,342	0%		2.775E-07	1.333E-05	1.506E-06	1.914E-08	1.753E-07	1.068E-07	2.006E-03	1.806E-03
Vh	Riverside (S	2020	Annual	T7 Single	TOT	T7 Single - TOT	AllMYr	2,118	165,024	0%		1.701E-07	4.666E-06	1.035E-06	1.616E-08	1.720E-07	1.038E-07	1.694E-03	1.524E-03
Vh	Riverside (S	2020	Annual	T7 single construction	TOT	T7 single construction - TOT	AllMYr	949	73,227	0%		1.696E-07	4.825E-06	1.031E-06	1.617E-08	1.725E-07	1.043E-07	1.694E-03	1.525E-03
Vh	Riverside (S	2020	Annual	T7 SWCV	TOT	T7 SWCV - TOT	AllMYr	1,056	52,408	0%		2.246E-07	1.026E-05	1.243E-06	1.743E-08	1.791E-07	1.103E-07	1.827E-03	1.644E-03
Vh	Riverside (S	2020	Annual	T7 tractor	TOT	T7 tractor - TOT	AllMYr	2,655	432,832	1%		1.893E-07	4.080E-06	1.188E-06	1.585E-08	1.973E-07	1.271E-07	1.661E-03	1.495E-03
Vh	Riverside (S	2020	Annual	T7 tractor construction	TOT	T7 tractor construction - TOT	AllMYr	693	54,596	0%		2.172E-07	4.665E-06	1.339E-06	1.615E-08	1.986E-07	1.283E-07	1.693E-03	1.524E-03
Vh	Riverside (S	2020	Annual	T7 utility	TOT	T7 utility - TOT	AllMYr	89	2,208	0%		3.732E-07	6.601E-06	2.168E-06	1.888E-08	1.584E-07	9.124E-08	1.979E-03	1.781E-03
Vh	Riverside (S	2020	Annual	T7IS	TOT	T7IS - TOT	AllMYr	181	20,313	0%	3,623	5.585E-07	4.729E-06	2.998E-05	6.054E-09	4.508E-08	1.806E-08	5.576E-04	5.018E-04
Vh	Riverside (S	2020	Annual	UBUS	TOT	UBUS - TOT	AllMYr	506	50,003	0%	2,025	8.671E-07	7.846E-06	7.105E-06	1.532E-08	5.251E-07	2.759E-07	1.575E-03	1.417E-03
									47,367,146										

Riverside County South Coast (SC) Year 2020 2.000E+03 **lbs/Mile**

RecType	Sub-Area	CalYr	Season	Veh	Tech	Veh & Tech	MdlYr	Pop	VMT	Percent of VMT	Trips	ROG_TOTAL	NOx_TOTEX	CO_TOTEX	SOx_TOTEX	PM10_TOTAL	PM2_5_TOTAL	CO2_TOTEX	CO2_TOTEX (Pavley I + LCFS)
Vh	Riverside (S	2020	Annual	All Other Buses	TOT	All Other Buses - TOT	AllMYr	206	11,384	0%		1.752E-04	6.287E-03	9.863E-04	2.256E-05	4.419E-04	2.476E-04	2.365E+00	2.128E+00
Vh	Riverside (S	2020	Annual	LDA	TOT	LDA - TOT	AllMYr	632,996	21,649,848	46%	4,009,451	2.086E-04	1.707E-04	1.944E-03	7.615E-06	1.034E-04	4.351E-05	7.597E-01	5.180E-01
Vh	Riverside (S	2020	Annual	LDT1	TOT	LDT1 - TOT	AllMYr	95,441	3,253,364	7%	582,680	7.103E-04	4.391E-04	4.757E-03	8.828E-06	1.063E-04	4.625E-05	8.764E-01	6.258E-01
Vh	Riverside (S	2020	Annual	LDT2	TOT	LDT2 - TOT	AllMYr	229,471	8,459,615	18%	1,450,503	3.047E-04	2.734E-04	2.600E-03	1.033E-05	1.033E-04	4.346E-05	1.030E+00	7.674E-01
Vh	Riverside (S	2020	Annual	LHD1	TOT	LHD1 - TOT	AllMYr	70,530	2,221,104	5%	990,290	9.104E-04	3.744E-03	4.395E-03	1.226E-05	1.508E-04	6.898E-05	1.240E+00	1.116E+00
Vh	Riverside (S	2020	Annual	LHD2	TOT	LHD2 - TOT	AllMYr	11,534	353,370	1%	153,353	4.420E-04	5.148E-03	2.354E-03	1.164E-05	2.131E-04	1.012E-04	1.198E+00	1.079E+00
Vh	Riverside (S	2020	Annual	MCY	TOT	MCY - TOT	AllMYr	39,011	308,593	1%	78,014	8.544E-03	2.808E-03	5.792E-02	4.864E-06	9.986E-05	4.014E-05	3.744E-01	3.369E-01
Vh	Riverside (S	2020	Annual	MDV	TOT	MDV - TOT	AllMYr	250,144	8,160,429	17%	1,557,312	5.463E-04	5.121E-04	4.393E-03	1.326E-05	1.039E-04	4.397E-05	1.321E+00	1.022E+00
Vh	Riverside (S	2020	Annual	MH	TOT	MH - TOT	AllMYr	16,693	154,977	0%	1,670	1.625E-04	2.902E-03	2.530E-03	1.400E-05	1.934E-04	1.071E-04	1.417E+00	1.275E+00
Vh	Riverside (S	2020	Annual	Motor Coach	TOT	Motor Coach - TOT	AllMYr	81	11,652	0%		4.846E-04	8.453E-03	2.994E-03	3.605E-05	5.128E-04	3.128E-04	3.779E+00	3.401E+00
Vh	Riverside (S	2020	Annual	OBUS	TOT	OBUS - TOT	AllMYr	577	19,666	0%	26,332	2.973E-03	5.871E-03	3.311E-02	1.398E-05	1.014E-04	4.167E-05	1.342E+00	1.208E+00
Vh	Riverside (S	2020	Annual	PTO	TOT	PTO - TOT	AllMYr	0	39,527	0%		5.434E-04	1.310E-02	1.712E-03	4.501E-05	1.111E-04	1.022E-04	4.717E+00	4.246E+00
Vh	Riverside (S	2020	Annual	SBUS	TOT	SBUS - TOT	AllMYr	1,112	39,238	0%	1,369	6.129E-04	1.659E-02	4.757E-03	2.577E-05	1.311E-03	6.059E-04	2.672E+00	2.405E+00
Vh	Riverside (S	2020	Annual	T6 Ag	TOT	T6 Ag - TOT	AllMYr	20	680	0%		3.681E-04	7.064E-03	1.712E-03	2.273E-05	5.949E-04	3.884E-04	2.383E+00	2.145E+00
Vh	Riverside (S	2020	Annual	T6 CAIRP heavy	TOT	T6 CAIRP heavy - TOT	AllMYr	5	353	0%		1.510E-04	4.073E-03	8.684E-04	2.245E-05	4.186E-04	2.261E-04	2.353E+00	2.118E+00
Vh	Riverside (S	2020	Annual	T6 CAIRP small	TOT	T6 CAIRP small - TOT	AllMYr	17	1,207	0%		1.551E-04	2.243E-03	9.065E-04	2.233E-05	4.249E-04	2.319E-04	2.341E+00	2.107E+00
Vh	Riverside (S	2020	Annual	T6 instate construction heavy	TOT	T6 instate construction heavy - TOT	AllMYr	439	23,670	0%		1.615E-04	7.141E-03	9.070E-04	2.264E-05	4.368E-04	2.429E-04	2.373E+00	2.135E+00
Vh	Riverside (S	2020	Annual	T6 instate construction small	TOT	T6 instate construction small - TOT	AllMYr	960	64,112	0%		1.820E-04	3.043E-03	1.060E-03	2.240E-05	4.641E-04	2.680E-04	2.348E+00	2.113E+00
Vh	Riverside (S	2020	Annual	T6 instate heavy	TOT	T6 instate heavy - TOT	AllMYr	1,875	104,371	0%		1.604E-04	6.436E-03	9.075E-04	2.260E-05	4.340E-04	2.403E-04	2.369E+00	2.132E+00
Vh	Riverside (S	2020	Annual	T6 instate small	TOT	T6 instate small - TOT	AllMYr	4,352	295,863	1%		1.763E-04	2.865E-03	1.028E-03	2.238E-05	4.556E-04	2.602E-04	2.346E+00	2.111E+00
Vh	Riverside (S	2020	Annual	T6 OOS heavy	TOT	T6 OOS heavy - TOT	AllMYr	3	202	0%		1.510E-04	4.073E-03	8.684E-04	2.245E-05	4.186E-04	2.261E-04	2.353E+00	2.118E+00
Vh	Riverside (S	2020	Annual	T6 OOS small	TOT	T6 OOS small - TOT	AllMYr	10	692	0%		1.551E-04	2.243E-03	9.065E-04	2.233E-05	4.249E-04	2.319E-04	2.341E+00	2.107E+00
Vh	Riverside (S	2020	Annual	T6 public	TOT	T6 public - TOT	AllMYr	692	12,477	0%		1.283E-04	9.890E-03	7.607E-04	2.333E-05	4.025E-04	2.113E-04	2.446E+00	2.201E+00
Vh	Riverside (S	2020	Annual	T6 utility	TOT	T6 utility - TOT	AllMYr	110	2,206	0%		1.318E-04	4.105E-03	8.566E-04	2.304E-05	3.920E-04	2.017E-04	2.415E+00	2.174E+00
Vh	Riverside (S	2020	Annual	T6TS	TOT	T6TS - TOT	AllMYr	2,150	85,067	0%	43,009	1.688E-03	2.670E-03	1.735E-02	1.311E-05	1.008E-04	4.113E-05	1.283E+00	1.155E+00
Vh	Riverside (S	2020	Annual	T7 Ag	TOT	T7 Ag - TOT	AllMYr	43	2,886	0%		6.920E-04	1.284E-02	3.792E-03	3.563E-05	6.216E-04	4.518E-04	3.734E+00	3.361E+00
Vh	Riverside (S	2020	Annual	T7 CAIRP	TOT	T7 CAIRP - TOT	AllMYr	1,245	306,768	1%		6.290E-04	6.571E-03	3.836E-03	3.667E-05	4.308E-04	2.763E-04	3.843E+00	3.459E+00
Vh	Riverside (S	2020	Annual	T7 CAIRP construction	TOT	T7 CAIRP construction - TOT	AllMYr	115	28,307	0%		6.284E-04	6.660E-03	3.830E-03	3.667E-05	4.309E-04	2.764E-04	3.843E+00	3.459E+00
Vh	Riverside (S	2020	Annual	T7 NNOOS	TOT	T7 NNOOS - TOT	AllMYr	1,227	345,103	1%		6.174E-04	5.084E-03	3.741E-03	3.696E-05	3.907E-04	2.394E-04	3.874E+00	3.487E+00
Vh	Riverside (S	2020	Annual	T7 NOOS	TOT	T7 NOOS - TOT	AllMYr	453	111,717	0%		6.944E-04	6.925E-03	4.199E-03	3.727E-05	4.319E-04	2.773E-04	3.906E+00	3.516E+00
Vh	Riverside (S	2020	Annual	T7 other port	TOT	T7 other port - TOT	AllMYr	0	0	0%									
Vh	Riverside (S	2020	Annual	T7 POAK	TOT	T7 POAK - TOT	AllMYr	0	0	0%									
Vh	Riverside (S	2020	Annual	T7 POLA	TOT	T7 POLA - TOT	AllMYr	2,444	428,742	1%		9.648E-04	1.613E-02	6.109E-03	3.673E-05	5.439E-04	3.803E-04	3.849E+00	3.465E+00
Vh	Riverside (S	2020	Annual	T7 public	TOT	T7 public - TOT	AllMYr	780	19,342	0%		6.117E-04	2.940E-02	3.321E-03	4.220E-05	3.865E-04	2.355E-04	4.423E+00	3.981E+00
Vh	Riverside (S	2020	Annual	T7 Single	TOT	T7 Single - TOT	AllMYr	2,118	165,024	0%		3.749E-04	1.029E-02	2.282E-03	3.562E-05	3.793E-04	2.289E-04	3.734E+00	3.361E+00
Vh	Riverside (S	2020	Annual	T7 single construction	TOT	T7 single construction - TOT	AllMYr	949	73,227	0%		3.739E-04	1.064E-02	2.274E-03	3.564E-05	3.804E-04	2.299E-04	3.736E+00	3.362E+00
Vh	Riverside (S	2020	Annual	T7 SWCV	TOT	T7 SWCV - TOT	AllMYr	1,056	52,408	0%		4.951E-04	2.262E-02	2.741E-03	3.843E-05	3.949E-04	2.432E-04	4.028E+00	3.625E+00
Vh	Riverside (S	2020	Annual	T7 tractor	TOT	T7 tractor - TOT	AllMYr	2,655	432,832	1%		4.173E-04	8.994E-03	2.619E-03	3.494E-05	4.350E-04	2.802E-04	3.663E+00	3.296E+00
Vh	Riverside (S	2020	Annual	T7 tractor construction	TOT	T7 tractor construction - TOT	AllMYr	693	54,596	0%		4.788E-04	1.028E-02	2.953E-03	3.561E-05	4.379E-04	2.828E-04	3.733E+00	3.359E+00
Vh	Riverside (S	2020	Annual	T7 utility	TOT	T7 utility - TOT	AllMYr	89	2,208	0%		8.228E-04	1.455E-02	4.780E-03	4.162E-05	3.492E-04	2.012E-04	4.362E+00	3.926E+00
Vh	Riverside (S	2020	Annual	T7IS	TOT	T7IS - TOT	AllMYr	181	20,313	0%	3,623	1.231E-03	1.043E-02	6.609E-02	1.335E-05	9.938E-05	3.981E-05	1.229E+00	1.106E+00
Vh	Riverside (S	2020	Annual	UBUS	TOT	UBUS - TOT	AllMYr	506	50,003	0%	2,025	1.912E-03	1.730E-02	1.566E-02	3.377E-05	1.158E-03	6.083E-04	3.471E+00	3.124E+00
									47,367,146										

Riverside County South Coast (SC) Year 2035

												Tons/Day							
RecType	Sub-Area	CalYr	Season	Veh	Tech	Veh & Tech	MdlYr	Pop	VMT	Percent of VMT	Trips	ROG_TOTAL	NOx_TOTEX	CO_TOTEX	SOx_TOTEX	PM10_TOTAL	PM2_5_TOTAL	CO2_TOTEX	CO2_TOTEX (Pavley I + LCFS)
Vh	Riverside (SC)	2035	Annual	All Other Buses	TOT	All Other Buses - TOT	AllMYr	252	14,767	0%		1.336E-03	1.898E-02	7.612E-03	1.656E-04	3.201E-03	1.771E-03	1.736E+01	1.562E+01
Vh	Riverside (SC)	2035	Annual	LDA	TOT	LDA - TOT	AllMYr	780,972	26,297,460	44%	4,939,843	1.827E+00	1.743E+00	1.956E+01	1.004E-01	1.381E+00	5.919E-01	1.003E+04	5.968E+03
Vh	Riverside (SC)	2035	Annual	LDT1	TOT	LDT1 - TOT	AllMYr	125,622	4,321,206	7%	771,552	5.539E-01	3.447E-01	3.966E+00	1.914E-02	2.264E-01	9.687E-02	1.911E+03	1.169E+03
Vh	Riverside (SC)	2035	Annual	LDT2	TOT	LDT2 - TOT	AllMYr	311,146	11,298,057	19%	1,957,367	1.324E+00	9.202E-01	9.815E+00	5.844E-02	5.918E-01	2.531E-01	5.838E+03	3.967E+03
Vh	Riverside (SC)	2035	Annual	LHD1	TOT	LHD1 - TOT	AllMYr	82,076	2,419,106	4%	1,152,393	6.288E-01	2.424E+00	3.462E+00	1.479E-02	1.759E-01	7.746E-02	1.499E+03	1.349E+03
Vh	Riverside (SC)	2035	Annual	LHD2	TOT	LHD2 - TOT	AllMYr	13,274	387,503	1%	176,486	5.163E-02	4.321E-01	3.574E-01	2.252E-03	3.937E-02	1.784E-02	2.319E+02	2.087E+02
Vh	Riverside (SC)	2035	Annual	MCY	TOT	MCY - TOT	AllMYr	34,200	247,969	0%	68,394	1.078E+00	3.453E-01	6.727E+00	6.041E-04	1.235E-02	4.952E-03	4.728E+01	4.255E+01
Vh	Riverside (SC)	2035	Annual	MDV	TOT	MDV - TOT	AllMYr	339,809	10,819,616	18%	2,067,673	2.091E+00	1.174E+00	1.247E+01	7.200E-02	5.666E-01	2.422E-01	7.192E+03	4.995E+03
Vh	Riverside (SC)	2035	Annual	MH	TOT	MH - TOT	AllMYr	31,414	303,101	1%	3,142	1.069E-02	2.298E-01	7.692E-02	2.119E-03	2.366E-02	1.101E-02	2.151E+02	1.936E+02
Vh	Riverside (SC)	2035	Annual	Motor Coach	TOT	Motor Coach - TOT	AllMYr	101	15,115	0%		3.838E-03	3.453E-02	2.331E-02	2.710E-04	3.748E-03	2.247E-03	2.840E+01	2.556E+01
Vh	Riverside (SC)	2035	Annual	OBUS	TOT	OBUS - TOT	AllMYr	549	17,959	0%	25,072	2.026E-02	2.662E-02	1.701E-01	1.232E-04	8.971E-04	3.618E-04	1.204E+01	1.084E+01
Vh	Riverside (SC)	2035	Annual	PTO	TOT	PTO - TOT	AllMYr	0	51,757	0%		1.512E-02	1.182E-01	4.652E-02	1.152E-03	2.526E-03	2.324E-03	1.208E+02	1.087E+02
Vh	Riverside (SC)	2035	Annual	SBUS	TOT	SBUS - TOT	AllMYr	1,240	41,719	0%	1,818	1.340E-02	1.595E-01	7.037E-02	5.192E-04	2.449E-02	1.117E-02	5.377E+01	4.840E+01
Vh	Riverside (SC)	2035	Annual	T6 Ag	TOT	T6 Ag - TOT	AllMYr	18	648	0%		5.891E-05	8.253E-04	3.462E-04	7.328E-06	1.393E-04	7.663E-05	7.681E-01	6.913E-01
Vh	Riverside (SC)	2035	Annual	T6 CAIRP heavy	TOT	T6 CAIRP heavy - TOT	AllMYr	7	435	0%		3.357E-05	4.399E-04	1.917E-04	4.870E-06	8.937E-05	4.766E-05	5.104E-01	4.594E-01
Vh	Riverside (SC)	2035	Annual	T6 CAIRP small	TOT	T6 CAIRP small - TOT	AllMYr	21	1,505	0%		1.102E-04	1.400E-03	6.282E-04	1.684E-05	3.045E-04	1.606E-04	1.765E+00	1.589E+00
Vh	Riverside (SC)	2035	Annual	T6 instate construction heavy	TOT	T6 instate construction heavy - TOT	AllMYr	394	22,639	0%		1.900E-03	2.602E-02	1.088E-02	2.539E-04	4.776E-03	2.595E-03	2.662E+01	2.396E+01
Vh	Riverside (SC)	2035	Annual	T6 instate construction small	TOT	T6 instate construction small - TOT	AllMYr	981	66,939	0%		5.118E-03	6.670E-02	2.919E-02	7.494E-04	1.372E-02	7.304E-03	7.855E+01	7.069E+01
Vh	Riverside (SC)	2035	Annual	T6 instate heavy	TOT	T6 instate heavy - TOT	AllMYr	2,137	122,791	0%		1.031E-02	1.413E-01	5.905E-02	1.377E-03	2.591E-02	1.408E-02	1.444E+02	1.299E+02
Vh	Riverside (SC)	2035	Annual	T6 instate small	TOT	T6 instate small - TOT	AllMYr	5,314	362,271	1%		2.771E-02	3.612E-01	1.580E-01	4.056E-03	7.427E-02	3.954E-02	4.251E+02	3.826E+02
Vh	Riverside (SC)	2035	Annual	T6 OOS heavy	TOT	T6 OOS heavy - TOT	AllMYr	4	249	0%		1.924E-05	2.522E-04	1.099E-04	2.792E-06	5.124E-05	2.733E-05	2.926E-01	2.634E-01
Vh	Riverside (SC)	2035	Annual	T6 OOS small	TOT	T6 OOS small - TOT	AllMYr	12	863	0%		6.319E-05	8.024E-04	3.601E-04	9.656E-06	1.746E-04	9.205E-05	1.012E+00	9.109E-01
Vh	Riverside (SC)	2035	Annual	T6 public	TOT	T6 public - TOT	AllMYr	917	16,793	0%		1.256E-03	1.989E-02	8.103E-03	1.935E-04	3.300E-03	1.702E-03	2.028E+01	1.825E+01
Vh	Riverside (SC)	2035	Annual	T6 utility	TOT	T6 utility - TOT	AllMYr	144	2,893	0%		2.040E-04	2.452E-03	1.320E-03	3.319E-05	5.583E-04	2.837E-04	3.479E+00	3.131E+00
Vh	Riverside (SC)	2035	Annual	T6TS	TOT	T6TS - TOT	AllMYr	2,439	86,928	0%	48,798	4.840E-02	5.993E-02	4.227E-01	5.650E-04	4.321E-03	1.731E-03	5.585E+01	5.027E+01
Vh	Riverside (SC)	2035	Annual	T7 Ag	TOT	T7 Ag - TOT	AllMYr	38	2,754	0%		7.196E-04	6.667E-03	4.379E-03	4.932E-05	5.649E-04	3.544E-04	5.169E+00	4.652E+00
Vh	Riverside (SC)	2035	Annual	T7 CAIRP	TOT	T7 CAIRP - TOT	AllMYr	1,650	400,206	1%		1.301E-01	1.135E+00	7.819E-01	7.379E-03	8.423E-02	5.347E-02	7.734E+02	6.961E+02
Vh	Riverside (SC)	2035	Annual	T7 CAIRP construction	TOT	T7 CAIRP construction - TOT	AllMYr	119	28,886	0%		9.389E-03	8.194E-02	5.645E-02	5.326E-04	6.080E-03	3.859E-03	5.583E+01	5.024E+01
Vh	Riverside (SC)	2035	Annual	T7 NNOOS	TOT	T7 NNOOS - TOT	AllMYr	1,629	450,216	1%		1.418E-01	1.124E+00	8.465E-01	8.355E-03	8.712E-02	5.312E-02	8.758E+02	7.882E+02
Vh	Riverside (SC)	2035	Annual	T7 NOOS	TOT	T7 NOOS - TOT	AllMYr	601	145,745	0%		5.257E-02	4.404E-01	3.141E-01	2.734E-03	3.075E-02	1.954E-02	2.866E+02	2.580E+02
Vh	Riverside (SC)	2035	Annual	T7 other port	TOT	T7 other port - TOT	AllMYr	0	0	0%		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Vh	Riverside (SC)	2035	Annual	T7 POAK	TOT	T7 POAK - TOT	AllMYr	0	0	0%		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Vh	Riverside (SC)	2035	Annual	T7 POLA	TOT	T7 POLA - TOT	AllMYr	4,505	891,324	1%		2.669E-01	2.806E+00	1.636E+00	1.594E-02	2.104E-01	1.401E-01	1.670E+03	1.503E+03
Vh	Riverside (SC)	2035	Annual	T7 public	TOT	T7 public - TOT	AllMYr	1,049	26,032	0%		1.243E-02	1.386E-01	7.165E-02	5.401E-04	4.571E-03	2.643E-03	5.661E+01	5.095E+01
Vh	Riverside (SC)	2035	Annual	T7 Single	TOT	T7 Single - TOT	AllMYr	2,719	215,289	0%		4.846E-02	4.094E-01	2.941E-01	3.840E-03	3.977E-02	2.367E-02	4.025E+02	3.622E+02
Vh	Riverside (SC)	2035	Annual	T7 single construction	TOT	T7 single construction - TOT	AllMYr	945	74,725	0%		1.683E-02	1.422E-01	1.022E-01	1.333E-03	1.381E-02	8.218E-03	1.397E+02	1.257E+02
Vh	Riverside (SC)	2035	Annual	T7 SWCV	TOT	T7 SWCV - TOT	AllMYr	1,421	70,534	0%		2.208E-02	2.990E-01	1.295E-01	1.337E-03	1.288E-02	7.613E-03	1.402E+02	1.262E+02
Vh	Riverside (SC)	2035	Annual	T7 tractor	TOT	T7 tractor - TOT	AllMYr	3,394	564,668	1%		1.223E-01	1.288E+00	7.582E-01	9.852E-03	1.182E-01	7.486E-02	1.033E+03	9.294E+02
Vh	Riverside (SC)	2035	Annual	T7 tractor construction	TOT	T7 tractor construction - TOT	AllMYr	692	55,713	0%		1.440E-02	1.394E-01	8.798E-02	9.930E-04	1.171E-02	7.431E-03	1.041E+02	9.367E+01
Vh	Riverside (SC)	2035	Annual	T7 utility	TOT	T7 utility - TOT	AllMYr	116	2,896	0%		1.474E-03	8.818E-03	8.538E-03	5.982E-05	4.907E-04	2.776E-04	6.270E+00	5.643E+00
Vh	Riverside (SC)	2035	Annual	T7IS	TOT	T7IS - TOT	AllMYr	308	34,068	0%	6,167	1.459E-02	1.662E-01	1.069E+00	2.252E-04	1.687E-03	6.728E-04	2.084E+01	1.875E+01
Vh	Riverside (SC)	2035	Annual	UBUS	TOT	UBUS - TOT	AllMYr	671	66,244	0%	2,682	3.144E-02	2.721E-01	2.952E-01	1.038E-03	3.461E-02	1.671E-02	1.069E+02	9.621E+01
									59,949,589	1	11,221,388								

Riverside County South Coast (SC) Year 2035 9.072E-01

RecType	Sub-Area	CalYr	Season	Veh	Tech	Veh & Tech	MdlYr	Pop	VMT	Percent of VMT	Trips	ROG_TOTAL	NOx_TOTEX	CO_TOTEX	SOx_TOTEX	PM10_TOTAL	PM2_5_TOTAL	CO2_TOTEX	CO2_TOTEX (Pavley I + LCFS)
												MTons/Mile							
Vh	Riverside (SC)	2035	Annual	All Other Buses	TOT	All Other Buses - TOT	AllMYr	252	14,767	0%		8.206E-08	1.166E-06	4.676E-07	1.017E-08	1.966E-07	1.088E-07	1.066E-03	9.597E-04
Vh	Riverside (SC)	2035	Annual	LDA	TOT	LDA - TOT	AllMYr	780,972	26,297,460	44%	4,939,843	6.304E-08	6.012E-08	6.749E-07	3.464E-09	4.763E-08	2.042E-08	3.460E-04	2.059E-04
Vh	Riverside (SC)	2035	Annual	LDT1	TOT	LDT1 - TOT	AllMYr	125,622	4,321,206	7%	771,552	1.163E-07	7.237E-08	8.325E-07	4.018E-09	4.754E-08	2.034E-08	4.012E-04	2.453E-04
Vh	Riverside (SC)	2035	Annual	LDT2	TOT	LDT2 - TOT	AllMYr	311,146	11,298,057	19%	1,957,367	1.063E-07	7.389E-08	7.881E-07	4.692E-09	4.752E-08	2.032E-08	4.688E-04	3.185E-04
Vh	Riverside (SC)	2035	Annual	LHD1	TOT	LHD1 - TOT	AllMYr	82,076	2,419,106	4%	1,152,393	2.358E-07	9.090E-07	1.298E-06	5.548E-09	6.597E-08	2.905E-08	5.622E-04	5.060E-04
Vh	Riverside (SC)	2035	Annual	LHD2	TOT	LHD2 - TOT	AllMYr	13,274	387,503	1%	176,486	1.209E-07	1.011E-06	8.367E-07	5.272E-09	9.217E-08	4.177E-08	5.430E-04	4.887E-04
Vh	Riverside (SC)	2035	Annual	MCY	TOT	MCY - TOT	AllMYr	34,200	247,969	0%	68,394	3.943E-06	1.263E-06	2.461E-05	2.210E-09	4.517E-08	1.812E-08	1.730E-04	1.557E-04
Vh	Riverside (SC)	2035	Annual	MDV	TOT	MDV - TOT	AllMYr	339,809	10,819,616	18%	2,067,673	1.754E-07	9.843E-08	1.045E-06	6.037E-09	4.750E-08	2.030E-08	6.030E-04	4.188E-04
Vh	Riverside (SC)	2035	Annual	MH	TOT	MH - TOT	AllMYr	31,414	303,101	1%	3,142	3.199E-08	6.878E-07	2.302E-07	6.343E-09	7.082E-08	3.295E-08	6.437E-04	5.794E-04
Vh	Riverside (SC)	2035	Annual	Motor Coach	TOT	Motor Coach - TOT	AllMYr	101	15,115	0%		2.304E-07	2.073E-06	1.399E-06	1.626E-08	2.249E-07	1.349E-07	1.705E-03	1.534E-03
Vh	Riverside (SC)	2035	Annual	OBUS	TOT	OBUS - TOT	AllMYr	549	17,959	0%	25,072	1.023E-06	1.345E-06	8.594E-06	6.223E-09	4.532E-08	1.828E-08	6.082E-04	5.474E-04
Vh	Riverside (SC)	2035	Annual	PTO	TOT	PTO - TOT	AllMYr	0	51,757	0%		2.650E-07	2.073E-06	8.155E-07	2.020E-08	4.428E-08	4.074E-08	2.117E-03	1.905E-03
Vh	Riverside (SC)	2035	Annual	SBUS	TOT	SBUS - TOT	AllMYr	1,240	41,719	0%	1,818	2.913E-07	3.469E-06	1.530E-06	1.129E-08	5.325E-07	2.430E-07	1.169E-03	1.052E-03
Vh	Riverside (SC)	2035	Annual	T6 Ag	TOT	T6 Ag - TOT	AllMYr	18	648	0%		8.243E-08	1.155E-06	4.844E-07	1.025E-08	1.949E-07	1.072E-07	1.075E-03	9.673E-04
Vh	Riverside (SC)	2035	Annual	T6 CAIRP heavy	TOT	T6 CAIRP heavy - TOT	AllMYr	7	435	0%		7.003E-08	9.178E-07	3.999E-07	1.016E-08	1.865E-07	9.944E-08	1.065E-03	9.584E-04
Vh	Riverside (SC)	2035	Annual	T6 CAIRP small	TOT	T6 CAIRP small - TOT	AllMYr	21	1,505	0%		6.643E-08	8.434E-07	3.786E-07	1.015E-08	1.835E-07	9.676E-08	1.064E-03	9.575E-04
Vh	Riverside (SC)	2035	Annual	T6 instate construction heavy	TOT	T6 instate construction heavy - TOT	AllMYr	394	22,639	0%		7.612E-08	1.043E-06	4.358E-07	1.018E-08	1.914E-07	1.040E-07	1.067E-03	9.599E-04
Vh	Riverside (SC)	2035	Annual	T6 instate construction small	TOT	T6 instate construction small - TOT	AllMYr	981	66,939	0%		6.936E-08	9.040E-07	3.955E-07	1.016E-08	1.860E-07	9.899E-08	1.065E-03	9.581E-04
Vh	Riverside (SC)	2035	Annual	T6 instate heavy	TOT	T6 instate heavy - TOT	AllMYr	2,137	122,791	0%		7.619E-08	1.044E-06	4.362E-07	1.018E-08	1.915E-07	1.040E-07	1.067E-03	9.599E-04
Vh	Riverside (SC)	2035	Annual	T6 instate small	TOT	T6 instate small - TOT	AllMYr	5,314	362,271	1%		6.938E-08	9.045E-07	3.957E-07	1.016E-08	1.860E-07	9.901E-08	1.065E-03	9.581E-04
Vh	Riverside (SC)	2035	Annual	T6 OOS heavy	TOT	T6 OOS heavy - TOT	AllMYr	4	249	0%		7.003E-08	9.178E-07	3.999E-07	1.016E-08	1.865E-07	9.944E-08	1.065E-03	9.584E-04
Vh	Riverside (SC)	2035	Annual	T6 OOS small	TOT	T6 OOS small - TOT	AllMYr	12	863	0%		6.643E-08	8.434E-07	3.786E-07	1.015E-08	1.835E-07	9.676E-08	1.064E-03	9.575E-04
Vh	Riverside (SC)	2035	Annual	T6 public	TOT	T6 public - TOT	AllMYr	917	16,793	0%		6.786E-08	1.074E-06	4.377E-07	1.045E-08	1.783E-07	9.194E-08	1.096E-03	9.861E-04
Vh	Riverside (SC)	2035	Annual	T6 utility	TOT	T6 utility - TOT	AllMYr	144	2,893	0%		6.398E-08	7.688E-07	4.138E-07	1.041E-08	1.751E-07	8.896E-08	1.091E-03	9.817E-04
Vh	Riverside (SC)	2035	Annual	T6TS	TOT	T6TS - TOT	AllMYr	2,439	86,928	0%	48,798	5.051E-07	6.254E-07	4.412E-06	5.896E-09	4.509E-08	1.806E-08	5.829E-04	5.246E-04
Vh	Riverside (SC)	2035	Annual	T7 Ag	TOT	T7 Ag - TOT	AllMYr	38	2,754	0%		2.371E-07	2.196E-06	1.443E-06	1.625E-08	1.861E-07	1.168E-07	1.703E-03	1.533E-03
Vh	Riverside (SC)	2035	Annual	T7 CAIRP	TOT	T7 CAIRP - TOT	AllMYr	1,650	400,206	1%		2.948E-07	2.573E-06	1.772E-06	1.673E-08	1.909E-07	1.212E-07	1.753E-03	1.578E-03
Vh	Riverside (SC)	2035	Annual	T7 CAIRP construction	TOT	T7 CAIRP construction - TOT	AllMYr	119	28,886	0%		2.949E-07	2.573E-06	1.773E-06	1.673E-08	1.909E-07	1.212E-07	1.753E-03	1.578E-03
Vh	Riverside (SC)	2035	Annual	T7 NNOOS	TOT	T7 NNOOS - TOT	AllMYr	1,629	450,216	1%		2.857E-07	2.264E-06	1.706E-06	1.684E-08	1.755E-07	1.070E-07	1.765E-03	1.588E-03
Vh	Riverside (SC)	2035	Annual	T7 NOOS	TOT	T7 NOOS - TOT	AllMYr	601	145,745	0%		3.272E-07	2.741E-06	1.955E-06	1.702E-08	1.914E-07	1.216E-07	1.784E-03	1.606E-03
Vh	Riverside (SC)	2035	Annual	T7 other port	TOT	T7 other port - TOT	AllMYr	0	0	0%									
Vh	Riverside (SC)	2035	Annual	T7 POAK	TOT	T7 POAK - TOT	AllMYr	0	0	0%									
Vh	Riverside (SC)	2035	Annual	T7 POLA	TOT	T7 POLA - TOT	AllMYr	4,505	891,324	1%		2.716E-07	2.856E-06	1.665E-06	1.622E-08	2.141E-07	1.425E-07	1.700E-03	1.530E-03
Vh	Riverside (SC)	2035	Annual	T7 public	TOT	T7 public - TOT	AllMYr	1,049	26,032	0%		4.332E-07	4.829E-06	2.497E-06	1.882E-08	1.593E-07	9.210E-08	1.973E-03	1.776E-03
Vh	Riverside (SC)	2035	Annual	T7 Single	TOT	T7 Single - TOT	AllMYr	2,719	215,289	0%		2.042E-07	1.725E-06	1.239E-06	1.618E-08	1.676E-07	9.973E-08	1.696E-03	1.526E-03
Vh	Riverside (SC)	2035	Annual	T7 single construction	TOT	T7 single construction - TOT	AllMYr	945	74,725	0%		2.044E-07	1.727E-06	1.240E-06	1.618E-08	1.676E-07	9.977E-08	1.696E-03	1.526E-03
Vh	Riverside (SC)	2035	Annual	T7 SWCV	TOT	T7 SWCV - TOT	AllMYr	1,421	70,534	0%		2.840E-07	3.845E-06	1.665E-06	1.720E-08	1.656E-07	9.792E-08	1.803E-03	1.623E-03
Vh	Riverside (SC)	2035	Annual	T7 tractor	TOT	T7 tractor - TOT	AllMYr	3,394	564,668	1%		1.965E-07	2.069E-06	1.218E-06	1.583E-08	1.899E-07	1.203E-07	1.659E-03	1.493E-03
Vh	Riverside (SC)	2035	Annual	T7 tractor construction	TOT	T7 tractor construction - TOT	AllMYr	692	55,713	0%		2.344E-07	2.270E-06	1.433E-06	1.617E-08	1.907E-07	1.210E-07	1.695E-03	1.525E-03
Vh	Riverside (SC)	2035	Annual	T7 utility	TOT	T7 utility - TOT	AllMYr	116	2,896	0%		4.618E-07	2.763E-06	2.675E-06	1.874E-08	1.537E-07	8.697E-08	1.964E-03	1.768E-03
Vh	Riverside (SC)	2035	Annual	T7IS	TOT	T7IS - TOT	AllMYr	308	34,068	0%	6,167	3.885E-07	4.426E-06	2.846E-05	5.998E-09	4.493E-08	1.792E-08	5.549E-04	4.994E-04
Vh	Riverside (SC)	2035	Annual	UBUS	TOT	UBUS - TOT	AllMYr	671	66,244	0%	2,682	4.305E-07	3.727E-06	4.043E-06	1.421E-08	4.739E-07	2.288E-07	1.464E-03	1.318E-03
									59,949,589	1	11,221,388								

Riverside County South Coast (SC) Year 2035 2.000E+03 **lbs/Mile**

RecType	Sub-Area	CalYr	Season	Veh	Tech	Veh & Tech	MdlYr	Pop	VMT	Percent of VMT	Trips	ROG_TOTAL	NOx_TOTEX	CO_TOTEX	SOx_TOTEX	PM10_TOTAL	PM2_5_TOTAL	CO2_TOTEX	CO2_TOTEX (Pavley I + LCFS)
Vh	Riverside (SC)	2035	Annual	All Other Buses	TOT	All Other Buses - TOT	AllMYr	252	14,767	0%		1.809E-04	2.570E-03	1.031E-03	2.243E-05	4.335E-04	2.399E-04	2.351E+00	2.116E+00
Vh	Riverside (SC)	2035	Annual	LDA	TOT	LDA - TOT	AllMYr	780,972	26,297,460	44%	4,939,843	1.390E-04	1.325E-04	1.488E-03	7.637E-06	1.050E-04	4.501E-05	7.627E-01	4.539E-01
Vh	Riverside (SC)	2035	Annual	LDT1	TOT	LDT1 - TOT	AllMYr	125,622	4,321,206	7%	771,552	2.564E-04	1.595E-04	1.835E-03	8.858E-06	1.048E-04	4.483E-05	8.844E-01	5.409E-01
Vh	Riverside (SC)	2035	Annual	LDT2	TOT	LDT2 - TOT	AllMYr	311,146	11,298,057	19%	1,957,367	2.344E-04	1.629E-04	1.737E-03	1.034E-05	1.048E-04	4.480E-05	1.033E+00	7.022E-01
Vh	Riverside (SC)	2035	Annual	LHD1	TOT	LHD1 - TOT	AllMYr	82,076	2,419,106	4%	1,152,393	5.198E-04	2.004E-03	2.862E-03	1.223E-05	1.454E-04	6.404E-05	1.240E+00	1.116E+00
Vh	Riverside (SC)	2035	Annual	LHD2	TOT	LHD2 - TOT	AllMYr	13,274	387,503	1%	176,486	2.665E-04	2.230E-03	1.845E-03	1.162E-05	2.032E-04	9.209E-05	1.197E+00	1.077E+00
Vh	Riverside (SC)	2035	Annual	MCY	TOT	MCY - TOT	AllMYr	34,200	247,969	0%	68,394	8.694E-03	2.785E-03	5.425E-02	4.873E-06	9.958E-05	3.994E-05	3.813E-01	3.432E-01
Vh	Riverside (SC)	2035	Annual	MDV	TOT	MDV - TOT	AllMYr	339,809	10,819,616	18%	2,067,673	3.866E-04	2.170E-04	2.305E-03	1.331E-05	1.047E-04	4.476E-05	1.329E+00	9.234E-01
Vh	Riverside (SC)	2035	Annual	MH	TOT	MH - TOT	AllMYr	31,414	303,101	1%	3,142	7.052E-05	1.516E-03	5.075E-04	1.398E-05	1.561E-04	7.265E-05	1.419E+00	1.277E+00
Vh	Riverside (SC)	2035	Annual	Motor Coach	TOT	Motor Coach - TOT	AllMYr	101	15,115	0%		5.079E-04	4.569E-03	3.085E-03	3.585E-05	4.959E-04	2.973E-04	3.758E+00	3.382E+00
Vh	Riverside (SC)	2035	Annual	OBUS	TOT	OBUS - TOT	AllMYr	549	17,959	0%	25,072	2.256E-03	2.965E-03	1.895E-02	1.372E-05	9.991E-05	4.029E-05	1.341E+00	1.207E+00
Vh	Riverside (SC)	2035	Annual	PTO	TOT	PTO - TOT	AllMYr	0	51,757	0%		5.843E-04	4.569E-03	1.798E-03	4.453E-05	9.762E-05	8.981E-05	4.667E+00	4.201E+00
Vh	Riverside (SC)	2035	Annual	SBUS	TOT	SBUS - TOT	AllMYr	1,240	41,719	0%	1,818	6.423E-04	7.647E-03	3.373E-03	2.489E-05	1.174E-03	5.356E-04	2.578E+00	2.320E+00
Vh	Riverside (SC)	2035	Annual	T6 Ag	TOT	T6 Ag - TOT	AllMYr	18	648	0%		1.817E-04	2.546E-03	1.068E-03	2.261E-05	4.297E-04	2.364E-04	2.369E+00	2.133E+00
Vh	Riverside (SC)	2035	Annual	T6 CAIRP heavy	TOT	T6 CAIRP heavy - TOT	AllMYr	7	435	0%		1.544E-04	2.023E-03	8.817E-04	2.240E-05	4.111E-04	2.192E-04	2.348E+00	2.113E+00
Vh	Riverside (SC)	2035	Annual	T6 CAIRP small	TOT	T6 CAIRP small - TOT	AllMYr	21	1,505	0%		1.464E-04	1.859E-03	8.346E-04	2.238E-05	4.046E-04	2.133E-04	2.346E+00	2.111E+00
Vh	Riverside (SC)	2035	Annual	T6 instate construction heavy	TOT	T6 instate construction heavy - TOT	AllMYr	394	22,639	0%		1.678E-04	2.299E-03	9.608E-04	2.243E-05	4.220E-04	2.293E-04	2.351E+00	2.116E+00
Vh	Riverside (SC)	2035	Annual	T6 instate construction small	TOT	T6 instate construction small - TOT	AllMYr	981	66,939	0%		1.529E-04	1.993E-03	8.720E-04	2.239E-05	4.100E-04	2.182E-04	2.347E+00	2.112E+00
Vh	Riverside (SC)	2035	Annual	T6 instate heavy	TOT	T6 instate heavy - TOT	AllMYr	2,137	122,791	0%		1.680E-04	2.302E-03	9.618E-04	2.243E-05	4.221E-04	2.294E-04	2.351E+00	2.116E+00
Vh	Riverside (SC)	2035	Annual	T6 instate small	TOT	T6 instate small - TOT	AllMYr	5,314	362,271	1%		1.530E-04	1.994E-03	8.723E-04	2.239E-05	4.100E-04	2.183E-04	2.347E+00	2.112E+00
Vh	Riverside (SC)	2035	Annual	T6 OOS heavy	TOT	T6 OOS heavy - TOT	AllMYr	4	249	0%		1.544E-04	2.023E-03	8.817E-04	2.240E-05	4.111E-04	2.192E-04	2.348E+00	2.113E+00
Vh	Riverside (SC)	2035	Annual	T6 OOS small	TOT	T6 OOS small - TOT	AllMYr	12	863	0%		1.464E-04	1.859E-03	8.346E-04	2.238E-05	4.046E-04	2.133E-04	2.346E+00	2.111E+00
Vh	Riverside (SC)	2035	Annual	T6 public	TOT	T6 public - TOT	AllMYr	917	16,793	0%		1.496E-04	2.369E-03	9.651E-04	2.304E-05	3.931E-04	2.027E-04	2.415E+00	2.174E+00
Vh	Riverside (SC)	2035	Annual	T6 utility	TOT	T6 utility - TOT	AllMYr	144	2,893	0%		1.410E-04	1.695E-03	9.122E-04	2.294E-05	3.859E-04	1.961E-04	2.405E+00	2.164E+00
Vh	Riverside (SC)	2035	Annual	T6TS	TOT	T6TS - TOT	AllMYr	2,439	86,928	0%	48,798	1.114E-03	1.379E-03	9.726E-03	1.300E-05	9.940E-05	3.983E-05	1.285E+00	1.156E+00
Vh	Riverside (SC)	2035	Annual	T7 Ag	TOT	T7 Ag - TOT	AllMYr	38	2,754	0%		5.227E-04	4.842E-03	3.181E-03	3.582E-05	4.103E-04	2.574E-04	3.755E+00	3.379E+00
Vh	Riverside (SC)	2035	Annual	T7 CAIRP	TOT	T7 CAIRP - TOT	AllMYr	1,650	400,206	1%		6.499E-04	5.672E-03	3.908E-03	3.688E-05	4.209E-04	2.672E-04	3.865E+00	3.479E+00
Vh	Riverside (SC)	2035	Annual	T7 CAIRP construction	TOT	T7 CAIRP construction - TOT	AllMYr	119	28,886	0%		6.501E-04	5.673E-03	3.908E-03	3.688E-05	4.209E-04	2.672E-04	3.865E+00	3.479E+00
Vh	Riverside (SC)	2035	Annual	T7 NNOOS	TOT	T7 NNOOS - TOT	AllMYr	1,629	450,216	1%		6.298E-04	4.992E-03	3.760E-03	3.712E-05	3.870E-04	2.360E-04	3.890E+00	3.501E+00
Vh	Riverside (SC)	2035	Annual	T7 NOOS	TOT	T7 NOOS - TOT	AllMYr	601	145,745	0%		7.213E-04	6.043E-03	4.310E-03	3.752E-05	4.220E-04	2.681E-04	3.933E+00	3.540E+00
Vh	Riverside (SC)	2035	Annual	T7 other port	TOT	T7 other port - TOT	AllMYr	0	0	0%									
Vh	Riverside (SC)	2035	Annual	T7 POAK	TOT	T7 POAK - TOT	AllMYr	0	0	0%									
Vh	Riverside (SC)	2035	Annual	T7 POLA	TOT	T7 POLA - TOT	AllMYr	4,505	891,324	1%		5.988E-04	6.295E-03	3.671E-03	3.576E-05	4.721E-04	3.143E-04	3.748E+00	3.373E+00
Vh	Riverside (SC)	2035	Annual	T7 public	TOT	T7 public - TOT	AllMYr	1,049	26,032	0%		9.551E-04	1.065E-02	5.505E-03	4.149E-05	3.512E-04	2.030E-04	4.349E+00	3.914E+00
Vh	Riverside (SC)	2035	Annual	T7 Single	TOT	T7 Single - TOT	AllMYr	2,719	215,289	0%		4.502E-04	3.803E-03	2.732E-03	3.567E-05	3.695E-04	2.199E-04	3.739E+00	3.365E+00
Vh	Riverside (SC)	2035	Annual	T7 single construction	TOT	T7 single construction - TOT	AllMYr	945	74,725	0%		4.505E-04	3.806E-03	2.734E-03	3.567E-05	3.696E-04	2.200E-04	3.739E+00	3.365E+00
Vh	Riverside (SC)	2035	Annual	T7 SWCV	TOT	T7 SWCV - TOT	AllMYr	1,421	70,534	0%		6.262E-04	8.478E-03	3.671E-03	3.792E-05	3.652E-04	2.159E-04	3.975E+00	3.577E+00
Vh	Riverside (SC)	2035	Annual	T7 tractor	TOT	T7 tractor - TOT	AllMYr	3,394	564,668	1%		4.332E-04	4.560E-03	2.686E-03	3.489E-05	4.187E-04	2.652E-04	3.657E+00	3.292E+00
Vh	Riverside (SC)	2035	Annual	T7 tractor construction	TOT	T7 tractor construction - TOT	AllMYr	692	55,713	0%		5.169E-04	5.004E-03	3.158E-03	3.565E-05	4.205E-04	2.668E-04	3.736E+00	3.363E+00
Vh	Riverside (SC)	2035	Annual	T7 utility	TOT	T7 utility - TOT	AllMYr	116	2,896	0%		1.018E-03	6.091E-03	5.897E-03	4.132E-05	3.389E-04	1.917E-04	4.331E+00	3.898E+00
Vh	Riverside (SC)	2035	Annual	T7IS	TOT	T7IS - TOT	AllMYr	308	34,068	0%	6,167	8.565E-04	9.758E-03	6.275E-02	1.322E-05	9.905E-05	3.950E-05	1.223E+00	1.101E+00
Vh	Riverside (SC)	2035	Annual	UBUS	TOT	UBUS - TOT	AllMYr	671	66,244	0%	2,682	9.492E-04	8.216E-03	8.912E-03	3.133E-05	1.045E-03	5.044E-04	3.228E+00	2.905E+00
									59,949,589	1	11,221,388								

Trip-Based Fleet Mix in Menifee - Convert to % VMT for EMFAC

Source: Urban Crossroads. Based on counts taken July and August 2012

	LDA	LDT1/ LDT2	MDV	LHD1	LDH2	MHDT	MHDT	HHDT	HHDT	HHDT	HHDT	Buses
McCall	72.23%	21.57%	4.80%	0.16%	0.02%	0.62%	0.18%	0.02%	0.01%	0.00%	0.01%	0.39%
Bradley	74.09%	21.83%	3.51%	0.10%	0.01%	0.28%	0.01%	0.01%	0.00%	0.00%	0.09%	0.09%
Newport	70.07%	22.97%	5.78%	0.11%	0.00%	0.51%	0.28%	0.00%	0.00%	0.00%	0.00%	0.27%
Average Trip %	72.13%	22.13%	4.70%	0.12%	0.01%	0.47%	0.15%	0.01%	0.00%	0.00%	0.03%	0.25%
				0.13%		0.62%		0.04%				
Adjusted for VMT	70.38%	21.59%	4.58%	0.49%	0.04%	2.49%		0.18%				0.24%

Assumes Heavy-Duty trucks travel up to 4 times farther per trip than passenger vehicles and medium duty trucks (e.g., 32 miles v. 8 miles)

VMT	Passenger	91.97%	MDT	4.58%	HDT+Bus	3.45%

Westbound
File Name: D:\Counts Unlimited\Jobs Folder\12Q3\051-12230\MEN001.TWF
Start Date: 8/1/2012
Start Time: 12:00:00 AM
Site Code: 051-12230
City of Menifee
McCall Boulevard
W/ Bradley Road
24 Hour Directional Classification Count

				LDA	LDT1/LDT2	MDV	LHD1	LDH2	MHDT	MHDT	HHDT	HHDT	HHDT	HHDT	Buses
Date	Time	Bikes		Cars & Trailers	2 Axle Long	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Buses
8/1/2012	12:00 AM	0		58	11	2	0	0	1	1	0	0	0	0	0
8/1/2012	01:00 AM	0		30	11	0	0	0	0	0	0	0	0	0	0
8/1/2012	02:00 AM	0		8	5	0	0	0	0	0	0	0	0	0	0
8/1/2012	03:00 AM	0		10	6	6	0	0	0	1	0	0	0	0	0
8/1/2012	04:00 AM	2		28	12	3	0	0	0	0	0	0	0	0	0
8/1/2012	05:00 AM	4		77	13	7	2	0	1	0	0	0	0	0	1
8/1/2012	06:00 AM	3		122	59	25	0	0	5	0	0	0	0	0	0
8/1/2012	07:00 AM	3		196	66	14	4	1	5	4	0	0	0	1	2
8/1/2012	08:00 AM	0		268	102	30	2	0	5	2	0	0	0	0	2
8/1/2012	09:00 AM	6		385	118	24	1	0	3	1	0	0	0	0	1
8/1/2012	10:00 AM	8		427	131	27	0	0	3	2	0	0	0	0	2
8/1/2012	11:00 AM	7		452	150	29	3	0	3	3	0	1	0	0	2
8/1/2012	12:00 PM	2		445	151	39	1	0	6	1	0	0	0	0	1
8/1/2012	01:00 PM	5		446	135	27	0	1	8	0	0	1	0	0	0
8/1/2012	02:00 PM	7		405	162	35	0	0	4	0	1	0	0	0	1
8/1/2012	03:00 PM	5		457	151	34	1	0	5	0	0	0	0	1	2
8/1/2012	04:00 PM	10		530	131	36	0	0	0	0	1	0	0	0	0
8/1/2012	05:00 PM	2		546	132	33	1	0	2	0	0	0	0	0	0
8/1/2012	06:00 PM	5		405	106	23	0	0	3	0	0	0	0	0	2
8/1/2012	07:00 PM	4		291	91	18	0	0	0	0	0	0	0	0	0
8/1/2012	08:00 PM	1		281	86	12	0	0	2	0	1	0	0	0	0
8/1/2012	09:00 PM	1		224	42	10	0	0	0	0	0	0	0	0	0
8/1/2012	10:00 PM	1		118	21	3	0	0	0	0	0	0	0	0	0
8/1/2012	11:00 PM	1		94	15	5	0	0	0	0	0	0	0	0	0
		77		6303	1907	442	15	2	56	15	3	2	0	2	16
				72%	22%	5%	0%	0%	1%	0%	0%	0%	0%	0%	0%

Eastbound
File Name: D:\Counts Unlimited\Jobs Folder\12Q3\051-12230\MEN001.TWF
Start Date: 8/1/2012
Start Time: 12:00:00 AM
Site Code: 051-12230
City of Menifee
McCall Boulevard
W/ Bradley Road
24 Hour Directional Classification Count

				LDA	LDT1/LDT2	MDV	LHD1	LDH2	MHDT	MHDT	HHDT	HHDT	HHDT	HHDT	Buses
Date	Time	Bikes		Cars & Trailers	2 Axle Long	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Buses
8/1/2012	12:00 AM	1		28	6	1	0	0	0	0	0	0	0	0	0
8/1/2012	01:00 AM	0		13	6	0	0	0	0	0	0	0	0	0	0
8/1/2012	02:00 AM	0		14	2	0	0	0	0	0	0	0	0	0	0
8/1/2012	03:00 AM	1		14	9	5	1	0	0	1	0	0	0	0	0
8/1/2012	04:00 AM	0		50	22	5	0	0	0	0	0	0	0	0	1
8/1/2012	05:00 AM	4		114	27	13	1	0	0	0	0	0	0	0	1
8/1/2012	06:00 AM	1		171	56	21	0	0	1	1	0	0	0	0	2
8/1/2012	07:00 AM	0		247	71	23	1	0	4	1	0	0	0	0	3
8/1/2012	08:00 AM	2		303	93	23	0	1	4	1	0	0	0	0	5
8/1/2012	09:00 AM	3		381	108	21	3	0	5	2	0	0	0	0	6
8/1/2012	10:00 AM	5		462	149	20	0	1	6	4	0	0	0	0	3
8/1/2012	11:00 AM	2		442	139	27	2	0	1	0	0	0	0	0	2
8/1/2012	12:00 PM	3		451	144	30	0	0	4	1	0	0	0	0	2
8/1/2012	01:00 PM	1		439	111	28	2	0	4	1	0	0	0	0	2
8/1/2012	02:00 PM	3		432	112	24	1	0	5	0	0	0	0	0	4
8/1/2012	03:00 PM	5		403	127	27	1	0	5	2	0	0	0	0	3
8/1/2012	04:00 PM	3		417	145	24	0	0	6	0	0	0	0	0	4
8/1/2012	05:00 PM	3		411	113	23	0	0	0	1	0	0	0	0	3
8/1/2012	06:00 PM	2		341	86	25	0	0	1	0	0	0	0	0	3
8/1/2012	07:00 PM	0		239	59	13	0	0	2	0	0	0	0	0	3
8/1/2012	08:00 PM	2		230	66	8	0	0	0	0	0	0	0	0	1
8/1/2012	09:00 PM	2		144	42	6	0	0	0	0	0	0	0	0	0
8/1/2012	10:00 PM	1		75	27	1	0	0	0	0	0	0	0	0	0
8/1/2012	11:00 PM	0		47	10	0	0	0	0	0	0	0	0	0	0
		44		5868	1730	368	12	2	48	15	0	0	0	0	48
				73%	21%	5%	0%	0%	1%	0%	0%	0%	0%	0%	1%

Westbound
File Name: D:\Counts Unlimited\Jobs Folder\12Q3\051-12230\MEN003.TWF
Start Date: 7/31/2012
Start Time: 12:00:00 AM
Site Code: 051-12230
City of Menifee
Newport Road
W/ Haun Road
24 Hour Directional Classification Count

				LDA	LDT1/LDT2	MDV	LHD1	LDH2	MHDT	MHDT	HHDT	HHDT	HHDT	HHDT	Buses
Date	Time	Bikes		Cars & Trailers	2 Axle Long	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Buses
7/31/2012	12:00 AM	1		123	28	2	0	0	0	2	0	0	0	0	0
7/31/2012	01:00 AM	0		66	15	1	0	0	0	1	0	0	0	0	0
7/31/2012	02:00 AM	0		57	13	2	0	0	0	2	0	0	0	0	1
7/31/2012	03:00 AM	0		61	16	1	0	0	2	3	0	0	0	0	1
7/31/2012	04:00 AM	3		110	50	12	1	0	4	1	0	0	0	0	1
7/31/2012	05:00 AM	2		190	75	28	0	0	2	2	0	0	0	0	0
7/31/2012	06:00 AM	2		305	137	53	2	0	6	4	0	0	0	0	2
7/31/2012	07:00 AM	4		397	129	54	2	0	13	6	0	0	0	0	2
7/31/2012	08:00 AM	0		559	168	52	1	0	8	7	0	0	0	0	3
7/31/2012	09:00 AM	3		608	207	44	1	0	9	4	0	0	0	0	6
7/31/2012	10:00 AM	3		752	247	44	0	0	3	3	0	0	0	0	2
7/31/2012	11:00 AM	2		783	228	45	0	0	6	5	0	0	0	0	5
7/31/2012	12:00 PM	3		823	263	57	1	0	9	4	0	0	0	0	0
7/31/2012	01:00 PM	2		849	283	58	0	0	5	2	0	0	0	0	5
7/31/2012	02:00 PM	4		892	293	60	1	0	6	3	0	0	0	0	4
7/31/2012	03:00 PM	4		971	322	58	0	0	7	0	0	0	0	0	1
7/31/2012	04:00 PM	6		982	321	66	1	0	6	2	0	0	0	0	4
7/31/2012	05:00 PM	6		1150	343	75	0	0	0	0	0	0	0	0	2
7/31/2012	06:00 PM	11		1059	279	45	0	0	6	1	0	0	0	0	1
7/31/2012	07:00 PM	4		791	222	39	0	0	3	2	0	0	0	0	2
7/31/2012	08:00 PM	2		704	191	38	0	0	4	2	0	0	0	0	0
7/31/2012	09:00 PM	4		599	126	25	0	0	2	0	0	0	0	0	1
7/31/2012	10:00 PM	5		306	75	13	1	0	0	1	0	0	0	0	0
7/31/2012	11:00 PM	2		237	54	2	1	0	0	0	0	0	0	0	0
		73		13374	4085	874	12	0	101	57	0	0	0	0	43
				72%	22%	5%	0%	0%	1%	0%	0%	0%	0%	0%	0%

Eastbound
File Name: D:\Counts Unlimited\Jobs Folder\12Q3\051-12230\MEN003.TWF
Start Date: 7/31/2012
Start Time: 12:00:00 AM
Site Code: 051-12230
City of Menifee
Newport Road
W/ Haun Road
24 Hour Directional Classification Count

				LDA	LDT1/LDT2	MDV	LHD1	LDH2	MHDT	MHDT	HHDT	HHDT	HHDT	HHDT	Buses
Date	Time	Bikes		Cars & Trailers	2 Axle Long	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Buses
7/31/2012	12:00 AM	0		74	27	3	0	0	0	0	0	0	0	0	0
7/31/2012	01:00 AM	0		53	19	0	0	0	0	1	0	0	0	0	0
7/31/2012	02:00 AM	0		50	11	1	0	0	2	1	0	0	0	0	0
7/31/2012	03:00 AM	0		75	21	8	0	0	1	0	0	0	0	0	1
7/31/2012	04:00 AM	2		170	68	24	0	0	4	2	0	0	0	0	0
7/31/2012	05:00 AM	4		334	145	53	0	0	7	1	0	0	0	0	2
7/31/2012	06:00 AM	4		479	188	61	2	0	2	2	0	0	0	0	4
7/31/2012	07:00 AM	4		663	223	65	2	0	8	6	0	0	0	0	7
7/31/2012	08:00 AM	3		669	224	68	5	0	5	6	0	0	0	0	5
7/31/2012	09:00 AM	5		699	230	62	4	0	5	1	0	0	0	0	4
7/31/2012	10:00 AM	3		741	247	92	2	0	5	4	0	0	0	0	2
7/31/2012	11:00 AM	3		752	265	77	3	0	4	2	0	0	0	0	6
7/31/2012	12:00 PM	5		791	285	75	1	0	6	3	0	0	0	0	4
7/31/2012	01:00 PM	9		744	267	64	5	0	7	4	0	0	0	0	5
7/31/2012	02:00 PM	3		718	266	82	2	0	7	1	0	0	0	0	3
7/31/2012	03:00 PM	7		696	259	82	0	0	6	2	0	0	0	0	1
7/31/2012	04:00 PM	6		695	282	78	0	0	2	1	0	0	0	0	0
7/31/2012	05:00 PM	8		704	246	78	0	0	2	1	0	0	0	0	3
7/31/2012	06:00 PM	2		694	246	66	2	0	1	1	0	0	0	0	1
7/31/2012	07:00 PM	5		610	198	49	0	0	4	0	0	0	0	0	2
7/31/2012	08:00 PM	5		556	168	44	0	0	2	1	0	0	0	0	0
7/31/2012	09:00 PM	3		331	116	23	0	0	1	1	0	0	0	0	1
7/31/2012	10:00 PM	1		237	70	15	0	0	1	0	0	0	0	0	1
7/31/2012	11:00 PM	0		168	44	9	0	0	0	1	0	0	0	0	1
		82		11703	4115	1179	28	0	82	42	0	0	0	0	53
				68%	24%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Northbound
File Name: D:\Counts Unlimited\Jobs Folder\12Q3\051-12230\MEN002.TWF
Start Date: 7/31/2012
Start Time: 12:00:00 AM
Site Code: 051-12230
City of Menifee
Bradley Road
N/ Newport Road
24 Hour Directional Classification Count

				LDA	LDT1/LDT2	MDV	LHD1	LDH2	MHDT	MHDT	HHDT	HHDT	HHDT	HHDT	Buses
Date	Time	Bikes		Cars & Trailers	2 Axle Long	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Buses
7/31/2012	12:00 AM	0		19	5	0	0	0	0	0	0	0	0	0	0
7/31/2012	01:00 AM	0		9	5	0	0	0	0	0	0	0	0	0	0
7/31/2012	02:00 AM	0		7	2	0	0	0	0	0	0	0	0	0	0
7/31/2012	03:00 AM	0		7	0	1	0	0	0	0	0	0	0	0	0
7/31/2012	04:00 AM	0		9	4	2	0	0	0	0	0	0	0	0	0
7/31/2012	05:00 AM	0		34	15	3	0	0	0	0	0	0	0	0	0
7/31/2012	06:00 AM	0		61	17	3	0	0	1	0	0	0	0	0	0
7/31/2012	07:00 AM	1		119	35	2	2	0	2	0	0	0	0	0	0
7/31/2012	08:00 AM	0		212	61	10	0	0	2	0	0	0	0	0	0
7/31/2012	09:00 AM	0		258	86	12	1	0	1	0	0	0	0	0	0
7/31/2012	10:00 AM	3		331	105	7	0	0	4	0	0	0	0	0	0
7/31/2012	11:00 AM	0		316	86	14	0	0	3	0	0	0	0	0	0
7/31/2012	12:00 PM	0		332	86	11	0	0	0	0	0	0	0	1	0
7/31/2012	01:00 PM	2		318	100	19	0	0	1	0	0	0	0	0	2
7/31/2012	02:00 PM	0		342	97	13	0	1	1	1	1	0	0	1	2
7/31/2012	03:00 PM	0		369	117	20	2	0	2	0	0	0	0	0	0
7/31/2012	04:00 PM	4		356	124	19	1	0	2	0	0	0	0	0	0
7/31/2012	05:00 PM	2		371	95	12	0	0	4	0	0	0	0	0	1
7/31/2012	06:00 PM	4		367	84	10	0	0	1	0	0	0	0	1	0
7/31/2012	07:00 PM	3		268	70	16	0	0	1	0	0	0	0	0	0
7/31/2012	08:00 PM	2		241	62	7	0	0	0	0	0	0	0	0	0
7/31/2012	09:00 PM	1		136	31	5	0	0	0	0	0	0	0	0	0
7/31/2012	10:00 PM	3		80	19	4	0	0	0	0	0	0	0	0	0
7/31/2012	11:00 PM	0		60	12	3	0	0	0	0	0	0	0	0	0
		25		4622	1318	193	6	1	25	1	1	0	0	3	5
				75%	21%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Southbound
File Name: D:\Counts Unlimited\Jobs Folder\12Q3\051-12230\MEN002.TWF
Start Date: 7/31/2012
Start Time: 12:00:00 AM
Site Code: 051-12230
City of Menifee
Bradley Road
N/ Newport Road
24 Hour Directional Classification Count

				LDA	LDT1/LDT2	MDV	LHD1	LDH2	MHDT	MHDT	HHDT	HHDT	HHDT	HHDT	Buses
Date	Time	Bikes		Cars & Trailers	2 Axle Long	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Buses
7/31/2012	12:00 AM	0		26	5	0	0	0	0	0	0	0	0	0	0
7/31/2012	01:00 AM	0		11	3	0	0	0	0	0	0	0	0	0	0
7/31/2012	02:00 AM	0		8	2	0	0	0	0	0	0	0	0	0	0
7/31/2012	03:00 AM	0		11	0	0	0	0	0	0	0	0	0	0	0
7/31/2012	04:00 AM	0		40	15	4	0	0	0	0	0	0	0	0	0
7/31/2012	05:00 AM	0		59	15	8	1	0	0	0	0	0	0	0	0
7/31/2012	06:00 AM	4		95	38	9	0	0	0	0	0	0	0	0	0
7/31/2012	07:00 AM	2		172	65	10	0	0	2	0	0	0	0	0	0
7/31/2012	08:00 AM	0		215	69	18	0	0	0	0	0	0	0	0	1
7/31/2012	09:00 AM	3		275	86	18	2	0	0	0	0	0	0	0	0
7/31/2012	10:00 AM	0		118	36	6	0	0	0	0	0	0	0	0	0
7/31/2012	11:00 AM	0		0	0	0	0	0	0	0	0	0	0	0	0
7/31/2012	12:00 PM	0		184	50	11	0	0	1	0	0	0	0	1	0
7/31/2012	01:00 PM	1		297	83	15	0	0	0	0	0	0	0	1	1
7/31/2012	02:00 PM	0		0	0	0	0	0	0	0	0	0	0	0	0
7/31/2012	03:00 PM	0		0	0	0	0	0	0	0	0	0	0	0	0
7/31/2012	04:00 PM	0		0	0	0	0	0	0	0	0	0	0	0	0
7/31/2012	05:00 PM	0		40	16	5	0	0	0	0	0	0	0	1	0
7/31/2012	06:00 PM	1		286	68	10	0	0	0	0	0	0	0	0	0
7/31/2012	07:00 PM	0		105	32	1	0	0	0	0	0	0	0	1	0
7/31/2012	08:00 PM	2		216	61	4	0	0	2	0	0	0	0	0	0
7/31/2012	09:00 PM	0		113	48	4	0	0	0	0	0	0	0	0	1
7/31/2012	10:00 PM	3		59	16	1	0	0	0	0	0	0	0	0	0
7/31/2012	11:00 PM	0		39	13	2	0	0	0	0	0	0	0	0	0
		16		2369	721	126	3	0	5	0	0	0	0	4	3
				73%	22%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%

URBAN CROSSROADS

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July 24, 2013

Ms. Wendy Grant
THE PLANNING CENTER | DC&E
3 MacArthur Place, Suite 1100
Santa Ana, CA 92707

Subject: Menifee General Plan Circulation Element VMT Reduction Strategies

Dear Ms. Grant:

Urban Crossroads, Inc. is pleased to submit this letter summarizing our analysis on the City of Menifee Vehicle Miles Travelled (VMT) reduction strategies. The purpose of this work effort is to quantify the anticipated reduction in VMT related to the proposed City of Menifee policies and plans using the emission reduction strategies identified by the California Air Pollution Control Officers Association (CAPCOA) in the *Quantifying Greenhouse Gas Mitigation Measures, August 2010* publication.

Introduction

According to CAPCOA, the Land Use and Circulation Element's policies can be a means of reducing Vehicle Miles Travel (VMT). VMT is a key measure of effectiveness with regard to various initiatives intended to reduce emissions, including Green House Gas (GHG) emissions. The CAPCOA report recognizes that land use planning provides the best opportunity to influence GHG emissions through a reduction in overall VMT. This is accomplished by reducing the distance people travel in combination with a substantial increase in local job opportunities. In addition to the land use based VMT reductions, further reductions (while limited) are possible by providing alternative transportation options such as Neighborhood Electric Vehicles (NEV).

Land Use Planning VMT Reductions

While the CAPCOA report is primarily focused on the quantification of project-level mitigation measures, the VMT land use reductions for the City of Menifee have been calculated using actual VMT calculations from the Menifee Traffic Model. This is possible since the traffic model calculates average trip lengths based on actual land use characteristics and interactions. Since the model is focused on vehicle trips by land use type, additional VMT reductions may be considered to further reduce the number of vehicles trips that have not been accounted for in the traffic model. Alternative transportation options (such as NEV's) are not considered in the vehicular based traffic model VMT estimates.

The Menifee Traffic Model is a refined version of the 2035 Riverside County Transportation Analysis Model (RivTAM) that includes buildout of the General Plan land uses within the City of Menifee. The VMT extracted from the model takes into account land use patterns and trip generation, as well as the

interaction of these trips within the City and between the City and surrounding areas. It is also important to recognize that each vehicle trip has two ends, commonly referred to as an origin and a destination. Therefore, the calculation must divide the initial VMT estimate in half to account for the contribution of both ends of the trip. For trips internal to the City of Menifee, the VMT attributable to both ends of the trip is accounted for. Trips that involve one trip-end outside the City of Menifee are allocated 50% to the City of Menifee and 50% to the other end of the trip. All shopping, recreational, social, and work related trips contribute to the VMT estimates. The VMT for the City of Menifee includes the following:

- 100% of the internal to internal trips
- 50% of the internal to external trips
- 50% of the external to internal trips
- 0% of the external to external trips

Table 1 provides a summary of the Menifee Traffic Model VMT for existing, RCIP 2035, Proposed Menifee General Plan Post-2035, and the General Plan Economic Development Corridor (EDC) Alternative conditions. As shown on Table 1, the City of Menifee produces a total of approximately 4,132,000 VMT per day for existing conditions, and approximately 5,206,000 VMT per day for RCIP 2035 conditions. For RCIP 2035 conditions, the VMT is generated by an assumed service population of 133,481, consisting of 112,937 residents and 20,544 employees within the city. The RCIP 2035 dataset for Menifee incorporates a significant imbalance of jobs and housing, which is not in line with the General Plan vision for the city. The 2035 per capita VMT is therefore high (more than 39 vehicle miles per day per resident/employee).

For Post-2035 conditions with the Proposed Menifee General Plan, the City of Menifee produces a total of approximately 5,956,000 VMT per day for Post-2035 conditions with the Proposed Menifee General Plan. This level of activity is generated by an assumed service population of 272,644, consisting of 172,090 residents and 100,554 employees within the city. The Post-2035 dataset with the Proposed Menifee General Plan significantly improves the balance of jobs and housing within the city, in comparison to existing and RCIP 2035 datasets that indicate a shortfall of local jobs. The Post-2035 per capita VMT with the Proposed Menifee General Plan is therefore 43.6% lower than the RCIP 2035 scenario (slightly less than 22 vehicle miles per day per resident/employee).

The Post-2035 dataset with the General Plan EDC Alternative further improves the balance of jobs and housing within the city in comparison to the Proposed Menifee General Plan, and significantly improves the jobs/housing balance in comparison to existing and RCIP 2035 datasets that indicate a shortfall of local jobs. The Post-2035 per capita VMT with the General Plan EDC Alternative is therefore 46.2% lower than the RCIP 2035 scenario (slightly more than 21 vehicle miles per day per resident/employee).

City of Menifee VMT Reduction Strategies

Table 2 provides a summary of the additional CAPCOA VMT reduction strategies recommended in the General Plan Circulation Element. The three additional reduction strategies are defined as goals of the General Plan within the Circulation Element. While limited when compared to the potential reductions provided through balanced land use planning, the effect of various measures related to encouraging the use of alternative modes of transport, such as pedestrian facilities, bicycle facilities, enhanced transit accessibility, and establishing a formal neighborhood electric vehicle (NEV) network / expanding the use of NEVs is expected to result in a 2.6% reduction in VMT.

Conclusions

The expected overall per capita VMT reductions are shown on Table 3. The per capita VMT reductions include balanced land use planning through a reduction in the distance people travel and with a substantial increase in local job opportunities as well as the additional CAPCOA VMT reduction strategies identified as goals within the Circulation Element. The Post-2035 per capita VMT with the Proposed Menifee General Plan is therefore expected to be 46.2% lower than the RCIP 2035 scenario. For General Plan EDC Alternative that further improves the balance of jobs and housing, the VMT reduction is estimated at 48.8%. If you have any questions, please contact me directly at (949) 660-1994, extension 203.

Respectfully submitted,

URBAN CROSSROADS, INC.

Bill Lawson, P.E., INCE
Principal

Table 1

Menifee Traffic Model Vehicle Miles Traveled (VMT) Results

Time Period	Menifee VMT by Land Use Scenario			
	Existing	RCIP 2035	GP (Post-2035)	GP (EDC Alt)
AM - Morning	781,000	984,000	1,093,000	1,126,000
MD - Midday	1,268,000	1,597,000	1,810,000	1,819,000
NT - Nighttime	865,000	1,090,000	1,255,000	1,265,000
PM - Evening	1,218,000	1,535,000	1,799,000	1,903,000
Total - Daily	**4,132,000**	**5,206,000**	**5,956,000**	**6,113,000**
Population	86,412	112,937	172,090	171,540
Employment	19,548	20,544	100,554	115,433
Total - Pop/Emp	105,960	133,481	272,644	286,973
Per Capita VMT	39	39	22	21
Per Capita % VMT Reduction			43.6%	46.2%

Table 2

VMT Reduction Strategies[1]

Measure Number	GP Goal [2]	Strategy	VMT Reduction Factors		Implementation Measure
			Range	Estimate	
SDT-1	C2	Proivde Pedestrian Network Improvements	0.0% - 2.0%	1.0%	Pedestrian accomodation within project site and connecting off-site.
SDT-3	C3	Implement a Neighborhood Electric Vehicle (NEV) Network	0.5% - 12.7%	1.5%	Internal NEV connections and connnections to other existing NEV networsk serving all other types of uses.
TST-3	C4	Expand Tranist Network	0.1% - 8.2%	0.1%	Transit operational strategies alone are not enough for a large modal shift as evidenced by the low range VMT reductions.
			Total:	2.6%	

[1] California Air Pollution Control Officers Association "Quantifying Greenhouse Gas Mitigation Measures", August 2010.

[2] City of Menifee General Plan Circulation Element Goal.

Table 3

Per Capita Menifee Vehicle Miles Traveled (VMT) Reductions

Condition	Category	Per Capita VMT Reduction	
		GP (Post-2035)	GP (EDC Alt)
Menifee Traffic Model VMT [1]	Land Use Planning	43.6%	46.2%
VMT Reduction Strategies [2]	Alternative Transportation Options	2.6%	2.6%
Combined Total VMT Reduction		46.2%	48.8%

[1] City of Menifee per capita VMT reduction compared with the currently adopted RCIP 2035 per capita VMT (Table 1).

[2] City of Menifee General Plan Circulation Element Goals to reduce VMT (Table 2).

Agriculture- Dairy

Riverstock 2010 Livestock

Source: 2011. Riverside, County of, Agricultural Commissioner's Office. Riverside County Agricultural Production Report. http://www.rivcoag.org/opencms/publications/

Livestock	2010 number of head	Weight (cwt)	Weight (lbs)	Average Weight (lbs)/ head
Cattle and Calves	35,665	188,832	18,883,200	529
Sheep and Lambs	9,224	12,193	1,219,300	132
Other Livestock*	NA			

cwt = hundred weight = 100 lbs

*includes baby chicks, chickens, ducks, and pheasants

Milk Cow Density by Cropland Acre

Source: Feedstuffs. 2010. Milking Cow Density by County. http://www.feedstuffs.com/Media/MediaManager/2010_milk_cow_map.pdf

	Range	High
Riverside County	0.10 to 1	1

	Acres	Dairy Cows	Weight of Cows (lbs)	Weight of Cows (kg)
Menifee Dairy	101	101	53,475	24,256

Summary Livestock Emissions -	422 $MTCO_2e$

Dairy Cows - Manure Management

Source: Intergovernmental Panel on Climate Change (IPCC). 2006. IPPC Guidelines for National Greenhouse Gas Inventories. Chapter 10: Emissions from Livestock and Manure Management.

Livestock production can result in methane (CH_4) emissions from enteric fermentation and both CH_4 and nitrous oxide (N_2O) emissions from livestock manure management systems. Methane emissions from manure management tend to be smaller than enteric emissions.

Direct Emissions - Tier 1 Approach CH_4

Animal Mass/Head	240	kg (Based on Riverside County Crop Report)
Menifee Average Annual Temperature:	63.8F	Source: WRCC
	18	Celcius

Table 10.14 - Manure Management Methane Emission Factors By Temperature For Cattle, Swine, and Buffalo (North America)

	kg CH_4/ head/ year
Dairy	71
Other Cattle	2

CH_4 Manure Emissions: $EF_{(T)} \times N_{(T)}$

$EF_{(T)}$ Emission factor for the defined livestock population (kg CH_4/head/year)

$N_{(T)}$ the number of head of livestock species/category T

T species/category of livestock

Direct Menifee Manure Mangement from Dairy Cows CH_4:

Population	101	dairy cows
CH_4 Manure Management =	7,171	kg/year
CH_4 Manure Management =	7.171	MTons/year
CO_2 Manure Management=	151	MTons/Year

Dairy Cows - Manure Management

Source: Intergovernmental Panel on Climate Change (IPCC). 2006. IPPC Guidelines for National Greenhouse Gas Inventories. Chapter 10: Emissions from Livestock and Manure Management.

Livestock production can result in methane (CH_4) emissions from enteric fermentation and both CH_4 and nitrous oxide (N_2O) emissions from livestock manure management systems. Methane emissions from manure management tend to be smaller than enteric emissions.

Direct Emissions - Tier 1 Approach N_2O

Livestock in Menifee $N_{(T)}$ 101

$Nex_{(T)}$ = $N_{rate(T)}$ x (TAM/1000) x 365

$N_{rate(T)}$ default N excretion rate, kg N/1000 kg animal mass/day

TAM(T) Typical animal mass for livestock category T, kg/animal

Table 10.19 - Default Values for Nitrogen Extretion Rate (North America)

TAM	kg N/1000 kg animal mass/day	rate
Dairy	0.44	
Other Cattle	0.31	

Table 10.20 - Default Values for the Fraction of Nitrogen in Feed Intake of Livestock that is Retained by the Different Livestock Species/Categories [Fraction N-intake retained by the animal]

$N_{rate(T)}$	$N_{retention(T)}$	kg N retained/animal/year)
Dairy cows	0.2	
Other cattle	0.07	

$Nex_{(T)}$ = 0.03212

Table 10.21 - Default Values for Direct N2O Emission Factors

$EF_{3(S)}$	kg N2O-N/kg N excreted
Uncovered Anaerobic Lagoon	0
Anearobic Digester	0
Liquid/Slurry - with Natural Cover	0.005
Liquid/Slurry - without Natural Cover	0

$MS_{(T,S)}$ Assumes 100% lagoon*

*Table 10A-4 assumes 77% of waste of dair cows is in lagoons.

In California manure is likely to be managed in anaerobic digesters.

N_2O Manure Emissions: ($N_{(T)}$ x $Nex_{(T)}$ x $MS_{(T,S)}$) x $EF_{3(S)}$ x 44/28

$N_{(T)}$ the number of head of livestock species/category T in the country

$Nex_{(T)}$ annual average N excretion per head of species/category T, kg N per/animal/year

$MS_{(T,S)}$ Fraction of total annual nitrogen excretion for each livestock species/category T that is managed in manure management system S, dimensionless

$EF_{3(S)}$ emission factor for direct N_2O from manure management system S, kg N_2O-N/kg N in manure management system S

S Manure management System

T species/category of livestock

44/28 conversion of $(N_2O\text{- }N)_{(mm)}$ emissions to $N2O_{(mm)}$ emissions

Dairy Cows - Manure Management

Source: Intergovernmental Panel on Climate Change (IPCC). 2006. IPPC Guidelines for National Greenhouse Gas Inventories. Chapter 10: Emissions from Livestock and Manure Management.

Livestock production can result in methane (CH_4) emissions from enteric fermentation and both CH_4 and nitrous oxide (N_2O) emissions from livestock manure management systems. Methane emissions from manure management tend to be smaller than enteric emissions.

Direct Menifee Manure Mangement from Dairy Cows N_2O:

N_2O Direct Manure Management =	0.000	kg/year
N_2O Direct Manure Management =	0.0000	MTons/year
CO_2 Manure Management=	0.00	MTons/Year

Indirect Emissions - Tier 1 Approach N_2O

Livestock in Menifee $N_{(T)}$	101
$Nex_{(T)}$ =	0.03212
$MS_{(T,S)}$	Assumes 100% lagoon*

$N_{volatilzation\text{-}MMS}$ = $[N_{(T)} \times Nex_{(T)} \times MS_{(T,S)}] \times [Frac_{GasMS}/100]_{(T,S)}$

$N_{volatilzation\text{-}MMS}$ amount of manure nitrogen that is lost due to volatilisation of NH_3 and NO_x (kg N/year)

$N_{(T)}$ the number of head of livestock species/category T

$Nex_{(T)}$ annual average N excretion per head of species/category T, kg N per/animal/year

$MS_{(T,S)}$ that is managed in manure management system S in the country, dimensionless

$Frac_{GasMS}$ percent of managed manure nitrogen for livestock categy T that volatilzes as NH_3 and NO_x in the manure management system S, %

Table 10.22 - Default Values for Nitrogen Loss Due to Volatilisation of NH_3 and NO_x from Manure Management

$Frac_{GasMS}$	
Dairy Cow- Anearobic Lagoon	35%
Dairy Cow Liquid/Slurry	40%

$N_{volatilzation\text{-}MMS}$ = 0.01135442

$N_2O_{G(mm)}$ = $(N_{volatilzation\text{-}MMS} \times EF_4) \times (44/28)$

$N_2O_{G(mm)}$ indirect N_2O emissions due to volatilzation of N from Manure Management (kg N_2O/year)

EF_4 and water surfaces (kg N_2O-N)

EF_4 = 0.01 kg N_2O-N

Indirect Menifee Manure Mangement from Dairy Cows N_2O:

N_2O Indirect Manure Management =	0.00018	kg/year
N_2O Indirect Manure Management =	1.784E-07	MTons/year
CO_2 Manure Management=	0.00	MTons/Year

Total Direct + Indirect From Manure Management	**151**	**$MTCO_2e$**

General Conversion Factors

1 lbs	0.4536	kg
kg	0.001	MTons

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

Dairy Cows - Enteric Fermentation

Source: Intergovernmental Panel on Climate Change (IPCC). 2006. IPPC Guidelines for National Greenhouse Gas Inventories. Chapter 10: Emissions from Livestock and Manure Management.

Livestock production can result in methane (CH_4) emissions from enteric fermentation and both CH_4 and nitrous oxide (N_2O) emissions from livestock manure management systems.

Tier 1 Approach

Table 10.11 - Enteric Fermentation Emission Factors for Cattle (North America)

	kg CH_4/ head/ year	Notes:
Dairy	128	Average milk production of 8,400 kg/head/year
Other Cattle	53	Includes beef cows, bulls, calves, growing steers/heifers, and feedlot cattle

CH_4 Emissions: $EF_{(T)}$ x $N_{(T)}$

$EF_{(T)}$ Emission factor for the defined livestock population (kg CH_4/head/year)

$N_{(T)}$ the number of head of livestock species/category T

T species/category of livestock

Menifee Enteric Fermentation from Dairy Cows:

Population	101	dairy cows
CH_4 =	12,928	kg/year
CH_4 =	12.928	MTons/year
CO_2 =	**271**	**MTons/Year**

General Conversion Factors

1 lbs	0.4536	kg
kg	0.001	MTons

Source: California Air Resources Board (CARB). 2010. Local Government Operations Protocol. Version 1.1. Appendix F, Standard Conversion Factors

Other Emissions Sources - Off-road Equipment

	2010 MTons of CO2e	Notes:
Agricultural Equipment	768	Based on the percentage of Farmland & other agricultural (crop) land in Menifee compared to the agricultural land in Riverside County.
Construction Equipment	35,969	Based on the percentage of residential building building permits issued in Menifee compared to Riverside County.
Lawn & Garden Equipment	1,350	Based on the percentage of residential units in Menifee compared to Riverside County.
Light Commercial Equipment	563	Based on the percentage of employment in Menifee compared to Riverside County.
TOTAL	38,650	

Source: OFFROAD2007. Based on equipment use in Riverside County.

Year 2012 BAU	2012 MTons of CO2e	Notes
Agricultural Equipment	768	Same as 2010
Construction Equipment	35,969	similar to historic
Lawn & Garden Equipment	1,554	proportional to population growth
Light Commercial Equipment	648	proportional to employment growth
TOTAL	38,940	

Year 2020 BAU	2020 MTons of CO2e	Notes
Agricultural Equipment	384	Phase out of Agriculture (50%)
Construction Equipment	35,969	similar to historic
Lawn & Garden Equipment	1,693	proportional to population growth
Light Commercial Equipment	706	proportional to employment growth
TOTAL	38,752	

Year 2035 BAU	2035 MTons of CO2e	Notes
Agricultural Equipment	0	No agriculture
Construction Equipment	35,969	similar to historic
Lawn & Garden Equipment	1,953	proportional to population growth
Light Commercial Equipment	815	proportional to employment growth
TOTAL	38,737	

Year 2035 BAU	P-2035 MTons of CO2e	Notes
Agricultural Equipment	0	No agriculture
Construction Equipment	35,969	similar to historic
Lawn & Garden Equipment	4,059	proportional to population growth
Light Commercial Equipment	1,693	proportional to employment growth
TOTAL	41,722	

Year 2035 BAU	P-2035 Alt 2 MTons of CO2e	Notes
Agricultural Equipment	0	No agriculture
Construction Equipment	35,969	similar to historic
Lawn & Garden Equipment	4,284	proportional to population growth
Light Commercial Equipment	1,787	proportional to employment growth
TOTAL	42,040	

State and Federal Low Carbon Fuel Standard (LCFS)

On December 29, 2011, the U.S. District Court for the Eastern District of California issued several rulings in the federal lawsuits challenging the LCFS. One of the court's rulings preliminarily enjoins the CARB from enforcing the regulation during the pendency of the litigation. In January 2012, CARB appealed the decision and on April 23, 2012, the Ninth Circuit Court granted CARB's motion for a stay of the injunction while it continues to consider CARB's appeal of the lower court's decision.

Year 2020 Adjusted	2020 MTons of CO2e	Notes
Agricultural Equipment	346	With LCFS (10% reduction)
Construction Equipment	32,372	With LCFS (10% reduction)
Lawn&Garden Equipment	1,524	With LCFS (10% reduction)
Light Commercial Equipment	636	With LCFS (10% reduction)
TOTAL	34,877	
reduction	3,875	

Year 2035 Adjusted	2035 MTons of CO2e	Notes
Agricultural Equipment	0	With LCFS (10% reduction)
Construction Equipment	32,372	With LCFS (10% reduction)
Lawn&Garden Equipment	1,758	With LCFS (10% reduction)
Light Commercial Equipment	733	With LCFS (10% reduction)
TOTAL	34,863	
reduction	3,874	

Year 2035 BAU	P-2035 MTons of CO2e	Notes
Agricultural Equipment	0	No agriculture
Construction Equipment	35,969	similar to historic
Lawn & Garden Equipment	3,653	proportional to population growth
Light Commercial Equipment	1,524	proportional to employment growth
TOTAL	41,146	

Year 2035 BAU	P-2035 Alt 2 MTons of CO2e	Notes
Agricultural Equipment	0	No agriculture
Construction Equipment	35,969	similar to historic
Lawn & Garden Equipment	3,856	proportional to population growth
Light Commercial Equipment	1,608	proportional to employment growth
TOTAL	41,433	

Area Sources - Criteria Air Pollutants

	2010	2012	2020	2035	P-2035	P-2035 Alt 2
Residential	77,519	79,810	88,331	104,309	158,942	158,434
Employment	8,776	19,547	19,894	20,544	100,554	115,433
Service Population	86,295	99,357	108,225	124,853	259,496	273,867

2010	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM10 Exhaust**	**PM2.5 Exhaust***	Notes
			lbs/day				
Agricultural Equipment	9	50	57	0	3	2	Phase out of Agriculture
Construction Equipment	352	2,419	1,900	3	153	114	similar to historic
Lawn & Garden Equipment	170	45	2,032	0	6	3	proportional to population growth
Light Commercial Equipment	16	31	366	0	3	2	proportional to employment growth
TOTAL	547	2,545	4,355	3	165	121	

2012	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM10 Exhaust**	**PM2.5 Exhaust***	Notes
			lbs/day				
Agricultural Equipment	9	50	57	0	3	2	Same as 2010
Construction Equipment	352	2,419	1,900	3	153	114	similar to historic
Lawn & Garden Equipment	196	52	2,340	0	7	4	proportional to population growth
Light Commercial Equipment	18	36	422	0	4	2	proportional to employment growth
TOTAL	575	2,557	4,718	3	167	122	

2035	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM10 Exhaust**	**PM2.5 Exhaust***	Notes
			lbs/day				
Agricultural Equipment	0	0	0	0	0	0	Phase out of/No Agriculture
Construction Equipment	352	2,419	1,900	3	153	114	similar to historic
Lawn & Garden Equipment	247	65	2,940	0	9	5	proportional to population growth
Light Commercial Equipment	23	45	530	0	5	2	proportional to employment growth
TOTAL	621	2,529	5,370	3	167	121	

P-2035	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM10 Exhaust**	**PM2.5 Exhaust***	Notes
			lbs/day				
Agricultural Equipment	0	0	0	0	0	0	Phase out of/No Agriculture
Construction Equipment	352	2,419	1,900	3	153	114	similar to historic
Lawn & Garden Equipment	512	136	6,111	0	19	10	proportional to population growth
Light Commercial Equipment	47	94	1,101	0	10	5	proportional to employment growth
TOTAL	912	2,649	9,112	3	181	128	

P-2035 Alt 2	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM10 Exhaust**	**PM2.5 Exhaust***	Notes
			lbs/day				
Agricultural Equipment	0	0	0	0	0	0	Phase out of/No Agriculture
Construction Equipment	352	2,419	1,900	3	153	114	similar to historic
Lawn & Garden Equipment	541	143	6,450	1	20	10	proportional to population growth
Light Commercial Equipment	50	99	1,162	0	10	5	proportional to employment growth
TOTAL	943	2,661	9,512	3	183	129	

* assumes PM2.5 is 99 percent of PM10

Agriculture- Crop Land

Riverside County Acreage Statistics

Source: 2011. Riverside, County of, Agricultural Commissioner's Office. Riverside County Agricultural Production Report. http://www.rivcoag.org/opencms/publications/

Crop	2010 Acreage
Citrus	17,105
Tree and Vine	27,745
Vegetable, Melons, Misc.	38,570
Field and Seed	117,743
Nursery	8,750
Total Planted Acreage	209,913

Menifee Acreage	Existing Acreage
Agriculture	1,471
Nursery	79
Total	1,550

Percent of the County	**0.7%**

Agricultural Equipment (2010 - Riverside County)

Equipment	County	Air Basin	Air Dist.	Population	Tons/Day ROG Exhaust	NOX Exhaust	CO Exhaust	SO2 Exhaust	PM Exhaust	CO2 Exhaust	N2O Exhaust	CH4 Exhaust	CO2e	MTons/Year CO2e
2-Wheel Tractors	Riverside	MD	MOJ	6.50E-01	7.81E-06	3.57E-06	1.23E-04	1.16E-08	1.09E-07	3.35E-04	4.97E-07	4.59E-07	4.99E-04	0
2-Wheel Tractors	Riverside	MD	SC	8.86E-02	1.06E-06	4.86E-07	1.68E-05	1.58E-09	1.49E-08	4.56E-05	6.76E-08	6.25E-08	6.79E-05	0
2-Wheel Tractors	Riverside	SC	SC	3.23E+01	3.88E-04	1.77E-04	6.11E-03	5.75E-07	5.43E-06	1.66E-02	2.47E-05	2.28E-05	2.48E-02	8
2-Wheel Tractors	Riverside	SS	SC	8.00E+00	9.61E-05	4.39E-05	1.51E-03	1.42E-07	1.34E-06	4.12E-03	6.11E-06	5.65E-06	6.14E-03	2
2-Wheel Tractors	Riverside	MD	MOJ	7.57E-01	2.41E-05	1.82E-05	9.14E-04	4.61E-08	1.36E-05	1.62E-03	1.79E-06	1.42E-06	2.20E-03	1
2-Wheel Tractors	Riverside	MD	SC	1.03E-01	3.29E-06	2.48E-06	1.24E-04	6.28E-09	1.85E-06	2.20E-04	2.43E-07	1.93E-07	3.00E-04	0
2-Wheel Tractors	Riverside	SC	SC	3.76E+01	1.20E-03	9.04E-04	4.54E-02	2.29E-06	6.74E-04	8.04E-02	8.88E-05	7.05E-05	1.09E-01	36
2-Wheel Tractors	Riverside	SS	SC	9.31E+00	2.97E-04	2.24E-04	1.12E-02	5.68E-07	1.67E-04	1.99E-02	2.20E-05	1.75E-05	2.71E-02	9
2-Wheel Tractors	Riverside	MD	MOJ	2.03E-02	1.37E-06	9.02E-07	5.20E-05	2.20E-09	7.28E-07	8.68E-05	6.65E-08	8.04E-08	1.09E-04	0
2-Wheel Tractors	Riverside	MD	SC	2.77E-03	1.86E-07	1.23E-07	7.09E-06	3.00E-10	9.92E-08	1.18E-05	9.06E-09	1.10E-08	1.49E-05	0
2-Wheel Tractors	Riverside	SC	SC	1.01E+00	6.79E-05	4.48E-05	2.58E-03	1.09E-07	3.62E-05	4.31E-03	3.31E-06	4.00E-06	5.42E-03	2
2-Wheel Tractors	Riverside	SS	SC	2.50E-01	1.68E-05	1.11E-05	6.40E-04	2.71E-08	8.96E-06	1.07E-03	8.19E-07	9.90E-07	1.34E-03	0
Agricultural Tractors	Riverside	MD	MOJ	2.61E-01	6.73E-05	1.87E-04	1.09E-03	1.65E-07	1.32E-06	1.71E-02	4.40E-06	3.95E-06	1.85E-02	6
Agricultural Tractors	Riverside	MD	SC	3.55E-02	9.16E-06	2.55E-05	1.49E-04	2.25E-08	1.80E-07	2.32E-03	5.99E-07	5.38E-07	2.52E-03	1
Agricultural Tractors	Riverside	SC	SC	1.29E+01	3.34E-03	9.31E-03	5.42E-02	8.19E-06	6.57E-05	8.48E-01	2.19E-04	1.96E-04	9.20E-01	305
Agricultural Tractors	Riverside	SS	SC	3.21E+00	8.28E-04	2.31E-03	1.34E-02	2.03E-06	1.63E-05	2.10E-01	5.42E-05	4.86E-05	2.28E-01	75
Agricultural Tractors	Riverside	MD	MOJ	3.57E-02	6.21E-06	4.42E-05	1.21E-04	3.45E-08	2.76E-07	3.47E-03	8.05E-07	3.64E-07	3.73E-03	1
Agricultural Tractors	Riverside	MD	SC	4.86E-03	8.45E-07	6.02E-06	1.65E-05	4.69E-09	3.76E-08	4.72E-04	1.10E-07	4.96E-08	5.07E-04	0
Agricultural Tractors	Riverside	SC	SC	1.77E+00	3.08E-04	2.20E-03	6.01E-03	1.71E-06	1.37E-05	1.72E-01	4.00E-05	1.81E-05	1.85E-01	61
Agricultural Tractors	Riverside	SS	SC	4.39E-01	7.64E-05	5.44E-04	1.49E-03	4.24E-07	3.40E-06	4.27E-02	9.91E-06	4.48E-06	4.58E-02	15
Combines	Riverside	MD	MOJ	6.53E-02	2.11E-06	8.47E-06	4.35E-05	1.41E-08	1.13E-07	1.46E-03	2.01E-07	1.24E-07	1.52E-03	1
Combines	Riverside	MD	SC	8.89E-03	2.88E-07	1.15E-06	5.92E-06	1.92E-09	1.54E-08	1.98E-04	2.74E-08	1.69E-08	2.07E-04	0
Combines	Riverside	SC	SC	3.24E+00	1.05E-04	4.20E-04	2.16E-03	6.99E-07	5.61E-06	7.24E-02	9.99E-06	6.17E-06	7.56E-02	25
Combines	Riverside	SS	SC	8.03E-01	2.60E-05	1.04E-04	5.35E-04	1.73E-07	1.39E-06	1.79E-02	2.48E-06	1.53E-06	1.87E-02	6
Combines	Riverside	MD	MOJ	3.63E-02	1.09E-06	8.24E-06	3.82E-05	1.25E-08	9.98E-08	1.25E-03	1.51E-07	6.41E-08	1.30E-03	0
Combines	Riverside	MD	SC	4.94E-03	1.49E-07	1.12E-06	5.20E-06	1.70E-09	1.36E-08	1.71E-04	2.05E-08	8.73E-09	1.77E-04	0
Combines	Riverside	SC	SC	1.80E+00	5.42E-05	4.09E-04	1.90E-03	6.18E-07	4.96E-06	6.23E-02	7.48E-06	3.19E-06	6.46E-02	21
Combines	Riverside	SS	SC	4.46E-01	1.34E-05	1.01E-04	4.70E-04	1.53E-07	1.23E-06	1.54E-02	1.85E-06	7.89E-07	1.60E-02	5
Combines	Riverside	MD	MOJ	6.70E-03	1.91E-07	1.59E-06	8.34E-06	2.72E-09	2.18E-08	2.66E-04	3.16E-08	1.12E-08	2.76E-04	0
Combines	Riverside	MD	SC	9.12E-04	2.60E-08	2.17E-07	1.14E-06	3.70E-10	2.97E-09	3.62E-05	4.30E-09	1.53E-09	3.76E-05	0
Combines	Riverside	SC	SC	3.33E-01	9.49E-06	7.92E-05	4.14E-04	1.35E-07	1.08E-06	1.32E-02	1.57E-06	5.58E-07	1.37E-02	5
Combines	Riverside	SS	SC	8.24E-02	2.35E-06	1.96E-05	1.03E-04	3.35E-08	2.68E-07	3.27E-03	3.89E-07	1.38E-07	3.40E-03	1
Balers	Riverside	MD	MOJ	9.51E-01	1.08E-05	2.13E-05	2.91E-04	3.59E-08	2.26E-07	2.95E-03	9.69E-07	6.33E-07	3.26E-03	1
Balers	Riverside	MD	SC	1.30E-01	1.47E-06	2.91E-06	3.96E-05	4.89E-09	3.08E-08	4.02E-04	1.32E-07	8.63E-08	4.45E-04	0
Balers	Riverside	SC	SC	4.73E+01	5.35E-04	1.06E-03	1.45E-02	1.78E-06	1.12E-05	1.47E-01	4.81E-05	3.15E-05	1.62E-01	54
Balers	Riverside	SS	SC	1.17E+01	1.33E-04	2.63E-04	3.58E-03	4.41E-07	2.78E-06	3.63E-02	1.19E-05	7.79E-06	4.02E-02	13
Balers	Riverside	MD	MOJ	4.87E-01	6.66E-06	2.84E-05	1.16E-04	2.64E-08	2.11E-07	2.73E-03	8.02E-07	3.92E-07	2.98E-03	1
Balers	Riverside	MD	SC	6.63E-02	9.07E-07	3.87E-06	1.58E-05	3.59E-09	2.88E-08	3.72E-04	1.09E-07	5.34E-08	4.07E-04	0
Balers	Riverside	SC	SC	2.42E+01	3.31E-04	1.41E-03	5.77E-03	1.31E-06	1.05E-05	1.36E-01	3.98E-05	1.95E-05	1.48E-01	49
Balers	Riverside	SS	SC	5.99E+00	8.20E-05	3.50E-04	1.43E-03	3.24E-07	2.60E-06	3.36E-02	9.87E-06	4.82E-06	3.67E-02	12
Agricultural Mowers	Riverside	MD	MOJ	6.75E-01	1.06E-05	6.47E-06	3.60E-04	1.73E-08	5.06E-06	6.06E-04	7.32E-07	6.26E-07	8.47E-04	0
Agricultural Mowers	Riverside	MD	SC	9.20E-02	1.45E-06	8.82E-07	4.90E-05	2.35E-09	6.90E-07	8.26E-05	9.97E-08	8.52E-08	1.15E-04	0
Agricultural Mowers	Riverside	SC	SC	3.35E+01	5.28E-04	3.21E-04	1.79E-02	8.59E-07	2.51E-04	3.01E-02	3.64E-05	3.11E-05	4.20E-02	14
Agricultural Mowers	Riverside	SS	SC	8.31E+00	1.31E-04	7.97E-05	4.43E-03	2.13E-07	6.23E-05	7.46E-03	9.01E-06	7.70E-06	1.04E-02	3
Agricultural Mowers	Riverside	MD	MOJ	5.52E-01	1.96E-05	1.09E-05	6.90E-04	2.83E-08	9.32E-06	1.12E-03	8.80E-07	1.16E-06	1.41E-03	0
Agricultural Mowers	Riverside	MD	SC	7.52E-02	2.68E-06	1.49E-06	9.40E-05	3.85E-09	1.27E-06	1.52E-04	1.20E-07	1.57E-07	1.92E-04	0
Agricultural Mowers	Riverside	SC	SC	2.74E+01	9.76E-04	5.42E-04	3.43E-02	1.40E-06	4.63E-04	5.54E-02	4.37E-05	5.74E-05	7.02E-02	23
Agricultural Mowers	Riverside	SS	SC	6.80E+00	2.42E-04	1.34E-04	8.49E-03	3.48E-07	1.15E-04	1.37E-02	1.08E-05	1.42E-05	1.74E-02	6
Sprayers	Riverside	MD	MOJ	2.56E+00	1.50E-05	6.85E-06	2.45E-04	2.25E-08	2.13E-07	6.52E-04	1.06E-06	8.81E-07	9.99E-04	0
Sprayers	Riverside	MD	SC	3.49E-01	2.04E-06	9.33E-07	3.34E-05	3.07E-09	2.90E-08	8.88E-05	1.44E-07	1.20E-07	1.36E-04	0
Sprayers	Riverside	SC	SC	1.27E+02	7.44E-04	3.40E-04	1.22E-02	1.12E-06	1.06E-05	3.24E-02	5.26E-05	4.38E-05	4.96E-02	16
Sprayers	Riverside	SS	SC	3.15E+01	1.84E-04	8.43E-05	3.02E-03	2.77E-07	2.62E-06	8.03E-03	1.30E-05	1.08E-05	1.23E-02	4
Sprayers	Riverside	MD	MOJ	7.97E-01	9.01E-06	3.29E-06	2.42E-04	1.01E-08	2.72E-06	3.55E-04	4.14E-07	5.30E-07	4.95E-04	0
Sprayers	Riverside	MD	SC	1.09E-01	1.23E-06	4.48E-07	3.30E-05	1.38E-09	3.70E-07	4.84E-05	5.64E-08	7.21E-08	6.74E-05	0
Sprayers	Riverside	SC	SC	3.96E+01	4.47E-04	1.63E-04	1.20E-02	5.03E-07	1.35E-04	1.76E-02	2.06E-05	2.63E-05	2.46E-02	8
Sprayers	Riverside	SS	SC	9.81E+00	1.11E-04	4.05E-05	2.98E-03	1.25E-07	3.34E-05	4.37E-03	5.10E-06	6.52E-06	6.09E-03	2
Sprayers	Riverside	MD	MOJ	2.06E+00	5.19E-05	1.85E-05	1.52E-03	5.66E-08	1.71E-05	2.23E-03	1.62E-06	3.05E-06	2.80E-03	1
Sprayers	Riverside	MD	SC	2.81E-01	7.06E-06	2.52E-06	2.07E-04	7.70E-09	2.33E-06	3.04E-04	2.20E-07	4.15E-07	3.81E-04	0
Sprayers	Riverside	SC	SC	1.02E+02	2.58E-03	9.19E-04	7.56E-02	2.81E-06	8.48E-04	1.11E-01	8.03E-05	1.51E-04	1.39E-01	46
Sprayers	Riverside	SS	SC	2.54E+01	6.38E-04	2.28E-04	1.87E-02	6.96E-07	2.10E-04	2.75E-02	1.99E-05	3.75E-05	3.44E-02	11

Agricultural Equipment (2010 - Riverside County)

Equipment	County	Air Basin	Air Dist.	Population	Tons/Day ROG Exhaust	NOX Exhaust	CO Exhaust	SO2 Exhaust	PM Exhaust	CO2 Exhaust	N2O Exhaust	CH4 Exhaust	CO2e	MTons/Year CO2e
Sprayers	Riverside	MD	MOJ	1.79E-01	2.07E-06	4.06E-06	5.59E-05	6.81E-09	4.29E-08	5.60E-04	1.98E-07	1.22E-07	6.24E-04	0
Sprayers	Riverside	MD	SC	2.44E-02	2.83E-07	5.53E-07	7.62E-06	9.28E-10	5.84E-09	7.63E-05	2.70E-08	1.66E-08	8.50E-05	0
Sprayers	Riverside	SC	SC	8.90E+00	1.03E-04	2.02E-04	2.78E-03	3.38E-07	2.13E-06	2.78E-02	9.84E-06	6.06E-06	3.10E-02	10
Sprayers	Riverside	SS	SC	2.20E+00	2.55E-05	5.00E-05	6.88E-04	8.38E-08	5.28E-07	6.89E-03	2.44E-06	1.50E-06	7.68E-03	3
Sprayers	Riverside	MD	MOJ	3.02E-01	4.77E-06	2.01E-05	8.29E-05	1.86E-08	1.49E-07	1.92E-03	5.75E-07	2.80E-07	2.11E-03	1
Sprayers	Riverside	MD	SC	4.11E-02	6.49E-07	2.73E-06	1.13E-05	2.53E-09	2.03E-08	2.62E-04	7.83E-08	3.82E-08	2.87E-04	0
Sprayers	Riverside	SC	SC	1.50E+01	2.37E-04	9.96E-04	4.12E-03	9.23E-07	7.40E-06	9.55E-02	2.86E-05	1.39E-05	1.05E-01	35
Sprayers	Riverside	SS	SC	3.72E+00	5.87E-05	2.47E-04	1.02E-03	2.29E-07	1.83E-06	2.37E-02	7.08E-06	3.45E-06	2.59E-02	9
Sprayers	Riverside	MD	MOJ	6.81E-02	1.27E-06	1.02E-05	2.59E-05	8.63E-09	6.92E-08	8.69E-04	2.00E-07	7.46E-08	9.32E-04	0
Sprayers	Riverside	MD	SC	9.27E-03	1.73E-07	1.39E-06	3.53E-06	1.18E-09	9.42E-09	1.18E-04	2.73E-08	1.02E-08	1.27E-04	0
Sprayers	Riverside	SC	SC	3.38E+00	6.30E-05	5.08E-04	1.29E-03	4.29E-07	3.44E-06	4.31E-02	9.95E-06	3.70E-06	4.63E-02	15
Sprayers	Riverside	SS	SC	8.38E-01	1.56E-05	1.26E-04	3.19E-04	1.06E-07	8.51E-07	1.07E-02	2.47E-06	9.18E-07	1.15E-02	4
Tillers	Riverside	MD	MOJ	8.72E+01	8.97E-04	3.51E-04	2.63E-02	1.14E-06	2.08E-05	4.00E-02	3.84E-05	5.27E-05	5.30E-02	18
Tillers	Riverside	MD	SC	1.19E+01	1.22E-04	4.79E-05	3.59E-03	1.55E-07	2.83E-06	5.44E-03	5.23E-06	7.18E-06	7.21E-03	2
Tillers	Riverside	SC	SC	4.33E+03	4.45E-02	1.75E-02	1.31E+00	5.66E-05	1.03E-03	1.99E+00	1.91E-03	2.62E-03	2.63E+00	871
Tillers	Riverside	SS	SC	1.07E+03	1.10E-02	4.33E-03	3.24E-01	1.40E-05	2.55E-04	4.92E-01	4.72E-04	6.49E-04	6.52E-01	216
Swathers	Riverside	MD	MOJ	9.75E-01	2.51E-05	1.04E-04	4.34E-04	9.60E-08	7.69E-07	9.93E-03	2.59E-06	1.48E-06	1.08E-02	4
Swathers	Riverside	MD	SC	1.33E-01	3.42E-06	1.41E-05	5.92E-05	1.31E-08	1.05E-07	1.35E-03	3.53E-07	2.01E-07	1.47E-03	0
Swathers	Riverside	SC	SC	4.84E+01	1.25E-03	5.15E-03	2.16E-02	4.77E-06	3.82E-05	4.93E-01	1.29E-04	7.33E-05	5.35E-01	177
Swathers	Riverside	SS	SC	1.20E+01	3.09E-04	1.28E-03	5.35E-03	1.18E-06	9.47E-06	1.22E-01	3.19E-05	1.82E-05	1.32E-01	44
Swathers	Riverside	MD	MOJ	7.48E-01	1.60E-05	1.28E-04	3.26E-04	1.08E-07	8.65E-07	1.09E-02	2.56E-06	9.39E-07	1.17E-02	4
Swathers	Riverside	MD	SC	1.02E-01	2.17E-06	1.75E-05	4.44E-05	1.47E-08	1.18E-07	1.48E-03	3.49E-07	1.28E-07	1.59E-03	1
Swathers	Riverside	SC	SC	3.71E+01	7.93E-04	6.37E-03	1.62E-02	5.36E-06	4.29E-05	5.39E-01	1.27E-04	4.66E-05	5.80E-01	192
Swathers	Riverside	SS	SC	9.20E+00	1.96E-04	1.58E-03	4.01E-03	1.33E-06	1.06E-05	1.34E-01	3.15E-05	1.16E-05	1.44E-01	48
Hydro Power Units	Riverside	MD	MOJ	1.54E-01	2.32E-06	1.06E-06	3.54E-05	3.39E-09	3.20E-08	9.83E-05	1.38E-07	1.36E-07	1.44E-04	0
Hydro Power Units	Riverside	MD	SC	2.10E-02	3.15E-07	1.44E-07	4.82E-06	4.62E-10	4.36E-09	1.34E-05	1.89E-08	1.85E-08	1.96E-05	0
Hydro Power Units	Riverside	SC	SC	7.67E+00	1.15E-04	5.26E-05	1.76E-03	1.69E-07	1.59E-06	4.88E-03	6.88E-06	6.76E-06	7.15E-03	2
Hydro Power Units	Riverside	SS	SC	1.90E+00	2.85E-05	1.30E-05	4.35E-04	4.18E-08	3.94E-07	1.21E-03	1.70E-06	1.68E-06	1.77E-03	1
Hydro Power Units	Riverside	MD	MOJ	3.08E-01	1.28E-05	9.64E-06	4.71E-04	2.37E-08	6.98E-06	8.32E-04	9.79E-07	7.51E-07	1.15E-03	0
Hydro Power Units	Riverside	MD	SC	4.20E-02	1.74E-06	1.31E-06	6.41E-05	3.23E-09	9.50E-07	1.13E-04	1.33E-07	1.02E-07	1.57E-04	0
Hydro Power Units	Riverside	SC	SC	1.53E+01	6.36E-04	4.79E-04	2.34E-02	1.18E-06	3.46E-04	4.13E-02	4.86E-05	3.73E-05	5.72E-02	19
Hydro Power Units	Riverside	SS	SC	3.79E+00	1.58E-04	1.19E-04	5.79E-03	2.92E-07	8.58E-05	1.02E-02	1.21E-05	9.25E-06	1.42E-02	5
Hydro Power Units	Riverside	MD	MOJ	1.18E-01	1.10E-05	7.22E-06	4.05E-04	1.71E-08	5.65E-06	6.74E-04	5.35E-07	6.43E-07	8.54E-04	0
Hydro Power Units	Riverside	MD	SC	1.60E-02	1.49E-06	9.83E-07	5.51E-05	2.33E-09	7.70E-07	9.18E-05	7.29E-08	8.76E-08	1.16E-04	0
Hydro Power Units	Riverside	SC	SC	5.84E+00	5.44E-04	3.59E-04	2.01E-02	8.49E-07	2.81E-04	3.35E-02	2.66E-05	3.19E-05	4.24E-02	14
Hydro Power Units	Riverside	SS	SC	1.45E+00	1.35E-04	8.88E-05	4.98E-03	2.10E-07	6.95E-05	8.30E-03	6.59E-06	7.91E-06	1.05E-02	3
Hydro Power Units	Riverside	MD	MOJ	8.93E-03	3.06E-07	5.12E-07	1.87E-05	2.46E-09	1.55E-08	2.03E-04	3.72E-08	1.79E-08	2.14E-04	0
Hydro Power Units	Riverside	MD	SC	1.22E-03	4.16E-08	6.98E-08	2.55E-06	3.35E-10	2.11E-09	2.76E-05	5.07E-09	2.44E-09	2.92E-05	0
Hydro Power Units	Riverside	SC	SC	4.43E-01	1.52E-05	2.55E-05	9.30E-04	1.22E-07	7.71E-07	1.01E-02	1.85E-06	8.91E-07	1.07E-02	4
Hydro Power Units	Riverside	SS	SC	1.10E-01	3.76E-06	6.31E-06	2.30E-04	3.03E-08	1.91E-07	2.49E-03	4.58E-07	2.21E-07	2.64E-03	1
Hydro Power Units	Riverside	MD	MOJ	1.12E-03	1.98E-08	4.96E-08	8.76E-07	4.20E-10	3.37E-09	4.35E-05	4.16E-09	1.16E-09	4.48E-05	0
Hydro Power Units	Riverside	MD	SC	1.52E-04	2.70E-09	6.76E-09	1.19E-07	5.72E-11	4.59E-10	5.92E-06	5.67E-10	1.59E-10	6.10E-06	0
Hydro Power Units	Riverside	SC	SC	5.54E-02	9.85E-07	2.46E-06	4.35E-05	2.09E-08	1.67E-07	2.16E-03	2.07E-07	5.79E-08	2.22E-03	1
Hydro Power Units	Riverside	SS	SC	1.37E-02	2.44E-07	6.11E-07	1.08E-05	5.17E-09	4.15E-08	5.35E-04	5.12E-08	1.43E-08	5.51E-04	0
Other Agricultural Equipment	Riverside	MD	MOJ	1.08E-01	1.02E-06	4.67E-07	1.69E-05	1.54E-09	1.45E-08	4.46E-05	6.92E-08	6.01E-08	6.73E-05	0
Other Agricultural Equipment	Riverside	MD	SC	1.47E-02	1.39E-07	6.36E-08	2.30E-06	2.10E-10	1.98E-09	6.08E-06	9.43E-09	8.18E-09	9.17E-06	0
Other Agricultural Equipment	Riverside	SC	SC	5.35E+00	5.07E-05	2.32E-05	8.37E-04	7.65E-08	7.22E-07	2.22E-03	3.44E-06	2.98E-06	3.34E-03	1
Other Agricultural Equipment	Riverside	SS	SC	1.32E+00	1.26E-05	5.75E-06	2.07E-04	1.90E-08	1.79E-07	5.49E-04	8.52E-07	7.39E-07	8.29E-04	0
Other Agricultural Equipment	Riverside	MD	MOJ	9.41E-02	1.85E-06	9.97E-07	5.96E-05	2.78E-09	8.08E-07	9.75E-05	9.72E-08	1.09E-07	1.30E-04	0
Other Agricultural Equipment	Riverside	MD	SC	1.28E-02	2.52E-07	1.36E-07	8.12E-06	3.79E-10	1.10E-07	1.33E-05	1.32E-08	1.48E-08	1.77E-05	0
Other Agricultural Equipment	Riverside	SC	SC	4.67E+00	9.20E-05	4.95E-05	2.96E-03	1.38E-07	4.01E-05	4.84E-03	4.83E-06	5.41E-06	6.45E-03	2
Other Agricultural Equipment	Riverside	SS	SC	1.16E+00	2.28E-05	1.23E-05	7.34E-04	3.42E-08	9.94E-06	1.20E-03	1.20E-06	1.34E-06	1.60E-03	1
Other Agricultural Equipment	Riverside	MD	MOJ	2.40E-02	1.15E-06	5.79E-07	3.92E-05	1.57E-09	5.15E-07	6.21E-05	3.84E-08	6.79E-08	7.55E-05	0
Other Agricultural Equipment	Riverside	MD	SC	3.27E-03	1.57E-07	7.89E-08	5.34E-06	2.14E-10	7.01E-08	8.46E-06	5.23E-09	9.25E-09	1.03E-05	0
Other Agricultural Equipment	Riverside	SC	SC	1.19E+00	5.73E-05	2.88E-05	1.95E-03	7.82E-08	2.56E-05	3.09E-03	1.91E-06	3.37E-06	3.75E-03	1
Other Agricultural Equipment	Riverside	SS	SC	2.95E-01	1.42E-05	7.13E-06	4.83E-04	1.94E-08	6.33E-06	7.65E-04	4.72E-07	8.35E-07	9.29E-04	0
Other Agricultural Equipment	Riverside	MD	MOJ	2.96E-02	5.42E-07	1.02E-06	1.45E-05	1.68E-09	1.06E-08	1.39E-04	5.02E-08	3.19E-08	1.55E-04	0
Other Agricultural Equipment	Riverside	MD	SC	4.03E-03	7.38E-08	1.39E-07	1.98E-06	2.29E-10	1.45E-09	1.89E-05	6.84E-09	4.34E-09	2.11E-05	0
Other Agricultural Equipment	Riverside	SC	SC	1.47E+00	2.69E-05	5.07E-05	7.20E-04	8.37E-08	5.27E-07	6.88E-03	2.49E-06	1.58E-06	7.69E-03	3
Other Agricultural Equipment	Riverside	SS	SC	3.64E-01	6.67E-06	1.26E-05	1.78E-04	2.07E-08	1.31E-07	1.71E-03	6.18E-07	3.92E-07	1.91E-03	1

Agricultural Equipment (2010 - Riverside County)

Equipment	County	Air Basin	Air Dist.	Population	Tons/Day ROG Exhaust	NOX Exhaust	CO Exhaust	SO2 Exhaust	PM Exhaust	CO2 Exhaust	N2O Exhaust	CH4 Exhaust	CO2e	MTons/Year CO2e
Other Agricultural Equipment	Riverside	MD	MOJ	1.71E-01	4.81E-06	1.93E-05	8.31E-05	1.77E-08	1.42E-07	1.83E-03	5.27E-07	2.83E-07	2.00E-03	1
Other Agricultural Equipment	Riverside	MD	SC	2.33E-02	6.55E-07	2.63E-06	1.13E-05	2.41E-09	1.93E-08	2.50E-04	7.18E-08	3.85E-08	2.73E-04	0
Other Agricultural Equipment	Riverside	SC	SC	8.51E+00	2.39E-04	9.59E-04	4.13E-03	8.80E-07	7.06E-06	9.11E-02	2.62E-05	1.40E-05	9.95E-02	33
Other Agricultural Equipment	Riverside	SS	SC	2.11E+00	5.92E-05	2.38E-04	1.02E-03	2.18E-07	1.75E-06	2.26E-02	6.49E-06	3.48E-06	2.46E-02	8
Other Agricultural Equipment	Riverside	MD	MOJ	1.95E-02	6.22E-07	4.92E-06	1.26E-05	4.10E-09	3.29E-08	4.13E-04	9.22E-08	3.66E-08	4.42E-04	0
Other Agricultural Equipment	Riverside	MD	SC	2.66E-03	8.48E-08	6.69E-07	1.71E-06	5.58E-10	4.48E-09	5.62E-05	1.26E-08	4.98E-09	6.02E-05	0
Other Agricultural Equipment	Riverside	SC	SC	9.70E-01	3.09E-05	2.44E-04	6.25E-04	2.04E-07	1.63E-06	2.05E-02	4.58E-06	1.82E-06	2.20E-02	7
Other Agricultural Equipment	Riverside	SS	SC	2.40E-01	7.66E-06	6.05E-05	1.55E-04	5.05E-08	4.05E-07	5.08E-03	1.14E-06	4.50E-07	5.44E-03	2
Other Agricultural Equipment	Riverside	MD	MOJ	7.25E-03	3.57E-07	2.84E-06	8.46E-06	2.75E-09	2.21E-08	2.69E-04	4.48E-08	2.10E-08	2.84E-04	0
Other Agricultural Equipment	Riverside	MD	SC	9.88E-04	4.87E-08	3.87E-07	1.15E-06	3.75E-10	3.01E-09	3.67E-05	6.10E-09	2.86E-09	3.86E-05	0
Other Agricultural Equipment	Riverside	SC	SC	3.60E-01	1.78E-05	1.41E-04	4.20E-04	1.37E-07	1.10E-06	1.34E-02	2.23E-06	1.04E-06	1.41E-02	5
Other Agricultural Equipment	Riverside	SS	SC	8.93E-02	4.40E-06	3.50E-05	1.04E-04	3.39E-08	2.72E-07	3.32E-03	5.51E-07	2.59E-07	3.49E-03	1
Agricultural Tractors	Riverside	MD	MOJ	7.99E+00	7.14E-05	4.47E-04	3.75E-04	9.55E-07	1.84E-05	6.14E-02	0.00E+00	6.45E-06	6.15E-02	20
Agricultural Tractors	Riverside	MD	SC	1.09E+00	9.73E-06	6.09E-05	5.10E-05	1.30E-07	2.51E-06	8.36E-03	0.00E+00	8.78E-07	8.38E-03	3
Agricultural Tractors	Riverside	SC	SC	3.97E+02	3.55E-03	2.22E-02	1.86E-02	4.74E-05	9.15E-04	3.05E+00	0.00E+00	3.20E-04	3.06E+00	1,012
Agricultural Tractors	Riverside	SS	SC	9.83E+01	8.79E-04	5.51E-03	4.61E-03	1.18E-05	2.27E-04	7.55E-01	0.00E+00	7.93E-05	7.57E-01	251
Agricultural Tractors	Riverside	MD	MOJ	9.85E+00	1.79E-04	1.15E-03	5.99E-04	1.84E-06	5.90E-05	1.45E-01	0.00E+00	1.61E-05	1.45E-01	48
Agricultural Tractors	Riverside	MD	SC	1.34E+00	2.43E-05	1.56E-04	8.16E-05	2.51E-07	8.04E-06	1.98E-02	0.00E+00	2.19E-06	1.98E-02	7
Agricultural Tractors	Riverside	SC	SC	4.89E+02	8.87E-03	5.69E-02	2.97E-02	9.14E-05	2.93E-03	7.21E+00	0.00E+00	8.00E-04	7.22E+00	2,391
Agricultural Tractors	Riverside	SS	SC	1.21E+02	2.20E-03	1.41E-02	7.37E-03	2.27E-05	7.27E-04	1.79E+00	0.00E+00	1.98E-04	1.79E+00	593
Agricultural Tractors	Riverside	MD	MOJ	2.30E+01	2.23E-03	5.32E-03	5.55E-03	6.62E-06	5.32E-04	5.12E-01	0.00E+00	2.01E-04	5.16E-01	171
Agricultural Tractors	Riverside	MD	SC	3.13E+00	3.03E-04	7.25E-04	7.56E-04	9.02E-07	7.25E-05	6.97E-02	0.00E+00	2.74E-05	7.03E-02	23
Agricultural Tractors	Riverside	SC	SC	1.14E+03	1.11E-01	2.64E-01	2.76E-01	3.29E-04	2.64E-02	2.54E+01	0.00E+00	9.98E-03	2.56E+01	8,491
Agricultural Tractors	Riverside	SS	SC	2.83E+02	2.74E-02	6.55E-02	6.83E-02	8.15E-05	6.55E-03	6.30E+00	0.00E+00	2.47E-03	6.35E+00	2,104
Agricultural Tractors	Riverside	MD	MOJ	2.66E+01	2.45E-03	1.56E-02	8.51E-03	1.48E-05	1.27E-03	1.26E+00	0.00E+00	2.21E-04	1.27E+00	419
Agricultural Tractors	Riverside	MD	SC	3.62E+00	3.34E-04	2.12E-03	1.16E-03	2.01E-06	1.73E-04	1.72E-01	0.00E+00	3.02E-05	1.72E-01	57
Agricultural Tractors	Riverside	SC	SC	1.32E+03	1.22E-01	7.73E-01	4.23E-01	7.34E-04	6.30E-02	6.26E+01	0.00E+00	1.10E-02	6.28E+01	20,805
Agricultural Tractors	Riverside	SS	SC	3.27E+02	3.02E-02	1.92E-01	1.05E-01	1.82E-04	1.56E-02	1.55E+01	0.00E+00	2.73E-03	1.56E+01	5,155
Agricultural Tractors	Riverside	MD	MOJ	1.50E+01	1.57E-03	1.33E-02	6.65E-03	1.37E-05	6.82E-04	1.21E+00	0.00E+00	1.42E-04	1.22E+00	403
Agricultural Tractors	Riverside	MD	SC	2.04E+00	2.14E-04	1.81E-03	9.05E-04	1.86E-06	9.29E-05	1.65E-01	0.00E+00	1.93E-05	1.66E-01	55
Agricultural Tractors	Riverside	SC	SC	7.43E+02	7.79E-02	6.61E-01	3.30E-01	6.79E-04	3.39E-02	6.03E+01	0.00E+00	7.03E-03	6.05E+01	20,021
Agricultural Tractors	Riverside	SS	SC	1.84E+02	1.93E-02	1.64E-01	8.18E-02	1.68E-04	8.39E-03	1.49E+01	0.00E+00	1.74E-03	1.50E+01	4,961
Agricultural Tractors	Riverside	MD	MOJ	9.67E+00	9.61E-04	1.15E-02	2.86E-03	1.26E-05	3.69E-04	1.12E+00	0.00E+00	8.67E-05	1.12E+00	372
Agricultural Tractors	Riverside	MD	SC	1.32E+00	1.31E-04	1.56E-03	3.90E-04	1.72E-06	5.03E-05	1.53E-01	0.00E+00	1.18E-05	1.53E-01	51
Agricultural Tractors	Riverside	SC	SC	4.80E+02	4.77E-02	5.70E-01	1.42E-01	6.27E-04	1.83E-02	5.57E+01	0.00E+00	4.31E-03	5.58E+01	18,472
Agricultural Tractors	Riverside	SS	SC	1.19E+02	1.18E-02	1.41E-01	3.52E-02	1.55E-04	4.54E-03	1.38E+01	0.00E+00	1.07E-03	1.38E+01	4,577
Agricultural Tractors	Riverside	MD	MOJ	1.92E+00	2.81E-04	3.39E-03	1.08E-03	3.58E-06	1.11E-04	3.64E-01	0.00E+00	2.53E-05	3.65E-01	121
Agricultural Tractors	Riverside	MD	SC	2.61E-01	3.82E-05	4.61E-04	1.47E-04	4.87E-07	1.51E-05	4.96E-02	0.00E+00	3.45E-06	4.97E-02	16
Agricultural Tractors	Riverside	SC	SC	9.54E+01	1.39E-02	1.68E-01	5.37E-02	1.78E-04	5.51E-03	1.81E+01	0.00E+00	1.26E-03	1.81E+01	6,000
Agricultural Tractors	Riverside	SS	SC	2.36E+01	3.45E-03	4.17E-02	1.33E-02	4.40E-05	1.37E-03	4.48E+00	0.00E+00	3.12E-04	4.49E+00	1,487
Combines	Riverside	MD	MOJ	5.61E-01	1.79E-05	1.25E-04	6.79E-05	1.28E-07	8.80E-06	1.09E-02	0.00E+00	1.61E-06	1.10E-02	4
Combines	Riverside	MD	SC	7.64E-02	2.44E-06	1.70E-05	9.24E-06	1.75E-08	1.20E-06	1.49E-03	0.00E+00	2.20E-07	1.49E-03	0
Combines	Riverside	SC	SC	2.79E+01	8.88E-04	6.18E-03	3.37E-03	6.37E-06	4.37E-04	5.43E-01	0.00E+00	8.01E-05	5.45E-01	180
Combines	Riverside	SS	SC	6.90E+00	2.20E-04	1.53E-03	8.35E-04	1.58E-06	1.08E-04	1.35E-01	0.00E+00	1.99E-05	1.35E-01	45
Combines	Riverside	MD	MOJ	8.33E-01	2.29E-05	2.16E-04	1.08E-04	2.40E-07	9.58E-06	2.13E-02	0.00E+00	2.07E-06	2.14E-02	7

Agricultural Equipment (2010 - Riverside County)

Equipment	County	Air Basin	Air Dist.	Population	Tons/Day ROG Exhaust	NOX Exhaust	CO Exhaust	SO2 Exhaust	PM Exhaust	CO2 Exhaust	N2O Exhaust	CH4 Exhaust	CO2e	MTons/Year CO2e
Combines	Riverside	MD	SC	1.13E-01	3.12E-06	2.94E-05	1.47E-05	3.27E-08	1.30E-06	2.91E-03	0.00E+00	2.82E-07	2.91E-03	1
Combines	Riverside	SC	SC	4.14E+01	1.14E-03	1.07E-02	5.34E-03	1.19E-05	4.76E-04	1.06E+00	0.00E+00	1.03E-04	1.06E+00	352
Combines	Riverside	SS	SC	1.02E+01	2.82E-04	2.65E-03	1.32E-03	2.95E-06	1.18E-04	2.63E-01	0.00E+00	2.55E-05	2.63E-01	87
Combines	Riverside	MD	MOJ	8.90E-01	2.25E-05	3.03E-04	7.42E-05	3.61E-07	8.55E-06	3.21E-02	0.00E+00	2.03E-06	3.22E-02	11
Combines	Riverside	MD	SC	1.21E-01	3.07E-06	4.12E-05	1.01E-05	4.92E-08	1.16E-06	4.37E-03	0.00E+00	2.77E-07	4.38E-03	1
Combines	Riverside	SC	SC	4.42E+01	1.12E-03	1.50E-02	3.69E-03	1.80E-05	4.24E-04	1.60E+00	0.00E+00	1.01E-04	1.60E+00	529
Combines	Riverside	SS	SC	1.10E+01	2.77E-04	3.73E-03	9.13E-04	4.45E-06	1.05E-04	3.95E-01	0.00E+00	2.50E-05	3.96E-01	131
Combines	Riverside	MD	MOJ	3.56E-02	1.13E-06	1.54E-05	4.31E-06	1.73E-08	4.48E-07	1.76E-03	0.00E+00	1.02E-07	1.77E-03	1
Combines	Riverside	MD	SC	4.84E-03	1.53E-07	2.10E-06	5.88E-07	2.36E-09	6.10E-08	2.40E-04	0.00E+00	1.38E-08	2.41E-04	0
Combines	Riverside	SC	SC	1.77E+00	5.59E-05	7.66E-04	2.14E-04	8.60E-07	2.22E-05	8.76E-02	0.00E+00	5.04E-06	8.77E-02	29
Combines	Riverside	SS	SC	4.38E-01	1.39E-05	1.90E-04	5.31E-05	2.13E-07	5.51E-06	2.17E-02	0.00E+00	1.25E-06	2.17E-02	7
Balers	Riverside	MD	MOJ	1.06E-03	1.39E-08	4.89E-08	3.89E-08	6.50E-11	3.94E-09	5.03E-06	0.00E+00	1.26E-09	5.05E-06	0
Balers	Riverside	MD	SC	1.45E-04	1.90E-09	6.67E-09	5.30E-09	8.85E-12	5.36E-10	6.84E-07	0.00E+00	1.71E-10	6.88E-07	0
Balers	Riverside	SC	SC	5.27E-02	6.92E-07	2.43E-06	1.93E-06	3.23E-09	1.96E-07	2.50E-04	0.00E+00	6.24E-08	2.51E-04	0
Balers	Riverside	SS	SC	1.31E-02	1.71E-07	6.02E-07	4.79E-07	8.00E-10	4.85E-08	6.18E-05	0.00E+00	1.55E-08	6.22E-05	0
Balers	Riverside	MD	MOJ	7.47E-01	8.40E-06	5.96E-05	3.25E-05	6.23E-08	4.09E-06	5.31E-03	0.00E+00	7.58E-07	5.32E-03	2
Balers	Riverside	MD	SC	1.02E-01	1.14E-06	8.11E-06	4.42E-06	8.48E-09	5.57E-07	7.23E-04	0.00E+00	1.03E-07	7.25E-04	0
Balers	Riverside	SC	SC	3.71E+01	4.17E-04	2.96E-03	1.61E-03	3.09E-06	2.03E-04	2.64E-01	0.00E+00	3.76E-05	2.64E-01	88
Balers	Riverside	SS	SC	9.19E+00	1.03E-04	7.33E-04	3.99E-04	7.66E-07	5.03E-05	6.53E-02	0.00E+00	9.32E-06	6.55E-02	22
Agricultural Mowers	Riverside	MD	MOJ	3.50E-02	1.13E-06	7.34E-06	4.01E-06	7.16E-09	5.73E-07	6.11E-04	0.00E+00	1.02E-07	6.13E-04	0
Agricultural Mowers	Riverside	MD	SC	4.77E-03	1.53E-07	1.00E-06	5.46E-07	9.76E-10	7.80E-08	8.32E-05	0.00E+00	1.38E-08	8.35E-05	0
Agricultural Mowers	Riverside	SC	SC	1.74E+00	5.59E-05	3.65E-04	1.99E-04	3.56E-07	2.85E-05	3.03E-02	0.00E+00	5.04E-06	3.04E-02	10
Agricultural Mowers	Riverside	SS	SC	4.31E-01	1.38E-05	9.04E-05	4.94E-05	8.82E-08	7.05E-06	7.52E-03	0.00E+00	1.25E-06	7.54E-03	2
Sprayers	Riverside	MD	MOJ	1.65E-01	6.94E-07	2.88E-06	1.78E-06	3.75E-09	2.07E-07	2.95E-04	0.00E+00	6.26E-08	2.97E-04	0
Sprayers	Riverside	MD	SC	2.24E-02	9.45E-08	3.92E-07	2.43E-07	5.11E-10	2.82E-08	4.02E-05	0.00E+00	8.52E-09	4.04E-05	0
Sprayers	Riverside	SC	SC	8.17E+00	3.44E-05	1.43E-04	8.86E-05	1.86E-07	1.03E-05	1.47E-02	0.00E+00	3.11E-06	1.47E-02	5
Sprayers	Riverside	SS	SC	2.02E+00	8.53E-06	3.54E-05	2.20E-05	4.61E-08	2.55E-06	3.64E-03	0.00E+00	7.70E-07	3.65E-03	1
Sprayers	Riverside	MD	MOJ	3.71E-02	2.84E-07	1.01E-06	7.97E-07	1.34E-09	8.07E-08	1.03E-04	0.00E+00	2.57E-08	1.04E-04	0
Sprayers	Riverside	MD	SC	5.06E-03	3.87E-08	1.37E-07	1.09E-07	1.82E-10	1.10E-08	1.41E-05	0.00E+00	3.49E-09	1.42E-05	0
Sprayers	Riverside	SC	SC	1.84E+00	1.41E-05	5.00E-05	3.96E-05	6.64E-08	4.01E-06	5.14E-03	0.00E+00	1.27E-06	5.16E-03	2
Sprayers	Riverside	SS	SC	4.57E-01	3.50E-06	1.24E-05	9.80E-06	1.65E-08	9.93E-07	1.27E-03	0.00E+00	3.16E-07	1.28E-03	0
Sprayers	Riverside	MD	MOJ	3.56E-01	3.95E-06	2.80E-05	1.53E-05	2.94E-08	1.92E-06	2.50E-03	0.00E+00	3.56E-07	2.51E-03	1
Sprayers	Riverside	MD	SC	4.84E-02	5.38E-07	3.82E-06	2.08E-06	4.00E-09	2.62E-07	3.41E-04	0.00E+00	4.85E-08	3.42E-04	0
Sprayers	Riverside	SC	SC	1.77E+01	1.96E-04	1.39E-03	7.59E-04	1.46E-06	9.54E-05	1.24E-01	0.00E+00	1.77E-05	1.25E-01	41
Sprayers	Riverside	SS	SC	4.38E+00	4.86E-05	3.45E-04	1.88E-04	3.61E-07	2.36E-05	3.08E-02	0.00E+00	4.38E-06	3.09E-02	10
Sprayers	Riverside	MD	MOJ	1.50E-01	1.81E-06	1.74E-05	8.67E-06	1.97E-08	7.48E-07	1.75E-03	0.00E+00	1.63E-07	1.75E-03	1
Sprayers	Riverside	MD	SC	2.04E-02	2.46E-07	2.37E-06	1.18E-06	2.68E-09	1.02E-07	2.38E-04	0.00E+00	2.22E-08	2.39E-04	0
Sprayers	Riverside	SC	SC	7.43E+00	8.98E-05	8.63E-04	4.31E-04	9.77E-07	3.71E-05	8.68E-02	0.00E+00	8.10E-06	8.70E-02	29
Sprayers	Riverside	SS	SC	1.84E+00	2.22E-05	2.14E-04	1.07E-04	2.42E-07	9.20E-06	2.15E-02	0.00E+00	2.01E-06	2.16E-02	7
Sprayers	Riverside	MD	MOJ	9.34E-02	1.20E-06	1.66E-05	4.06E-06	2.02E-08	4.55E-07	1.79E-03	0.00E+00	1.09E-07	1.79E-03	1
Sprayers	Riverside	MD	SC	1.27E-02	1.64E-07	2.26E-06	5.52E-07	2.75E-09	6.20E-08	2.44E-04	0.00E+00	1.48E-08	2.44E-04	0
Sprayers	Riverside	SC	SC	4.64E+00	5.98E-05	8.25E-04	2.01E-04	1.00E-06	2.26E-05	8.90E-02	0.00E+00	5.39E-06	8.91E-02	30
Sprayers	Riverside	SS	SC	1.15E+00	1.48E-05	2.05E-04	4.99E-05	2.48E-07	5.61E-06	2.20E-02	0.00E+00	1.34E-06	2.21E-02	7
Sprayers	Riverside	MD	MOJ	1.59E-02	2.05E-07	2.88E-06	7.82E-07	3.28E-09	8.15E-08	3.34E-04	0.00E+00	1.85E-08	3.34E-04	0
Sprayers	Riverside	MD	SC	2.17E-03	2.79E-08	3.93E-07	1.06E-07	4.46E-10	1.11E-08	4.54E-05	0.00E+00	2.51E-09	4.55E-05	0
Sprayers	Riverside	SC	SC	7.91E-01	1.02E-05	1.43E-04	3.88E-05	1.63E-07	4.05E-06	1.66E-02	0.00E+00	9.17E-07	1.66E-02	5
Sprayers	Riverside	SS	SC	1.96E-01	2.52E-06	3.55E-05	9.62E-06	4.03E-08	1.00E-06	4.11E-03	0.00E+00	2.27E-07	4.11E-03	1
Tillers	Riverside	MD	MOJ	3.71E-03	1.00E-08	7.04E-08	5.60E-08	1.43E-10	3.88E-09	9.17E-06	0.00E+00	9.03E-10	9.19E-06	0
Tillers	Riverside	MD	SC	5.06E-04	1.36E-09	9.58E-09	7.63E-09	1.94E-11	5.28E-10	1.25E-06	0.00E+00	1.23E-10	1.25E-06	0
Tillers	Riverside	SC	SC	1.84E-01	4.97E-07	3.49E-06	2.78E-06	7.09E-09	1.93E-07	4.55E-04	0.00E+00	4.48E-08	4.56E-04	0
Tillers	Riverside	SS	SC	4.57E-02	1.23E-07	8.66E-07	6.90E-07	1.76E-09	4.77E-08	1.13E-04	0.00E+00	1.11E-08	1.13E-04	0
Tillers	Riverside	MD	MOJ	5.31E-04	2.13E-08	2.84E-07	6.97E-08	3.37E-10	8.11E-09	3.00E-05	0.00E+00	1.92E-09	3.00E-05	0
Tillers	Riverside	MD	SC	7.23E-05	2.90E-09	3.87E-08	9.50E-09	4.59E-11	1.10E-09	4.08E-06	0.00E+00	2.62E-10	4.09E-06	0
Tillers	Riverside	SC	SC	2.64E-02	1.06E-06	1.41E-05	3.46E-06	1.68E-08	4.03E-07	1.49E-03	0.00E+00	9.56E-08	1.49E-03	0

Agricultural Equipment (2010 - Riverside County)

Equipment	County	Air Basin	Air Dist.	Population	Tons/Day ROG Exhaust	NOX Exhaust	CO Exhaust	SO2 Exhaust	PM Exhaust	CO2 Exhaust	N2O Exhaust	CH4 Exhaust	CO2e	MTons/Year CO2e
Tillers	Riverside	SS	SC	6.53E-03	2.62E-07	3.50E-06	8.58E-07	4.15E-09	9.98E-08	3.69E-04	0.00E+00	2.37E-08	3.69E-04	0
Tillers	Riverside	MD	MOJ	1.59E-03	1.04E-07	1.41E-06	3.98E-07	1.57E-09	4.13E-08	1.60E-04	0.00E+00	9.37E-09	1.61E-04	0
Tillers	Riverside	MD	SC	2.17E-04	1.41E-08	1.92E-07	5.42E-08	2.14E-10	5.62E-09	2.18E-05	0.00E+00	1.28E-09	2.19E-05	0
Tillers	Riverside	SC	SC	7.91E-02	5.16E-06	7.00E-05	1.98E-05	7.82E-08	2.05E-06	7.97E-03	0.00E+00	4.65E-07	7.98E-03	3
Tillers	Riverside	SS	SC	1.96E-02	1.28E-06	1.73E-05	4.90E-06	1.94E-08	5.08E-07	1.97E-03	0.00E+00	1.15E-07	1.98E-03	1
Swathers	Riverside	MD	MOJ	4.04E+00	5.23E-05	3.69E-04	2.01E-04	3.84E-07	2.56E-05	3.28E-02	0.00E+00	4.72E-06	3.29E-02	11
Swathers	Riverside	MD	SC	5.50E-01	7.13E-06	5.03E-05	2.74E-05	5.24E-08	3.48E-06	4.46E-03	0.00E+00	6.43E-07	4.48E-03	1
Swathers	Riverside	SC	SC	2.01E+02	2.60E-03	1.83E-02	9.99E-03	1.91E-05	1.27E-03	1.63E+00	0.00E+00	2.35E-04	1.63E+00	541
Swathers	Riverside	SS	SC	4.97E+01	6.44E-04	4.54E-03	2.48E-03	4.73E-06	3.14E-04	4.03E-01	0.00E+00	5.81E-05	4.04E-01	134
Swathers	Riverside	MD	MOJ	3.61E-02	5.90E-07	5.62E-06	2.81E-06	6.33E-09	2.45E-07	5.63E-04	0.00E+00	5.32E-08	5.64E-04	0
Swathers	Riverside	MD	SC	4.91E-03	8.03E-08	7.66E-07	3.82E-07	8.63E-10	3.33E-08	7.67E-05	0.00E+00	7.25E-09	7.68E-05	0
Swathers	Riverside	SC	SC	1.79E+00	2.93E-05	2.79E-04	1.39E-04	3.15E-07	1.22E-05	2.80E-02	0.00E+00	2.64E-06	2.80E-02	9
Swathers	Riverside	SS	SC	4.44E-01	7.26E-06	6.92E-05	3.46E-05	7.79E-08	3.01E-06	6.93E-03	0.00E+00	6.55E-07	6.94E-03	2
Hydro Power Units	Riverside	MD	MOJ	3.08E-02	2.41E-07	1.51E-06	1.26E-06	3.22E-09	6.20E-08	2.07E-04	0.00E+00	2.17E-08	2.07E-04	0
Hydro Power Units	Riverside	MD	SC	4.19E-03	3.28E-08	2.05E-07	1.72E-07	4.38E-10	8.45E-09	2.82E-05	0.00E+00	2.96E-09	2.82E-05	0
Hydro Power Units	Riverside	SC	SC	1.53E+00	1.20E-05	7.48E-05	6.27E-05	1.60E-07	3.08E-06	1.03E-02	0.00E+00	1.08E-06	1.03E-02	3
Hydro Power Units	Riverside	SS	SC	3.79E-01	2.96E-06	1.85E-05	1.55E-05	3.96E-08	7.63E-07	2.54E-03	0.00E+00	2.67E-07	2.55E-03	1
Hydro Power Units	Riverside	MD	MOJ	9.29E-02	1.46E-06	9.35E-06	4.89E-06	1.50E-08	4.82E-07	1.18E-03	0.00E+00	1.32E-07	1.19E-03	0
Hydro Power Units	Riverside	MD	SC	1.26E-02	1.99E-07	1.27E-06	6.66E-07	2.05E-09	6.57E-08	1.61E-04	0.00E+00	1.79E-08	1.62E-04	0
Hydro Power Units	Riverside	SC	SC	4.61E+00	7.24E-05	4.65E-04	2.43E-04	7.47E-07	2.40E-05	5.89E-02	0.00E+00	6.54E-06	5.90E-02	20
Hydro Power Units	Riverside	SS	SC	1.14E+00	1.80E-05	1.15E-04	6.02E-05	1.85E-07	5.94E-06	1.46E-02	0.00E+00	1.62E-06	1.46E-02	5
Hydro Power Units	Riverside	MD	MOJ	1.04E-01	1.27E-05	2.57E-05	3.05E-05	3.07E-08	2.87E-06	2.37E-03	0.00E+00	1.15E-06	2.40E-03	1
Hydro Power Units	Riverside	MD	SC	1.42E-02	1.73E-06	3.50E-06	4.16E-06	4.18E-09	3.90E-07	3.23E-04	0.00E+00	1.56E-07	3.26E-04	0
Hydro Power Units	Riverside	SC	SC	5.17E+00	6.32E-04	1.28E-03	1.52E-03	1.52E-06	1.42E-04	1.18E-01	0.00E+00	5.71E-05	1.19E-01	39
Hydro Power Units	Riverside	SS	SC	1.28E+00	1.57E-04	3.16E-04	3.76E-04	3.77E-07	3.53E-05	2.92E-02	0.00E+00	1.41E-05	2.95E-02	10
Hydro Power Units	Riverside	MD	MOJ	9.55E-03	9.51E-07	5.69E-06	3.12E-06	5.11E-09	5.06E-07	4.36E-04	0.00E+00	8.58E-08	4.38E-04	0
Hydro Power Units	Riverside	MD	SC	1.30E-03	1.30E-07	7.74E-07	4.25E-07	6.96E-10	6.89E-08	5.94E-05	0.00E+00	1.17E-08	5.96E-05	0
Hydro Power Units	Riverside	SC	SC	4.74E-01	4.72E-05	2.82E-04	1.55E-04	2.54E-07	2.51E-05	2.16E-02	0.00E+00	4.26E-06	2.17E-02	7
Hydro Power Units	Riverside	SS	SC	1.18E-01	1.17E-05	7.00E-05	3.84E-05	6.29E-08	6.23E-06	5.36E-03	0.00E+00	1.06E-06	5.39E-03	2
Other Agricultural Equipment	Riverside	MD	MOJ	1.12E-01	6.25E-07	3.96E-06	3.22E-06	8.21E-09	2.09E-07	5.28E-04	0.00E+00	5.64E-08	5.29E-04	0
Other Agricultural Equipment	Riverside	MD	SC	1.53E-02	8.51E-08	5.39E-07	4.39E-07	1.12E-09	2.85E-08	7.19E-05	0.00E+00	7.68E-09	7.20E-05	0
Other Agricultural Equipment	Riverside	SC	SC	5.59E+00	3.10E-05	1.97E-04	1.60E-04	4.08E-07	1.04E-05	2.62E-02	0.00E+00	2.80E-06	2.63E-02	9
Other Agricultural Equipment	Riverside	SS	SC	1.38E+00	7.69E-06	4.87E-05	3.97E-05	1.01E-07	2.57E-06	6.50E-03	0.00E+00	6.94E-07	6.51E-03	2
Other Agricultural Equipment	Riverside	MD	MOJ	3.13E-01	4.37E-06	2.39E-05	1.28E-05	3.42E-08	1.44E-06	2.69E-03	0.00E+00	3.94E-07	2.70E-03	1
Other Agricultural Equipment	Riverside	MD	SC	4.26E-02	5.95E-07	3.25E-06	1.74E-06	4.65E-09	1.95E-07	3.67E-04	0.00E+00	5.37E-08	3.68E-04	0
Other Agricultural Equipment	Riverside	SC	SC	1.56E+01	2.17E-04	1.19E-03	6.36E-04	1.70E-06	7.13E-05	1.34E-01	0.00E+00	1.96E-05	1.34E-01	44
Other Agricultural Equipment	Riverside	SS	SC	3.85E+00	5.38E-05	2.94E-04	1.57E-04	4.20E-07	1.77E-05	3.31E-02	0.00E+00	4.85E-06	3.32E-02	11
Other Agricultural Equipment	Riverside	MD	MOJ	2.74E-01	1.45E-05	3.74E-05	3.69E-05	4.73E-08	3.57E-06	3.66E-03	0.00E+00	1.31E-06	3.69E-03	1
Other Agricultural Equipment	Riverside	MD	SC	3.73E-02	1.98E-06	5.10E-06	5.03E-06	6.44E-09	4.87E-07	4.98E-04	0.00E+00	1.78E-07	5.02E-04	0
Other Agricultural Equipment	Riverside	SC	SC	1.36E+01	7.20E-04	1.86E-03	1.83E-03	2.35E-06	1.78E-04	1.82E-01	0.00E+00	6.50E-05	1.83E-01	61
Other Agricultural Equipment	Riverside	SS	SC	3.37E+00	1.78E-04	4.61E-04	4.54E-04	5.82E-07	4.40E-05	4.50E-02	0.00E+00	1.61E-05	4.54E-02	15
Other Agricultural Equipment	Riverside	MD	MOJ	9.24E-01	4.59E-05	2.98E-04	1.63E-04	2.90E-07	2.34E-05	2.47E-02	0.00E+00	4.14E-06	2.48E-02	8
Other Agricultural Equipment	Riverside	MD	SC	1.26E-01	6.26E-06	4.06E-05	2.22E-05	3.95E-08	3.19E-06	3.36E-03	0.00E+00	5.64E-07	3.38E-03	1
Other Agricultural Equipment	Riverside	SC	SC	4.59E+01	2.28E-03	1.48E-02	8.09E-03	1.44E-05	1.16E-03	1.23E+00	0.00E+00	2.06E-04	1.23E+00	408
Other Agricultural Equipment	Riverside	SS	SC	1.14E+01	5.65E-04	3.67E-03	2.00E-03	3.57E-06	2.88E-04	3.04E-01	0.00E+00	5.10E-05	3.05E-01	101
Other Agricultural Equipment	Riverside	MD	MOJ	7.69E-02	4.59E-06	3.99E-05	1.99E-05	4.19E-08	1.97E-06	3.73E-03	0.00E+00	4.14E-07	3.73E-03	1
Other Agricultural Equipment	Riverside	MD	SC	1.05E-02	6.25E-07	5.44E-06	2.72E-06	5.71E-09	2.69E-07	5.08E-04	0.00E+00	5.63E-08	5.09E-04	0
Other Agricultural Equipment	Riverside	SC	SC	3.82E+00	2.28E-04	1.98E-03	9.91E-04	2.08E-06	9.81E-05	1.85E-01	0.00E+00	2.05E-05	1.86E-01	61
Other Agricultural Equipment	Riverside	SS	SC	9.47E-01	5.64E-05	4.92E-04	2.45E-04	5.16E-07	2.43E-05	4.59E-02	0.00E+00	5.09E-06	4.60E-02	15
Other Agricultural Equipment	Riverside	MD	MOJ	7.69E-02	4.39E-06	5.40E-05	1.34E-05	6.07E-08	1.68E-06	5.40E-03	0.00E+00	3.96E-07	5.40E-03	2
Other Agricultural Equipment	Riverside	MD	SC	1.05E-02	5.98E-07	7.35E-06	1.83E-06	8.27E-09	2.29E-07	7.35E-04	0.00E+00	5.39E-08	7.36E-04	0
Other Agricultural Equipment	Riverside	SC	SC	3.82E+00	2.18E-04	2.68E-03	6.66E-04	3.02E-06	8.35E-05	2.68E-01	0.00E+00	1.97E-05	2.68E-01	89
Other Agricultural Equipment	Riverside	SS	SC	9.47E-01	5.40E-05	6.64E-04	1.65E-04	7.47E-07	2.07E-05	6.64E-02	0.00E+00	4.87E-06	6.65E-02	22
Other Agricultural Equipment	Riverside	MD	MOJ	1.86E-02	1.37E-06	1.71E-05	5.32E-06	1.84E-08	5.44E-07	1.87E-03	0.00E+00	1.24E-07	1.88E-03	1
Other Agricultural Equipment	Riverside	MD	SC	2.53E-03	1.87E-07	2.33E-06	7.24E-07	2.50E-09	7.41E-08	2.55E-04	0.00E+00	1.69E-08	2.55E-04	0
Other Agricultural Equipment	Riverside	SC	SC	9.22E-01	6.82E-05	8.51E-04	2.64E-04	9.13E-07	2.70E-05	9.30E-02	0.00E+00	6.16E-06	9.32E-02	31
Other Agricultural Equipment	Riverside	SS	SC	2.29E-01	1.69E-05	2.11E-04	6.54E-05	2.26E-07	6.70E-06	2.31E-02	0.00E+00	1.53E-06	2.31E-02	8
				12,901	1	3	4	0	0	312	0	0	314	104,045
				Population	**lbs/day**					Tons/Day				MTons/Year
As a Percent of Riverside County Cropland Acreage				95	9	50	57	0	3	2	0	0	2	**768**

Building Permits

Source: U.S. Census Bureau
http://censtats.census.gov/cgi-bin/bldgprmt/bldgdisp.pl

2010 Building Permits
Monthly New Privately-Owned Residential Building Permits

Riverside County California (065)

	Estimates with Imputation			Reported Only		
Item	Buildings	Units	Construction cost	Buildings	Units	Construction cost
Single Family	4,027	4,027	$877,515,567	3,991	3,991	$872,447,405
Two Family	0	0	$0	0	0	$0
Three and Four Family	15	56	$8,680,849	15	56	$8,680,849
Five or More Family	41	464	$61,670,998	41	464	$61,670,998
Total	4,083	4,547	$947,867,414	4,047	4,511	$942,799,252

Menifee California (County - 265300)

	Estimates with Imputation			Reported Only		
Item	Buildings	Units	Construction cost	Buildings	Units	Construction cost
Single Family	399	399	$95,771,278	399	399	$95,771,278
Two Family	0	0	$0	0	0	$0
Three and Four Family	0	0	$0	0	0	$0
Five or More Family	0	0	$0	0	0	$0
Total	399	399	$95,771,278	399	399	$95,771,278
Menifee as a Percent of Total Units of the County	9.8%	**8.8%**	10.1%	9.9%	8.8%	10.2%

Lawn and Garden (2010 - Riverside County)			Tons/Day									MTons/Year
Equipment	**County**	**Population**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Lawn Mowers	Riverside	4.135E+01	3.311E-04	8.816E-05	5.952E-03	7.269E-07	5.565E-05	1.765E-02	2.288E-05	2.058E-05	2.52E-02	8
Lawn Mowers	Riverside	5.617E+00	4.498E-05	1.198E-05	8.086E-04	9.875E-08	7.561E-06	2.398E-03	3.108E-06	2.796E-06	3.42E-03	1
Lawn Mowers	Riverside	1.880E+03	1.506E-02	4.010E-03	2.706E-01	3.306E-05	2.531E-03	8.026E-01	1.040E-03	9.360E-04	1.14E+00	379
Lawn Mowers	Riverside	5.087E+02	4.073E-03	1.085E-03	7.322E-02	8.942E-06	6.847E-04	2.171E-01	2.814E-04	2.532E-04	3.10E-01	103
Lawn Mowers	Riverside	3.105E+02	5.111E-04	5.115E-05	5.022E-03	3.701E-07	3.399E-05	8.986E-03	1.191E-05	3.177E-05	1.33E-02	4
Lawn Mowers	Riverside	4.218E+01	6.944E-05	6.949E-06	6.822E-04	5.028E-08	4.617E-06	1.221E-03	1.618E-06	4.316E-06	1.81E-03	1
Lawn Mowers	Riverside	1.412E+04	2.483E-02	2.318E-03	2.315E-01	1.683E-05	1.604E-03	4.087E-01	5.401E-04	1.543E-03	6.09E-01	201
Lawn Mowers	Riverside	3.820E+03	6.288E-03	6.293E-04	6.178E-02	4.553E-06	4.181E-04	1.106E-01	1.465E-04	3.908E-04	1.64E-01	54
Chainsaws	Riverside	7.405E+01	2.926E-03	4.611E-05	5.292E-03	5.891E-07	8.327E-06	1.430E-02	2.372E-05	1.819E-04	2.55E-02	8
Chainsaws	Riverside	1.006E+01	3.975E-04	6.264E-06	7.190E-04	8.003E-08	1.131E-06	1.943E-03	3.222E-06	2.471E-05	3.46E-03	1
Chainsaws	Riverside	3.367E+03	1.331E-01	2.097E-03	2.407E-01	2.679E-05	3.787E-04	6.505E-01	1.079E-03	8.271E-03	1.16E+00	384
Chainsaws	Riverside	9.110E+02	3.600E-02	5.673E-04	6.511E-02	7.248E-06	1.024E-04	1.760E-01	2.918E-04	2.237E-03	3.13E-01	104
Chainsaws	Riverside	8.330E+02	3.799E-04	9.181E-06	1.399E-03	1.122E-07	7.330E-06	2.725E-03	4.578E-06	2.361E-05	4.64E-03	2
Chainsaws	Riverside	1.132E+02	5.161E-05	1.247E-06	1.901E-04	1.525E-08	9.959E-07	3.703E-04	6.220E-07	3.208E-06	6.30E-04	0
Chainsaws	Riverside	3.788E+04	1.825E-02	4.130E-04	6.526E-02	5.105E-06	3.573E-04	1.240E-01	2.069E-04	1.135E-03	2.12E-01	70
Chainsaws	Riverside	1.025E+04	4.674E-03	1.130E-04	1.721E-02	1.381E-06	9.018E-05	3.353E-02	5.633E-05	2.905E-04	5.71E-02	19
Chainsaws	Riverside	5.216E+01	4.983E-03	7.852E-05	9.012E-03	1.003E-06	1.418E-05	2.436E-02	2.675E-05	3.097E-04	3.92E-02	13
Chainsaws	Riverside	7.086E+00	6.769E-04	1.067E-05	1.224E-03	1.363E-07	1.927E-06	3.309E-03	3.634E-06	4.207E-05	5.32E-03	2
Chainsaws	Riverside	2.372E+03	2.266E-01	3.571E-03	4.099E-01	4.563E-05	6.449E-04	1.108E+00	1.217E-03	1.408E-02	1.78E+00	590
Chainsaws	Riverside	6.417E+02	6.130E-02	9.660E-04	1.109E-01	1.234E-05	1.745E-04	2.997E-01	3.291E-04	3.810E-03	4.82E-01	160
Chainsaws	Riverside	5.868E+02	5.742E-04	1.527E-05	2.186E-03	1.912E-07	1.385E-05	4.641E-03	5.081E-06	3.569E-05	6.97E-03	2
Chainsaws	Riverside	7.972E+01	7.801E-05	2.075E-06	2.970E-04	2.597E-08	1.882E-06	6.306E-04	6.903E-07	4.849E-06	9.46E-04	0
Chainsaws	Riverside	2.669E+04	2.748E-02	6.853E-04	1.014E-01	8.694E-06	6.765E-04	2.111E-01	2.293E-04	1.708E-03	3.18E-01	105
Chainsaws	Riverside	7.219E+03	7.064E-03	1.879E-04	2.690E-02	2.352E-06	1.704E-04	5.710E-02	6.251E-05	4.391E-04	8.57E-02	28
Chainsaws Preempt	Riverside	6.492E+01	6.202E-03	9.773E-05	1.122E-02	1.249E-06	1.765E-05	3.032E-02	3.330E-05	3.855E-04	4.87E-02	16
Chainsaws Preempt	Riverside	8.820E+00	8.425E-04	1.328E-05	1.524E-03	1.696E-07	2.398E-06	4.119E-03	4.523E-06	5.237E-05	6.62E-03	2
Chainsaws Preempt	Riverside	2.953E+03	2.820E-01	4.445E-03	5.101E-01	5.679E-05	8.027E-04	1.379E+00	1.514E-03	1.753E-02	2.22E+00	734
Chainsaws Preempt	Riverside	7.987E+02	7.630E-02	1.202E-03	1.380E-01	1.536E-05	2.171E-04	3.730E-01	4.096E-04	4.742E-03	6.00E-01	199
Chainsaws Preempt	Riverside	7.303E+02	9.694E-04	1.520E-05	3.394E-03	2.379E-07	1.035E-05	5.777E-03	5.655E-06	6.025E-05	8.80E-03	3
Chainsaws Preempt	Riverside	9.922E+01	1.317E-04	2.065E-06	4.611E-04	3.232E-08	1.407E-06	7.848E-04	7.683E-07	8.185E-06	1.19E-03	0
Chainsaws Preempt	Riverside	3.321E+04	4.577E-02	6.834E-04	1.571E-01	1.082E-05	5.001E-04	2.627E-01	2.555E-04	2.845E-03	4.02E-01	133
Chainsaws Preempt	Riverside	8.985E+03	1.193E-02	1.870E-04	4.175E-02	2.927E-06	1.274E-04	7.107E-02	6.957E-05	7.412E-04	1.08E-01	36
Trimmers/Edgers/Brush Cutters	Riverside	2.414E+02	1.919E-03	5.512E-05	6.327E-03	7.043E-07	9.956E-06	1.710E-02	3.020E-05	1.193E-04	2.90E-02	10
Trimmers/Edgers/Brush Cutters	Riverside	3.280E+01	2.607E-04	7.488E-06	8.595E-04	9.568E-08	1.353E-06	2.323E-03	4.103E-06	1.620E-05	3.94E-03	1
Trimmers/Edgers/Brush Cutters	Riverside	1.098E+04	8.731E-02	2.507E-03	2.877E-01	3.203E-05	4.528E-04	7.777E-01	1.373E-03	5.427E-03	1.32E+00	436
Trimmers/Edgers/Brush Cutters	Riverside	2.970E+03	2.361E-02	6.781E-04	7.784E-02	8.665E-06	1.225E-04	2.104E-01	3.715E-04	1.467E-03	3.56E-01	118
Trimmers/Edgers/Brush Cutters	Riverside	2.691E+03	3.091E-03	1.179E-04	1.262E-02	1.390E-06	2.281E-05	3.376E-02	6.202E-05	1.921E-04	5.70E-02	19
Trimmers/Edgers/Brush Cutters	Riverside	3.656E+02	4.200E-04	1.602E-05	1.715E-03	1.889E-07	3.099E-06	4.586E-03	8.425E-06	2.610E-05	7.75E-03	3
Trimmers/Edgers/Brush Cutters	Riverside	1.224E+05	1.419E-01	5.369E-03	5.745E-01	6.323E-05	1.051E-03	1.535E+00	2.822E-03	8.819E-03	2.60E+00	859
Trimmers/Edgers/Brush Cutters	Riverside	3.311E+04	3.803E-02	1.451E-03	1.553E-01	1.711E-05	2.807E-04	4.153E-01	7.630E-04	2.364E-03	7.01E-01	232
Leaf Blowers/Vacuums	Riverside	3.605E+02	7.137E-03	1.480E-04	1.698E-02	1.891E-06	2.673E-05	4.591E-02	7.718E-05	4.436E-04	7.91E-02	26
Leaf Blowers/Vacuums	Riverside	4.898E+01	9.696E-04	2.010E-05	2.307E-03	2.569E-07	3.631E-06	6.237E-03	1.049E-05	6.026E-05	1.08E-02	4
Leaf Blowers/Vacuums	Riverside	1.640E+04	3.246E-01	6.729E-03	7.724E-01	8.599E-05	1.215E-03	2.088E+00	3.510E-03	2.018E-02	3.60E+00	1,192
Leaf Blowers/Vacuums	Riverside	4.436E+03	8.780E-02	1.820E-03	2.090E-01	2.326E-05	3.288E-04	5.648E-01	9.495E-04	5.457E-03	9.74E-01	322
Leaf Blowers/Vacuums	Riverside	9.295E+02	4.025E-04	9.744E-06	1.485E-03	1.191E-07	7.780E-06	2.893E-03	4.927E-06	2.502E-05	4.95E-03	2
Leaf Blowers/Vacuums	Riverside	1.263E+02	5.468E-05	1.324E-06	2.017E-04	1.618E-08	1.057E-06	3.930E-04	6.693E-07	3.399E-06	6.72E-04	0
Leaf Blowers/Vacuums	Riverside	4.227E+04	1.934E-02	4.383E-04	6.926E-02	5.418E-06	3.792E-04	1.315E-01	2.226E-04	1.202E-03	2.26E-01	75
Leaf Blowers/Vacuums	Riverside	1.144E+04	4.952E-03	1.199E-04	1.827E-02	1.466E-06	9.571E-05	3.559E-02	6.061E-05	3.078E-04	6.08E-02	20
Shredders	Riverside	1.822E+00	1.670E-05	1.295E-05	8.051E-04	6.339E-08	1.290E-05	1.539E-03	1.502E-06	1.038E-06	2.03E-03	1
Shredders	Riverside	2.476E-01	2.269E-06	1.760E-06	1.094E-04	8.611E-09	1.753E-06	2.091E-04	2.040E-07	1.410E-07	2.75E-04	0
Shredders	Riverside	8.287E+01	7.597E-04	5.892E-04	3.662E-02	2.883E-06	5.867E-04	6.999E-02	6.829E-05	4.722E-05	9.22E-02	31
Shredders	Riverside	2.242E+01	2.055E-04	1.594E-04	9.905E-03	7.798E-07	1.587E-04	1.893E-02	1.847E-05	1.277E-05	2.49E-02	8

Lawn and Garden (2010 - Riverside County)			Tons/Day									MTons/Year
Equipment	**County**	**Population**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Shredders	Riverside	6.489E+01	2.733E-05	2.222E-06	2.247E-04	1.497E-08	3.047E-06	3.635E-04	2.881E-07	1.698E-06	4.88E-04	0
Shredders	Riverside	8.816E+00	3.712E-06	3.019E-07	3.053E-05	2.034E-09	4.140E-07	4.938E-05	3.915E-08	2.307E-07	6.64E-05	0
Shredders	Riverside	2.951E+03	1.342E-03	9.950E-05	1.033E-02	6.808E-07	1.386E-04	1.653E-02	1.295E-05	8.343E-05	2.23E-02	7
Shredders	Riverside	7.984E+02	3.362E-04	2.734E-05	2.765E-03	1.842E-07	3.749E-05	4.472E-03	3.545E-06	2.090E-05	6.01E-03	2
Commercial Turf Equipment	Riverside	9.662E-01	4.407E-05	3.360E-05	2.359E-03	1.857E-07	2.100E-06	4.510E-03	4.229E-06	2.739E-06	5.88E-03	2
Commercial Turf Equipment	Riverside	1.313E-01	5.987E-06	4.565E-06	3.205E-04	2.523E-08	2.854E-07	6.127E-04	5.745E-07	3.721E-07	7.99E-04	0
Commercial Turf Equipment	Riverside	4.394E+01	2.007E-03	1.530E-03	1.073E-01	8.447E-06	9.552E-05	2.051E-01	1.925E-04	1.248E-04	2.67E-01	89
Commercial Turf Equipment	Riverside	1.189E+01	5.422E-04	4.134E-04	2.903E-02	2.285E-06	2.584E-05	5.549E-02	5.203E-05	3.370E-05	7.23E-02	24
Commercial Turf Equipment	Riverside	4.769E-01	4.667E-05	3.426E-05	2.609E-03	1.935E-07	2.189E-06	4.699E-03	3.079E-06	2.901E-06	5.71E-03	2
Commercial Turf Equipment	Riverside	6.478E-02	6.340E-06	4.654E-06	3.545E-04	2.629E-08	2.973E-07	6.384E-04	4.182E-07	3.940E-07	7.76E-04	0
Commercial Turf Equipment	Riverside	2.169E+01	2.126E-03	1.560E-03	1.187E-01	8.802E-06	9.953E-05	2.137E-01	1.401E-04	1.321E-04	2.60E-01	86
Commercial Turf Equipment	Riverside	5.867E+00	5.741E-04	4.215E-04	3.210E-02	2.381E-06	2.692E-05	5.781E-02	3.787E-05	3.568E-05	7.03E-02	23
Other Lawn & Garden Equipment	Riverside	4.083E-01	2.095E-06	6.789E-08	7.793E-06	8.675E-10	1.226E-08	2.106E-05	3.304E-08	1.302E-07	3.40E-05	0
Other Lawn & Garden Equipment	Riverside	5.547E-02	2.846E-07	9.223E-09	1.059E-06	1.179E-10	1.666E-09	2.862E-06	4.489E-09	1.769E-08	4.62E-06	0
Other Lawn & Garden Equipment	Riverside	1.857E+01	9.542E-05	3.088E-06	3.544E-04	3.945E-08	5.577E-07	9.580E-04	1.503E-06	5.931E-06	1.55E-03	1
Other Lawn & Garden Equipment	Riverside	5.023E+00	2.578E-05	8.352E-07	9.587E-05	1.067E-08	1.509E-07	2.591E-04	4.065E-07	1.602E-06	4.19E-04	0
Other Lawn & Garden Equipment	Riverside	1.251E+01	5.582E-06	1.363E-07	2.077E-05	1.667E-09	1.088E-07	4.047E-05	6.431E-08	3.470E-07	6.77E-05	0
Other Lawn & Garden Equipment	Riverside	1.700E+00	7.584E-07	1.852E-08	2.822E-06	2.264E-10	1.479E-08	5.498E-06	8.737E-09	4.714E-08	9.20E-06	0
Other Lawn & Garden Equipment	Riverside	5.691E+02	2.685E-04	6.132E-06	9.690E-04	7.580E-08	5.306E-06	1.840E-03	2.906E-06	1.669E-05	3.09E-03	1
Other Lawn & Garden Equipment	Riverside	1.540E+02	6.868E-05	1.677E-06	2.556E-04	2.050E-08	1.339E-06	4.979E-04	7.912E-07	4.269E-06	8.33E-04	0
Other Lawn & Garden Equipment	Riverside	1.777E-01	4.558E-06	1.477E-07	1.695E-05	1.887E-09	2.668E-08	4.583E-05	3.391E-08	2.833E-07	6.23E-05	0
Other Lawn & Garden Equipment	Riverside	2.414E-02	6.193E-07	2.007E-08	2.303E-06	2.564E-10	3.624E-09	6.226E-06	4.607E-09	3.849E-08	8.46E-06	0
Other Lawn & Garden Equipment	Riverside	8.080E+00	2.076E-04	6.717E-06	7.711E-04	8.583E-08	1.213E-06	2.084E-03	1.542E-06	1.290E-05	2.83E-03	1
Other Lawn & Garden Equipment	Riverside	2.186E+00	5.608E-05	1.817E-06	2.086E-04	2.322E-08	3.282E-07	5.638E-04	4.172E-07	3.486E-06	7.66E-04	0
Other Lawn & Garden Equipment	Riverside	5.448E+00	1.077E-05	2.899E-07	4.149E-05	3.628E-09	2.629E-07	8.809E-05	6.499E-08	6.695E-07	1.22E-04	0
Other Lawn & Garden Equipment	Riverside	7.402E-01	1.463E-06	3.938E-08	5.637E-06	4.929E-10	3.572E-08	1.197E-05	8.829E-09	9.095E-08	1.66E-05	0
Other Lawn & Garden Equipment	Riverside	2.478E+02	5.158E-04	1.301E-05	1.924E-03	1.650E-07	1.284E-05	4.006E-03	2.932E-06	3.206E-05	5.59E-03	2
Other Lawn & Garden Equipment	Riverside	6.703E+01	1.325E-04	3.566E-06	5.105E-04	4.463E-08	3.235E-06	1.084E-03	7.995E-07	8.236E-06	1.50E-03	0
Lawn Mowers	Riverside	2.448E+02	2.074E-03	5.369E-04	3.803E-02	3.608E-06	3.295E-04	1.045E-01	1.354E-04	1.218E-04	1.49E-01	49
Lawn Mowers	Riverside	3.326E+01	2.817E-04	7.294E-05	5.167E-03	4.902E-07	4.477E-05	1.420E-02	1.840E-05	1.655E-05	2.02E-02	7
Lawn Mowers	Riverside	1.113E+04	9.431E-02	2.442E-02	1.729E+00	1.641E-04	1.499E-02	4.752E+00	6.160E-03	5.542E-03	6.78E+00	2,244
Lawn Mowers	Riverside	3.012E+03	2.551E-02	6.605E-03	4.679E-01	4.439E-05	4.054E-03	1.286E+00	1.666E-03	1.499E-03	1.83E+00	607
Lawn Mowers	Riverside	3.881E+03	2.575E-03	6.890E-04	6.468E-02	3.879E-06	2.637E-04	1.123E-01	1.552E-04	1.513E-04	1.64E-01	54
Lawn Mowers	Riverside	5.273E+02	3.499E-04	9.360E-05	8.787E-03	5.269E-07	3.583E-05	1.526E-02	2.108E-05	2.056E-05	2.22E-02	7
Lawn Mowers	Riverside	1.765E+05	1.207E-01	3.142E-02	2.970E+00	1.764E-04	1.206E-02	5.108E+00	7.071E-03	7.091E-03	7.45E+00	2,467
Lawn Mowers	Riverside	4.775E+04	3.168E-02	8.476E-03	7.957E-01	4.772E-05	3.245E-03	1.382E+00	1.909E-03	1.862E-03	2.01E+00	666
Tillers	Riverside	2.541E+01	4.770E-05	1.375E-05	1.322E-03	1.017E-07	7.727E-06	2.946E-03	3.365E-06	2.805E-06	4.05E-03	1
Tillers	Riverside	3.452E+00	6.480E-06	1.868E-06	1.796E-04	1.382E-08	1.050E-06	4.003E-04	4.571E-07	3.811E-07	5.50E-04	0
Tillers	Riverside	1.155E+03	2.175E-03	6.284E-04	6.002E-02	4.627E-06	3.520E-04	1.340E-01	1.534E-04	1.279E-04	1.84E-01	61
Tillers	Riverside	3.126E+02	5.868E-04	1.692E-04	1.626E-02	1.252E-06	9.506E-05	3.625E-02	4.140E-05	3.451E-05	4.98E-02	16
Tillers	Riverside	9.869E+01	9.403E-05	2.274E-05	2.168E-03	1.273E-07	9.005E-06	3.685E-03	4.867E-06	5.530E-06	5.31E-03	2
Tillers	Riverside	1.341E+01	1.277E-05	3.089E-06	2.945E-04	1.729E-08	1.223E-06	5.007E-04	6.612E-07	7.512E-07	7.21E-04	0
Tillers	Riverside	4.488E+03	4.399E-03	1.038E-03	9.946E-02	5.788E-06	4.120E-04	1.676E-01	2.219E-04	2.587E-04	2.42E-01	80
Tillers	Riverside	1.214E+03	1.157E-03	2.798E-04	2.667E-02	1.566E-06	1.108E-04	4.534E-02	5.987E-05	6.803E-05	6.53E-02	22
Trimmers/Edgers/Brush Cutters	Riverside	4.469E+01	6.348E-05	2.902E-05	1.106E-03	9.775E-08	9.228E-07	2.831E-03	1.011E-05	3.733E-06	6.04E-03	2
Trimmers/Edgers/Brush Cutters	Riverside	6.071E+00	8.624E-06	3.942E-06	1.502E-04	1.328E-08	1.254E-07	3.846E-04	1.374E-06	5.072E-07	8.21E-04	0
Trimmers/Edgers/Brush Cutters	Riverside	2.032E+03	2.888E-03	1.320E-03	5.025E-02	4.446E-06	4.197E-05	1.287E-01	4.601E-04	1.699E-04	2.75E-01	91
Trimmers/Edgers/Brush Cutters	Riverside	5.498E+02	7.810E-04	3.570E-04	1.360E-02	1.203E-06	1.135E-05	3.483E-02	1.244E-04	4.593E-05	7.44E-02	25
Trimmers/Edgers/Brush Cutters	Riverside	2.082E+02	6.905E-05	1.694E-05	1.275E-03	7.216E-08	4.826E-06	2.090E-03	6.581E-06	4.061E-06	4.21E-03	1
Trimmers/Edgers/Brush Cutters	Riverside	2.829E+01	9.381E-06	2.301E-06	1.732E-04	9.803E-09	6.557E-07	2.839E-04	8.940E-07	5.517E-07	5.73E-04	0
Trimmers/Edgers/Brush Cutters	Riverside	9.469E+03	3.245E-03	7.676E-04	5.882E-02	3.282E-06	2.310E-04	9.503E-02	2.987E-04	1.908E-04	1.92E-01	63
Trimmers/Edgers/Brush Cutters	Riverside	2.562E+03	8.495E-04	2.084E-04	1.569E-02	8.877E-07	5.938E-05	2.571E-02	8.096E-05	4.996E-05	5.19E-02	17

Lawn and Garden (2010 - Riverside County)			Tons/Day									MTons/Year
Equipment	**County**	**Population**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Leaf Blowers/Vacuums	Riverside	1.139E+01	9.077E-06	2.282E-06	3.258E-04	2.280E-08	1.546E-06	6.603E-04	9.546E-07	5.338E-07	9.67E-04	0
Leaf Blowers/Vacuums	Riverside	1.547E+00	1.233E-06	3.100E-07	4.427E-05	3.097E-09	2.100E-07	8.970E-05	1.297E-07	7.252E-08	1.31E-04	0
Leaf Blowers/Vacuums	Riverside	5.179E+02	4.131E-04	1.039E-04	1.481E-02	1.037E-06	7.035E-05	3.003E-02	4.343E-05	2.429E-05	4.40E-02	15
Leaf Blowers/Vacuums	Riverside	1.401E+02	1.117E-04	2.807E-05	4.009E-03	2.805E-07	1.902E-05	8.123E-03	1.174E-05	6.567E-06	1.19E-02	4
Leaf Blowers/Vacuums	Riverside	9.787E+00	9.788E-07	2.324E-07	2.948E-05	1.514E-09	8.626E-08	4.386E-05	7.800E-08	5.756E-08	6.92E-05	0
Leaf Blowers/Vacuums	Riverside	1.330E+00	1.330E-07	3.157E-08	4.005E-06	2.057E-10	1.172E-08	5.958E-06	1.060E-08	7.820E-09	9.41E-06	0
Leaf Blowers/Vacuums	Riverside	4.451E+02	4.602E-05	1.061E-05	1.356E-03	6.887E-08	3.940E-06	1.994E-03	3.558E-06	2.707E-06	3.15E-03	1
Leaf Blowers/Vacuums	Riverside	1.204E+02	1.204E-05	2.859E-06	3.627E-04	1.863E-08	1.061E-06	5.395E-04	9.596E-07	7.082E-07	8.52E-04	0
Rear Engine Riding Mowers	Riverside	1.340E+02	1.470E-03	1.078E-03	9.108E-02	4.600E-06	7.482E-05	1.613E-01	1.606E-04	8.645E-05	2.13E-01	71
Rear Engine Riding Mowers	Riverside	1.821E+01	1.998E-04	1.464E-04	1.237E-02	6.249E-07	1.016E-05	2.192E-02	2.181E-05	1.174E-05	2.89E-02	10
Rear Engine Riding Mowers	Riverside	6.096E+03	6.688E-02	4.902E-02	4.142E+00	2.092E-04	3.403E-03	7.337E+00	7.303E-03	3.932E-03	9.68E+00	3,206
Rear Engine Riding Mowers	Riverside	1.649E+03	1.809E-02	1.326E-02	1.121E+00	5.659E-05	9.205E-04	1.985E+00	1.975E-03	1.064E-03	2.62E+00	867
Rear Engine Riding Mowers	Riverside	1.176E+02	1.709E-04	1.086E-04	8.564E-03	4.192E-07	5.820E-06	1.470E-02	1.533E-05	1.005E-05	1.97E-02	7
Rear Engine Riding Mowers	Riverside	1.597E+01	2.321E-05	1.476E-05	1.163E-03	5.695E-08	7.907E-07	1.997E-03	2.082E-06	1.365E-06	2.67E-03	1
Rear Engine Riding Mowers	Riverside	5.347E+03	7.864E-03	4.950E-03	3.902E-01	1.906E-05	2.653E-04	6.686E-01	6.978E-04	4.625E-04	8.95E-01	296
Rear Engine Riding Mowers	Riverside	1.446E+03	2.102E-03	1.336E-03	1.054E-01	5.157E-06	7.160E-05	1.809E-01	1.886E-04	1.236E-04	2.42E-01	80
Rear Engine Riding Mowers	Riverside	6.130E-01	1.262E-05	9.406E-06	8.351E-04	3.532E-08	6.463E-07	1.393E-03	1.036E-06	7.418E-07	1.73E-03	1
Rear Engine Riding Mowers	Riverside	8.327E-02	1.714E-06	1.278E-06	1.134E-04	4.798E-09	8.780E-08	1.893E-04	1.408E-07	1.008E-07	2.35E-04	0
Rear Engine Riding Mowers	Riverside	2.788E+01	5.739E-04	4.278E-04	3.798E-02	1.606E-06	2.940E-05	6.337E-02	4.712E-05	3.374E-05	7.87E-02	26
Rear Engine Riding Mowers	Riverside	7.541E+00	1.552E-04	1.157E-04	1.027E-02	4.345E-07	7.951E-06	1.714E-02	1.275E-05	9.127E-06	2.13E-02	7
Rear Engine Riding Mowers	Riverside	5.288E-01	1.464E-06	8.484E-07	7.644E-05	3.166E-09	4.945E-08	1.249E-04	9.253E-08	8.612E-08	1.55E-04	0
Rear Engine Riding Mowers	Riverside	7.184E-02	1.990E-07	1.153E-07	1.039E-05	4.301E-10	6.718E-09	1.697E-05	1.257E-08	1.170E-08	2.11E-05	0
Rear Engine Riding Mowers	Riverside	2.405E+01	6.725E-05	3.863E-05	3.481E-03	1.440E-07	2.254E-06	5.681E-03	4.212E-06	3.955E-06	7.07E-03	2
Rear Engine Riding Mowers	Riverside	6.506E+00	1.802E-05	1.044E-05	9.405E-04	3.895E-08	6.084E-07	1.537E-03	1.138E-06	1.060E-06	1.91E-03	1
Front Mowers	Riverside	6.144E+00	1.076E-04	7.886E-05	6.665E-03	3.366E-07	5.475E-06	1.181E-02	9.444E-06	6.326E-06	1.49E-02	5
Front Mowers	Riverside	8.347E-01	1.462E-05	1.071E-05	9.055E-04	4.573E-08	7.438E-07	1.604E-03	1.283E-06	8.594E-07	2.02E-03	1
Front Mowers	Riverside	2.794E+02	4.894E-03	3.587E-03	3.031E-01	1.531E-05	2.490E-04	5.369E-01	4.295E-04	2.877E-04	6.76E-01	224
Front Mowers	Riverside	7.559E+01	1.324E-03	9.702E-04	8.200E-02	4.141E-06	6.736E-05	1.452E-01	1.162E-04	7.783E-05	1.83E-01	61
Front Mowers	Riverside	1.987E+02	4.610E-04	2.931E-04	2.311E-02	1.131E-06	1.570E-05	3.966E-02	3.324E-05	2.711E-05	5.05E-02	17
Front Mowers	Riverside	2.699E+01	6.263E-05	3.982E-05	3.139E-03	1.536E-07	2.133E-06	5.389E-03	4.516E-06	3.683E-06	6.87E-03	2
Front Mowers	Riverside	9.035E+03	2.122E-02	1.335E-02	1.053E+00	5.143E-05	7.158E-04	1.804E+00	1.513E-03	1.248E-03	2.30E+00	761
Front Mowers	Riverside	2.444E+03	5.672E-03	3.606E-03	2.843E-01	1.391E-05	1.932E-04	4.880E-01	4.089E-04	3.336E-04	6.22E-01	206
Front Mowers	Riverside	4.812E+00	1.095E-04	8.162E-05	7.246E-03	3.065E-07	5.608E-06	1.209E-02	8.580E-06	6.437E-06	1.49E-02	5
Front Mowers	Riverside	6.538E-01	1.487E-05	1.109E-05	9.844E-04	4.163E-08	7.618E-07	1.643E-03	1.166E-06	8.745E-07	2.02E-03	1
Front Mowers	Riverside	2.189E+02	4.980E-03	3.712E-03	3.295E-01	1.394E-05	2.551E-04	5.499E-01	3.902E-04	2.928E-04	6.77E-01	224
Front Mowers	Riverside	5.920E+01	1.347E-03	1.004E-03	8.914E-02	3.770E-06	6.899E-05	1.488E-01	1.056E-04	7.919E-05	1.83E-01	61
Front Mowers	Riverside	1.556E+02	4.763E-04	2.759E-04	2.486E-02	1.030E-06	1.608E-05	4.062E-02	2.872E-05	2.801E-05	5.01E-02	17
Front Mowers	Riverside	2.114E+01	6.470E-05	3.748E-05	3.377E-03	1.399E-07	2.185E-06	5.519E-03	3.902E-06	3.805E-06	6.81E-03	2
Front Mowers	Riverside	7.076E+03	2.187E-02	1.256E-02	1.132E+00	4.682E-05	7.331E-04	1.847E+00	1.307E-03	1.286E-03	2.28E+00	755
Front Mowers	Riverside	1.914E+03	5.859E-03	3.394E-03	3.059E-01	1.267E-05	1.978E-04	4.998E-01	3.533E-04	3.446E-04	6.17E-01	204
Shredders	Riverside	4.826E+00	6.093E-05	2.785E-05	1.061E-03	9.383E-08	8.858E-07	2.717E-03	3.501E-06	3.583E-06	3.88E-03	1
Shredders	Riverside	6.556E-01	8.278E-06	3.784E-06	1.442E-04	1.275E-08	1.203E-07	3.691E-04	4.757E-07	4.868E-07	5.27E-04	0
Shredders	Riverside	2.195E+02	2.772E-03	1.267E-03	4.824E-02	4.267E-06	4.028E-05	1.236E-01	1.593E-04	1.630E-04	1.76E-01	58
Shredders	Riverside	5.937E+01	7.496E-04	3.427E-04	1.306E-02	1.154E-06	1.090E-05	3.343E-02	4.308E-05	4.409E-05	4.77E-02	16
Shredders	Riverside	1.794E+02	1.559E-05	4.278E-06	4.729E-04	2.314E-08	1.551E-06	6.701E-04	6.707E-07	9.166E-07	8.97E-04	0
Shredders	Riverside	2.438E+01	2.117E-06	5.812E-07	6.424E-05	3.143E-09	2.108E-07	9.103E-05	9.112E-08	1.245E-07	1.22E-04	0
Shredders	Riverside	8.160E+03	7.305E-04	1.933E-04	2.178E-02	1.052E-06	7.417E-05	3.047E-02	3.040E-05	4.296E-05	4.08E-02	14
Shredders	Riverside	2.207E+03	1.917E-04	5.263E-05	5.818E-03	2.847E-07	1.909E-05	8.243E-03	8.251E-06	1.128E-05	1.10E-02	4
Lawn & Garden Tractors	Riverside	2.458E+01	2.063E-04	1.529E-04	1.527E-02	7.713E-07	1.061E-05	2.705E-02	1.813E-05	1.214E-05	3.29E-02	11
Lawn & Garden Tractors	Riverside	3.339E+00	2.803E-05	2.078E-05	2.074E-03	1.048E-07	1.442E-06	3.675E-03	2.463E-06	1.649E-06	4.47E-03	1
Lawn & Garden Tractors	Riverside	1.118E+03	9.385E-03	6.956E-03	6.943E-01	3.508E-05	4.826E-04	1.230E+00	8.245E-04	5.519E-04	1.50E+00	496
Lawn & Garden Tractors	Riverside	3.024E+02	2.539E-03	1.882E-03	1.878E-01	9.488E-06	1.305E-04	3.328E-01	2.230E-04	1.493E-04	4.05E-01	134

Lawn and Garden (2010 - Riverside County)			Tons/Day									MTons/Year
Equipment	**County**	**Population**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Lawn & Garden Tractors	Riverside	1.596E+02	2.033E-04	1.378E-04	1.155E-02	5.687E-07	7.224E-06	1.995E-02	1.478E-05	1.196E-05	2.48E-02	8
Lawn & Garden Tractors	Riverside	2.169E+01	2.762E-05	1.872E-05	1.570E-03	7.727E-08	9.815E-07	2.710E-03	2.008E-06	1.625E-06	3.37E-03	1
Lawn & Garden Tractors	Riverside	7.260E+03	9.327E-03	6.280E-03	5.263E-01	2.587E-05	3.290E-04	9.071E-01	6.731E-04	5.485E-04	1.13E+00	373
Lawn & Garden Tractors	Riverside	1.964E+03	2.502E-03	1.695E-03	1.421E-01	6.997E-06	8.888E-05	2.454E-01	1.819E-04	1.471E-04	3.05E-01	101
Lawn & Garden Tractors	Riverside	9.691E+00	1.280E-04	9.051E-05	9.874E-03	4.177E-07	6.466E-06	1.648E-02	8.874E-06	7.530E-06	1.94E-02	6
Lawn & Garden Tractors	Riverside	1.317E+00	1.739E-05	1.230E-05	1.341E-03	5.675E-08	8.785E-07	2.239E-03	1.206E-06	1.023E-06	2.63E-03	1
Lawn & Garden Tractors	Riverside	4.407E+02	5.823E-03	4.117E-03	4.491E-01	1.900E-05	2.941E-04	7.496E-01	4.036E-04	3.425E-04	8.82E-01	292
Lawn & Garden Tractors	Riverside	1.192E+02	1.575E-03	1.113E-03	1.215E-01	5.139E-06	7.955E-05	2.028E-01	1.092E-04	9.263E-05	2.39E-01	79
Lawn & Garden Tractors	Riverside	6.296E+01	1.268E-04	7.694E-05	7.425E-03	3.081E-07	4.403E-06	1.216E-02	7.018E-06	7.459E-06	1.45E-02	5
Lawn & Garden Tractors	Riverside	8.554E+00	1.723E-05	1.045E-05	1.009E-03	4.186E-08	5.982E-07	1.652E-03	9.534E-07	1.013E-06	1.97E-03	1
Lawn & Garden Tractors	Riverside	2.863E+03	5.808E-03	3.504E-03	3.380E-01	1.401E-05	2.005E-04	5.529E-01	3.194E-04	3.416E-04	6.59E-01	218
Lawn & Garden Tractors	Riverside	7.746E+02	1.560E-03	9.465E-04	9.134E-02	3.791E-06	5.417E-05	1.496E-01	8.633E-05	9.176E-05	1.78E-01	59
Lawn & Garden Tractors	Riverside	1.403E-01	1.383E-06	2.793E-06	4.708E-05	6.291E-09	3.964E-08	5.175E-04	1.628E-07	8.134E-08	5.70E-04	0
Lawn & Garden Tractors	Riverside	1.905E-02	1.879E-07	3.795E-07	6.396E-06	8.547E-10	5.385E-09	7.030E-05	2.211E-08	1.105E-08	7.74E-05	0
Lawn & Garden Tractors	Riverside	6.379E+00	6.497E-05	1.308E-04	2.163E-03	2.861E-07	1.803E-06	2.353E-02	7.523E-06	3.821E-06	2.59E-02	9
Lawn & Garden Tractors	Riverside	1.726E+00	1.702E-05	3.436E-05	5.792E-04	7.740E-08	4.876E-07	6.366E-03	2.003E-06	1.001E-06	7.01E-03	2
Wood Splitters	Riverside	8.253E+00	8.620E-05	2.220E-05	1.897E-03	1.640E-07	1.391E-05	4.748E-03	3.876E-06	5.069E-06	6.06E-03	2
Wood Splitters	Riverside	1.121E+00	1.171E-05	3.016E-06	2.577E-04	2.227E-08	1.890E-06	6.450E-04	5.266E-07	6.887E-07	8.23E-04	0
Wood Splitters	Riverside	3.753E+02	3.923E-03	1.010E-03	8.620E-02	7.456E-06	6.331E-04	2.159E-01	1.764E-04	2.307E-04	2.75E-01	91
Wood Splitters	Riverside	1.015E+02	1.060E-03	2.731E-04	2.333E-02	2.017E-06	1.711E-04	5.841E-02	4.769E-05	6.236E-05	7.45E-02	25
Wood Splitters	Riverside	2.063E+02	1.900E-05	5.098E-06	6.884E-04	3.506E-08	1.806E-06	1.015E-03	8.448E-07	1.118E-06	1.30E-03	0
Wood Splitters	Riverside	2.803E+01	2.582E-06	6.926E-07	9.353E-05	4.763E-09	2.454E-07	1.379E-04	1.148E-07	1.518E-07	1.77E-04	0
Wood Splitters	Riverside	9.383E+03	8.885E-04	2.328E-04	3.162E-02	1.594E-06	8.223E-05	4.617E-02	3.854E-05	5.225E-05	5.92E-02	20
Wood Splitters	Riverside	2.538E+03	2.338E-04	6.272E-05	8.470E-03	4.313E-07	2.222E-05	1.249E-02	1.039E-05	1.375E-05	1.60E-02	5
Chippers/Stump Grinders	Riverside	1.164E-01	2.593E-05	1.940E-05	9.459E-04	4.658E-08	1.370E-05	1.634E-03	1.429E-06	1.495E-06	2.11E-03	1
Chippers/Stump Grinders	Riverside	1.581E-02	3.522E-06	2.636E-06	1.285E-04	6.328E-09	1.861E-06	2.219E-04	1.942E-07	2.030E-07	2.86E-04	0
Chippers/Stump Grinders	Riverside	5.292E+00	1.179E-03	8.824E-04	4.302E-02	2.118E-06	6.228E-04	7.430E-02	6.500E-05	6.797E-05	9.59E-02	32
Chippers/Stump Grinders	Riverside	1.432E+00	3.190E-04	2.387E-04	1.164E-02	5.731E-07	1.685E-04	2.010E-02	1.758E-05	1.839E-05	2.59E-02	9
Chippers/Stump Grinders	Riverside	2.078E-01	6.158E-07	3.011E-07	2.483E-05	1.088E-09	2.724E-07	3.814E-05	2.701E-08	3.622E-08	4.73E-05	0
Chippers/Stump Grinders	Riverside	2.823E-02	8.366E-08	4.091E-08	3.373E-06	1.477E-10	3.700E-08	5.182E-06	3.669E-09	4.920E-09	6.42E-06	0
Chippers/Stump Grinders	Riverside	9.450E+00	2.865E-05	1.371E-05	1.138E-03	4.946E-08	1.219E-05	1.735E-03	1.229E-06	1.685E-06	2.15E-03	1
Chippers/Stump Grinders	Riverside	2.556E+00	7.576E-06	3.705E-06	3.054E-04	1.338E-08	3.351E-06	4.692E-04	3.323E-07	4.456E-07	5.82E-04	0
Chippers/Stump Grinders	Riverside	6.608E-01	2.544E-04	1.667E-04	9.329E-03	3.847E-07	1.273E-04	1.518E-02	1.012E-05	1.467E-05	1.86E-02	6
Chippers/Stump Grinders	Riverside	8.977E-02	3.456E-05	2.264E-05	1.267E-03	5.227E-08	1.729E-05	2.062E-03	1.375E-06	1.993E-06	2.53E-03	1
Chippers/Stump Grinders	Riverside	3.005E+01	1.157E-02	7.580E-03	4.243E-01	1.750E-05	5.787E-03	6.904E-01	4.603E-04	6.670E-04	8.47E-01	280
Chippers/Stump Grinders	Riverside	8.129E+00	3.130E-03	2.051E-03	1.148E-01	4.733E-06	1.566E-03	1.868E-01	1.245E-04	1.804E-04	2.29E-01	76
Chippers/Stump Grinders	Riverside	1.176E+00	5.469E-06	2.530E-06	2.366E-04	8.953E-09	2.522E-06	3.533E-04	1.884E-07	3.217E-07	4.18E-04	0
Chippers/Stump Grinders	Riverside	1.598E-01	7.430E-07	3.437E-07	3.215E-05	1.216E-09	3.427E-07	4.799E-05	2.559E-08	4.370E-08	5.68E-05	0
Chippers/Stump Grinders	Riverside	5.349E+01	2.535E-04	1.151E-04	1.083E-02	4.072E-07	1.129E-04	1.607E-02	8.571E-06	1.491E-05	1.90E-02	6
Chippers/Stump Grinders	Riverside	1.447E+01	6.729E-05	3.112E-05	2.911E-03	1.101E-07	3.103E-05	4.346E-03	2.318E-06	3.957E-06	5.15E-03	2
Commercial Turf Equipment	Riverside	8.700E+00	6.197E-04	4.546E-04	2.833E-02	1.415E-06	2.774E-05	4.963E-02	4.653E-05	3.613E-05	6.48E-02	21
Commercial Turf Equipment	Riverside	1.182E+00	8.420E-05	6.175E-05	3.849E-03	1.923E-07	3.768E-06	6.743E-03	6.321E-06	4.908E-06	8.81E-03	3
Commercial Turf Equipment	Riverside	3.957E+02	2.822E-02	2.070E-02	1.289E+00	6.436E-05	1.262E-03	2.257E+00	2.118E-03	1.645E-03	2.95E+00	976
Commercial Turf Equipment	Riverside	1.070E+02	7.624E-03	5.592E-03	3.486E-01	1.741E-05	3.413E-04	6.106E-01	5.724E-04	4.445E-04	7.97E-01	264
Commercial Turf Equipment	Riverside	4.286E+00	5.282E-04	3.874E-04	2.559E-02	1.070E-06	2.360E-05	4.223E-02	3.077E-05	3.079E-05	5.24E-02	17
Commercial Turf Equipment	Riverside	5.822E-01	7.176E-05	5.262E-05	3.476E-03	1.454E-07	3.206E-06	5.737E-03	4.180E-06	4.183E-06	7.12E-03	2
Commercial Turf Equipment	Riverside	1.949E+02	2.406E-02	1.763E-02	1.164E+00	4.868E-05	1.073E-03	1.921E+00	1.400E-03	1.403E-03	2.38E+00	789
Commercial Turf Equipment	Riverside	5.272E+01	6.499E-03	4.765E-03	3.148E-01	1.317E-05	2.904E-04	5.196E-01	3.785E-04	3.788E-04	6.45E-01	214
Commercial Turf Equipment	Riverside	1.729E+00	1.847E-04	2.736E-04	7.187E-03	5.101E-07	3.214E-06	4.196E-02	1.541E-05	1.082E-05	4.70E-02	16
Commercial Turf Equipment	Riverside	2.349E-01	2.509E-05	3.716E-05	9.764E-04	6.930E-08	4.366E-07	5.700E-03	2.094E-06	1.470E-06	6.38E-03	2
Commercial Turf Equipment	Riverside	7.862E+01	8.681E-03	1.266E-02	3.274E-01	2.320E-05	1.462E-04	1.908E+00	7.080E-04	5.087E-04	2.14E+00	708
Commercial Turf Equipment	Riverside	2.127E+01	2.272E-03	3.365E-03	8.842E-02	6.276E-06	3.954E-05	5.162E-01	1.896E-04	1.331E-04	5.78E-01	191

Lawn and Garden (2010 - Riverside County)			Tons/Day									MTons/Year
Equipment	**County**	**Population**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Commercial Turf Equipment	Riverside	1.143E-02	2.459E-07	1.476E-06	1.296E-05	5.015E-09	4.022E-08	5.191E-04	9.555E-08	1.441E-08	5.49E-04	0
Commercial Turf Equipment	Riverside	1.553E-03	3.340E-08	2.005E-07	1.761E-06	6.814E-10	5.463E-09	7.052E-05	1.298E-08	1.957E-09	7.46E-05	0
Commercial Turf Equipment	Riverside	5.197E-01	1.120E-05	6.717E-05	5.906E-04	2.281E-07	1.829E-06	2.361E-02	4.347E-06	6.560E-07	2.50E-02	8
Commercial Turf Equipment	Riverside	1.406E-01	3.025E-06	1.816E-05	1.595E-04	6.170E-08	4.947E-07	6.386E-03	1.175E-06	1.772E-07	6.75E-03	2
Other Lawn & Garden Equipment	Riverside	7.639E+00	2.515E-05	6.742E-06	7.081E-04	5.444E-08	4.129E-06	1.576E-03	1.462E-06	1.479E-06	2.06E-03	1
Other Lawn & Garden Equipment	Riverside	1.038E+00	3.416E-06	9.159E-07	9.620E-05	7.396E-09	5.609E-07	2.142E-04	1.986E-07	2.009E-07	2.80E-04	0
Other Lawn & Garden Equipment	Riverside	3.474E+02	1.146E-03	3.075E-04	3.217E-02	2.476E-06	1.880E-04	7.169E-02	6.656E-05	6.737E-05	9.37E-02	31
Other Lawn & Garden Equipment	Riverside	9.398E+01	3.094E-04	8.294E-05	8.711E-03	6.697E-07	5.080E-05	1.939E-02	1.798E-05	1.819E-05	2.54E-02	8
Other Lawn & Garden Equipment	Riverside	2.342E+02	6.613E-05	1.594E-05	2.039E-03	1.046E-07	5.881E-06	3.029E-03	3.108E-06	3.889E-06	4.07E-03	1
Other Lawn & Garden Equipment	Riverside	3.181E+01	8.984E-06	2.165E-06	2.770E-04	1.421E-08	7.990E-07	4.115E-04	4.223E-07	5.284E-07	5.54E-04	0
Other Lawn & Garden Equipment	Riverside	1.065E+04	3.107E-03	7.276E-04	9.375E-02	4.757E-06	2.685E-04	1.378E-01	1.418E-04	1.827E-04	1.86E-01	61
Other Lawn & Garden Equipment	Riverside	2.881E+03	8.136E-04	1.960E-04	2.508E-02	1.287E-06	7.235E-05	3.727E-02	3.824E-05	4.785E-05	5.01E-02	17
Other Lawn & Garden Equipment	Riverside	3.393E+00	1.143E-05	8.508E-06	7.904E-04	3.993E-08	5.546E-07	1.400E-03	1.143E-06	6.724E-07	1.77E-03	1
Other Lawn & Garden Equipment	Riverside	4.610E-01	1.553E-06	1.156E-06	1.074E-04	5.425E-09	7.535E-08	1.903E-04	1.553E-07	9.135E-08	2.40E-04	0
Other Lawn & Garden Equipment	Riverside	1.543E+02	5.208E-04	3.875E-04	3.595E-02	1.816E-06	2.524E-05	6.369E-02	5.203E-05	3.063E-05	8.05E-02	27
Other Lawn & Garden Equipment	Riverside	4.174E+01	1.407E-04	1.047E-04	9.724E-03	4.912E-07	6.823E-06	1.723E-02	1.406E-05	8.272E-06	2.18E-02	7
Other Lawn & Garden Equipment	Riverside	1.040E+02	2.981E-05	1.837E-05	1.657E-03	7.672E-08	9.223E-07	2.691E-03	2.341E-06	1.753E-06	3.45E-03	1
Other Lawn & Garden Equipment	Riverside	1.413E+01	4.050E-06	2.496E-06	2.252E-04	1.042E-08	1.253E-07	3.655E-04	3.181E-07	2.382E-07	4.69E-04	0
Other Lawn & Garden Equipment	Riverside	4.730E+03	1.378E-03	8.379E-04	7.583E-02	3.489E-06	4.202E-05	1.224E-01	1.067E-04	8.102E-05	1.57E-01	52
Other Lawn & Garden Equipment	Riverside	1.279E+03	3.667E-04	2.260E-04	2.039E-02	9.438E-07	1.135E-05	3.310E-02	2.880E-05	2.157E-05	4.25E-02	14
Other Lawn & Garden Equipment	Riverside	7.169E-02	5.272E-07	3.665E-07	3.766E-05	1.593E-09	2.490E-08	6.287E-05	3.534E-08	3.100E-08	7.45E-05	0
Other Lawn & Garden Equipment	Riverside	9.739E-03	7.162E-08	4.979E-08	5.117E-06	2.165E-10	3.383E-09	8.541E-06	4.800E-09	4.212E-09	1.01E-05	0
Other Lawn & Garden Equipment	Riverside	3.260E+00	2.401E-05	1.669E-05	1.713E-03	7.247E-08	1.133E-06	2.859E-03	1.608E-06	1.412E-06	3.39E-03	1
Other Lawn & Garden Equipment	Riverside	8.819E-01	6.486E-06	4.509E-06	4.634E-04	1.960E-08	3.063E-07	7.735E-04	4.347E-07	3.814E-07	9.16E-04	0
Other Lawn & Garden Equipment	Riverside	2.211E+00	1.345E-06	7.467E-07	7.809E-05	3.080E-09	4.166E-08	1.215E-04	7.028E-08	7.908E-08	1.45E-04	0
Other Lawn & Garden Equipment	Riverside	3.004E-01	1.827E-07	1.014E-07	1.061E-05	4.185E-10	5.660E-09	1.651E-05	9.548E-09	1.074E-08	1.97E-05	0
Other Lawn & Garden Equipment	Riverside	1.005E+02	6.196E-05	3.401E-05	3.568E-03	1.401E-07	1.898E-06	5.527E-03	3.199E-06	3.644E-06	6.60E-03	2
Other Lawn & Garden Equipment	Riverside	2.720E+01	1.654E-05	9.186E-06	9.607E-04	3.790E-08	5.126E-07	1.495E-03	8.646E-07	9.728E-07	1.78E-03	1
Other Lawn & Garden Equipment	Riverside	5.195E-03	4.288E-08	8.939E-08	1.369E-06	1.902E-10	1.199E-09	1.565E-05	4.351E-09	2.522E-09	1.70E-05	0
Other Lawn & Garden Equipment	Riverside	7.057E-04	5.826E-09	1.214E-08	1.860E-07	2.585E-11	1.628E-10	2.126E-06	5.911E-10	3.426E-10	2.32E-06	0
Other Lawn & Garden Equipment	Riverside	2.362E-01	2.021E-06	4.203E-06	6.307E-05	8.652E-09	5.451E-08	7.116E-04	2.017E-07	1.189E-07	7.77E-04	0
Other Lawn & Garden Equipment	Riverside	6.391E-02	5.276E-07	1.100E-06	1.685E-05	2.341E-09	1.475E-08	1.925E-04	5.353E-08	3.103E-08	2.10E-04	0
Other Lawn & Garden Equipment	Riverside	1.247E-02	1.836E-07	8.467E-07	3.739E-06	1.016E-09	8.151E-09	1.052E-04	2.150E-08	1.080E-08	1.12E-04	0
Other Lawn & Garden Equipment	Riverside	1.694E-03	2.494E-08	1.150E-07	5.080E-07	1.381E-10	1.107E-09	1.429E-05	2.921E-09	1.467E-09	1.52E-05	0
Other Lawn & Garden Equipment	Riverside	5.670E-01	8.723E-06	3.999E-05	1.742E-04	4.623E-08	3.707E-07	4.785E-03	9.993E-07	5.130E-07	5.11E-03	2
Other Lawn & Garden Equipment	Riverside	1.534E-01	2.258E-06	1.042E-05	4.600E-05	1.251E-08	1.003E-07	1.294E-03	2.645E-07	1.328E-07	1.38E-03	0
Leaf Blowers/Vacuums	Riverside	8.311E-03	4.443E-09	3.124E-08	2.510E-08	6.391E-11	1.699E-09	4.107E-06	0.000E+00	4.008E-10	4.12E-06	0
Leaf Blowers/Vacuums	Riverside	1.129E-03	6.035E-10	4.244E-09	3.409E-09	8.683E-12	2.308E-10	5.580E-07	0.000E+00	5.446E-11	5.59E-07	0
Leaf Blowers/Vacuums	Riverside	3.780E-01	2.023E-07	1.422E-06	1.141E-06	2.907E-09	7.767E-08	1.868E-04	0.000E+00	1.825E-08	1.87E-04	0
Leaf Blowers/Vacuums	Riverside	1.023E-01	5.466E-08	3.843E-07	3.087E-07	7.863E-10	2.090E-08	5.053E-05	0.000E+00	4.931E-09	5.06E-05	0
Leaf Blowers/Vacuums	Riverside	7.273E-03	7.884E-08	5.884E-07	3.485E-07	6.816E-10	4.074E-08	5.810E-05	0.000E+00	7.114E-09	5.83E-05	0
Leaf Blowers/Vacuums	Riverside	9.880E-04	1.071E-08	7.994E-08	4.735E-08	9.259E-11	5.534E-09	7.893E-06	0.000E+00	9.664E-10	7.91E-06	0
Leaf Blowers/Vacuums	Riverside	3.307E-01	3.693E-06	2.721E-05	1.592E-05	3.100E-08	1.890E-06	2.642E-03	0.000E+00	3.332E-07	2.65E-03	1
Leaf Blowers/Vacuums	Riverside	8.947E-02	9.699E-07	7.239E-06	4.288E-06	8.385E-09	5.012E-07	7.148E-04	0.000E+00	8.752E-08	7.17E-04	0
Leaf Blowers/Vacuums	Riverside	2.078E-03	2.001E-08	2.887E-07	7.240E-08	3.851E-10	8.027E-09	3.423E-05	0.000E+00	1.806E-09	3.43E-05	0
Leaf Blowers/Vacuums	Riverside	2.823E-04	2.719E-09	3.922E-08	9.836E-09	5.232E-11	1.090E-09	4.650E-06	0.000E+00	2.453E-10	4.66E-06	0
Leaf Blowers/Vacuums	Riverside	9.450E-02	9.429E-07	1.338E-05	3.360E-06	1.751E-08	3.740E-07	1.557E-03	0.000E+00	8.508E-08	1.56E-03	1
Leaf Blowers/Vacuums	Riverside	2.556E-02	2.462E-07	3.552E-06	8.907E-07	4.738E-09	9.875E-08	4.211E-04	0.000E+00	2.222E-08	4.22E-04	0
Lawn & Garden Tractors	Riverside	2.006E+01	1.563E-04	1.099E-03	8.516E-04	2.159E-06	6.121E-05	1.387E-01	0.000E+00	1.410E-05	1.39E-01	46
Lawn & Garden Tractors	Riverside	2.725E+00	2.124E-05	1.494E-04	1.157E-04	2.933E-07	8.316E-06	1.885E-02	0.000E+00	1.916E-06	1.89E-02	6
Lawn & Garden Tractors	Riverside	9.122E+02	7.126E-03	5.012E-02	3.875E-02	9.818E-05	2.803E-03	6.309E+00	0.000E+00	6.430E-04	6.32E+00	2,094
Lawn & Garden Tractors	Riverside	2.468E+02	1.923E-03	1.352E-02	1.048E-02	2.656E-05	7.531E-04	1.707E+00	0.000E+00	1.735E-04	1.71E+00	566

Lawn and Garden (2010 - Riverside County)			Tons/Day									MTons/Year
Equipment	**County**	**Population**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Lawn & Garden Tractors	Riverside	1.569E+01	2.075E-04	1.345E-03	6.970E-04	2.119E-06	6.972E-05	1.670E-01	0.000E+00	1.872E-05	1.67E-01	55
Lawn & Garden Tractors	Riverside	2.132E+00	2.819E-05	1.827E-04	9.469E-05	2.879E-07	9.472E-06	2.269E-02	0.000E+00	2.544E-06	2.27E-02	8
Lawn & Garden Tractors	Riverside	7.137E+02	9.447E-03	6.125E-02	3.174E-02	9.637E-05	3.190E-03	7.595E+00	0.000E+00	8.524E-04	7.61E+00	2,521
Lawn & Garden Tractors	Riverside	1.931E+02	2.553E-03	1.654E-02	8.575E-03	2.607E-05	8.578E-04	2.055E+00	0.000E+00	2.303E-04	2.06E+00	682
Chippers/Stump Grinders	Riverside	9.350E-03	1.457E-07	9.290E-07	4.933E-07	1.520E-09	4.525E-08	1.198E-04	0.000E+00	1.314E-08	1.20E-04	0
Chippers/Stump Grinders	Riverside	1.270E-03	1.979E-08	1.262E-07	6.702E-08	2.065E-10	6.147E-09	1.628E-05	0.000E+00	1.786E-09	1.63E-05	0
Chippers/Stump Grinders	Riverside	4.252E-01	6.627E-06	4.227E-05	2.244E-05	6.914E-08	2.064E-06	5.449E-03	0.000E+00	5.979E-07	5.46E-03	2
Chippers/Stump Grinders	Riverside	1.150E-01	1.792E-06	1.143E-05	6.069E-06	1.870E-08	5.567E-07	1.474E-03	0.000E+00	1.617E-07	1.48E-03	0
Chippers/Stump Grinders	Riverside	2.577E-01	2.017E-05	1.358E-04	8.054E-05	1.461E-07	1.083E-05	1.246E-02	0.000E+00	1.820E-06	1.25E-02	4
Chippers/Stump Grinders	Riverside	3.500E-02	2.740E-06	1.845E-05	1.094E-05	1.985E-08	1.471E-06	1.692E-03	0.000E+00	2.472E-07	1.70E-03	1
Chippers/Stump Grinders	Riverside	1.172E+01	9.465E-04	6.294E-03	3.686E-03	6.645E-06	5.050E-04	5.665E-01	0.000E+00	8.540E-05	5.68E-01	188
Chippers/Stump Grinders	Riverside	3.170E+00	2.481E-04	1.671E-03	9.908E-04	1.798E-06	1.332E-04	1.532E-01	0.000E+00	2.239E-05	1.54E-01	51
Chippers/Stump Grinders	Riverside	1.766E-02	1.582E-06	1.422E-05	7.862E-06	1.667E-08	7.142E-07	1.481E-03	0.000E+00	1.427E-07	1.48E-03	0
Chippers/Stump Grinders	Riverside	2.399E-03	2.149E-07	1.932E-06	1.068E-06	2.264E-09	9.703E-08	2.012E-04	0.000E+00	1.939E-08	2.02E-04	0
Chippers/Stump Grinders	Riverside	8.032E-01	7.441E-05	6.615E-04	3.591E-04	7.580E-07	3.335E-05	6.737E-02	0.000E+00	6.714E-06	6.75E-02	22
Chippers/Stump Grinders	Riverside	2.173E-01	1.946E-05	1.750E-04	9.672E-05	2.051E-07	8.786E-06	1.822E-02	0.000E+00	1.756E-06	1.83E-02	6
Chippers/Stump Grinders	Riverside	4.156E-03	4.246E-07	5.343E-06	1.362E-06	6.618E-09	1.681E-07	5.882E-04	0.000E+00	3.831E-08	5.89E-04	0
Chippers/Stump Grinders	Riverside	5.646E-04	5.769E-08	7.259E-07	1.850E-07	8.991E-10	2.283E-08	7.991E-05	0.000E+00	5.205E-09	8.00E-05	0
Chippers/Stump Grinders	Riverside	1.890E-01	2.002E-05	2.483E-04	6.340E-05	3.010E-07	7.881E-06	2.675E-02	0.000E+00	1.806E-06	2.68E-02	9
Chippers/Stump Grinders	Riverside	5.113E-02	5.224E-06	6.574E-05	1.676E-05	8.142E-08	2.067E-06	7.236E-03	0.000E+00	4.713E-07	7.25E-03	2
Chippers/Stump Grinders	Riverside	3.844E-02	3.890E-06	4.916E-05	1.530E-05	5.934E-08	1.604E-06	6.045E-03	0.000E+00	3.510E-07	6.05E-03	2
Chippers/Stump Grinders	Riverside	5.222E-03	5.285E-07	6.678E-06	2.079E-06	8.061E-09	2.179E-07	8.213E-04	0.000E+00	4.769E-08	8.22E-04	0
Chippers/Stump Grinders	Riverside	1.748E+00	1.840E-04	2.294E-03	7.171E-04	2.698E-06	7.521E-05	2.749E-01	0.000E+00	1.660E-05	2.75E-01	91
Chippers/Stump Grinders	Riverside	4.729E-01	4.786E-05	6.047E-04	1.883E-04	7.300E-07	1.974E-05	7.437E-02	0.000E+00	4.319E-06	7.45E-02	25
Chippers/Stump Grinders	Riverside	4.364E-02	1.098E-05	1.385E-04	4.182E-05	1.661E-07	4.455E-06	1.652E-02	0.000E+00	9.904E-07	1.65E-02	5
Chippers/Stump Grinders	Riverside	5.928E-03	1.491E-06	1.882E-05	5.682E-06	2.257E-08	6.052E-07	2.244E-03	0.000E+00	1.345E-07	2.25E-03	1
Chippers/Stump Grinders	Riverside	1.984E+00	5.178E-04	6.451E-03	1.960E-03	7.554E-06	2.086E-04	7.513E-01	0.000E+00	4.672E-05	7.52E-01	249
Chippers/Stump Grinders	Riverside	5.368E-01	1.350E-04	1.704E-03	5.145E-04	2.044E-06	5.481E-05	2.032E-01	0.000E+00	1.218E-05	2.03E-01	67
Chippers/Stump Grinders	Riverside	8.311E-02	3.913E-05	4.970E-04	1.403E-04	4.498E-07	1.410E-05	4.473E-02	0.000E+00	3.531E-06	4.48E-02	15
Chippers/Stump Grinders	Riverside	1.129E-02	5.316E-06	6.752E-05	1.906E-05	6.111E-08	1.915E-06	6.077E-03	0.000E+00	4.797E-07	6.09E-03	2
Chippers/Stump Grinders	Riverside	3.780E+00	1.842E-03	2.297E-02	6.650E-03	2.046E-05	6.611E-04	2.034E+00	0.000E+00	1.662E-04	2.04E+00	675
Chippers/Stump Grinders	Riverside	1.023E+00	4.814E-04	6.114E-03	1.726E-03	5.534E-06	1.734E-04	5.504E-01	0.000E+00	4.344E-05	5.51E-01	183
Commercial Turf Equipment	Riverside	5.049E-01	7.446E-06	5.234E-05	4.350E-05	1.109E-07	2.474E-06	7.125E-03	0.000E+00	6.718E-07	7.14E-03	2
Commercial Turf Equipment	Riverside	6.860E-02	1.012E-06	7.111E-06	5.910E-06	1.506E-08	3.361E-07	9.679E-04	0.000E+00	9.127E-08	9.70E-04	0
Commercial Turf Equipment	Riverside	2.296E+01	3.387E-04	2.381E-03	1.978E-03	5.042E-06	1.129E-04	3.240E-01	0.000E+00	3.056E-05	3.25E-01	108
Commercial Turf Equipment	Riverside	6.212E+00	9.161E-05	6.440E-04	5.352E-04	1.364E-06	3.044E-05	8.765E-02	0.000E+00	8.265E-06	8.78E-02	29
Commercial Turf Equipment	Riverside	9.491E+00	2.429E-04	1.540E-03	8.271E-04	2.549E-06	6.925E-05	2.009E-01	0.000E+00	2.192E-05	2.01E-01	67
Commercial Turf Equipment	Riverside	1.289E+00	3.300E-05	2.092E-04	1.124E-04	3.463E-07	9.408E-06	2.729E-02	0.000E+00	2.978E-06	2.74E-02	9
Commercial Turf Equipment	Riverside	4.316E+02	1.105E-02	7.003E-02	3.762E-02	1.159E-04	3.158E-03	9.136E+00	0.000E+00	9.969E-04	9.16E+00	3,032
Commercial Turf Equipment	Riverside	1.168E+02	2.989E-03	1.894E-02	1.018E-02	3.136E-05	8.519E-04	2.471E+00	0.000E+00	2.697E-04	2.48E+00	820
Other Lawn & Garden Equipment	Riverside	7.273E-03	5.599E-08	3.936E-07	3.217E-07	8.198E-10	2.032E-08	5.268E-05	0.000E+00	5.052E-09	5.28E-05	0
Other Lawn & Garden Equipment	Riverside	9.880E-04	7.606E-09	5.348E-08	4.370E-08	1.114E-10	2.761E-09	7.157E-06	0.000E+00	6.863E-10	7.17E-06	0
Other Lawn & Garden Equipment	Riverside	3.307E-01	2.548E-06	1.792E-05	1.463E-05	3.728E-08	9.276E-07	2.396E-03	0.000E+00	2.299E-07	2.40E-03	1
Other Lawn & Garden Equipment	Riverside	8.947E-02	6.888E-07	4.843E-06	3.957E-06	1.009E-08	2.500E-07	6.481E-04	0.000E+00	6.215E-08	6.49E-04	0
Other Lawn & Garden Equipment	Riverside	1.039E-03	1.220E-08	7.780E-08	4.132E-08	1.273E-10	3.790E-09	1.003E-05	0.000E+00	1.101E-09	1.01E-05	0
Other Lawn & Garden Equipment	Riverside	1.411E-04	1.658E-09	1.057E-08	5.613E-09	1.730E-11	5.148E-10	1.363E-06	0.000E+00	1.496E-10	1.37E-06	0
Other Lawn & Garden Equipment	Riverside	4.725E-02	5.550E-07	3.540E-06	1.879E-06	5.790E-09	1.729E-07	4.564E-04	0.000E+00	5.008E-08	4.57E-04	0
Other Lawn & Garden Equipment	Riverside	1.278E-02	1.501E-07	9.572E-07	5.083E-07	1.566E-09	4.662E-08	1.235E-04	0.000E+00	1.354E-08	1.24E-04	0
		778,582	2	1	29	0	0	93	0.1	0.1	115	38,128
		Population	**lbs/day**					Tons/Day				MTons/Year
As a Percent of Riverside County Employment (U.S. Census)		27,564	170	45	2,032	0	6	3	0	0	4	**1,350**

Light Commercial Equipment (2010 - Riverside County					Tons/Day									MTons/Year
Equipment	**County**	**Air Basin**	**Air Dist.**	**Population**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Generator Sets	Riverside	MD	MOJ	1.080E+00	8.670E-06	1.020E-06	6.549E-05	5.264E-09	5.534E-07	1.278E-04	2.960E-07	5.389E-07	2.31E-04	0
Generator Sets	Riverside	MD	SC	1.461E-01	1.173E-06	1.380E-07	8.861E-06	7.123E-10	7.488E-08	1.729E-05	4.004E-08	7.292E-08	3.12E-05	0
Generator Sets	Riverside	SC	SC	6.285E+01	4.574E-04	5.962E-05	3.617E-03	3.064E-07	3.119E-05	7.440E-03	1.727E-05	2.843E-05	1.34E-02	4
Generator Sets	Riverside	SS	SC	1.329E+01	1.067E-04	1.255E-05	8.060E-04	6.478E-08	6.811E-06	1.573E-03	3.642E-06	6.632E-06	2.84E-03	1
Generator Sets	Riverside	MD	MOJ	8.484E-01	5.866E-06	5.264E-07	3.822E-05	2.782E-09	3.229E-07	6.756E-05	1.538E-07	3.646E-07	1.23E-04	0
Generator Sets	Riverside	MD	SC	1.148E-01	7.937E-07	7.122E-08	5.171E-06	3.765E-10	4.369E-08	9.141E-06	2.081E-08	4.933E-08	1.66E-05	0
Generator Sets	Riverside	SC	SC	4.939E+01	3.051E-04	3.078E-05	2.101E-03	1.620E-07	1.793E-05	3.932E-03	8.974E-06	1.896E-05	7.11E-03	2
Generator Sets	Riverside	SS	SC	1.044E+01	7.219E-05	6.478E-06	4.703E-04	3.424E-08	3.973E-06	8.314E-04	1.892E-06	4.487E-06	1.51E-03	1
Generator Sets	Riverside	MD	MOJ	1.089E-02	2.071E-07	9.317E-08	6.465E-06	4.779E-10	7.487E-09	1.160E-05	9.777E-09	1.288E-08	1.49E-05	0
Generator Sets	Riverside	MD	SC	1.474E-03	2.803E-08	1.261E-08	8.747E-07	6.466E-11	1.013E-09	1.570E-06	1.323E-09	1.742E-09	2.02E-06	0
Generator Sets	Riverside	SC	SC	6.339E-01	1.144E-05	5.433E-06	3.741E-04	2.782E-08	4.168E-07	6.754E-04	5.698E-07	7.111E-07	8.67E-04	0
Generator Sets	Riverside	SS	SC	1.340E-01	2.549E-06	1.147E-06	7.956E-05	5.881E-09	9.214E-08	1.428E-04	1.203E-07	1.584E-07	1.83E-04	0
Generator Sets	Riverside	MD	MOJ	8.298E-03	2.785E-07	4.316E-08	3.649E-06	2.449E-10	1.051E-08	5.946E-06	4.673E-09	1.731E-08	7.76E-06	0
Generator Sets	Riverside	MD	SC	1.123E-03	3.768E-08	5.840E-09	4.937E-07	3.314E-11	1.422E-09	8.046E-07	6.323E-10	2.342E-09	1.05E-06	0
Generator Sets	Riverside	SC	SC	4.830E-01	1.443E-05	2.554E-06	2.085E-04	1.426E-08	5.444E-07	3.461E-04	2.751E-07	8.968E-07	4.50E-04	0
Generator Sets	Riverside	SS	SC	1.021E-01	3.427E-06	5.312E-07	4.490E-05	3.014E-09	1.293E-07	7.318E-05	5.751E-08	2.130E-07	9.55E-05	0
Pumps	Riverside	MD	MOJ	4.290E+00	2.845E-05	8.476E-06	3.320E-04	4.078E-08	3.529E-06	9.901E-04	2.379E-06	1.768E-06	1.76E-03	1
Pumps	Riverside	MD	SC	5.805E-01	3.849E-06	1.147E-06	4.492E-05	5.517E-09	4.775E-07	1.340E-04	3.218E-07	2.392E-07	2.39E-04	0
Pumps	Riverside	SC	SC	2.497E+02	1.611E-03	4.900E-04	1.901E-02	2.374E-06	2.048E-04	5.763E-02	1.379E-04	1.001E-04	1.02E-01	34
Pumps	Riverside	SS	SC	5.280E+01	3.501E-04	1.043E-04	4.086E-03	5.018E-07	4.343E-05	1.218E-02	2.927E-05	2.176E-05	2.17E-02	7
Pumps	Riverside	MD	MOJ	3.371E+00	3.087E-05	4.217E-06	2.501E-04	2.154E-08	2.170E-06	5.231E-04	1.213E-06	1.919E-06	9.39E-04	0
Pumps	Riverside	MD	SC	4.562E-01	4.177E-06	5.706E-07	3.384E-05	2.915E-09	2.936E-07	7.078E-05	1.641E-07	2.596E-07	1.27E-04	0
Pumps	Riverside	SC	SC	1.962E+02	1.644E-03	2.466E-04	1.388E-02	1.254E-06	1.231E-04	3.045E-02	7.077E-05	1.022E-04	5.45E-02	18
Pumps	Riverside	SS	SC	4.149E+01	3.799E-04	5.190E-05	3.078E-03	2.651E-07	2.670E-05	6.438E-03	1.492E-05	2.361E-05	1.16E-02	4
Pumps	Riverside	MD	MOJ	1.157E+00	2.879E-05	2.013E-05	1.148E-03	8.797E-08	1.791E-05	2.136E-03	2.073E-06	1.790E-06	2.82E-03	1
Pumps	Riverside	MD	SC	1.565E-01	3.896E-06	2.724E-06	1.553E-04	1.190E-08	2.423E-06	2.890E-04	2.804E-07	2.421E-07	3.81E-04	0
Pumps	Riverside	SC	SC	6.735E+01	1.665E-03	1.174E-03	6.665E-02	5.121E-06	1.042E-03	1.243E-01	1.208E-04	1.035E-04	1.64E-01	54
Pumps	Riverside	SS	SC	1.424E+01	3.543E-04	2.478E-04	1.412E-02	1.083E-06	2.204E-04	2.629E-02	2.551E-05	2.202E-05	3.47E-02	11
Pumps	Riverside	MD	MOJ	9.091E-01	3.417E-05	9.771E-06	6.524E-04	4.647E-08	9.460E-06	1.128E-03	1.036E-06	2.124E-06	1.49E-03	0
Pumps	Riverside	MD	SC	1.230E-01	4.623E-06	1.322E-06	8.828E-05	6.288E-09	1.280E-06	1.527E-04	1.402E-07	2.874E-07	2.02E-04	0
Pumps	Riverside	SC	SC	5.292E+01	1.833E-03	5.737E-04	3.769E-02	2.705E-06	5.506E-04	6.569E-02	6.066E-05	1.139E-04	8.69E-02	29
Pumps	Riverside	SS	SC	1.119E+01	4.205E-04	1.202E-04	8.029E-03	5.719E-07	1.164E-04	1.389E-02	1.275E-05	2.614E-05	1.84E-02	6
Pumps	Riverside	MD	MOJ	1.400E-02	7.276E-07	4.861E-07	3.061E-05	2.262E-09	4.605E-07	5.493E-05	3.627E-08	4.523E-08	6.71E-05	0
Pumps	Riverside	MD	SC	1.895E-03	9.845E-08	6.577E-08	4.142E-06	3.061E-10	6.231E-08	7.433E-06	4.907E-09	6.119E-09	9.08E-06	0
Pumps	Riverside	SC	SC	8.151E-01	4.232E-05	2.830E-05	1.781E-03	1.317E-07	2.681E-05	3.198E-03	2.111E-06	2.630E-06	3.91E-03	1
Pumps	Riverside	SS	SC	1.723E-01	8.955E-06	5.982E-06	3.767E-04	2.784E-08	5.667E-06	6.760E-04	4.463E-07	5.566E-07	8.26E-04	0
Pumps	Riverside	MD	MOJ	1.089E-02	4.779E-07	2.417E-07	1.645E-05	1.183E-09	2.408E-07	2.873E-05	1.840E-08	2.971E-08	3.51E-05	0
Pumps	Riverside	MD	SC	1.474E-03	6.467E-08	3.270E-08	2.225E-06	1.601E-10	3.258E-08	3.887E-06	2.490E-09	4.019E-09	4.74E-06	0
Pumps	Riverside	SC	SC	6.339E-01	2.702E-05	1.412E-05	9.547E-04	6.887E-08	1.402E-05	1.672E-03	1.074E-06	1.679E-06	2.04E-03	1
Pumps	Riverside	SS	SC	1.340E-01	5.882E-06	2.974E-06	2.024E-04	1.456E-08	2.964E-06	3.535E-04	2.265E-07	3.656E-07	4.31E-04	0
Generator Sets	Riverside	MD	MOJ	1.417E+01	2.823E-04	5.616E-05	3.583E-03	2.318E-07	2.317E-05	6.711E-03	8.273E-06	1.660E-05	9.62E-03	3
Generator Sets	Riverside	MD	SC	1.918E+00	3.820E-05	7.598E-06	4.848E-04	3.136E-08	3.135E-06	9.081E-04	1.119E-06	2.246E-06	1.30E-03	0
Generator Sets	Riverside	SC	SC	8.250E+02	1.551E-02	3.274E-03	1.986E-01	1.349E-05	1.345E-03	3.907E-01	4.816E-04	9.120E-04	5.59E-01	185
Generator Sets	Riverside	SS	SC	1.744E+02	3.474E-03	6.911E-04	4.409E-02	2.852E-06	2.851E-04	8.259E-02	1.018E-04	2.043E-04	1.18E-01	39
Generator Sets	Riverside	MD	MOJ	1.114E+01	1.636E-04	2.933E-05	2.066E-03	1.225E-07	1.215E-05	3.547E-03	4.339E-06	9.618E-06	5.09E-03	2
Generator Sets	Riverside	MD	SC	1.507E+00	2.213E-05	3.968E-06	2.795E-04	1.657E-08	1.644E-06	4.799E-04	5.871E-07	1.301E-06	6.89E-04	0
Generator Sets	Riverside	SC	SC	6.482E+02	8.887E-03	1.707E-03	1.141E-01	7.130E-06	7.031E-04	2.065E-01	2.522E-04	5.227E-04	2.96E-01	98
Generator Sets	Riverside	SS	SC	1.371E+02	2.013E-03	3.609E-04	2.542E-02	1.507E-06	1.496E-04	4.365E-02	5.340E-05	1.184E-04	6.27E-02	21
Generator Sets	Riverside	MD	MOJ	3.893E+01	7.313E-04	3.862E-04	2.520E-02	1.183E-06	2.185E-05	4.148E-02	3.722E-05	4.301E-05	5.39E-02	18
Generator Sets	Riverside	MD	SC	5.268E+00	9.895E-05	5.226E-05	3.410E-03	1.600E-07	2.956E-06	5.612E-03	5.036E-06	5.819E-06	7.30E-03	2
Generator Sets	Riverside	SC	SC	2.266E+03	4.141E-02	2.251E-02	1.457E+00	6.884E-05	1.268E-03	2.414E+00	2.168E-03	2.436E-03	3.14E+00	1,039
Generator Sets	Riverside	SS	SC	4.791E+02	8.999E-03	4.753E-03	3.101E-01	1.455E-05	2.688E-04	5.105E-01	4.580E-04	5.293E-04	6.64E-01	220

Light Commercial Equipment (2010 - Riverside County					Tons/Day									MTons/Year
Equipment	**County**	**Air Basin**	**Air Dist.**	**Population**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Generator Sets	Riverside	MD	MOJ	3.059E+01	5.193E-04	1.901E-04	1.463E-02	6.250E-07	1.157E-05	2.192E-02	1.895E-05	3.054E-05	2.84E-02	9
Generator Sets	Riverside	MD	SC	4.139E+00	7.026E-05	2.572E-05	1.980E-03	8.457E-08	1.566E-06	2.966E-03	2.564E-06	4.132E-06	3.85E-03	1
Generator Sets	Riverside	SC	SC	1.781E+03	2.848E-02	1.115E-02	8.361E-01	3.638E-05	6.678E-04	1.276E+00	1.107E-03	1.675E-03	1.65E+00	548
Generator Sets	Riverside	SS	SC	3.764E+02	6.390E-03	2.339E-03	1.801E-01	7.692E-06	1.424E-04	2.698E-01	2.332E-04	3.758E-04	3.50E-01	116
Generator Sets	Riverside	MD	MOJ	2.092E+01	8.019E-04	4.058E-04	2.953E-02	1.192E-06	2.478E-05	4.705E-02	2.859E-05	4.716E-05	5.69E-02	19
Generator Sets	Riverside	MD	SC	2.830E+00	1.085E-04	5.491E-05	3.995E-03	1.613E-07	3.353E-06	6.366E-03	3.869E-06	6.381E-06	7.70E-03	3
Generator Sets	Riverside	SC	SC	1.218E+03	4.565E-02	2.371E-02	1.711E+00	6.941E-05	1.438E-03	2.739E+00	1.668E-03	2.685E-03	3.31E+00	1,097
Generator Sets	Riverside	SS	SC	2.574E+02	9.869E-03	4.995E-03	3.634E-01	1.467E-05	3.049E-04	5.790E-01	3.519E-04	5.804E-04	7.00E-01	232
Generator Sets	Riverside	MD	MOJ	1.643E+01	5.383E-04	1.942E-04	1.664E-02	6.302E-07	1.313E-05	2.486E-02	1.432E-05	3.166E-05	3.00E-02	10
Generator Sets	Riverside	MD	SC	2.224E+00	7.284E-05	2.628E-05	2.251E-03	8.527E-08	1.776E-06	3.364E-03	1.937E-06	4.284E-06	4.05E-03	1
Generator Sets	Riverside	SC	SC	9.567E+02	2.981E-02	1.145E-02	9.564E-01	3.668E-05	7.575E-04	1.447E+00	8.389E-04	1.753E-03	1.74E+00	578
Generator Sets	Riverside	SS	SC	2.023E+02	6.625E-03	2.390E-03	2.048E-01	7.755E-06	1.615E-04	3.060E-01	1.762E-04	3.896E-04	3.69E-01	122
Generator Sets	Riverside	MD	MOJ	6.963E+00	1.432E-04	2.815E-04	4.190E-03	5.005E-07	3.153E-06	4.117E-02	1.255E-05	8.423E-06	4.52E-02	15
Generator Sets	Riverside	MD	SC	9.421E-01	1.938E-05	3.809E-05	5.669E-04	6.772E-08	4.267E-07	5.570E-03	1.698E-06	1.140E-06	6.12E-03	2
Generator Sets	Riverside	SC	SC	4.053E+02	7.713E-03	1.526E-02	2.368E-01	2.913E-05	1.835E-04	2.396E+00	6.992E-04	4.536E-04	2.62E+00	868
Generator Sets	Riverside	SS	SC	8.569E+01	1.763E-03	3.465E-03	5.156E-02	6.159E-06	3.881E-05	5.066E-01	1.544E-04	1.037E-04	5.57E-01	184
Generator Sets	Riverside	MD	MOJ	1.345E+00	4.689E-05	1.978E-04	8.835E-04	1.970E-07	1.580E-06	2.039E-02	4.772E-06	2.758E-06	2.19E-02	7
Generator Sets	Riverside	MD	SC	1.819E-01	6.344E-06	2.676E-05	1.195E-04	2.665E-08	2.137E-07	2.759E-03	6.457E-07	3.731E-07	2.97E-03	1
Generator Sets	Riverside	SC	SC	7.828E+01	2.487E-03	1.063E-02	4.863E-02	1.147E-05	9.195E-05	1.187E+00	2.645E-04	1.463E-04	1.27E+00	421
Generator Sets	Riverside	SS	SC	1.655E+01	5.770E-04	2.434E-03	1.087E-02	2.424E-06	1.944E-05	2.509E-01	5.872E-05	3.394E-05	2.70E-01	89
Generator Sets	Riverside	MD	MOJ	1.271E-01	4.394E-06	3.562E-05	9.714E-05	3.274E-08	2.625E-07	3.296E-03	6.351E-07	2.584E-07	3.50E-03	1
Generator Sets	Riverside	MD	SC	1.719E-02	5.945E-07	4.820E-06	1.314E-05	4.430E-09	3.552E-08	4.460E-04	8.593E-08	3.496E-08	4.73E-04	0
Generator Sets	Riverside	SC	SC	7.396E+00	2.350E-04	1.909E-03	5.683E-03	1.906E-06	1.528E-05	1.919E-01	3.515E-05	1.382E-05	2.03E-01	67
Generator Sets	Riverside	SS	SC	1.564E+00	5.407E-05	4.384E-04	1.195E-03	4.029E-07	3.231E-06	4.056E-02	7.815E-06	3.180E-06	4.31E-02	14
Pumps	Riverside	MD	MOJ	5.027E+00	1.078E-04	3.897E-05	1.298E-03	1.202E-07	4.286E-06	3.480E-03	5.758E-06	6.338E-06	5.40E-03	2
Pumps	Riverside	MD	SC	6.802E-01	1.459E-05	5.273E-06	1.756E-04	1.626E-08	5.799E-07	4.709E-04	7.791E-07	8.576E-07	7.30E-04	0
Pumps	Riverside	SC	SC	2.926E+02	6.140E-03	2.279E-03	7.403E-02	6.996E-06	2.293E-04	2.026E-01	3.360E-04	3.610E-04	3.14E-01	104
Pumps	Riverside	SS	SC	6.187E+01	1.327E-03	4.796E-04	1.597E-02	1.479E-06	5.275E-05	4.283E-02	7.086E-05	7.800E-05	6.64E-02	22
Pumps	Riverside	MD	MOJ	3.950E+00	7.988E-05	1.839E-05	9.757E-04	6.349E-08	5.492E-06	1.839E-03	2.851E-06	4.698E-06	2.82E-03	1
Pumps	Riverside	MD	SC	5.345E-01	1.081E-05	2.488E-06	1.320E-04	8.591E-09	7.431E-07	2.488E-04	3.858E-07	6.356E-07	3.82E-04	0
Pumps	Riverside	SC	SC	2.299E+02	4.404E-03	1.090E-03	5.398E-02	3.696E-06	2.876E-04	1.070E-01	1.677E-04	2.590E-04	1.64E-01	54
Pumps	Riverside	SS	SC	4.861E+01	9.830E-04	2.263E-04	1.201E-02	7.814E-07	6.759E-05	2.263E-02	3.509E-05	5.781E-05	3.47E-02	11
Pumps	Riverside	MD	MOJ	5.448E+00	1.699E-04	1.111E-04	5.868E-03	2.868E-07	8.431E-05	1.006E-02	1.045E-05	9.988E-06	1.35E-02	4
Pumps	Riverside	MD	SC	7.371E-01	2.299E-05	1.504E-05	7.940E-04	3.880E-08	1.141E-05	1.361E-03	1.414E-06	1.351E-06	1.83E-03	1
Pumps	Riverside	SC	SC	3.171E+02	9.790E-03	6.478E-03	3.406E-01	1.669E-05	4.908E-03	5.855E-01	6.089E-04	5.756E-04	7.86E-01	260
Pumps	Riverside	SS	SC	6.704E+01	2.091E-03	1.368E-03	7.221E-02	3.529E-06	1.038E-03	1.238E-01	1.286E-04	1.229E-04	1.66E-01	55
Pumps	Riverside	MD	MOJ	4.281E+00	1.098E-04	5.419E-05	3.338E-03	1.515E-07	4.306E-05	5.313E-03	5.279E-06	6.456E-06	7.09E-03	2
Pumps	Riverside	MD	SC	5.792E-01	1.485E-05	7.332E-06	4.516E-04	2.050E-08	5.827E-06	7.189E-04	7.142E-07	8.735E-07	9.59E-04	0
Pumps	Riverside	SC	SC	2.492E+02	6.261E-03	3.169E-03	1.929E-01	8.818E-06	2.519E-03	3.093E-01	3.081E-04	3.682E-04	4.13E-01	137
Pumps	Riverside	SS	SC	5.268E+01	1.351E-03	6.669E-04	4.108E-02	1.864E-06	5.300E-04	6.539E-02	6.496E-05	7.945E-05	8.72E-02	29
Pumps	Riverside	MD	MOJ	1.396E+00	8.792E-05	5.677E-05	3.294E-03	1.388E-07	4.590E-05	5.475E-03	3.872E-06	5.169E-06	6.78E-03	2
Pumps	Riverside	MD	SC	1.888E-01	1.190E-05	7.681E-06	4.457E-04	1.877E-08	6.210E-06	7.408E-04	5.240E-07	6.994E-07	9.18E-04	0
Pumps	Riverside	SC	SC	8.123E+01	5.108E-03	3.303E-03	1.917E-01	8.077E-06	2.672E-03	3.187E-01	2.253E-04	3.003E-04	3.95E-01	131
Pumps	Riverside	SS	SC	1.717E+01	1.082E-03	6.986E-04	4.053E-02	1.708E-06	5.648E-04	6.738E-02	4.766E-05	6.362E-05	8.35E-02	28
Pumps	Riverside	MD	MOJ	1.096E+00	5.087E-05	2.828E-05	1.789E-03	7.329E-08	2.411E-05	2.892E-03	1.977E-06	2.991E-06	3.57E-03	1
Pumps	Riverside	MD	SC	1.483E-01	6.883E-06	3.826E-06	2.421E-04	9.917E-09	3.262E-06	3.913E-04	2.674E-07	4.048E-07	4.83E-04	0
Pumps	Riverside	SC	SC	6.382E+01	2.924E-03	1.649E-03	1.038E-01	4.266E-06	1.405E-03	1.683E-01	1.152E-04	1.720E-04	2.08E-01	69
Pumps	Riverside	SS	SC	1.349E+01	6.260E-04	3.480E-04	2.202E-02	9.019E-07	2.967E-04	3.559E-02	2.432E-05	3.681E-05	4.39E-02	15
Pumps	Riverside	MD	MOJ	5.565E-01	2.386E-05	4.140E-05	6.634E-04	7.556E-08	4.761E-07	6.215E-03	1.847E-06	1.403E-06	6.82E-03	2
Pumps	Riverside	MD	SC	7.529E-02	3.228E-06	5.602E-06	8.976E-05	1.022E-08	6.441E-08	8.409E-04	2.500E-07	1.899E-07	9.22E-04	0
Pumps	Riverside	SC	SC	3.239E+01	1.312E-03	2.284E-03	3.773E-02	4.398E-06	2.771E-05	3.618E-01	1.040E-04	7.715E-05	3.96E-01	131
Pumps	Riverside	SS	SC	6.848E+00	2.936E-04	5.096E-04	8.164E-03	9.299E-07	5.859E-06	7.648E-02	2.274E-05	1.727E-05	8.39E-02	28

Light Commercial Equipment (2010 - Riverside County					Tons/Day									MTons/Year
Equipment	**County**	**Air Basin**	**Air Dist.**	**Population**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Pumps	Riverside	MD	MOJ	7.053E-01	5.920E-05	2.166E-04	1.035E-03	2.257E-07	1.810E-06	2.337E-02	4.749E-06	3.482E-06	2.49E-02	8
Pumps	Riverside	MD	SC	9.543E-02	8.011E-06	2.931E-05	1.401E-04	3.055E-08	2.449E-07	3.162E-03	6.426E-07	4.711E-07	3.37E-03	1
Pumps	Riverside	SC	SC	4.105E+01	3.222E-03	1.182E-02	5.760E-02	1.314E-05	1.054E-04	1.360E+00	2.645E-04	1.895E-04	1.45E+00	479
Pumps	Riverside	SS	SC	8.680E+00	7.286E-04	2.665E-03	1.274E-02	2.778E-06	2.228E-05	2.876E-01	5.845E-05	4.285E-05	3.07E-01	102
Pumps	Riverside	MD	MOJ	2.126E-02	1.464E-06	1.119E-05	3.293E-05	1.054E-08	8.450E-08	1.061E-03	1.907E-07	8.610E-08	1.12E-03	0
Pumps	Riverside	MD	SC	2.877E-03	1.981E-07	1.513E-06	4.455E-06	1.426E-09	1.143E-08	1.435E-04	2.580E-08	1.165E-08	1.52E-04	0
Pumps	Riverside	SC	SC	1.238E+00	8.033E-05	6.105E-04	1.917E-03	6.134E-07	4.919E-06	6.175E-02	1.062E-05	4.724E-06	6.51E-02	22
Pumps	Riverside	SS	SC	2.617E-01	1.802E-05	1.377E-04	4.052E-04	1.297E-07	1.040E-06	1.305E-02	2.347E-06	1.060E-06	1.38E-02	5
Air Compressors	Riverside	MD	MOJ	1.816E+00	9.607E-05	4.387E-05	1.130E-03	1.286E-07	1.214E-06	3.725E-03	5.504E-06	5.631E-06	5.55E-03	2
Air Compressors	Riverside	MD	SC	2.457E-01	1.300E-05	5.936E-06	1.529E-04	1.740E-08	1.643E-07	5.040E-04	7.447E-07	7.620E-07	7.51E-04	0
Air Compressors	Riverside	SC	SC	1.057E+02	5.592E-03	2.554E-03	6.579E-02	7.487E-06	7.069E-05	2.168E-01	3.204E-04	3.278E-04	3.23E-01	107
Air Compressors	Riverside	SS	SC	2.235E+01	1.182E-03	5.399E-04	1.391E-02	1.583E-06	1.494E-05	4.584E-02	6.774E-05	6.930E-05	6.83E-02	23
Air Compressors	Riverside	MD	MOJ	1.427E+00	5.067E-05	2.315E-05	5.957E-04	6.798E-08	6.417E-07	1.969E-03	2.909E-06	2.976E-06	2.93E-03	1
Air Compressors	Riverside	MD	SC	1.931E-01	6.855E-06	3.133E-06	8.060E-05	9.198E-09	8.683E-08	2.664E-04	3.936E-07	4.027E-07	3.97E-04	0
Air Compressors	Riverside	SC	SC	8.308E+01	2.949E-03	1.348E-03	3.467E-02	3.957E-06	3.736E-05	1.146E-01	1.693E-04	1.732E-04	1.71E-01	57
Air Compressors	Riverside	SS	SC	1.756E+01	6.235E-04	2.849E-04	7.331E-03	8.366E-07	7.898E-06	2.423E-02	3.580E-05	3.663E-05	3.61E-02	12
Air Compressors	Riverside	MD	MOJ	9.195E-01	4.121E-05	3.101E-05	1.496E-03	7.528E-08	2.213E-05	2.640E-03	3.330E-06	2.415E-06	3.72E-03	1
Air Compressors	Riverside	MD	SC	1.244E-01	5.576E-06	4.197E-06	2.025E-04	1.019E-08	2.995E-06	3.572E-04	4.505E-07	3.268E-07	5.04E-04	0
Air Compressors	Riverside	SC	SC	5.352E+01	2.399E-03	1.805E-03	8.711E-02	4.382E-06	1.288E-03	1.537E-01	1.938E-04	1.406E-04	2.17E-01	72
Air Compressors	Riverside	SS	SC	1.132E+01	5.071E-04	3.817E-04	1.842E-02	9.264E-07	2.724E-04	3.249E-02	4.098E-05	2.973E-05	4.58E-02	15
Air Compressors	Riverside	MD	MOJ	7.224E-01	2.125E-05	1.600E-05	7.885E-04	3.977E-08	1.169E-05	1.395E-03	1.738E-06	1.248E-06	1.96E-03	1
Air Compressors	Riverside	MD	SC	9.775E-02	2.875E-06	2.166E-06	1.067E-04	5.382E-09	1.582E-06	1.888E-04	2.352E-07	1.689E-07	2.65E-04	0
Air Compressors	Riverside	SC	SC	4.205E+01	1.236E-03	9.310E-04	4.590E-02	2.315E-06	6.807E-04	8.120E-02	1.011E-04	7.260E-05	1.14E-01	38
Air Compressors	Riverside	SS	SC	8.890E+00	2.615E-04	1.970E-04	9.704E-03	4.895E-07	1.439E-04	1.717E-02	2.139E-05	1.536E-05	2.41E-02	8
Air Compressors	Riverside	MD	MOJ	1.239E-01	1.425E-05	9.387E-06	5.200E-04	2.191E-08	7.246E-06	8.643E-04	6.908E-07	8.351E-07	1.10E-03	0
Air Compressors	Riverside	MD	SC	1.677E-02	1.928E-06	1.270E-06	7.036E-05	2.964E-09	9.804E-07	1.169E-04	9.347E-08	1.130E-07	1.48E-04	0
Air Compressors	Riverside	SC	SC	7.215E+00	8.293E-04	5.464E-04	3.027E-02	1.275E-06	4.218E-04	5.031E-02	4.021E-05	4.861E-05	6.38E-02	21
Air Compressors	Riverside	SS	SC	1.525E+00	1.753E-04	1.155E-04	6.399E-03	2.696E-07	8.917E-05	1.064E-02	8.502E-06	1.028E-05	1.35E-02	4
Air Compressors	Riverside	MD	MOJ	9.750E-02	7.488E-06	4.835E-06	2.754E-04	1.159E-08	3.833E-06	4.572E-04	3.603E-07	4.399E-07	5.78E-04	0
Air Compressors	Riverside	MD	SC	1.319E-02	1.013E-06	6.542E-07	3.726E-05	1.568E-09	5.186E-07	6.187E-05	4.876E-08	5.952E-08	7.82E-05	0
Air Compressors	Riverside	SC	SC	5.675E+00	4.352E-04	2.815E-04	1.603E-02	6.745E-07	2.231E-04	2.661E-02	2.098E-05	2.557E-05	3.37E-02	11
Air Compressors	Riverside	SS	SC	1.200E+00	9.216E-05	5.950E-05	3.389E-03	1.426E-07	4.717E-05	5.627E-03	4.434E-06	5.413E-06	7.12E-03	2
Air Compressors	Riverside	MD	MOJ	2.116E-01	2.643E-05	3.694E-05	6.533E-04	5.766E-08	3.633E-07	4.742E-03	1.634E-06	1.551E-06	5.28E-03	2
Air Compressors	Riverside	MD	SC	2.863E-02	3.576E-06	4.999E-06	8.839E-05	7.802E-09	4.915E-08	6.417E-04	2.211E-07	2.099E-07	7.15E-04	0
Air Compressors	Riverside	SC	SC	1.232E+01	1.432E-03	2.028E-03	3.711E-02	3.356E-06	2.115E-05	2.761E-01	9.158E-05	8.404E-05	3.06E-01	101
Air Compressors	Riverside	SS	SC	2.604E+00	3.252E-04	4.547E-04	8.040E-03	7.096E-07	4.470E-06	5.836E-02	2.011E-05	1.909E-05	6.50E-02	22
Air Compressors	Riverside	MD	MOJ	6.861E-01	1.146E-04	3.317E-04	1.821E-03	2.938E-07	2.356E-06	3.041E-02	8.801E-06	6.729E-06	3.33E-02	11
Air Compressors	Riverside	MD	SC	9.283E-02	1.551E-05	4.489E-05	2.463E-04	3.975E-08	3.188E-07	4.115E-03	1.191E-06	9.105E-07	4.50E-03	1
Air Compressors	Riverside	SC	SC	3.994E+01	6.151E-03	1.797E-02	1.008E-01	1.710E-05	1.371E-04	1.770E+00	4.867E-04	3.611E-04	1.93E+00	639
Air Compressors	Riverside	SS	SC	8.444E+00	1.411E-03	4.083E-03	2.241E-02	3.616E-06	2.899E-05	3.742E-01	1.083E-04	8.281E-05	4.10E-01	136
Air Compressors	Riverside	MD	MOJ	4.616E-02	6.605E-06	4.806E-05	1.271E-04	3.783E-08	3.034E-07	3.809E-03	8.907E-07	3.877E-07	4.09E-03	1
Air Compressors	Riverside	MD	SC	6.245E-03	8.937E-07	6.503E-06	1.720E-05	5.119E-09	4.105E-08	5.153E-04	1.205E-07	5.246E-08	5.54E-04	0
Air Compressors	Riverside	SC	SC	2.687E+00	3.606E-04	2.601E-03	7.380E-03	2.202E-06	1.766E-05	2.217E-01	4.923E-05	2.117E-05	2.37E-01	79
Air Compressors	Riverside	SS	SC	5.680E-01	8.129E-05	5.915E-04	1.565E-03	4.656E-07	3.734E-06	4.687E-02	1.096E-05	4.772E-06	5.04E-02	17
Welders	Riverside	MD	MOJ	3.552E+00	1.196E-04	5.389E-05	3.463E-03	1.531E-07	4.282E-05	5.369E-03	5.246E-06	7.035E-06	7.14E-03	2
Welders	Riverside	MD	SC	4.806E-01	1.619E-05	7.292E-06	4.686E-04	2.071E-08	5.794E-06	7.264E-04	7.098E-07	9.519E-07	9.66E-04	0
Welders	Riverside	SC	SC	2.068E+02	6.776E-03	3.164E-03	1.995E-01	8.910E-06	2.511E-03	3.125E-01	3.068E-04	3.985E-04	4.16E-01	138
Welders	Riverside	SS	SC	4.371E+01	1.472E-03	6.632E-04	4.262E-02	1.884E-06	5.270E-04	6.607E-02	6.456E-05	8.657E-05	8.79E-02	29
Welders	Riverside	MD	MOJ	1.284E+01	5.673E-04	2.885E-04	1.892E-02	7.601E-07	2.470E-04	2.999E-02	2.337E-05	3.336E-05	3.79E-02	13
Welders	Riverside	MD	SC	1.737E+00	7.676E-05	3.904E-05	2.561E-03	1.028E-07	3.343E-05	4.058E-03	3.162E-06	4.514E-06	5.13E-03	2
Welders	Riverside	SC	SC	7.473E+02	3.256E-02	1.685E-02	1.097E+00	4.425E-05	1.442E-02	1.746E+00	1.363E-03	1.915E-03	2.21E+00	731
Welders	Riverside	SS	SC	1.580E+02	6.981E-03	3.551E-03	2.329E-01	9.354E-06	3.040E-03	3.691E-01	2.876E-04	4.106E-04	4.67E-01	155

Light Commercial Equipment (2010 - Riverside County					Tons/Day									MTons/Year
Equipment	**County**	**Air Basin**	**Air Dist.**	**Population**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Welders	Riverside	MD	MOJ	1.106E+00	5.356E-05	9.277E-05	1.377E-03	1.516E-07	9.552E-07	1.247E-02	3.863E-06	3.150E-06	1.37E-02	5
Welders	Riverside	MD	SC	1.496E-01	7.247E-06	1.255E-05	1.863E-04	2.051E-08	1.292E-07	1.687E-03	5.227E-07	4.262E-07	1.86E-03	1
Welders	Riverside	SC	SC	6.436E+01	2.917E-03	5.072E-03	7.795E-02	8.825E-06	5.560E-05	7.259E-01	2.159E-04	1.716E-04	7.96E-01	264
Welders	Riverside	SS	SC	1.361E+01	6.591E-04	1.142E-03	1.695E-02	1.866E-06	1.176E-05	1.535E-01	4.754E-05	3.876E-05	1.69E-01	56
Welders	Riverside	MD	MOJ	1.128E+00	5.663E-05	2.074E-04	9.391E-04	1.891E-07	1.517E-06	1.958E-02	5.792E-06	3.330E-06	2.14E-02	7
Welders	Riverside	MD	SC	1.527E-01	7.662E-06	2.807E-05	1.271E-04	2.559E-08	2.052E-07	2.649E-03	7.837E-07	4.506E-07	2.90E-03	1
Welders	Riverside	SC	SC	6.569E+01	3.052E-03	1.122E-02	5.184E-02	1.101E-05	8.828E-05	1.139E+00	3.197E-04	1.795E-04	1.24E+00	411
Welders	Riverside	SS	SC	1.389E+01	6.969E-04	2.553E-03	1.156E-02	2.328E-06	1.866E-05	2.409E-01	7.128E-05	4.098E-05	2.64E-01	87
Welders	Riverside	MD	MOJ	7.779E-02	3.771E-06	2.940E-05	7.419E-05	2.421E-08	1.941E-07	2.437E-03	5.863E-07	2.218E-07	2.62E-03	1
Welders	Riverside	MD	SC	1.053E-02	5.102E-07	3.978E-06	1.004E-05	3.276E-09	2.627E-08	3.298E-04	7.933E-08	3.001E-08	3.55E-04	0
Welders	Riverside	SC	SC	4.528E+00	2.051E-04	1.590E-03	4.331E-03	1.409E-06	1.130E-05	1.419E-01	3.235E-05	1.206E-05	1.52E-01	50
Welders	Riverside	SS	SC	9.573E-01	4.641E-05	3.618E-04	9.130E-04	2.980E-07	2.389E-06	2.999E-02	7.215E-06	2.729E-06	3.23E-02	11
Pressure Washers	Riverside	MD	MOJ	3.807E+00	8.681E-05	2.396E-05	1.157E-03	9.727E-08	9.633E-06	2.817E-03	2.836E-06	5.105E-06	3.80E-03	1
Pressure Washers	Riverside	MD	SC	5.151E-01	1.175E-05	3.243E-06	1.566E-04	1.316E-08	1.303E-06	3.811E-04	3.837E-07	6.908E-07	5.15E-04	0
Pressure Washers	Riverside	SC	SC	2.216E+02	4.920E-03	1.390E-03	6.607E-02	5.662E-06	5.597E-04	1.640E-01	1.647E-04	2.894E-04	2.21E-01	73
Pressure Washers	Riverside	SS	SC	4.685E+01	1.068E-03	2.949E-04	1.424E-02	1.197E-06	1.185E-04	3.466E-02	3.490E-05	6.283E-05	4.68E-02	15
Pressure Washers	Riverside	MD	MOJ	2.991E+00	6.535E-05	1.232E-05	8.406E-04	5.141E-08	5.071E-06	1.489E-03	1.478E-06	3.843E-06	2.03E-03	1
Pressure Washers	Riverside	MD	SC	4.047E-01	8.842E-06	1.667E-06	1.137E-04	6.956E-09	6.861E-07	2.014E-04	2.000E-07	5.200E-07	2.74E-04	0
Pressure Washers	Riverside	SC	SC	1.741E+02	3.566E-03	7.167E-04	4.657E-02	2.992E-06	2.936E-04	8.665E-02	8.591E-05	2.097E-04	1.18E-01	39
Pressure Washers	Riverside	SS	SC	3.681E+01	8.042E-04	1.516E-04	1.035E-02	6.326E-07	6.240E-05	1.832E-02	1.819E-05	4.729E-05	2.50E-02	8
Pressure Washers	Riverside	MD	MOJ	3.396E+00	6.202E-05	3.276E-05	2.137E-03	1.003E-07	1.853E-06	3.518E-03	3.199E-06	3.647E-06	4.59E-03	2
Pressure Washers	Riverside	MD	SC	4.595E-01	8.392E-06	4.432E-06	2.892E-04	1.357E-08	2.507E-07	4.760E-04	4.328E-07	4.935E-07	6.21E-04	0
Pressure Washers	Riverside	SC	SC	1.977E+02	3.513E-03	1.909E-03	1.236E-01	5.839E-06	1.075E-04	2.048E-01	1.863E-04	2.066E-04	2.67E-01	88
Pressure Washers	Riverside	SS	SC	4.180E+01	7.633E-04	4.031E-04	2.630E-02	1.234E-06	2.280E-05	4.329E-02	3.936E-05	4.489E-05	5.64E-02	19
Pressure Washers	Riverside	MD	MOJ	2.669E+00	4.404E-05	1.612E-05	1.241E-03	5.302E-08	9.816E-07	1.859E-03	1.629E-06	2.590E-06	2.42E-03	1
Pressure Washers	Riverside	MD	SC	3.611E-01	5.959E-06	2.181E-06	1.680E-04	7.173E-09	1.328E-07	2.516E-04	2.204E-07	3.505E-07	3.27E-04	0
Pressure Washers	Riverside	SC	SC	1.553E+02	2.416E-03	9.457E-04	7.092E-02	3.086E-06	5.664E-05	1.082E-01	9.515E-05	1.421E-04	1.41E-01	47
Pressure Washers	Riverside	SS	SC	3.284E+01	5.420E-04	1.984E-04	1.528E-02	6.524E-07	1.208E-05	2.288E-02	2.004E-05	3.188E-05	2.98E-02	10
Pressure Washers	Riverside	MD	MOJ	6.379E-01	2.692E-05	1.507E-05	1.049E-03	4.306E-08	8.914E-07	1.699E-03	9.693E-07	1.583E-06	2.03E-03	1
Pressure Washers	Riverside	MD	SC	8.631E-02	3.643E-06	2.039E-06	1.419E-04	5.826E-09	1.206E-07	2.299E-04	1.311E-07	2.142E-07	2.75E-04	0
Pressure Washers	Riverside	SC	SC	3.713E+01	1.533E-03	8.760E-04	6.083E-02	2.507E-06	5.166E-05	9.890E-02	5.637E-05	9.017E-05	1.18E-01	39
Pressure Washers	Riverside	SS	SC	7.850E+00	3.313E-04	1.855E-04	1.290E-02	5.299E-07	1.097E-05	2.091E-02	1.193E-05	1.948E-05	2.50E-02	8
Pressure Washers	Riverside	MD	MOJ	5.010E-01	1.871E-05	7.012E-06	5.961E-04	2.275E-08	4.696E-07	8.975E-04	4.775E-07	1.100E-06	1.07E-03	0
Pressure Washers	Riverside	MD	SC	6.778E-02	2.532E-06	9.487E-07	8.066E-05	3.078E-09	6.354E-08	1.214E-04	6.461E-08	1.489E-07	1.45E-04	0
Pressure Washers	Riverside	SC	SC	2.916E+01	1.040E-03	4.133E-04	3.430E-02	1.324E-06	2.713E-05	5.224E-02	2.798E-05	6.114E-05	6.22E-02	21
Pressure Washers	Riverside	SS	SC	6.165E+00	2.303E-04	8.629E-05	7.336E-03	2.799E-07	5.779E-06	1.105E-02	5.876E-06	1.354E-05	1.32E-02	4
Pressure Washers	Riverside	MD	MOJ	6.223E-02	1.438E-06	2.724E-06	4.042E-05	5.068E-09	3.193E-08	4.168E-04	1.142E-07	8.454E-08	4.54E-04	0
Pressure Washers	Riverside	MD	SC	8.420E-03	1.945E-07	3.686E-07	5.468E-06	6.857E-10	4.320E-09	5.640E-05	1.545E-08	1.144E-08	6.14E-05	0
Pressure Washers	Riverside	SC	SC	3.622E+00	7.921E-05	1.500E-04	2.293E-03	2.950E-07	1.858E-06	2.426E-02	6.423E-06	4.658E-06	2.64E-02	9
Pressure Washers	Riverside	SS	SC	7.659E-01	1.769E-05	3.353E-05	4.974E-04	6.236E-08	3.929E-07	5.129E-03	1.406E-06	1.040E-06	5.59E-03	2
Generator Sets	Riverside	MD	MOJ	1.001E-01	1.936E-07	1.270E-05	4.159E-05	0.000E+00	1.176E-07	1.322E-03	0.000E+00	1.623E-06	1.36E-03	0
Generator Sets	Riverside	MD	SC	1.354E-02	2.620E-08	1.718E-06	5.628E-06	0.000E+00	1.591E-08	1.789E-04	0.000E+00	2.196E-07	1.83E-04	0
Generator Sets	Riverside	SC	SC	5.826E+00	1.030E-05	6.805E-04	2.409E-03	0.000E+00	6.844E-06	7.695E-02	0.000E+00	8.632E-05	7.88E-02	26
Generator Sets	Riverside	SS	SC	1.232E+00	2.383E-06	1.563E-04	5.119E-04	0.000E+00	1.447E-06	1.627E-02	0.000E+00	1.998E-05	1.67E-02	6
Generator Sets	Riverside	MD	MOJ	8.298E-02	2.246E-07	1.846E-05	4.983E-05	0.000E+00	1.714E-07	1.928E-03	0.000E+00	1.883E-06	1.97E-03	1
Generator Sets	Riverside	MD	SC	1.123E-02	3.039E-08	2.497E-06	6.742E-06	0.000E+00	2.320E-08	2.608E-04	0.000E+00	2.547E-07	2.66E-04	0
Generator Sets	Riverside	SC	SC	4.830E+00	1.198E-05	9.874E-04	2.889E-03	0.000E+00	9.980E-06	1.122E-01	0.000E+00	1.004E-04	1.14E-01	38
Generator Sets	Riverside	SS	SC	1.021E+00	2.764E-06	2.271E-04	6.133E-04	0.000E+00	2.110E-06	2.372E-02	0.000E+00	2.317E-05	2.42E-02	8
Gas Compressors	Riverside	MD	MOJ	1.556E-02	7.051E-07	2.560E-05	1.249E-04	0.000E+00	6.516E-07	8.507E-03	0.000E+00	5.910E-06	8.63E-03	3
Gas Compressors	Riverside	MD	SC	2.105E-03	9.540E-08	3.464E-06	1.690E-05	0.000E+00	8.817E-08	1.151E-03	0.000E+00	7.997E-07	1.17E-03	0
Gas Compressors	Riverside	SC	SC	9.056E-01	4.100E-05	1.489E-03	7.267E-03	0.000E+00	3.793E-05	4.952E-01	0.000E+00	3.437E-04	5.02E-01	166
Gas Compressors	Riverside	SS	SC	1.915E-01	8.677E-06	3.151E-04	1.537E-03	0.000E+00	8.019E-06	1.047E-01	0.000E+00	7.273E-05	1.06E-01	35

Light Commercial Equipment (2010 - Riverside County					Tons/Day									MTons/Year
Equipment	**County**	**Air Basin**	**Air Dist.**	**Population**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Gas Compressors	Riverside	MD	MOJ	3.215E-02	3.845E-06	1.515E-04	1.997E-03	0.000E+00	3.703E-06	4.781E-02	0.000E+00	3.223E-05	4.85E-02	16
Gas Compressors	Riverside	MD	SC	4.351E-03	5.202E-07	2.050E-05	2.703E-04	0.000E+00	5.011E-07	6.468E-03	0.000E+00	4.361E-06	6.56E-03	2
Gas Compressors	Riverside	SC	SC	1.872E+00	2.236E-04	8.809E-03	1.162E-01	0.000E+00	2.156E-04	2.783E+00	0.000E+00	1.874E-03	2.82E+00	934
Gas Compressors	Riverside	SS	SC	3.957E-01	4.732E-05	1.864E-03	2.458E-02	0.000E+00	4.558E-05	5.883E-01	0.000E+00	3.966E-04	5.97E-01	198
Gas Compressors	Riverside	MD	MOJ	5.186E-03	1.072E-06	4.054E-05	4.063E-04	0.000E+00	9.910E-07	1.244E-02	0.000E+00	8.989E-06	1.26E-02	4
Gas Compressors	Riverside	MD	SC	7.017E-04	1.451E-07	5.485E-06	5.498E-05	0.000E+00	1.341E-07	1.683E-03	0.000E+00	1.216E-06	1.71E-03	1
Gas Compressors	Riverside	SC	SC	3.019E-01	6.235E-05	2.357E-03	2.364E-02	0.000E+00	5.769E-05	7.242E-01	0.000E+00	5.227E-04	7.35E-01	243
Gas Compressors	Riverside	SS	SC	6.382E-02	1.320E-05	4.989E-04	5.001E-03	0.000E+00	1.220E-05	1.531E-01	0.000E+00	1.106E-04	1.55E-01	51
Gas Compressors	Riverside	MD	MOJ	4.149E-03	8.250E-07	3.923E-05	4.676E-04	0.000E+00	1.140E-06	1.282E-02	0.000E+00	6.915E-06	1.30E-02	4
Gas Compressors	Riverside	MD	SC	5.614E-04	1.116E-07	5.308E-06	6.327E-05	0.000E+00	1.543E-07	1.735E-03	0.000E+00	9.357E-07	1.75E-03	1
Gas Compressors	Riverside	SC	SC	2.415E-01	4.798E-05	2.283E-03	2.721E-02	0.000E+00	6.638E-05	7.464E-01	0.000E+00	4.022E-04	7.55E-01	250
Gas Compressors	Riverside	SS	SC	5.106E-02	1.015E-05	4.828E-04	5.754E-03	0.000E+00	1.403E-05	1.578E-01	0.000E+00	8.510E-05	1.60E-01	53
Gas Compressors	Riverside	MD	MOJ	3.630E-03	1.162E-06	5.524E-05	6.585E-04	0.000E+00	1.606E-06	1.806E-02	0.000E+00	9.739E-06	1.83E-02	6
Gas Compressors	Riverside	MD	SC	4.912E-04	1.572E-07	7.475E-06	8.910E-05	0.000E+00	2.173E-07	2.443E-03	0.000E+00	1.318E-06	2.47E-03	1
Gas Compressors	Riverside	SC	SC	2.113E-01	6.757E-05	3.215E-03	3.831E-02	0.000E+00	9.349E-05	1.051E+00	0.000E+00	5.664E-04	1.06E+00	352
Gas Compressors	Riverside	SS	SC	4.468E-02	1.430E-05	6.799E-04	8.104E-03	0.000E+00	1.976E-05	2.222E-01	0.000E+00	1.199E-04	2.25E-01	74
Generator Sets	Riverside	MD	MOJ	2.638E+00	2.098E-05	1.405E-04	8.821E-05	1.936E-07	8.405E-06	1.244E-02	0.000E+00	1.893E-06	1.25E-02	4
Generator Sets	Riverside	MD	SC	3.569E-01	2.839E-06	1.901E-05	1.194E-05	2.619E-08	1.137E-06	1.683E-03	0.000E+00	2.561E-07	1.69E-03	1
Generator Sets	Riverside	SC	SC	1.535E+02	1.167E-03	7.858E-03	5.030E-03	1.127E-05	4.689E-04	7.241E-01	0.000E+00	1.053E-04	7.26E-01	240
Generator Sets	Riverside	SS	SC	3.246E+01	2.582E-04	1.729E-03	1.086E-03	2.382E-06	1.034E-04	1.531E-01	0.000E+00	2.329E-05	1.54E-01	51
Generator Sets	Riverside	MD	MOJ	1.929E+00	2.664E-05	1.521E-04	9.163E-05	1.994E-07	9.544E-06	1.572E-02	0.000E+00	2.404E-06	1.58E-02	5
Generator Sets	Riverside	MD	SC	2.610E-01	3.605E-06	2.058E-05	1.240E-05	2.698E-08	1.291E-06	2.126E-03	0.000E+00	3.253E-07	2.13E-03	1
Generator Sets	Riverside	SC	SC	1.123E+02	1.492E-03	8.669E-03	5.104E-03	1.161E-05	5.333E-04	9.148E-01	0.000E+00	1.346E-04	9.18E-01	304
Generator Sets	Riverside	SS	SC	2.374E+01	3.279E-04	1.871E-03	1.128E-03	2.454E-06	1.175E-04	1.934E-01	0.000E+00	2.959E-05	1.94E-01	64
Generator Sets	Riverside	MD	MOJ	2.356E+00	1.221E-04	3.341E-04	3.164E-04	4.309E-07	3.105E-05	3.333E-02	0.000E+00	1.102E-05	3.36E-02	11
Generator Sets	Riverside	MD	SC	3.188E-01	1.652E-05	4.521E-05	4.281E-05	5.831E-08	4.201E-06	4.510E-03	0.000E+00	1.491E-06	4.54E-03	2
Generator Sets	Riverside	SC	SC	1.371E+02	6.513E-03	1.907E-02	1.761E-02	2.508E-05	1.709E-03	1.940E+00	0.000E+00	5.877E-04	1.95E+00	647
Generator Sets	Riverside	SS	SC	2.899E+01	1.503E-03	4.112E-03	3.894E-03	5.303E-06	3.821E-04	4.102E-01	0.000E+00	1.356E-04	4.13E-01	137
Generator Sets	Riverside	MD	MOJ	3.580E+00	2.324E-04	1.506E-03	8.367E-04	1.512E-06	1.189E-04	1.289E-01	0.000E+00	2.097E-05	1.29E-01	43
Generator Sets	Riverside	MD	SC	4.844E-01	3.145E-05	2.037E-04	1.132E-04	2.046E-07	1.608E-05	1.744E-02	0.000E+00	2.838E-06	1.75E-02	6
Generator Sets	Riverside	SC	SC	2.084E+02	1.260E-02	8.400E-02	4.804E-02	8.804E-05	6.545E-03	7.505E+00	0.000E+00	1.137E-03	7.53E+00	2,493
Generator Sets	Riverside	SS	SC	4.406E+01	2.860E-03	1.853E-02	1.030E-02	1.861E-05	1.463E-03	1.587E+00	0.000E+00	2.581E-04	1.59E+00	527
Generator Sets	Riverside	MD	MOJ	2.116E-01	1.641E-05	1.450E-04	7.302E-05	1.562E-07	7.068E-06	1.388E-02	0.000E+00	1.481E-06	1.39E-02	5
Generator Sets	Riverside	MD	SC	2.863E-02	2.220E-06	1.962E-05	9.880E-06	2.113E-08	9.563E-07	1.878E-03	0.000E+00	2.003E-07	1.88E-03	1
Generator Sets	Riverside	SC	SC	1.232E+01	8.868E-04	8.031E-03	4.216E-03	9.091E-06	3.888E-04	8.079E-01	0.000E+00	8.002E-05	8.10E-01	268
Generator Sets	Riverside	SS	SC	2.604E+00	2.019E-04	1.785E-03	8.986E-04	1.922E-06	8.698E-05	1.708E-01	0.000E+00	1.822E-05	1.71E-01	57
Generator Sets	Riverside	MD	MOJ	1.182E-01	8.833E-06	1.136E-04	2.730E-05	1.306E-07	3.363E-06	1.161E-02	0.000E+00	7.970E-07	1.16E-02	4
Generator Sets	Riverside	MD	SC	1.600E-02	1.195E-06	1.537E-05	3.693E-06	1.767E-08	4.551E-07	1.571E-03	0.000E+00	1.078E-07	1.57E-03	1
Generator Sets	Riverside	SC	SC	6.883E+00	4.781E-04	6.307E-03	1.524E-03	7.603E-06	1.850E-04	6.758E-01	0.000E+00	4.314E-05	6.77E-01	224
Generator Sets	Riverside	SS	SC	1.455E+00	1.087E-04	1.398E-03	3.359E-04	1.608E-06	4.139E-05	1.429E-01	0.000E+00	9.808E-06	1.43E-01	47
Generator Sets	Riverside	MD	MOJ	2.629E-01	2.786E-05	3.646E-04	1.070E-04	4.017E-07	1.109E-05	4.092E-02	0.000E+00	2.514E-06	4.10E-02	14
Generator Sets	Riverside	MD	SC	3.558E-02	3.769E-06	4.933E-05	1.447E-05	5.435E-08	1.500E-06	5.537E-03	0.000E+00	3.401E-07	5.54E-03	2
Generator Sets	Riverside	SC	SC	1.530E+01	1.498E-03	2.008E-02	5.898E-03	2.338E-05	6.101E-04	2.382E+00	0.000E+00	1.352E-04	2.38E+00	790
Generator Sets	Riverside	SS	SC	3.236E+00	3.428E-04	4.487E-03	1.316E-03	4.943E-06	1.364E-04	5.036E-01	0.000E+00	3.093E-05	5.04E-01	167
Generator Sets	Riverside	MD	MOJ	1.634E-01	2.889E-05	3.759E-04	1.073E-04	4.127E-07	1.129E-05	4.104E-02	0.000E+00	2.607E-06	4.11E-02	14
Generator Sets	Riverside	MD	SC	2.210E-02	3.909E-06	5.086E-05	1.452E-05	5.584E-08	1.527E-06	5.553E-03	0.000E+00	3.527E-07	5.56E-03	2
Generator Sets	Riverside	SC	SC	9.509E+00	1.560E-03	2.076E-02	5.916E-03	2.402E-05	6.221E-04	2.389E+00	0.000E+00	1.408E-04	2.39E+00	792
Generator Sets	Riverside	SS	SC	2.010E+00	3.555E-04	4.626E-03	1.320E-03	5.079E-06	1.389E-04	5.051E-01	0.000E+00	3.208E-05	5.06E-01	167
Generator Sets	Riverside	MD	MOJ	4.252E-02	1.981E-05	2.389E-04	7.014E-05	2.072E-07	7.052E-06	2.060E-02	0.000E+00	1.787E-06	2.06E-02	7
Generator Sets	Riverside	MD	SC	5.754E-03	2.680E-06	3.233E-05	9.491E-06	2.803E-08	9.542E-07	2.788E-03	0.000E+00	2.418E-07	2.79E-03	1
Generator Sets	Riverside	SC	SC	2.475E+00	1.073E-03	1.344E-02	3.778E-03	1.206E-05	3.852E-04	1.199E+00	0.000E+00	9.681E-05	1.20E+00	398
Generator Sets	Riverside	SS	SC	5.233E-01	2.438E-04	2.940E-03	8.632E-04	2.549E-06	8.678E-05	2.535E-01	0.000E+00	2.199E-05	2.54E-01	84

Light Commercial Equipment (2010 - Riverside County					Tons/Day									MTons/Year
Equipment	**County**	**Air Basin**	**Air Dist.**	**Population**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Pumps	Riverside	MD	MOJ	1.981E+00	1.609E-05	9.391E-05	5.745E-05	1.261E-07	6.808E-06	8.102E-03	0.000E+00	1.452E-06	8.13E-03	3
Pumps	Riverside	MD	SC	2.680E-01	2.177E-06	1.271E-05	7.773E-06	1.706E-08	9.211E-07	1.096E-03	0.000E+00	1.964E-07	1.10E-03	0
Pumps	Riverside	SC	SC	1.153E+02	8.862E-04	5.236E-03	3.276E-03	7.338E-06	3.716E-04	4.716E-01	0.000E+00	7.996E-05	4.73E-01	157
Pumps	Riverside	SS	SC	2.438E+01	1.980E-04	1.156E-03	7.070E-04	1.551E-06	8.378E-05	9.970E-02	0.000E+00	1.787E-05	1.00E-01	33
Pumps	Riverside	MD	MOJ	5.917E-01	1.421E-05	6.146E-05	3.704E-05	8.060E-08	4.320E-06	6.352E-03	0.000E+00	1.282E-06	6.38E-03	2
Pumps	Riverside	MD	SC	8.006E-02	1.922E-06	8.316E-06	5.011E-06	1.091E-08	5.845E-07	8.595E-04	0.000E+00	1.734E-07	8.63E-04	0
Pumps	Riverside	SC	SC	3.444E+01	7.738E-04	3.504E-03	2.063E-03	4.692E-06	2.385E-04	3.698E-01	0.000E+00	6.982E-05	3.71E-01	123
Pumps	Riverside	SS	SC	7.282E+00	1.748E-04	7.564E-04	4.558E-04	9.919E-07	5.316E-05	7.817E-02	0.000E+00	1.578E-05	7.85E-02	26
Pumps	Riverside	MD	MOJ	1.031E+00	7.642E-05	1.977E-04	1.950E-04	2.522E-07	1.898E-05	1.951E-02	0.000E+00	6.895E-06	1.97E-02	7
Pumps	Riverside	MD	SC	1.396E-01	1.034E-05	2.674E-05	2.638E-05	3.413E-08	2.569E-06	2.640E-03	0.000E+00	9.329E-07	2.66E-03	1
Pumps	Riverside	SC	SC	6.004E+01	4.072E-03	1.128E-02	1.083E-02	1.468E-05	1.043E-03	1.136E+00	0.000E+00	3.674E-04	1.14E+00	379
Pumps	Riverside	SS	SC	1.269E+01	9.404E-04	2.432E-03	2.399E-03	3.104E-06	2.336E-04	2.401E-01	0.000E+00	8.485E-05	2.42E-01	80
Pumps	Riverside	MD	MOJ	2.023E+00	1.618E-04	1.030E-03	5.727E-04	1.019E-06	8.347E-05	8.685E-02	0.000E+00	1.460E-05	8.72E-02	29
Pumps	Riverside	MD	SC	2.737E-01	2.189E-05	1.394E-04	7.748E-05	1.378E-07	1.129E-05	1.175E-02	0.000E+00	1.975E-06	1.18E-02	4
Pumps	Riverside	SC	SC	1.177E+02	8.767E-03	5.741E-02	3.285E-02	5.930E-05	4.589E-03	5.055E+00	0.000E+00	7.910E-04	5.07E+00	1,679
Pumps	Riverside	SS	SC	2.489E+01	1.991E-03	1.268E-02	7.047E-03	1.254E-05	1.027E-03	1.069E+00	0.000E+00	1.796E-04	1.07E+00	355
Pumps	Riverside	MD	MOJ	2.188E-01	2.068E-05	1.793E-04	9.028E-05	1.901E-07	8.968E-06	1.689E-02	0.000E+00	1.866E-06	1.69E-02	6
Pumps	Riverside	MD	SC	2.961E-02	2.798E-06	2.426E-05	1.222E-05	2.572E-08	1.213E-06	2.286E-03	0.000E+00	2.524E-07	2.29E-03	1
Pumps	Riverside	SC	SC	1.274E+01	1.117E-03	9.919E-03	5.207E-03	1.106E-05	4.926E-04	9.833E-01	0.000E+00	1.008E-04	9.85E-01	326
Pumps	Riverside	SS	SC	2.693E+00	2.545E-04	2.206E-03	1.111E-03	2.339E-06	1.104E-04	2.079E-01	0.000E+00	2.296E-05	2.08E-01	69
Pumps	Riverside	MD	MOJ	1.577E-01	1.382E-05	1.738E-04	4.191E-05	1.968E-07	5.270E-06	1.749E-02	0.000E+00	1.247E-06	1.75E-02	6
Pumps	Riverside	MD	SC	2.133E-02	1.870E-06	2.351E-05	5.670E-06	2.662E-08	7.130E-07	2.366E-03	0.000E+00	1.687E-07	2.37E-03	1
Pumps	Riverside	SC	SC	9.177E+00	7.480E-04	9.640E-03	2.336E-03	1.145E-05	2.893E-04	1.018E+00	0.000E+00	6.749E-05	1.02E+00	338
Pumps	Riverside	SS	SC	1.940E+00	1.701E-04	2.139E-03	5.157E-04	2.422E-06	6.485E-05	2.152E-01	0.000E+00	1.535E-05	2.16E-01	71
Pumps	Riverside	MD	MOJ	3.112E-03	4.180E-07	5.334E-06	1.603E-06	5.808E-09	1.659E-07	5.917E-04	0.000E+00	3.772E-08	5.93E-04	0
Pumps	Riverside	MD	SC	4.210E-04	5.656E-08	7.217E-07	2.169E-07	7.858E-10	2.245E-08	8.006E-05	0.000E+00	5.103E-09	8.02E-05	0
Pumps	Riverside	SC	SC	1.811E-01	2.250E-05	2.936E-04	8.815E-05	3.381E-07	9.113E-06	3.444E-02	0.000E+00	2.030E-06	3.45E-02	11
Pumps	Riverside	SS	SC	3.829E-02	5.144E-06	6.564E-05	1.973E-05	7.147E-08	2.042E-06	7.282E-03	0.000E+00	4.642E-07	7.29E-03	2
Pumps	Riverside	MD	MOJ	5.186E-04	1.188E-07	1.511E-06	4.418E-07	1.639E-09	4.639E-08	1.630E-04	0.000E+00	1.072E-08	1.63E-04	0
Pumps	Riverside	MD	SC	7.017E-05	1.607E-08	2.044E-07	5.978E-08	2.218E-10	6.277E-09	2.206E-05	0.000E+00	1.450E-09	2.21E-05	0
Pumps	Riverside	SC	SC	3.019E-02	6.419E-06	8.340E-05	2.429E-05	9.542E-08	2.553E-06	9.490E-03	0.000E+00	5.791E-07	9.50E-03	3
Pumps	Riverside	SS	SC	6.382E-03	1.462E-06	1.859E-05	5.437E-06	2.017E-08	5.710E-07	2.006E-03	0.000E+00	1.319E-07	2.01E-03	1
Pumps	Riverside	MD	MOJ	1.141E-02	8.341E-06	9.986E-05	2.991E-05	8.562E-08	2.960E-06	8.515E-03	0.000E+00	7.526E-07	8.53E-03	3
Pumps	Riverside	MD	SC	1.544E-03	1.129E-06	1.351E-05	4.047E-06	1.158E-08	4.005E-07	1.152E-03	0.000E+00	1.018E-07	1.15E-03	0
Pumps	Riverside	SC	SC	6.641E-01	4.519E-04	5.614E-03	1.608E-03	4.984E-06	1.617E-04	4.957E-01	0.000E+00	4.077E-05	4.97E-01	164
Pumps	Riverside	SS	SC	1.404E-01	1.026E-04	1.229E-03	3.681E-04	1.054E-06	3.643E-05	1.048E-01	0.000E+00	9.262E-06	1.05E-01	35
Air Compressors	Riverside	MD	MOJ	2.697E-02	4.310E-07	2.515E-06	1.539E-06	3.377E-09	1.823E-07	2.170E-04	0.000E+00	3.889E-08	2.18E-04	0
Air Compressors	Riverside	MD	SC	3.649E-03	5.832E-08	3.404E-07	2.082E-07	4.569E-10	2.467E-08	2.936E-05	0.000E+00	5.262E-09	2.95E-05	0
Air Compressors	Riverside	SC	SC	1.570E+00	2.374E-05	1.403E-04	8.775E-05	1.966E-07	9.954E-06	1.263E-02	0.000E+00	2.142E-06	1.27E-02	4
Air Compressors	Riverside	SS	SC	3.319E-01	5.304E-06	3.096E-05	1.894E-05	4.156E-08	2.244E-06	2.671E-03	0.000E+00	4.786E-07	2.68E-03	1
Air Compressors	Riverside	MD	MOJ	5.342E-02	1.923E-06	8.318E-06	5.012E-06	1.091E-08	5.846E-07	8.597E-04	0.000E+00	1.735E-07	8.63E-04	0
Air Compressors	Riverside	MD	SC	7.227E-03	2.601E-07	1.125E-06	6.782E-07	1.476E-09	7.910E-08	1.163E-04	0.000E+00	2.347E-08	1.17E-04	0
Air Compressors	Riverside	SC	SC	3.109E+00	1.047E-04	4.742E-04	2.792E-04	6.349E-07	3.228E-05	5.004E-02	0.000E+00	9.449E-06	5.02E-02	17
Air Compressors	Riverside	SS	SC	6.574E-01	2.366E-05	1.024E-04	6.168E-05	1.342E-07	7.195E-06	1.058E-02	0.000E+00	2.135E-06	1.06E-02	4
Air Compressors	Riverside	MD	MOJ	4.854E-01	6.315E-05	1.290E-04	1.523E-04	1.557E-07	1.438E-05	1.204E-02	0.000E+00	5.698E-06	1.22E-02	4
Air Compressors	Riverside	MD	SC	6.568E-02	8.545E-06	1.746E-05	2.061E-05	2.107E-08	1.945E-06	1.630E-03	0.000E+00	7.710E-07	1.65E-03	1
Air Compressors	Riverside	SC	SC	2.826E+01	3.361E-03	7.346E-03	8.405E-03	9.063E-06	7.865E-04	7.011E-01	0.000E+00	3.033E-04	7.07E-01	234
Air Compressors	Riverside	SS	SC	5.974E+00	7.772E-04	1.588E-03	1.875E-03	1.916E-06	1.769E-04	1.482E-01	0.000E+00	7.012E-05	1.50E-01	50
Air Compressors	Riverside	MD	MOJ	3.233E+00	3.677E-04	2.159E-03	1.208E-03	1.984E-06	1.975E-04	1.691E-01	0.000E+00	3.318E-05	1.70E-01	56
Air Compressors	Riverside	MD	SC	4.374E-01	4.975E-05	2.922E-04	1.635E-04	2.684E-07	2.673E-05	2.288E-02	0.000E+00	4.489E-06	2.30E-02	8
Air Compressors	Riverside	SC	SC	1.882E+02	1.992E-02	1.200E-01	6.904E-02	1.155E-04	1.081E-02	9.843E+00	0.000E+00	1.797E-03	9.88E+00	3,272
Air Compressors	Riverside	SS	SC	3.979E+01	4.525E-03	2.657E-02	1.487E-02	2.441E-05	2.431E-03	2.081E+00	0.000E+00	4.083E-04	2.09E+00	692

Light Commercial Equipment (2010 - Riverside County					Tons/Day									MTons/Year
Equipment	**County**	**Air Basin**	**Air Dist.**	**Population**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Air Compressors	Riverside	MD	MOJ	1.224E-01	1.743E-05	1.380E-04	6.973E-05	1.357E-07	7.770E-06	1.206E-02	0.000E+00	1.573E-06	1.21E-02	4
Air Compressors	Riverside	MD	SC	1.656E-02	2.358E-06	1.867E-05	9.434E-06	1.837E-08	1.051E-06	1.632E-03	0.000E+00	2.128E-07	1.64E-03	1
Air Compressors	Riverside	SC	SC	7.124E+00	9.427E-04	7.611E-03	4.007E-03	7.902E-06	4.248E-04	7.023E-01	0.000E+00	8.506E-05	7.04E-01	233
Air Compressors	Riverside	SS	SC	1.506E+00	2.145E-04	1.698E-03	8.581E-04	1.671E-06	9.562E-05	1.485E-01	0.000E+00	1.935E-05	1.49E-01	49
Air Compressors	Riverside	MD	MOJ	1.722E-01	2.350E-05	2.691E-04	6.520E-05	2.832E-07	8.829E-06	2.517E-02	0.000E+00	2.120E-06	2.52E-02	8
Air Compressors	Riverside	MD	SC	2.330E-02	3.179E-06	3.641E-05	8.822E-06	3.832E-08	1.195E-06	3.406E-03	0.000E+00	2.869E-07	3.41E-03	1
Air Compressors	Riverside	SC	SC	1.002E+01	1.276E-03	1.488E-02	3.625E-03	1.648E-05	4.823E-04	1.465E+00	0.000E+00	1.151E-04	1.47E+00	486
Air Compressors	Riverside	SS	SC	2.119E+00	2.892E-04	3.312E-03	8.024E-04	3.485E-06	1.087E-04	3.097E-01	0.000E+00	2.609E-05	3.10E-01	103
Air Compressors	Riverside	MD	MOJ	2.246E-01	4.851E-05	5.525E-04	1.685E-04	5.690E-07	1.873E-05	5.797E-02	0.000E+00	4.377E-06	5.81E-02	19
Air Compressors	Riverside	MD	SC	3.038E-02	6.563E-06	7.476E-05	2.281E-05	7.699E-08	2.534E-06	7.844E-03	0.000E+00	5.922E-07	7.86E-03	3
Air Compressors	Riverside	SC	SC	1.307E+01	2.631E-03	3.034E-02	9.239E-03	3.312E-05	1.024E-03	3.375E+00	0.000E+00	2.374E-04	3.38E+00	1,119
Air Compressors	Riverside	SS	SC	2.763E+00	5.970E-04	6.800E-03	2.074E-03	7.003E-06	2.305E-04	7.135E-01	0.000E+00	5.386E-05	7.15E-01	237
Air Compressors	Riverside	MD	MOJ	8.401E-02	2.856E-05	3.286E-04	9.745E-05	3.370E-07	1.100E-05	3.352E-02	0.000E+00	2.577E-06	3.36E-02	11
Air Compressors	Riverside	MD	SC	1.137E-02	3.864E-06	4.446E-05	1.319E-05	4.560E-08	1.488E-06	4.536E-03	0.000E+00	3.487E-07	4.54E-03	2
Air Compressors	Riverside	SC	SC	4.890E+00	1.552E-03	1.810E-02	5.342E-03	1.962E-05	6.025E-04	1.951E+00	0.000E+00	1.401E-04	1.95E+00	647
Air Compressors	Riverside	SS	SC	1.034E+00	3.515E-04	4.044E-03	1.199E-03	4.148E-06	1.353E-04	4.125E-01	0.000E+00	3.171E-05	4.13E-01	137
Air Compressors	Riverside	MD	MOJ	2.074E-03	1.202E-06	1.394E-05	4.259E-06	1.130E-08	4.175E-07	1.124E-03	0.000E+00	1.085E-07	1.13E-03	0
Air Compressors	Riverside	MD	SC	2.807E-04	1.627E-07	1.886E-06	5.763E-07	1.529E-09	5.649E-08	1.521E-04	0.000E+00	1.468E-08	1.52E-04	0
Air Compressors	Riverside	SC	SC	1.207E-01	6.531E-05	7.817E-04	2.283E-04	6.578E-07	2.289E-05	6.543E-02	0.000E+00	5.893E-06	6.55E-02	22
Air Compressors	Riverside	SS	SC	2.553E-02	1.480E-05	1.715E-04	5.241E-05	1.391E-07	5.138E-06	1.383E-02	0.000E+00	1.335E-06	1.39E-02	5
Welders	Riverside	MD	MOJ	8.956E-01	9.705E-06	5.664E-05	3.465E-05	7.604E-08	4.106E-06	4.886E-03	0.000E+00	8.757E-07	4.90E-03	2
Welders	Riverside	MD	SC	1.212E-01	1.313E-06	7.664E-06	4.688E-06	1.029E-08	5.556E-07	6.612E-04	0.000E+00	1.185E-07	6.64E-04	0
Welders	Riverside	SC	SC	5.213E+01	5.345E-04	3.158E-03	1.976E-03	4.426E-06	2.242E-04	2.844E-01	0.000E+00	4.823E-05	2.85E-01	95
Welders	Riverside	SS	SC	1.102E+01	1.194E-04	6.971E-04	4.264E-04	9.358E-07	5.053E-05	6.013E-02	0.000E+00	1.078E-05	6.04E-02	20
Welders	Riverside	MD	MOJ	7.883E-01	1.749E-05	7.566E-05	4.559E-05	9.921E-08	5.318E-06	7.819E-03	0.000E+00	1.578E-06	7.85E-03	3
Welders	Riverside	MD	SC	1.067E-01	2.366E-06	1.024E-05	6.169E-06	1.342E-08	7.195E-07	1.058E-03	0.000E+00	2.135E-07	1.06E-03	0
Welders	Riverside	SC	SC	4.588E+01	9.525E-04	4.313E-03	2.539E-03	5.775E-06	2.936E-04	4.552E-01	0.000E+00	8.594E-05	4.57E-01	151
Welders	Riverside	SS	SC	9.701E+00	2.152E-04	9.311E-04	5.611E-04	1.221E-06	6.544E-05	9.623E-02	0.000E+00	1.942E-05	9.66E-02	32
Welders	Riverside	MD	MOJ	2.426E+00	2.633E-04	5.808E-04	6.457E-04	7.155E-07	6.154E-05	5.535E-02	0.000E+00	2.376E-05	5.58E-02	18
Welders	Riverside	MD	SC	3.283E-01	3.563E-05	7.859E-05	8.736E-05	9.682E-08	8.327E-06	7.489E-03	0.000E+00	3.215E-06	7.56E-03	3
Welders	Riverside	SC	SC	1.412E+02	1.401E-02	3.309E-02	3.567E-02	4.165E-05	3.370E-03	3.222E+00	0.000E+00	1.264E-03	3.25E+00	1,076
Welders	Riverside	SS	SC	2.986E+01	3.241E-03	7.148E-03	7.946E-03	8.806E-06	7.574E-04	6.812E-01	0.000E+00	2.924E-04	6.87E-01	228
Welders	Riverside	MD	MOJ	1.884E+00	1.347E-04	8.136E-04	4.539E-04	7.673E-07	7.135E-05	6.541E-02	0.000E+00	1.215E-05	6.57E-02	22
Welders	Riverside	MD	SC	2.549E-01	1.822E-05	1.101E-04	6.141E-05	1.038E-07	9.654E-06	8.851E-03	0.000E+00	1.644E-06	8.89E-03	3
Welders	Riverside	SC	SC	1.097E+02	7.292E-03	4.525E-02	2.596E-02	4.467E-05	3.909E-03	3.808E+00	0.000E+00	6.579E-04	3.82E+00	1,265
Welders	Riverside	SS	SC	2.319E+01	1.657E-03	1.001E-02	5.585E-03	9.443E-06	8.781E-04	8.050E-01	0.000E+00	1.495E-04	8.08E-01	268
Welders	Riverside	MD	MOJ	9.335E-03	1.097E-06	8.972E-06	4.525E-06	9.065E-09	4.849E-07	8.056E-04	0.000E+00	9.901E-08	8.08E-04	0
Welders	Riverside	MD	SC	1.263E-03	1.485E-07	1.214E-06	6.122E-07	1.226E-09	6.561E-08	1.090E-04	0.000E+00	1.340E-08	1.09E-04	0
Welders	Riverside	SC	SC	5.434E-01	5.930E-05	4.953E-04	2.603E-04	5.276E-07	2.654E-05	4.689E-02	0.000E+00	5.350E-06	4.70E-02	16
Welders	Riverside	SS	SC	1.149E-01	1.350E-05	1.104E-04	5.568E-05	1.116E-07	5.967E-06	9.914E-03	0.000E+00	1.218E-06	9.94E-03	3
Welders	Riverside	MD	MOJ	2.074E-03	1.917E-07	2.262E-06	5.487E-07	2.443E-09	7.274E-08	2.171E-04	0.000E+00	1.730E-08	2.17E-04	0
Welders	Riverside	MD	SC	2.807E-04	2.594E-08	3.061E-07	7.424E-08	3.305E-10	9.843E-09	2.937E-05	0.000E+00	2.341E-09	2.94E-05	0
Welders	Riverside	SC	SC	1.207E-01	1.039E-05	1.252E-04	3.051E-05	1.422E-07	3.976E-06	1.264E-02	0.000E+00	9.371E-07	1.27E-02	4
Welders	Riverside	SS	SC	2.553E-02	2.359E-06	2.784E-05	6.753E-06	3.006E-08	8.952E-07	2.672E-03	0.000E+00	2.129E-07	2.68E-03	1
Welders	Riverside	MD	MOJ	5.186E-03	6.030E-07	7.141E-06	2.185E-06	7.498E-09	2.359E-07	7.639E-04	0.000E+00	5.441E-08	7.65E-04	0
Welders	Riverside	MD	SC	7.017E-04	8.159E-08	9.662E-07	2.956E-07	1.015E-09	3.192E-08	1.034E-04	0.000E+00	7.362E-09	1.04E-04	0
Welders	Riverside	SC	SC	3.019E-01	3.258E-05	3.924E-04	1.198E-04	4.365E-07	1.291E-05	4.447E-02	0.000E+00	2.940E-06	4.45E-02	15
Welders	Riverside	SS	SC	6.382E-02	7.421E-06	8.788E-05	2.689E-05	9.228E-08	2.904E-06	9.402E-03	0.000E+00	6.696E-07	9.42E-03	3
Pressure Washers	Riverside	MD	MOJ	1.224E-01	2.001E-07	1.340E-06	8.413E-07	1.846E-09	8.016E-08	1.186E-04	0.000E+00	1.805E-08	1.19E-04	0
Pressure Washers	Riverside	MD	SC	1.656E-02	2.707E-08	1.813E-07	1.138E-07	2.498E-10	1.085E-08	1.605E-05	0.000E+00	2.443E-09	1.61E-05	0
Pressure Washers	Riverside	SC	SC	7.124E+00	1.113E-05	7.494E-05	4.797E-05	1.075E-07	4.472E-06	6.906E-03	0.000E+00	1.004E-06	6.93E-03	2
Pressure Washers	Riverside	SS	SC	1.506E+00	2.462E-06	1.649E-05	1.035E-05	2.272E-08	9.865E-07	1.460E-03	0.000E+00	2.222E-07	1.46E-03	0

Light Commercial Equipment (2010 - Riverside County					Tons/Day									MTons/Year
Equipment	**County**	**Air Basin**	**Air Dist.**	**Population**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Pressure Washers	Riverside	MD	MOJ	2.852E-02	6.851E-08	3.910E-07	2.356E-07	5.127E-10	2.454E-08	4.041E-05	0.000E+00	6.182E-09	4.05E-05	0
Pressure Washers	Riverside	MD	SC	3.859E-03	9.270E-09	5.291E-08	3.188E-08	6.937E-11	3.321E-09	5.468E-06	0.000E+00	8.364E-10	5.49E-06	0
Pressure Washers	Riverside	SC	SC	1.660E+00	3.837E-06	2.229E-05	1.312E-05	2.985E-08	1.371E-06	2.352E-03	0.000E+00	3.462E-07	2.36E-03	1
Pressure Washers	Riverside	SS	SC	3.510E-01	8.431E-07	4.812E-06	2.899E-06	6.310E-09	3.020E-07	4.973E-04	0.000E+00	7.608E-08	4.99E-04	0
Pressure Washers	Riverside	MD	MOJ	5.653E-02	4.656E-07	1.554E-06	1.282E-06	2.071E-09	1.294E-07	1.602E-04	0.000E+00	4.201E-08	1.61E-04	0
Pressure Washers	Riverside	MD	SC	7.648E-03	6.300E-08	2.103E-07	1.734E-07	2.802E-10	1.750E-08	2.167E-05	0.000E+00	5.685E-09	2.18E-05	0
Pressure Washers	Riverside	SC	SC	3.290E+00	2.495E-05	8.889E-05	7.193E-05	1.205E-07	7.161E-06	9.323E-03	0.000E+00	2.251E-06	9.37E-03	3
Pressure Washers	Riverside	SS	SC	6.957E-01	5.730E-06	1.913E-05	1.577E-05	2.548E-08	1.592E-06	1.971E-03	0.000E+00	5.170E-07	1.98E-03	1
Pressure Washers	Riverside	MD	MOJ	2.334E-02	1.809E-07	1.241E-06	6.882E-07	1.306E-09	8.975E-08	1.114E-04	0.000E+00	1.633E-08	1.12E-04	0
Pressure Washers	Riverside	MD	SC	3.158E-03	2.448E-08	1.679E-07	9.312E-08	1.768E-10	1.214E-08	1.507E-05	0.000E+00	2.209E-09	1.51E-05	0
Pressure Washers	Riverside	SC	SC	1.358E+00	9.831E-06	6.941E-05	3.964E-05	7.605E-08	4.968E-06	6.483E-03	0.000E+00	8.870E-07	6.50E-03	2
Pressure Washers	Riverside	SS	SC	2.872E-01	2.227E-06	1.527E-05	8.469E-06	1.608E-08	1.105E-06	1.371E-03	0.000E+00	2.009E-07	1.37E-03	0
				17,327	1	1	12	0	0	103	0.02	0.04	110	36,286
				Population	**lbs/day**					Tons/Day				MTons/Year
As a Percent of Riverside County Employment (U.S. Census)				269	16	31	366	0	3	2	0	0	2	**563**

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Tampers/Rammers	Riverside	6.25E-01	3.12E-01	3.96E-06	3.07E-06	1.70E-04	1.34E-08	2.72E-06	3.25E-04	4.85E-07	2.46E-07	4.80E-04	0
Tampers/Rammers	Riverside	8.64E-02	4.31E-02	5.47E-07	4.24E-07	2.35E-05	1.85E-09	3.76E-07	4.49E-05	6.71E-08	3.40E-08	6.64E-05	0
Tampers/Rammers	Riverside	3.64E+01	1.82E+01	2.30E-04	1.79E-04	9.89E-03	7.79E-07	1.59E-04	1.89E-02	2.82E-05	1.43E-05	2.80E-02	9
Tampers/Rammers	Riverside	7.69E+00	3.84E+00	4.87E-05	3.78E-05	2.09E-03	1.65E-07	3.35E-05	4.00E-03	5.97E-06	3.03E-06	5.91E-03	2
Plate Compactors	Riverside	5.36E-02	3.03E-02	3.84E-07	2.97E-07	1.65E-05	1.30E-09	2.64E-07	3.15E-05	4.71E-08	2.39E-08	4.66E-05	0
Plate Compactors	Riverside	7.41E-03	4.19E-03	5.31E-08	4.11E-08	2.28E-06	1.80E-10	3.66E-08	4.36E-06	6.51E-09	3.30E-09	6.45E-06	0
Plate Compactors	Riverside	3.12E+00	1.76E+00	2.23E-05	1.73E-05	9.60E-04	7.56E-08	1.54E-05	1.84E-03	2.74E-06	1.39E-06	2.71E-03	1
Plate Compactors	Riverside	6.60E-01	3.73E-01	4.72E-06	3.66E-06	2.03E-04	1.60E-08	3.25E-06	3.88E-04	5.79E-07	2.94E-07	5.74E-04	0
Asphalt Pavers	Riverside	6.40E-02	6.95E-02	2.93E-06	2.21E-06	1.10E-04	5.57E-09	1.64E-06	1.95E-04	1.99E-07	1.72E-07	2.61E-04	0
Asphalt Pavers	Riverside	8.70E-03	9.45E-03	3.98E-07	3.00E-07	1.50E-05	7.57E-10	2.23E-07	2.66E-05	2.70E-08	2.34E-08	3.54E-05	0
Asphalt Pavers	Riverside	9.23E-01	1.00E+00	4.22E-05	3.18E-05	1.59E-03	8.04E-08	2.36E-05	2.82E-03	2.87E-06	2.48E-06	3.76E-03	1
Asphalt Pavers	Riverside	3.18E+00	3.45E+00	1.46E-04	1.10E-04	5.49E-03	2.77E-07	8.14E-05	9.70E-03	9.88E-06	8.55E-06	1.29E-02	4
Asphalt Pavers	Riverside	1.09E-01	1.19E-01	1.29E-05	8.53E-06	4.90E-04	2.07E-08	6.85E-06	8.17E-04	5.25E-07	7.60E-07	9.96E-04	0
Asphalt Pavers	Riverside	1.49E-02	1.62E-02	1.76E-06	1.16E-06	6.66E-05	2.81E-09	9.31E-07	1.11E-04	7.14E-08	1.03E-07	1.35E-04	0
Asphalt Pavers	Riverside	1.58E+00	1.71E+00	1.86E-04	1.23E-04	7.07E-03	2.99E-07	9.88E-05	1.18E-02	7.57E-06	1.10E-05	1.44E-02	5
Asphalt Pavers	Riverside	5.44E+00	5.90E+00	6.42E-04	4.24E-04	2.43E-02	1.03E-06	3.40E-04	4.06E-02	2.61E-05	3.77E-05	4.94E-02	16
Asphalt Pavers	Riverside	6.01E-02	6.46E-02	6.02E-06	9.18E-06	1.55E-04	1.43E-08	9.02E-08	1.18E-03	3.91E-07	3.54E-07	1.31E-03	0
Asphalt Pavers	Riverside	8.17E-03	8.78E-03	8.19E-07	1.25E-06	2.10E-05	1.95E-09	1.23E-08	1.60E-04	5.31E-08	4.81E-08	1.78E-04	0
Asphalt Pavers	Riverside	7.39E-01	7.94E-01	7.41E-05	1.13E-04	1.90E-03	1.76E-07	1.11E-06	1.45E-02	4.81E-06	4.36E-06	1.61E-02	5
Asphalt Pavers	Riverside	2.98E+00	3.21E+00	2.99E-04	4.56E-04	7.68E-03	7.11E-07	4.48E-06	5.85E-02	1.94E-05	1.76E-05	6.49E-02	20
Asphalt Pavers	Riverside	3.30E-02	3.55E-02	4.21E-06	1.34E-05	6.94E-05	1.18E-08	9.44E-08	1.22E-03	3.48E-07	2.47E-07	1.33E-03	0
Asphalt Pavers	Riverside	4.49E-03	4.82E-03	5.72E-07	1.82E-06	9.44E-06	1.60E-09	1.28E-08	1.66E-04	4.74E-08	3.36E-08	1.81E-04	0
Asphalt Pavers	Riverside	4.06E-01	4.36E-01	5.18E-05	1.65E-04	8.54E-04	1.45E-07	1.16E-06	1.50E-02	4.29E-06	3.04E-06	1.64E-02	5
Asphalt Pavers	Riverside	1.64E+00	1.76E+00	2.09E-04	6.64E-04	3.45E-03	5.85E-07	4.69E-06	6.05E-02	1.73E-05	1.23E-05	6.62E-02	21
Tampers/Rammers	Riverside	1.35E-01	6.76E-02	2.63E-06	1.71E-06	9.24E-05	4.52E-09	1.33E-06	1.58E-04	1.71E-07	1.54E-07	2.15E-04	0
Tampers/Rammers	Riverside	1.84E-02	9.19E-03	3.57E-07	2.32E-07	1.26E-05	6.14E-10	1.80E-07	2.15E-05	2.32E-08	2.10E-08	2.92E-05	0
Tampers/Rammers	Riverside	1.95E+00	9.75E-01	3.74E-05	2.46E-05	1.33E-03	6.51E-08	1.91E-05	2.28E-03	2.47E-06	2.20E-06	3.09E-03	1
Tampers/Rammers	Riverside	6.73E+00	3.36E+00	1.30E-04	8.48E-05	4.59E-03	2.24E-07	6.59E-05	7.86E-03	8.49E-06	7.67E-06	1.07E-02	3
Plate Compactors	Riverside	4.97E+00	2.45E+00	6.04E-05	2.76E-05	9.14E-04	8.82E-08	8.33E-07	2.56E-03	4.04E-06	3.55E-06	3.88E-03	1
Plate Compactors	Riverside	6.76E-01	3.34E-01	8.22E-06	3.76E-06	1.24E-04	1.20E-08	1.13E-07	3.47E-04	5.49E-07	4.83E-07	5.28E-04	0
Plate Compactors	Riverside	7.17E+01	3.54E+01	8.71E-04	3.98E-04	1.32E-02	1.27E-06	1.20E-05	3.69E-02	5.82E-05	5.12E-05	5.60E-02	18
Plate Compactors	Riverside	2.47E+02	1.22E+02	3.00E-03	1.37E-03	4.54E-02	4.38E-06	4.14E-05	1.27E-01	2.01E-04	1.77E-04	1.93E-01	61
Plate Compactors	Riverside	5.27E+00	2.98E+00	9.81E-05	6.80E-05	3.57E-03	1.77E-07	5.20E-05	6.20E-03	7.14E-06	5.77E-06	8.54E-03	3
Plate Compactors	Riverside	7.17E-01	4.05E-01	1.33E-05	9.24E-06	4.85E-04	2.40E-08	7.07E-06	8.43E-04	9.70E-07	7.84E-07	1.16E-03	0
Plate Compactors	Riverside	7.61E+01	4.30E+01	1.41E-03	9.80E-04	5.14E-02	2.55E-06	7.50E-04	8.95E-02	1.03E-04	8.27E-05	1.23E-01	39
Plate Compactors	Riverside	2.62E+02	1.48E+02	4.87E-03	3.37E-03	1.77E-01	8.78E-06	2.58E-03	3.08E-01	3.54E-04	2.87E-04	4.24E-01	133
Rollers	Riverside	5.54E-01	1.26E-01	3.94E-06	1.80E-06	7.79E-05	6.39E-09	6.03E-08	1.85E-04	2.35E-07	2.32E-07	2.63E-04	0
Rollers	Riverside	7.53E-02	1.71E-02	5.35E-07	2.45E-07	1.06E-05	8.68E-10	8.20E-09	2.51E-05	3.20E-08	3.15E-08	3.57E-05	0
Rollers	Riverside	7.99E+00	1.82E+00	5.66E-05	2.59E-05	1.13E-03	9.21E-08	8.70E-07	2.67E-03	3.39E-06	3.33E-06	3.79E-03	1
Rollers	Riverside	2.75E+01	6.26E+00	1.95E-04	8.94E-05	3.87E-03	3.17E-07	2.99E-06	9.18E-03	1.17E-05	1.15E-05	1.30E-02	4
Rollers	Riverside	8.96E-01	7.62E-01	2.98E-05	2.25E-05	1.14E-03	5.74E-08	1.69E-05	2.01E-03	2.10E-06	1.76E-06	2.70E-03	1
Rollers	Riverside	1.22E-01	1.04E-01	4.06E-06	3.06E-06	1.54E-04	7.80E-09	2.29E-06	2.73E-04	2.85E-07	2.39E-07	3.67E-04	0
Rollers	Riverside	1.29E+01	1.10E+01	4.30E-04	3.24E-04	1.64E-02	8.27E-07	2.43E-04	2.90E-02	3.02E-05	2.53E-05	3.89E-02	12
Rollers	Riverside	4.45E+01	3.78E+01	1.48E-03	1.12E-03	5.64E-02	2.85E-06	8.38E-04	9.99E-02	1.04E-04	8.72E-05	1.34E-01	42
Rollers	Riverside	6.05E-01	5.14E-01	4.49E-05	2.96E-05	1.72E-03	7.27E-08	2.40E-05	2.87E-03	2.02E-06	2.64E-06	3.55E-03	1
Rollers	Riverside	8.22E-02	6.99E-02	6.11E-06	4.03E-06	2.33E-04	9.88E-09	3.27E-06	3.90E-04	2.75E-07	3.59E-07	4.82E-04	0
Rollers	Riverside	8.72E+00	7.41E+00	6.47E-04	4.27E-04	2.48E-02	1.05E-06	3.47E-04	4.13E-02	2.91E-05	3.81E-05	5.12E-02	16
Rollers	Riverside	3.00E+01	2.55E+01	2.23E-03	1.47E-03	8.53E-02	3.61E-06	1.19E-03	1.42E-01	1.00E-04	1.31E-04	1.76E-01	55
Rollers	Riverside	4.23E-02	7.20E-02	8.80E-06	1.15E-05	2.23E-04	1.73E-08	1.09E-07	1.43E-03	4.66E-07	5.16E-07	1.58E-03	0
Rollers	Riverside	5.75E-03	9.79E-03	1.20E-06	1.56E-06	3.03E-05	2.36E-09	1.49E-08	1.94E-04	6.34E-08	7.02E-08	2.15E-04	0
Rollers	Riverside	5.21E-01	8.86E-01	1.08E-04	1.41E-04	2.74E-03	2.13E-07	1.34E-06	1.76E-02	5.74E-06	6.35E-06	1.95E-02	6
Rollers	Riverside	2.10E+00	3.58E+00	4.37E-04	5.69E-04	1.11E-02	8.61E-07	5.43E-06	7.09E-02	2.32E-05	2.56E-05	7.86E-02	25

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Rollers	Riverside	7.95E-02	1.35E-01	2.24E-05	5.95E-05	3.61E-04	5.19E-08	4.16E-07	5.38E-03	1.45E-06	1.31E-06	5.85E-03	2
Rollers	Riverside	1.08E-02	1.84E-02	3.04E-06	8.09E-06	4.91E-05	7.06E-09	5.66E-08	7.31E-04	1.98E-07	1.78E-07	7.96E-04	0
Rollers	Riverside	9.79E-01	1.67E+00	2.75E-04	7.32E-04	4.44E-03	6.39E-07	5.12E-06	6.62E-02	1.79E-05	1.62E-05	7.20E-02	23
Rollers	Riverside	3.95E+00	6.72E+00	1.11E-03	2.95E-03	1.79E-02	2.58E-06	2.07E-05	2.67E-01	7.22E-05	6.52E-05	2.91E-01	92
Paving Equipment	Riverside	6.96E+00	3.24E+00	8.51E-05	3.89E-05	1.31E-03	1.25E-07	1.18E-06	3.62E-03	5.52E-06	5.00E-06	5.44E-03	2
Paving Equipment	Riverside	9.46E-01	4.41E-01	1.16E-05	5.29E-06	1.78E-04	1.70E-08	1.61E-07	4.93E-04	7.50E-07	6.80E-07	7.39E-04	0
Paving Equipment	Riverside	1.00E+02	4.68E+01	1.23E-03	5.60E-04	1.90E-02	1.80E-06	1.70E-05	5.23E-02	7.95E-05	7.21E-05	7.84E-02	25
Paving Equipment	Riverside	3.46E+02	1.61E+02	4.23E-03	1.93E-03	6.52E-02	6.21E-06	5.87E-05	1.80E-01	2.74E-04	2.48E-04	2.70E-01	85
Paving Equipment	Riverside	1.18E+01	6.45E+00	2.85E-04	1.97E-04	1.04E-02	5.14E-07	1.51E-04	1.80E-02	1.81E-05	1.67E-05	2.40E-02	8
Paving Equipment	Riverside	1.60E+00	8.77E-01	3.87E-05	2.68E-05	1.41E-03	6.99E-08	2.05E-05	2.45E-03	2.46E-06	2.27E-06	3.26E-03	1
Paving Equipment	Riverside	1.70E+02	9.31E+01	4.08E-03	2.84E-03	1.49E-01	7.41E-06	2.18E-03	2.60E-01	2.60E-04	2.40E-04	3.46E-01	109
Paving Equipment	Riverside	5.84E+02	3.21E+02	1.41E-02	9.78E-03	5.15E-01	2.55E-05	7.51E-03	8.95E-01	8.97E-04	8.31E-04	1.19E+00	375
Paving Equipment	Riverside	2.62E-01	1.43E-01	1.44E-05	8.87E-06	5.34E-04	2.23E-08	7.39E-06	8.81E-04	5.85E-07	8.46E-07	1.08E-03	0
Paving Equipment	Riverside	3.56E-02	1.95E-02	1.96E-06	1.21E-06	7.26E-05	3.04E-09	1.00E-06	1.20E-04	7.95E-08	1.15E-07	1.47E-04	0
Paving Equipment	Riverside	3.77E+00	2.07E+00	2.06E-04	1.28E-04	7.70E-03	3.22E-07	1.07E-04	1.27E-02	8.43E-06	1.21E-05	1.56E-02	5
Paving Equipment	Riverside	1.30E+01	7.12E+00	7.14E-04	4.41E-04	2.65E-02	1.11E-06	3.67E-04	4.38E-02	2.90E-05	4.20E-05	5.37E-02	17
Paving Equipment	Riverside	1.64E-01	7.88E-02	4.92E-06	8.90E-06	1.46E-04	1.80E-08	1.14E-07	1.48E-03	4.08E-07	2.89E-07	1.62E-03	1
Paving Equipment	Riverside	2.23E-02	1.07E-02	6.68E-07	1.21E-06	1.98E-05	2.45E-09	1.55E-08	2.02E-04	5.55E-08	3.93E-08	2.20E-04	0
Paving Equipment	Riverside	2.02E+00	9.69E-01	6.05E-05	1.10E-04	1.80E-03	2.22E-07	1.40E-06	1.83E-02	5.02E-06	3.56E-06	1.99E-02	6
Paving Equipment	Riverside	8.15E+00	3.91E+00	2.44E-04	4.42E-04	7.25E-03	8.96E-07	5.65E-06	7.37E-02	2.03E-05	1.44E-05	8.03E-02	25
Paving Equipment	Riverside	4.23E-02	2.03E-02	1.44E-06	5.54E-06	2.65E-05	6.52E-09	5.23E-08	6.75E-04	1.59E-07	8.50E-08	7.26E-04	0
Paving Equipment	Riverside	5.75E-03	2.76E-03	1.96E-07	7.53E-07	3.60E-06	8.86E-10	7.11E-09	9.17E-05	2.15E-08	1.15E-08	9.87E-05	0
Paving Equipment	Riverside	5.21E-01	2.50E-01	1.78E-05	6.81E-05	3.26E-04	8.02E-08	6.43E-07	8.30E-03	1.95E-06	1.05E-06	8.93E-03	3
Paving Equipment	Riverside	2.10E+00	1.01E+00	7.17E-05	2.75E-04	1.32E-03	3.24E-07	2.60E-06	3.35E-02	7.87E-06	4.22E-06	3.60E-02	11
Surfacing Equipment	Riverside	1.28E+00	7.00E-01	1.95E-05	8.91E-06	2.83E-04	2.81E-08	2.65E-07	8.12E-04	1.23E-06	1.15E-06	1.22E-03	0
Surfacing Equipment	Riverside	1.74E-01	9.52E-02	2.65E-06	1.21E-06	3.85E-05	3.81E-09	3.60E-08	1.10E-04	1.67E-07	1.56E-07	1.66E-04	0
Surfacing Equipment	Riverside	1.84E+01	1.01E+01	2.81E-04	1.28E-04	4.09E-03	4.05E-07	3.82E-06	1.17E-02	1.77E-05	1.65E-05	1.76E-02	6
Surfacing Equipment	Riverside	6.34E+01	3.48E+01	9.68E-04	4.43E-04	1.41E-02	1.39E-06	1.32E-05	4.03E-02	6.11E-05	5.69E-05	6.05E-02	19
Surfacing Equipment	Riverside	3.80E+00	5.24E+00	1.51E-04	1.14E-04	5.50E-03	2.77E-07	8.14E-05	9.71E-03	1.23E-05	8.89E-06	1.37E-02	4
Surfacing Equipment	Riverside	5.16E-01	7.12E-01	2.06E-05	1.55E-05	7.47E-04	3.77E-08	1.11E-05	1.32E-03	1.67E-06	1.21E-06	1.86E-03	1
Surfacing Equipment	Riverside	5.47E+01	7.55E+01	2.18E-03	1.64E-03	7.93E-02	3.99E-06	1.17E-03	1.40E-01	1.77E-04	1.28E-04	1.98E-01	62
Surfacing Equipment	Riverside	1.88E+02	2.60E+02	7.52E-03	5.66E-03	2.73E-01	1.38E-05	4.04E-03	4.82E-01	6.08E-04	4.41E-04	6.80E-01	214
Surfacing Equipment	Riverside	5.19E-02	7.16E-02	5.20E-06	3.43E-06	1.90E-04	8.00E-09	2.65E-06	3.16E-04	2.55E-07	3.05E-07	4.01E-04	0
Surfacing Equipment	Riverside	7.06E-03	9.74E-03	7.07E-07	4.66E-07	2.58E-05	1.09E-09	3.60E-07	4.29E-05	3.47E-08	4.15E-08	5.45E-05	0
Surfacing Equipment	Riverside	7.49E-01	1.03E+00	7.50E-05	4.94E-05	2.74E-03	1.15E-07	3.82E-05	4.55E-03	3.68E-06	4.40E-06	5.79E-03	2
Surfacing Equipment	Riverside	2.58E+00	3.56E+00	2.58E-04	1.70E-04	9.42E-03	3.97E-07	1.31E-04	1.57E-02	1.27E-05	1.51E-05	1.99E-02	6
Signal Boards	Riverside	1.58E-02	5.62E-03	2.25E-07	1.03E-07	4.01E-06	3.49E-10	3.30E-09	1.01E-05	1.20E-08	1.32E-08	1.41E-05	0
Signal Boards	Riverside	2.14E-03	7.64E-04	3.05E-08	1.40E-08	5.45E-07	4.75E-11	4.48E-10	1.37E-06	1.63E-09	1.80E-09	1.92E-06	0
Signal Boards	Riverside	2.27E-01	8.11E-02	3.24E-06	1.48E-06	5.79E-05	5.04E-09	4.75E-08	1.46E-04	1.72E-07	1.90E-07	2.03E-04	0
Signal Boards	Riverside	7.83E-01	2.79E-01	1.12E-05	5.10E-06	1.99E-04	1.73E-08	1.64E-07	5.02E-04	5.94E-07	6.56E-07	7.00E-04	0
Signal Boards	Riverside	1.12E-01	8.74E-02	3.71E-06	2.79E-06	1.42E-04	7.17E-09	2.11E-06	2.52E-04	2.51E-07	2.18E-07	3.34E-04	0
Signal Boards	Riverside	1.53E-02	1.19E-02	5.04E-07	3.80E-07	1.93E-05	9.75E-10	2.87E-07	3.42E-05	3.41E-08	2.96E-08	4.54E-05	0
Signal Boards	Riverside	1.62E+00	1.26E+00	5.34E-05	4.02E-05	2.05E-03	1.03E-07	3.04E-05	3.63E-03	3.62E-06	3.14E-06	4.82E-03	2
Signal Boards	Riverside	5.57E+00	4.34E+00	1.84E-04	1.39E-04	7.05E-03	3.56E-07	1.05E-04	1.25E-02	1.25E-05	1.08E-05	1.66E-02	5
Trenchers	Riverside	1.04E+00	1.24E+00	5.87E-05	4.42E-05	2.18E-03	1.10E-07	3.24E-05	3.86E-03	3.77E-06	3.45E-06	5.10E-03	2
Trenchers	Riverside	1.41E-01	1.68E-01	7.98E-06	6.01E-06	2.97E-04	1.50E-08	4.40E-06	5.25E-04	5.12E-07	4.69E-07	6.93E-04	0
Trenchers	Riverside	1.50E+01	1.78E+01	8.46E-04	6.38E-04	3.15E-02	1.59E-06	4.67E-04	5.57E-02	5.43E-05	4.97E-05	7.35E-02	23
Trenchers	Riverside	5.15E+01	6.13E+01	2.92E-03	2.20E-03	1.08E-01	5.46E-06	1.61E-03	1.92E-01	1.87E-04	1.71E-04	2.53E-01	80
Trenchers	Riverside	8.04E-01	9.57E-01	1.01E-04	6.65E-05	3.77E-03	1.59E-07	5.26E-05	6.28E-03	4.16E-06	5.92E-06	7.69E-03	2
Trenchers	Riverside	1.09E-01	1.30E-01	1.37E-05	9.04E-06	5.12E-04	2.16E-08	7.16E-06	8.54E-04	5.65E-07	8.05E-07	1.05E-03	0
Trenchers	Riverside	1.16E+01	1.38E+01	1.45E-03	9.59E-04	5.44E-02	2.30E-06	7.59E-04	9.06E-02	6.00E-05	8.54E-05	1.11E-01	35
Trenchers	Riverside	3.99E+01	4.75E+01	5.01E-03	3.30E-03	1.87E-01	7.90E-06	2.61E-03	3.12E-01	2.06E-04	2.94E-04	3.82E-01	120

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Trenchers	Riverside	3.85E-01	4.24E-01	3.75E-05	5.59E-05	9.67E-04	8.82E-08	5.56E-07	7.25E-03	2.47E-06	2.20E-06	8.07E-03	3
Trenchers	Riverside	5.23E-02	5.77E-02	5.10E-06	7.60E-06	1.31E-04	1.20E-08	7.55E-08	9.86E-04	3.36E-07	2.99E-07	1.10E-03	0
Trenchers	Riverside	4.74E+00	5.22E+00	4.61E-04	6.88E-04	1.19E-02	1.09E-06	6.84E-06	8.93E-02	3.04E-05	2.71E-05	9.93E-02	31
Trenchers	Riverside	1.91E+01	2.11E+01	1.86E-03	2.78E-03	4.80E-02	4.38E-06	2.76E-05	3.60E-01	1.23E-04	1.09E-04	4.01E-01	126
Trenchers	Riverside	1.28E-01	1.41E-01	1.82E-05	5.66E-05	3.00E-04	5.06E-08	4.06E-07	5.24E-03	1.43E-06	1.07E-06	5.70E-03	2
Trenchers	Riverside	1.74E-02	1.91E-02	2.48E-06	7.69E-06	4.08E-05	6.88E-09	5.51E-08	7.12E-04	1.95E-07	1.45E-07	7.75E-04	0
Trenchers	Riverside	1.57E+00	1.73E+00	2.24E-04	6.96E-04	3.69E-03	6.23E-07	4.99E-06	6.44E-02	1.76E-05	1.32E-05	7.02E-02	22
Trenchers	Riverside	6.34E+00	6.99E+00	9.05E-04	2.81E-03	1.49E-02	2.51E-06	2.01E-05	2.60E-01	7.12E-05	5.31E-05	2.83E-01	89
Bore/Drill Rigs	Riverside	2.97E-02	1.01E-02	6.08E-07	3.93E-07	2.20E-05	1.08E-09	3.16E-07	3.77E-05	3.21E-08	3.57E-08	4.85E-05	0
Bore/Drill Rigs	Riverside	4.03E-03	1.37E-03	8.26E-08	5.35E-08	2.99E-06	1.46E-10	4.30E-08	5.13E-06	4.37E-09	4.86E-09	6.59E-06	0
Bore/Drill Rigs	Riverside	4.28E-01	1.46E-01	8.65E-06	5.66E-06	3.17E-04	1.55E-08	4.56E-06	5.44E-04	4.63E-07	5.09E-07	6.99E-04	0
Bore/Drill Rigs	Riverside	1.47E+00	5.01E-01	3.02E-05	1.95E-05	1.09E-03	5.34E-08	1.57E-05	1.87E-03	1.60E-06	1.78E-06	2.41E-03	1
Bore/Drill Rigs	Riverside	1.47E-01	5.01E-02	5.53E-06	3.23E-06	2.07E-04	8.56E-09	2.83E-06	3.38E-04	2.09E-07	3.25E-07	4.09E-04	0
Bore/Drill Rigs	Riverside	2.00E-02	6.82E-03	7.52E-07	4.39E-07	2.81E-05	1.16E-09	3.85E-07	4.59E-05	2.84E-08	4.42E-08	5.56E-05	0
Bore/Drill Rigs	Riverside	2.13E+00	7.23E-01	7.89E-05	4.65E-05	2.97E-03	1.23E-07	4.08E-05	4.87E-03	3.01E-06	4.64E-06	5.90E-03	2
Bore/Drill Rigs	Riverside	7.32E+00	2.49E+00	2.75E-04	1.60E-04	1.03E-02	4.25E-07	1.41E-04	1.68E-02	1.04E-05	1.62E-05	2.03E-02	6
Bore/Drill Rigs	Riverside	1.86E-02	5.46E-03	4.56E-07	8.69E-07	1.22E-05	1.45E-09	9.13E-09	1.19E-04	3.47E-08	2.68E-08	1.31E-04	0
Bore/Drill Rigs	Riverside	2.53E-03	7.42E-04	6.20E-08	1.18E-07	1.66E-06	1.97E-10	1.24E-09	1.62E-05	4.71E-09	3.65E-09	1.77E-05	0
Bore/Drill Rigs	Riverside	2.29E-01	6.72E-02	5.61E-06	1.07E-05	1.51E-04	1.78E-08	1.12E-07	1.47E-03	4.27E-07	3.30E-07	1.61E-03	1
Bore/Drill Rigs	Riverside	9.24E-01	2.71E-01	2.27E-05	4.31E-05	6.08E-04	7.20E-08	4.53E-07	5.92E-03	1.72E-06	1.33E-06	6.48E-03	2
Bore/Drill Rigs	Riverside	8.54E-02	2.51E-02	3.81E-06	1.56E-05	6.59E-05	1.44E-08	1.15E-07	1.49E-03	3.19E-07	2.24E-07	1.59E-03	1
Bore/Drill Rigs	Riverside	1.16E-02	3.41E-03	5.18E-07	2.12E-06	8.95E-06	1.95E-09	1.57E-08	2.02E-04	4.34E-08	3.05E-08	2.16E-04	0
Bore/Drill Rigs	Riverside	1.05E+00	3.08E-01	4.69E-05	1.92E-04	8.10E-04	1.77E-07	1.42E-06	1.83E-02	3.93E-06	2.76E-06	1.96E-02	6
Bore/Drill Rigs	Riverside	4.24E+00	1.25E+00	1.89E-04	7.73E-04	3.27E-03	7.14E-07	5.72E-06	7.39E-02	1.59E-05	1.11E-05	7.90E-02	25
Bore/Drill Rigs	Riverside	2.12E-02	6.21E-03	7.59E-07	6.07E-06	1.55E-05	5.09E-09	4.09E-08	5.13E-04	1.01E-07	4.46E-08	5.45E-04	0
Bore/Drill Rigs	Riverside	2.88E-03	8.44E-04	1.03E-07	8.25E-07	2.10E-06	6.93E-10	5.55E-09	6.97E-05	1.37E-08	6.06E-09	7.41E-05	0
Bore/Drill Rigs	Riverside	2.60E-01	7.64E-02	9.33E-06	7.47E-05	1.90E-04	6.27E-08	5.03E-07	6.31E-03	1.24E-06	5.49E-07	6.71E-03	2
Bore/Drill Rigs	Riverside	1.05E+00	3.08E-01	3.77E-05	3.01E-04	7.67E-04	2.53E-07	2.03E-06	2.55E-02	5.00E-06	2.22E-06	2.71E-02	9
Concrete/Industrial Saws	Riverside	5.44E-01	1.94E-01	6.37E-06	2.91E-06	1.14E-04	9.90E-09	9.35E-08	2.87E-04	3.72E-07	3.74E-07	4.10E-04	0
Concrete/Industrial Saws	Riverside	7.40E-02	2.64E-02	8.66E-07	3.96E-07	1.54E-05	1.35E-09	1.27E-08	3.90E-05	5.06E-08	5.09E-08	5.57E-05	0
Concrete/Industrial Saws	Riverside	7.85E+00	2.80E+00	9.17E-05	4.19E-05	1.64E-03	1.43E-07	1.35E-06	4.13E-03	5.36E-06	5.39E-06	5.91E-03	2
Concrete/Industrial Saws	Riverside	2.70E+01	9.64E+00	3.16E-04	1.45E-04	5.64E-03	4.92E-07	4.64E-06	1.42E-02	1.85E-05	1.86E-05	2.04E-02	6
Concrete/Industrial Saws	Riverside	2.45E+00	2.08E+00	1.03E-04	7.73E-05	3.90E-03	1.97E-07	5.80E-05	6.92E-03	6.48E-06	6.03E-06	9.05E-03	3
Concrete/Industrial Saws	Riverside	3.33E-01	2.83E-01	1.39E-05	1.05E-05	5.31E-04	2.68E-08	7.88E-06	9.40E-04	8.80E-07	8.20E-07	1.23E-03	0
Concrete/Industrial Saws	Riverside	3.53E+01	3.00E+01	1.48E-03	1.11E-03	5.63E-02	2.84E-06	8.36E-04	9.98E-02	9.34E-05	8.70E-05	1.31E-01	41
Concrete/Industrial Saws	Riverside	1.22E+02	1.03E+02	5.10E-03	3.84E-03	1.94E-01	9.79E-06	2.88E-03	3.44E-01	3.22E-04	3.00E-04	4.50E-01	142
Concrete/Industrial Saws	Riverside	7.66E-01	6.51E-01	6.40E-05	4.23E-05	2.45E-03	1.04E-07	3.43E-05	4.09E-03	2.73E-06	3.77E-06	5.01E-03	2
Concrete/Industrial Saws	Riverside	1.04E-01	8.85E-02	8.71E-06	5.74E-06	3.33E-04	1.41E-08	4.66E-06	5.56E-04	3.71E-07	5.12E-07	6.81E-04	0
Concrete/Industrial Saws	Riverside	1.10E+01	9.39E+00	9.23E-04	6.09E-04	3.53E-02	1.49E-06	4.94E-04	5.90E-02	3.93E-05	5.43E-05	7.23E-02	23
Concrete/Industrial Saws	Riverside	3.80E+01	3.23E+01	3.18E-03	2.10E-03	1.22E-01	5.15E-06	1.70E-03	2.03E-01	1.35E-04	1.87E-04	2.49E-01	78
Concrete/Industrial Saws	Riverside	6.94E-02	1.16E-01	3.24E-06	4.84E-06	2.17E-04	3.33E-08	2.10E-07	2.74E-03	3.84E-07	1.90E-07	2.86E-03	1
Concrete/Industrial Saws	Riverside	9.43E-03	1.58E-02	4.41E-07	6.58E-07	2.95E-05	4.52E-09	2.85E-08	3.72E-04	5.22E-08	2.58E-08	3.89E-04	0
Concrete/Industrial Saws	Riverside	8.54E-01	1.43E+00	3.99E-05	5.95E-05	2.67E-03	4.09E-07	2.58E-06	3.37E-02	4.72E-06	2.34E-06	3.52E-02	11
Concrete/Industrial Saws	Riverside	3.45E+00	5.76E+00	1.61E-04	2.40E-04	1.08E-02	1.65E-06	1.04E-05	1.36E-01	1.91E-05	9.44E-06	1.42E-01	45
Concrete/Industrial Saws	Riverside	3.98E-02	6.65E-02	1.33E-06	3.10E-06	5.92E-05	2.82E-08	2.26E-07	2.92E-03	2.33E-07	7.81E-08	3.00E-03	1
Concrete/Industrial Saws	Riverside	5.41E-03	9.04E-03	1.81E-07	4.21E-07	8.05E-06	3.84E-09	3.08E-08	3.97E-04	3.17E-08	1.06E-08	4.07E-04	0
Concrete/Industrial Saws	Riverside	4.89E-01	8.18E-01	1.64E-05	3.81E-05	7.28E-04	3.48E-07	2.79E-06	3.60E-02	2.87E-06	9.61E-07	3.69E-02	12
Concrete/Industrial Saws	Riverside	1.97E+00	3.30E+00	6.61E-05	1.54E-04	2.94E-03	1.40E-06	1.12E-05	1.45E-01	1.16E-05	3.88E-06	1.49E-01	47
Cement and Mortar Mixers	Riverside	9.89E+00	2.49E+00	7.60E-05	3.48E-05	1.42E-03	1.20E-07	1.14E-06	3.48E-03	4.59E-06	4.47E-06	5.00E-03	2
Cement and Mortar Mixers	Riverside	1.34E+00	3.39E-01	1.03E-05	4.72E-06	1.93E-04	1.63E-08	1.54E-07	4.73E-04	6.24E-07	6.08E-07	6.80E-04	0
Cement and Mortar Mixers	Riverside	1.43E+02	3.60E+01	1.09E-03	5.00E-04	2.05E-02	1.73E-06	1.64E-05	5.02E-02	6.62E-05	6.44E-05	7.21E-02	23
Cement and Mortar Mixers	Riverside	4.91E+02	1.24E+02	3.78E-03	1.73E-03	7.03E-02	5.97E-06	5.64E-05	1.73E-01	2.28E-04	2.22E-04	2.48E-01	78

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Cement and Mortar Mixers	Riverside	1.68E+01	4.23E+00	2.39E-04	8.55E-05	6.43E-03	2.69E-07	7.49E-05	9.44E-03	9.47E-06	1.40E-05	1.27E-02	4
Cement and Mortar Mixers	Riverside	2.28E+00	5.74E-01	3.25E-05	1.16E-05	8.74E-04	3.66E-08	1.02E-05	1.28E-03	1.29E-06	1.91E-06	1.72E-03	1
Cement and Mortar Mixers	Riverside	2.42E+02	6.09E+01	3.29E-03	1.25E-03	9.12E-02	3.88E-06	1.09E-03	1.36E-01	1.37E-04	1.93E-04	1.83E-01	58
Cement and Mortar Mixers	Riverside	8.32E+02	2.10E+02	1.19E-02	4.25E-03	3.19E-01	1.34E-05	3.72E-03	4.69E-01	4.70E-04	6.97E-04	6.29E-01	198
Cement and Mortar Mixers	Riverside	7.05E-02	1.78E-02	2.87E-06	1.00E-06	8.44E-05	3.15E-09	9.85E-07	1.24E-04	6.85E-08	1.69E-07	1.49E-04	0
Cement and Mortar Mixers	Riverside	9.58E-03	2.42E-03	3.90E-07	1.36E-07	1.15E-05	4.28E-10	1.34E-07	1.69E-05	9.31E-09	2.29E-08	2.02E-05	0
Cement and Mortar Mixers	Riverside	1.02E+00	2.56E-01	3.98E-05	1.47E-05	1.20E-03	4.54E-08	1.43E-05	1.79E-03	9.97E-07	2.34E-06	2.15E-03	1
Cement and Mortar Mixers	Riverside	3.50E+00	8.83E-01	1.42E-04	4.97E-05	4.19E-03	1.56E-07	4.89E-05	6.17E-03	3.40E-06	8.37E-06	7.40E-03	2
Cranes	Riverside	2.12E-02	2.41E-02	1.89E-06	2.79E-06	4.87E-05	4.39E-09	2.77E-08	3.61E-04	1.31E-07	1.11E-07	4.04E-04	0
Cranes	Riverside	2.88E-03	3.27E-03	2.57E-07	3.80E-07	6.62E-06	5.97E-10	3.76E-09	4.91E-05	1.78E-08	1.51E-08	5.50E-05	0
Cranes	Riverside	2.60E-01	2.96E-01	2.32E-05	3.44E-05	5.99E-04	5.41E-08	3.41E-07	4.45E-03	1.61E-06	1.37E-06	4.98E-03	2
Cranes	Riverside	1.05E+00	1.20E+00	9.38E-05	1.39E-04	2.42E-03	2.18E-07	1.37E-06	1.79E-02	6.50E-06	5.51E-06	2.01E-02	6
Cranes	Riverside	4.23E-02	4.81E-02	5.03E-06	1.55E-05	8.28E-05	1.38E-08	1.11E-07	1.43E-03	4.35E-07	2.95E-07	1.57E-03	0
Cranes	Riverside	5.75E-03	6.54E-03	6.84E-07	2.10E-06	1.13E-05	1.88E-09	1.51E-08	1.94E-04	5.92E-08	4.02E-08	2.13E-04	0
Cranes	Riverside	5.21E-01	5.92E-01	6.19E-05	1.90E-04	1.02E-03	1.70E-07	1.36E-06	1.76E-02	5.36E-06	3.64E-06	1.93E-02	6
Cranes	Riverside	2.10E+00	2.39E+00	2.50E-04	7.68E-04	4.11E-03	6.86E-07	5.50E-06	7.10E-02	2.16E-05	1.47E-05	7.80E-02	25
Cranes	Riverside	1.69E-03	1.93E-03	1.59E-07	1.17E-06	3.14E-06	9.33E-10	7.48E-09	9.39E-05	2.45E-08	9.35E-09	1.02E-04	0
Cranes	Riverside	2.30E-04	2.62E-04	2.16E-08	1.59E-07	4.27E-07	1.27E-10	1.02E-09	1.28E-05	3.32E-09	1.27E-09	1.38E-05	0
Cranes	Riverside	2.08E-02	2.37E-02	1.96E-06	1.44E-05	3.86E-05	1.15E-08	9.21E-08	1.16E-03	3.01E-07	1.15E-07	1.25E-03	0
Cranes	Riverside	8.40E-02	9.56E-02	7.90E-06	5.82E-05	1.56E-04	4.63E-08	3.72E-07	4.66E-03	1.21E-06	4.64E-07	5.05E-03	2
Crushing/Proc. Equipment	Riverside	2.69E-02	2.13E-02	1.14E-06	8.58E-07	4.36E-05	2.20E-09	6.47E-07	7.72E-05	6.92E-08	6.70E-08	1.00E-04	0
Crushing/Proc. Equipment	Riverside	3.66E-03	2.90E-03	1.55E-07	1.17E-07	5.92E-06	2.99E-10	8.80E-08	1.05E-05	9.41E-09	9.11E-09	1.36E-05	0
Crushing/Proc. Equipment	Riverside	3.88E-01	3.07E-01	1.64E-05	1.24E-05	6.28E-04	3.17E-08	9.33E-06	1.11E-03	9.98E-07	9.65E-07	1.44E-03	0
Crushing/Proc. Equipment	Riverside	1.34E+00	1.06E+00	5.66E-05	4.26E-05	2.16E-03	1.09E-07	3.21E-05	3.83E-03	3.44E-06	3.33E-06	4.97E-03	2
Crushing/Proc. Equipment	Riverside	1.76E-02	1.40E-02	1.40E-06	9.24E-07	5.39E-05	2.28E-09	7.54E-07	8.99E-05	5.91E-08	8.24E-08	1.10E-04	0
Crushing/Proc. Equipment	Riverside	2.40E-03	1.90E-03	1.90E-07	1.26E-07	7.32E-06	3.10E-10	1.02E-07	1.22E-05	8.03E-09	1.12E-08	1.49E-05	0
Crushing/Proc. Equipment	Riverside	2.54E-01	2.01E-01	2.02E-05	1.33E-05	7.77E-04	3.29E-08	1.09E-05	1.30E-03	8.52E-07	1.19E-06	1.59E-03	0
Crushing/Proc. Equipment	Riverside	8.75E-01	6.94E-01	6.96E-05	4.59E-05	2.67E-03	1.13E-07	3.74E-05	4.47E-03	2.94E-06	4.09E-06	5.46E-03	2
Crushing/Proc. Equipment	Riverside	2.45E-02	1.62E-02	3.36E-06	1.20E-05	5.67E-05	1.09E-08	8.75E-08	1.13E-03	2.28E-07	1.98E-07	1.20E-03	0
Crushing/Proc. Equipment	Riverside	3.34E-03	2.20E-03	4.57E-07	1.63E-06	7.70E-06	1.48E-09	1.19E-08	1.54E-04	3.09E-08	2.69E-08	1.64E-04	0
Crushing/Proc. Equipment	Riverside	3.02E-01	2.00E-01	4.14E-05	1.48E-04	6.97E-04	1.34E-07	1.08E-06	1.39E-02	2.80E-06	2.43E-06	1.48E-02	5
Crushing/Proc. Equipment	Riverside	1.22E+00	8.05E-01	1.67E-04	5.95E-04	2.81E-03	5.42E-07	4.35E-06	5.61E-02	1.13E-05	9.82E-06	5.98E-02	19
Rough Terrain Forklifts	Riverside	8.46E-03	9.58E-03	1.28E-06	1.89E-06	3.29E-05	2.98E-09	1.88E-08	2.45E-04	6.92E-08	7.51E-08	2.68E-04	0
Rough Terrain Forklifts	Riverside	1.15E-03	1.30E-03	1.74E-07	2.57E-07	4.48E-06	4.05E-10	2.55E-09	3.33E-05	9.41E-09	1.02E-08	3.64E-05	0
Rough Terrain Forklifts	Riverside	1.04E-01	1.18E-01	1.57E-05	2.33E-05	4.05E-04	3.66E-08	2.31E-07	3.01E-03	8.52E-07	9.24E-07	3.30E-03	1
Rough Terrain Forklifts	Riverside	4.20E-01	4.76E-01	6.35E-05	9.40E-05	1.64E-03	1.48E-07	9.32E-07	1.22E-02	3.44E-06	3.73E-06	1.33E-02	4
Rough Terrain Forklifts	Riverside	1.20E-01	1.36E-01	2.19E-05	6.73E-05	3.60E-04	6.01E-08	4.82E-07	6.22E-03	1.55E-06	1.28E-06	6.73E-03	2
Rough Terrain Forklifts	Riverside	1.63E-02	1.85E-02	2.97E-06	9.15E-06	4.89E-05	8.17E-09	6.55E-08	8.45E-04	2.10E-07	1.74E-07	9.14E-04	0
Rough Terrain Forklifts	Riverside	1.48E+00	1.67E+00	2.69E-04	8.28E-04	4.43E-03	7.39E-07	5.93E-06	7.65E-02	1.90E-05	1.58E-05	8.28E-02	26
Rough Terrain Forklifts	Riverside	5.97E+00	6.76E+00	1.09E-03	3.34E-03	1.79E-02	2.98E-06	2.39E-05	3.09E-01	7.69E-05	6.37E-05	3.34E-01	105
Rough Terrain Forklifts	Riverside	4.23E-03	4.79E-03	6.02E-07	4.43E-06	1.19E-05	3.53E-09	2.83E-08	3.56E-04	7.61E-08	3.54E-08	3.80E-04	0
Rough Terrain Forklifts	Riverside	5.75E-04	6.51E-04	8.19E-08	6.03E-07	1.62E-06	4.81E-10	3.85E-09	4.84E-05	1.03E-08	4.81E-09	5.17E-05	0
Rough Terrain Forklifts	Riverside	5.20E-02	5.89E-02	7.41E-06	5.46E-05	1.46E-04	4.35E-08	3.49E-07	4.38E-03	9.37E-07	4.35E-07	4.68E-03	1
Rough Terrain Forklifts	Riverside	2.10E-01	2.38E-01	2.99E-05	2.20E-04	5.90E-04	1.76E-07	1.41E-06	1.77E-02	3.78E-06	1.76E-06	1.89E-02	6
Rubber Tired Loaders	Riverside	2.12E-02	2.97E-02	3.15E-06	4.41E-06	8.01E-05	6.73E-09	4.24E-08	5.54E-04	1.85E-07	1.85E-07	6.15E-04	0
Rubber Tired Loaders	Riverside	2.88E-03	4.04E-03	4.29E-07	6.00E-07	1.09E-05	9.15E-10	5.77E-09	7.53E-05	2.51E-08	2.51E-08	8.36E-05	0
Rubber Tired Loaders	Riverside	2.60E-01	3.65E-01	3.88E-05	5.43E-05	9.85E-04	8.29E-08	5.22E-07	6.81E-03	2.28E-06	2.28E-06	7.57E-03	2
Rubber Tired Loaders	Riverside	1.05E+00	1.47E+00	1.57E-04	2.19E-04	3.98E-03	3.34E-07	2.11E-06	2.75E-02	9.19E-06	9.19E-06	3.05E-02	10
Rubber Tired Loaders	Riverside	1.40E-01	1.97E-01	2.52E-05	7.27E-05	4.09E-04	6.32E-08	5.07E-07	6.54E-03	1.92E-06	1.48E-06	7.17E-03	2
Rubber Tired Loaders	Riverside	1.91E-02	2.68E-02	3.42E-06	9.89E-06	5.56E-05	8.60E-09	6.89E-08	8.90E-04	2.62E-07	2.01E-07	9.75E-04	0
Rubber Tired Loaders	Riverside	1.73E+00	2.43E+00	3.10E-04	8.95E-04	5.03E-03	7.78E-07	6.24E-06	8.05E-02	2.37E-05	1.82E-05	8.83E-02	28
Rubber Tired Loaders	Riverside	6.97E+00	9.79E+00	1.25E-03	3.61E-03	2.03E-02	3.14E-06	2.52E-05	3.25E-01	9.56E-05	7.33E-05	3.56E-01	112

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Tractors/Loaders/Backhoes	Riverside	7.44E-02	1.78E-01	1.37E-05	3.47E-05	2.68E-04	4.43E-08	3.55E-07	4.59E-03	1.17E-06	8.00E-07	4.96E-03	2
Tractors/Loaders/Backhoes	Riverside	1.01E-02	2.41E-02	1.86E-06	4.72E-06	3.65E-05	6.02E-09	4.83E-08	6.23E-04	1.59E-07	1.09E-07	6.75E-04	0
Tractors/Loaders/Backhoes	Riverside	9.16E-01	2.19E+00	1.69E-04	4.27E-04	3.30E-03	5.45E-07	4.37E-06	5.64E-02	1.44E-05	9.85E-06	6.11E-02	19
Tractors/Loaders/Backhoes	Riverside	3.70E+00	8.82E+00	6.80E-04	1.72E-03	1.33E-02	2.20E-06	1.76E-05	2.28E-01	5.81E-05	3.97E-05	2.47E-01	78
Skid Steer Loaders	Riverside	5.29E-02	4.62E-02	2.67E-06	2.01E-06	1.00E-04	5.07E-09	1.49E-06	1.78E-04	1.57E-07	1.57E-07	2.30E-04	0
Skid Steer Loaders	Riverside	7.19E-03	6.29E-03	3.63E-07	2.74E-07	1.36E-05	6.89E-10	2.03E-07	2.42E-05	2.13E-08	2.14E-08	3.12E-05	0
Skid Steer Loaders	Riverside	7.63E-01	6.67E-01	3.85E-05	2.90E-05	1.45E-03	7.31E-08	2.15E-05	2.56E-03	2.26E-06	2.26E-06	3.31E-03	1
Skid Steer Loaders	Riverside	2.63E+00	2.30E+00	1.33E-04	1.00E-04	4.98E-03	2.52E-07	7.40E-05	8.83E-03	7.78E-06	7.81E-06	1.14E-02	4
Skid Steer Loaders	Riverside	3.53E+00	3.09E+00	2.56E-04	1.69E-04	9.66E-03	4.09E-07	1.35E-04	1.61E-02	1.18E-05	1.51E-05	2.01E-02	6
Skid Steer Loaders	Riverside	4.81E-01	4.20E-01	3.48E-05	2.30E-05	1.31E-03	5.56E-08	1.84E-05	2.19E-03	1.61E-06	2.05E-06	2.73E-03	1
Skid Steer Loaders	Riverside	5.10E+01	4.46E+01	3.69E-03	2.43E-03	1.39E-01	5.90E-06	1.95E-03	2.33E-01	1.70E-04	2.17E-04	2.90E-01	91
Skid Steer Loaders	Riverside	1.76E+02	1.54E+02	1.27E-02	8.39E-03	4.80E-01	2.03E-05	6.72E-03	8.01E-01	5.87E-04	7.48E-04	9.99E-01	314
Skid Steer Loaders	Riverside	5.77E-01	4.90E-01	1.51E-05	2.64E-05	7.17E-04	9.56E-08	6.02E-07	7.86E-03	1.74E-06	8.89E-07	8.42E-03	3
Skid Steer Loaders	Riverside	7.84E-02	6.67E-02	2.05E-06	3.59E-06	9.75E-05	1.30E-08	8.18E-08	1.07E-03	2.36E-07	1.21E-07	1.14E-03	0
Skid Steer Loaders	Riverside	7.10E+00	6.04E+00	1.86E-04	3.25E-04	8.83E-03	1.18E-06	7.41E-06	9.67E-02	2.14E-05	1.09E-05	1.04E-01	33
Skid Steer Loaders	Riverside	2.87E+01	2.44E+01	7.51E-04	1.31E-03	3.56E-02	4.75E-06	2.99E-05	3.90E-01	8.64E-05	4.41E-05	4.18E-01	132
Skid Steer Loaders	Riverside	3.45E-01	2.93E-01	1.19E-05	4.25E-05	3.24E-04	1.12E-07	9.00E-07	1.16E-02	1.62E-06	6.97E-07	1.21E-02	4
Skid Steer Loaders	Riverside	4.69E-02	3.99E-02	1.61E-06	5.78E-06	4.41E-05	1.53E-08	1.22E-07	1.58E-03	2.20E-07	9.47E-08	1.65E-03	1
Skid Steer Loaders	Riverside	4.25E+00	3.61E+00	1.46E-04	5.23E-04	3.99E-03	1.38E-06	1.11E-05	1.43E-01	1.99E-05	8.58E-06	1.49E-01	47
Skid Steer Loaders	Riverside	1.71E+01	1.46E+01	5.88E-04	2.11E-03	1.61E-02	5.58E-06	4.47E-05	5.77E-01	8.02E-05	3.46E-05	6.03E-01	190
Dumpers/Tenders	Riverside	5.05E-01	2.06E-01	3.83E-06	1.75E-06	5.60E-05	5.53E-09	5.22E-08	1.60E-04	2.92E-07	2.25E-07	2.55E-04	0
Dumpers/Tenders	Riverside	6.86E-02	2.80E-02	5.21E-07	2.38E-07	7.62E-06	7.51E-10	7.09E-09	2.18E-05	3.97E-08	3.06E-08	3.47E-05	0
Dumpers/Tenders	Riverside	7.28E+00	2.97E+00	5.51E-05	2.52E-05	8.10E-04	7.97E-08	7.53E-07	2.31E-03	4.20E-06	3.24E-06	3.68E-03	1
Dumpers/Tenders	Riverside	2.51E+01	1.02E+01	1.90E-04	8.69E-05	2.78E-03	2.74E-07	2.59E-06	7.95E-03	1.45E-05	1.12E-05	1.27E-02	4
Dumpers/Tenders	Riverside	1.08E+00	4.40E-01	1.88E-05	7.20E-06	5.15E-04	2.19E-08	6.17E-06	7.68E-04	8.79E-07	1.11E-06	1.06E-03	0
Dumpers/Tenders	Riverside	1.46E-01	5.98E-02	2.56E-06	9.79E-07	7.00E-05	2.98E-09	8.39E-07	1.04E-04	1.20E-07	1.51E-07	1.45E-04	0
Dumpers/Tenders	Riverside	1.55E+01	6.34E+00	2.61E-04	1.05E-04	7.31E-03	3.16E-07	8.96E-05	1.11E-02	1.28E-05	1.54E-05	1.54E-02	5
Dumpers/Tenders	Riverside	5.34E+01	2.18E+01	9.36E-04	3.58E-04	2.56E-02	1.09E-06	3.07E-04	3.81E-02	4.37E-05	5.50E-05	5.28E-02	17
Dumpers/Tenders	Riverside	1.99E-01	8.15E-02	6.80E-06	2.52E-06	2.02E-04	7.62E-09	2.42E-06	3.00E-04	2.28E-07	4.00E-07	3.79E-04	0
Dumpers/Tenders	Riverside	2.71E-02	1.11E-02	9.24E-07	3.42E-07	2.74E-05	1.04E-09	3.28E-07	4.08E-05	3.10E-08	5.43E-08	5.16E-05	0
Dumpers/Tenders	Riverside	2.88E+00	1.18E+00	9.50E-05	3.70E-05	2.88E-03	1.10E-07	3.51E-05	4.33E-03	3.32E-06	5.59E-06	5.48E-03	2
Dumpers/Tenders	Riverside	9.90E+00	4.05E+00	3.38E-04	1.25E-04	1.00E-02	3.78E-07	1.20E-04	1.49E-02	1.13E-05	1.99E-05	1.88E-02	6
Dumpers/Tenders	Riverside	1.52E-02	5.30E-03	3.21E-07	1.28E-06	5.53E-06	1.18E-09	9.49E-09	1.23E-04	4.09E-08	1.89E-08	1.36E-04	0
Dumpers/Tenders	Riverside	2.07E-03	7.21E-04	4.37E-08	1.75E-07	7.52E-07	1.61E-10	1.29E-09	1.67E-05	5.56E-09	2.57E-09	1.84E-05	0
Dumpers/Tenders	Riverside	1.87E-01	6.53E-02	3.96E-06	1.58E-05	6.81E-05	1.46E-08	1.17E-07	1.51E-03	5.04E-07	2.33E-07	1.67E-03	1
Dumpers/Tenders	Riverside	7.56E-01	2.63E-01	1.60E-05	6.38E-05	2.75E-04	5.88E-08	4.71E-07	6.08E-03	2.03E-06	9.39E-07	6.73E-03	2
Other Construction Equipment	Riverside	5.92E-02	6.02E-02	1.70E-06	9.92E-06	9.54E-05	3.01E-08	2.41E-07	3.03E-03	3.61E-07	1.00E-07	3.14E-03	1
Other Construction Equipment	Riverside	8.05E-03	8.19E-03	2.31E-07	1.35E-06	1.30E-05	4.09E-09	3.28E-08	4.11E-04	4.90E-08	1.36E-08	4.27E-04	0
Other Construction Equipment	Riverside	7.29E-01	7.41E-01	2.09E-05	1.22E-04	1.17E-03	3.70E-07	2.97E-06	3.72E-02	4.44E-06	1.23E-06	3.86E-02	12
Other Construction Equipment	Riverside	2.94E+00	2.99E+00	8.45E-05	4.93E-04	4.74E-03	1.49E-06	1.20E-05	1.50E-01	1.79E-05	4.97E-06	1.56E-01	49
Pavers	Riverside	1.52E-02	3.43E-02	4.75E-07	2.74E-06	1.45E-06	4.05E-09	1.58E-07	3.19E-04	0.00E+00	4.29E-08	3.20E-04	0
Pavers	Riverside	2.07E-03	4.66E-03	6.46E-08	3.73E-07	1.97E-07	5.51E-10	2.15E-08	4.34E-05	0.00E+00	5.83E-09	4.35E-05	0
Pavers	Riverside	7.67E-01	1.73E+00	2.39E-05	1.38E-04	7.28E-05	2.04E-07	7.97E-06	1.61E-02	0.00E+00	2.16E-06	1.61E-02	5
Pavers	Riverside	1.87E-01	4.22E-01	5.84E-06	3.38E-05	1.78E-05	4.99E-08	1.95E-06	3.93E-03	0.00E+00	5.27E-07	3.94E-03	1
Pavers	Riverside	8.85E-01	2.03E+00	1.65E-04	3.15E-04	3.91E-04	3.67E-07	3.61E-05	2.84E-02	0.00E+00	1.49E-05	2.87E-02	9
Pavers	Riverside	1.20E-01	2.76E-01	2.24E-05	4.28E-05	5.32E-05	4.98E-08	4.91E-06	3.86E-03	0.00E+00	2.02E-06	3.90E-03	1
Pavers	Riverside	4.46E+01	1.02E+02	8.33E-03	1.59E-02	1.98E-02	1.85E-05	1.83E-03	1.43E+00	0.00E+00	7.52E-04	1.45E+00	456
Pavers	Riverside	1.09E+01	2.50E+01	2.03E-03	3.88E-03	4.81E-03	4.51E-06	4.44E-04	3.49E-01	0.00E+00	1.83E-04	3.53E-01	111
Pavers	Riverside	1.04E+00	2.39E+00	1.96E-04	1.16E-03	6.24E-04	9.70E-07	1.02E-04	8.27E-02	0.00E+00	1.77E-05	8.30E-02	26
Pavers	Riverside	1.42E-01	3.25E-01	2.66E-05	1.57E-04	8.48E-05	1.32E-07	1.39E-05	1.12E-02	0.00E+00	2.40E-06	1.13E-02	4
Pavers	Riverside	5.26E+01	1.21E+02	9.92E-03	5.84E-02	3.15E-02	4.89E-05	5.18E-03	4.17E+00	0.00E+00	8.95E-04	4.19E+00	1,319
Pavers	Riverside	1.28E+01	2.94E+01	2.41E-03	1.42E-02	7.68E-03	1.19E-05	1.26E-03	1.02E+00	0.00E+00	2.17E-04	1.02E+00	322

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Pavers	Riverside	6.48E-01	1.49E+00	1.52E-04	1.19E-03	5.91E-04	1.07E-06	6.71E-05	9.53E-02	0.00E+00	1.37E-05	9.55E-02	30
Pavers	Riverside	8.81E-02	2.02E-01	2.07E-05	1.62E-04	8.03E-05	1.46E-07	9.13E-06	1.29E-02	0.00E+00	1.87E-06	1.30E-02	4
Pavers	Riverside	3.27E+01	7.50E+01	7.72E-03	6.02E-02	2.98E-02	5.41E-05	3.40E-03	4.81E+00	0.00E+00	6.96E-04	4.82E+00	1,518
Pavers	Riverside	7.98E+00	1.83E+01	1.87E-03	1.46E-02	7.27E-03	1.32E-05	8.26E-04	1.17E+00	0.00E+00	1.69E-04	1.18E+00	370
Pavers	Riverside	7.81E-02	1.79E-01	2.17E-05	2.09E-04	6.26E-05	1.96E-07	8.52E-06	1.74E-02	0.00E+00	1.96E-06	1.74E-02	5
Pavers	Riverside	1.06E-02	2.43E-02	2.95E-06	2.84E-05	8.52E-06	2.66E-08	1.16E-06	2.36E-03	0.00E+00	2.66E-07	2.37E-03	1
Pavers	Riverside	3.94E+00	9.04E+00	1.09E-03	1.05E-02	3.14E-03	9.88E-06	4.27E-04	8.78E-01	0.00E+00	9.84E-05	8.80E-01	277
Pavers	Riverside	9.61E-01	2.20E+00	2.67E-04	2.57E-03	7.71E-04	2.41E-06	1.05E-04	2.14E-01	0.00E+00	2.41E-05	2.15E-01	68
Pavers	Riverside	8.02E-02	1.84E-01	2.40E-05	2.32E-04	1.07E-04	2.10E-07	9.38E-06	2.14E-02	0.00E+00	2.17E-06	2.15E-02	7
Pavers	Riverside	1.09E-02	2.50E-02	3.27E-06	3.16E-05	1.45E-05	2.86E-08	1.27E-06	2.91E-03	0.00E+00	2.95E-07	2.92E-03	1
Pavers	Riverside	4.04E+00	9.28E+00	1.21E-03	1.17E-02	5.34E-03	1.06E-05	4.70E-04	1.08E+00	0.00E+00	1.09E-04	1.08E+00	341
Pavers	Riverside	9.86E-01	2.26E+00	2.96E-04	2.86E-03	1.31E-03	2.59E-06	1.15E-04	2.63E-01	0.00E+00	2.67E-05	2.64E-01	83
Plate Compactors	Riverside	3.27E-01	5.38E-01	1.36E-06	8.52E-06	7.07E-06	1.80E-08	4.05E-07	1.16E-03	0.00E+00	1.22E-07	1.16E-03	0
Plate Compactors	Riverside	4.44E-02	7.31E-02	1.84E-07	1.16E-06	9.61E-07	2.45E-09	5.51E-08	1.57E-04	0.00E+00	1.66E-08	1.58E-04	0
Plate Compactors	Riverside	1.65E+01	2.71E+01	6.83E-05	4.29E-04	3.56E-04	9.08E-07	2.04E-05	5.84E-02	0.00E+00	6.16E-06	5.85E-02	18
Plate Compactors	Riverside	4.02E+00	6.61E+00	1.67E-05	1.05E-04	8.70E-05	2.22E-07	4.99E-06	1.43E-02	0.00E+00	1.50E-06	1.43E-02	4
Rollers	Riverside	6.14E-01	1.17E+00	4.30E-06	2.69E-05	2.26E-05	5.75E-08	1.10E-06	3.69E-03	0.00E+00	3.88E-07	3.70E-03	1
Rollers	Riverside	8.34E-02	1.59E-01	5.84E-07	3.66E-06	3.07E-06	7.81E-09	1.50E-07	5.02E-04	0.00E+00	5.27E-08	5.03E-04	0
Rollers	Riverside	3.09E+01	5.90E+01	2.17E-04	1.36E-03	1.14E-03	2.90E-06	5.56E-05	1.86E-01	0.00E+00	1.96E-05	1.87E-01	59
Rollers	Riverside	7.55E+00	1.44E+01	5.29E-05	3.31E-04	2.78E-04	7.07E-07	1.36E-05	4.54E-02	0.00E+00	4.77E-06	4.55E-02	14
Rollers	Riverside	2.57E-01	4.89E-01	4.00E-06	2.56E-05	1.35E-05	4.14E-08	1.32E-06	3.26E-03	0.00E+00	3.61E-07	3.27E-03	1
Rollers	Riverside	3.49E-02	6.65E-02	5.44E-07	3.48E-06	1.83E-06	5.62E-09	1.79E-07	4.43E-04	0.00E+00	4.91E-08	4.44E-04	0
Rollers	Riverside	1.29E+01	2.47E+01	2.02E-04	1.29E-03	6.78E-04	2.09E-06	6.66E-05	1.64E-01	0.00E+00	1.82E-05	1.65E-01	52
Rollers	Riverside	3.16E+00	6.02E+00	4.93E-05	3.15E-04	1.66E-04	5.09E-07	1.62E-05	4.01E-02	0.00E+00	4.45E-06	4.02E-02	13
Rollers	Riverside	7.98E-01	1.54E+00	9.75E-05	2.11E-04	2.43E-04	2.58E-07	2.24E-05	1.99E-02	0.00E+00	8.80E-06	2.01E-02	6
Rollers	Riverside	1.09E-01	2.09E-01	1.33E-05	2.87E-05	3.31E-05	3.50E-08	3.05E-06	2.71E-03	0.00E+00	1.20E-06	2.74E-03	1
Rollers	Riverside	4.02E+01	7.75E+01	4.93E-03	1.07E-02	1.23E-02	1.30E-05	1.13E-03	1.01E+00	0.00E+00	4.45E-04	1.01E+00	319
Rollers	Riverside	9.83E+00	1.89E+01	1.20E-03	2.60E-03	2.99E-03	3.17E-06	2.76E-04	2.45E-01	0.00E+00	1.08E-04	2.48E-01	78
Rollers	Riverside	4.29E+00	8.25E+00	4.95E-04	3.04E-03	1.72E-03	2.85E-06	2.65E-04	2.43E-01	0.00E+00	4.47E-05	2.44E-01	77
Rollers	Riverside	5.83E-01	1.12E+00	6.73E-05	4.14E-04	2.34E-04	3.88E-07	3.60E-05	3.30E-02	0.00E+00	6.08E-06	3.32E-02	10
Rollers	Riverside	2.16E+02	4.16E+02	2.51E-02	1.53E-01	8.68E-02	1.44E-04	1.34E-02	1.23E+01	0.00E+00	2.26E-03	1.23E+01	3,873
Rollers	Riverside	5.27E+01	1.01E+02	6.10E-03	3.74E-02	2.12E-02	3.51E-05	3.26E-03	2.99E+00	0.00E+00	5.50E-04	3.00E+00	945
Rollers	Riverside	1.72E+00	3.32E+00	2.45E-04	1.99E-03	1.04E-03	2.02E-06	1.09E-04	1.79E-01	0.00E+00	2.21E-05	1.80E-01	57
Rollers	Riverside	2.34E-01	4.51E-01	3.33E-05	2.71E-04	1.41E-04	2.74E-07	1.48E-05	2.44E-02	0.00E+00	3.01E-06	2.44E-02	8
Rollers	Riverside	8.69E+01	1.67E+02	1.24E-02	1.01E-01	5.24E-02	1.02E-04	5.53E-03	9.03E+00	0.00E+00	1.12E-03	9.06E+00	2,851
Rollers	Riverside	2.12E+01	4.08E+01	3.02E-03	2.45E-02	1.28E-02	2.48E-05	1.34E-03	2.20E+00	0.00E+00	2.72E-04	2.21E+00	696
Rollers	Riverside	2.45E-01	4.70E-01	3.62E-05	3.82E-04	1.07E-04	4.05E-07	1.42E-05	3.60E-02	0.00E+00	3.27E-06	3.60E-02	11
Rollers	Riverside	3.32E-02	6.40E-02	4.92E-06	5.19E-05	1.45E-05	5.50E-08	1.92E-06	4.89E-03	0.00E+00	4.44E-07	4.90E-03	2
Rollers	Riverside	1.23E+01	2.37E+01	1.82E-03	1.93E-02	5.35E-03	2.04E-05	7.11E-04	1.81E+00	0.00E+00	1.64E-04	1.82E+00	572
Rollers	Riverside	3.01E+00	5.79E+00	4.46E-04	4.70E-03	1.31E-03	4.98E-06	1.74E-04	4.43E-01	0.00E+00	4.02E-05	4.44E-01	140
Rollers	Riverside	1.71E-01	3.30E-01	3.27E-05	3.44E-04	1.28E-04	3.54E-07	1.29E-05	3.61E-02	0.00E+00	2.95E-06	3.62E-02	11
Rollers	Riverside	2.33E-02	4.48E-02	4.45E-06	4.68E-05	1.74E-05	4.82E-08	1.75E-06	4.91E-03	0.00E+00	4.01E-07	4.92E-03	2
Rollers	Riverside	8.64E+00	1.66E+01	1.64E-03	1.73E-02	6.41E-03	1.79E-05	6.47E-04	1.82E+00	0.00E+00	1.48E-04	1.82E+00	574
Rollers	Riverside	2.11E+00	4.06E+00	4.03E-04	4.23E-03	1.58E-03	4.36E-06	1.59E-04	4.44E-01	0.00E+00	3.63E-05	4.45E-01	140
Scrapers	Riverside	3.96E-02	1.21E-01	1.35E-05	7.89E-05	4.34E-05	6.67E-08	7.13E-06	5.68E-03	0.00E+00	1.22E-06	5.71E-03	2
Scrapers	Riverside	5.38E-03	1.65E-02	1.84E-06	1.07E-05	5.90E-06	9.06E-09	9.70E-07	7.72E-04	0.00E+00	1.66E-07	7.76E-04	0
Scrapers	Riverside	1.99E+00	6.12E+00	6.87E-04	3.98E-03	2.19E-03	3.37E-06	3.62E-04	2.87E-01	0.00E+00	6.20E-05	2.88E-01	91
Scrapers	Riverside	4.87E-01	1.49E+00	1.67E-04	9.71E-04	5.34E-04	8.20E-07	8.78E-05	6.99E-02	0.00E+00	1.50E-05	7.02E-02	22
Scrapers	Riverside	3.62E-01	1.11E+00	1.33E-04	1.01E-03	5.15E-04	9.23E-07	5.84E-05	8.20E-02	0.00E+00	1.20E-05	8.23E-02	26
Scrapers	Riverside	4.92E-02	1.51E-01	1.80E-05	1.38E-04	7.00E-05	1.25E-07	7.94E-06	1.12E-02	0.00E+00	1.63E-06	1.12E-02	4
Scrapers	Riverside	1.83E+01	5.60E+01	6.73E-03	5.13E-02	2.60E-02	4.66E-05	2.97E-03	4.14E+00	0.00E+00	6.07E-04	4.15E+00	1,308
Scrapers	Riverside	4.46E+00	1.36E+01	1.63E-03	1.25E-02	6.33E-03	1.14E-05	7.19E-04	1.01E+00	0.00E+00	1.47E-04	1.01E+00	319

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Scrapers	Riverside	3.53E-01	1.08E+00	1.41E-04	1.34E-03	3.97E-04	1.27E-06	5.43E-05	1.13E-01	0.00E+00	1.27E-05	1.13E-01	36
Scrapers	Riverside	4.80E-02	1.47E-01	1.92E-05	1.82E-04	5.40E-05	1.73E-07	7.38E-06	1.54E-02	0.00E+00	1.73E-06	1.54E-02	5
Scrapers	Riverside	1.78E+01	5.46E+01	7.11E-03	6.78E-02	1.99E-02	6.43E-05	2.73E-03	5.71E+00	0.00E+00	6.42E-04	5.72E+00	1,802
Scrapers	Riverside	4.34E+00	1.33E+01	1.74E-03	1.65E-02	4.89E-03	1.57E-05	6.68E-04	1.39E+00	0.00E+00	1.57E-04	1.40E+00	439
Scrapers	Riverside	9.72E-01	2.98E+00	5.42E-04	5.09E-03	2.25E-03	4.69E-06	2.06E-04	4.78E-01	0.00E+00	4.89E-05	4.79E-01	151
Scrapers	Riverside	1.32E-01	4.05E-01	7.37E-05	6.92E-04	3.06E-04	6.38E-07	2.80E-05	6.50E-02	0.00E+00	6.65E-06	6.51E-02	20
Scrapers	Riverside	4.90E+01	1.50E+02	2.73E-02	2.56E-01	1.13E-01	2.37E-04	1.03E-02	2.41E+01	0.00E+00	2.46E-03	2.42E+01	7,610
Scrapers	Riverside	1.20E+01	3.66E+01	6.67E-03	6.26E-02	2.77E-02	5.77E-05	2.53E-03	5.88E+00	0.00E+00	6.02E-04	5.89E+00	1,855
Scrapers	Riverside	6.55E-02	2.01E-01	6.35E-05	6.05E-04	2.62E-04	5.59E-07	2.42E-05	5.56E-02	0.00E+00	5.73E-06	5.58E-02	18
Scrapers	Riverside	8.85E-03	2.71E-02	8.57E-06	8.17E-05	3.54E-05	7.56E-08	3.27E-06	7.52E-03	0.00E+00	7.73E-07	7.53E-03	2
Scrapers	Riverside	3.30E+00	1.01E+01	3.20E-03	3.06E-02	1.31E-02	2.83E-05	1.22E-03	2.81E+00	0.00E+00	2.88E-04	2.82E+00	887
Scrapers	Riverside	8.07E-01	2.47E+00	7.81E-04	7.44E-03	3.23E-03	6.89E-06	2.98E-04	6.85E-01	0.00E+00	7.05E-05	6.86E-01	216
Paving Equipment	Riverside	2.64E-02	6.00E-02	4.65E-07	2.97E-06	1.56E-06	4.80E-09	1.53E-07	3.78E-04	0.00E+00	4.19E-08	3.79E-04	0
Paving Equipment	Riverside	3.59E-03	8.15E-03	6.32E-08	4.04E-07	2.12E-07	6.52E-10	2.08E-08	5.14E-05	0.00E+00	5.70E-09	5.15E-05	0
Paving Equipment	Riverside	1.33E+00	3.02E+00	2.34E-05	1.50E-04	7.87E-05	2.42E-07	7.72E-06	1.91E-02	0.00E+00	2.11E-06	1.91E-02	6
Paving Equipment	Riverside	3.25E-01	7.38E-01	5.72E-06	3.66E-05	1.92E-05	5.91E-08	1.88E-06	4.65E-03	0.00E+00	5.16E-07	4.67E-03	1
Paving Equipment	Riverside	2.23E-02	5.13E-02	3.54E-06	6.79E-06	8.39E-06	7.92E-09	7.77E-07	6.13E-04	0.00E+00	3.20E-07	6.19E-04	0
Paving Equipment	Riverside	3.03E-03	6.97E-03	4.82E-07	9.24E-07	1.14E-06	1.08E-09	1.06E-07	8.33E-05	0.00E+00	4.35E-08	8.42E-05	0
Paving Equipment	Riverside	1.12E+00	2.59E+00	1.79E-04	3.43E-04	4.23E-04	3.99E-07	3.93E-05	3.09E-02	0.00E+00	1.62E-05	3.12E-02	10
Paving Equipment	Riverside	2.75E-01	6.31E-01	4.36E-05	8.36E-05	1.03E-04	9.75E-08	9.56E-06	7.54E-03	0.00E+00	3.94E-06	7.62E-03	2
Paving Equipment	Riverside	3.22E-01	7.39E-01	4.73E-05	2.80E-04	1.51E-04	2.36E-07	2.47E-05	2.01E-02	0.00E+00	4.27E-06	2.02E-02	6
Paving Equipment	Riverside	4.37E-02	1.00E-01	6.43E-06	3.81E-05	2.05E-05	3.21E-08	3.35E-06	2.73E-03	0.00E+00	5.80E-07	2.75E-03	1
Paving Equipment	Riverside	1.62E+01	3.73E+01	2.39E-03	1.41E-02	7.60E-03	1.19E-05	1.25E-03	1.01E+00	0.00E+00	2.16E-04	1.02E+00	321
Paving Equipment	Riverside	3.96E+00	9.09E+00	5.82E-04	3.45E-03	1.85E-03	2.90E-06	3.04E-04	2.47E-01	0.00E+00	5.25E-05	2.49E-01	78
Paving Equipment	Riverside	1.51E-01	3.47E-01	2.77E-05	2.18E-04	1.08E-04	1.97E-07	1.22E-05	1.75E-02	0.00E+00	2.50E-06	1.76E-02	6
Paving Equipment	Riverside	2.06E-02	4.72E-02	3.77E-06	2.97E-05	1.46E-05	2.68E-08	1.66E-06	2.38E-03	0.00E+00	3.40E-07	2.39E-03	1
Paving Equipment	Riverside	7.62E+00	1.75E+01	1.40E-03	1.10E-02	5.43E-03	9.94E-06	6.18E-04	8.84E-01	0.00E+00	1.27E-04	8.86E-01	279
Paving Equipment	Riverside	1.86E+00	4.27E+00	3.41E-04	2.68E-03	1.32E-03	2.43E-06	1.50E-04	2.16E-01	0.00E+00	3.08E-05	2.16E-01	68
Paving Equipment	Riverside	4.26E-02	9.79E-02	7.36E-06	7.15E-05	2.13E-05	6.73E-08	2.89E-06	5.98E-03	0.00E+00	6.64E-07	5.99E-03	2
Paving Equipment	Riverside	5.79E-03	1.33E-02	1.00E-06	9.72E-06	2.90E-06	9.14E-09	3.93E-07	8.13E-04	0.00E+00	9.02E-08	8.15E-04	0
Paving Equipment	Riverside	2.15E+00	4.94E+00	3.70E-04	3.61E-03	1.07E-03	3.39E-06	1.45E-04	3.02E-01	0.00E+00	3.34E-05	3.02E-01	95
Paving Equipment	Riverside	5.24E-01	1.20E+00	9.05E-05	8.79E-04	2.62E-04	8.28E-07	3.56E-05	7.36E-02	0.00E+00	8.17E-06	7.37E-02	23
Surfacing Equipment	Riverside	2.03E-02	2.52E-02	7.43E-07	1.83E-06	1.92E-06	2.30E-09	1.79E-07	1.78E-04	0.00E+00	6.70E-08	1.79E-04	0
Surfacing Equipment	Riverside	2.76E-03	3.43E-03	1.01E-07	2.48E-07	2.60E-07	3.12E-10	2.43E-08	2.42E-05	0.00E+00	9.11E-09	2.43E-05	0
Surfacing Equipment	Riverside	1.02E+00	1.27E+00	3.76E-05	9.21E-05	9.66E-05	1.16E-07	9.05E-06	8.97E-03	0.00E+00	3.39E-06	9.04E-03	3
Surfacing Equipment	Riverside	2.50E-01	3.10E-01	9.14E-06	2.25E-05	2.36E-05	2.83E-08	2.20E-06	2.19E-03	0.00E+00	8.25E-07	2.20E-03	1
Surfacing Equipment	Riverside	4.06E-03	5.04E-03	3.01E-07	1.94E-06	1.09E-06	1.88E-09	1.57E-07	1.61E-04	0.00E+00	2.71E-08	1.61E-04	0
Surfacing Equipment	Riverside	5.52E-04	6.86E-04	4.09E-08	2.63E-07	1.48E-07	2.56E-10	2.14E-08	2.18E-05	0.00E+00	3.69E-09	2.19E-05	0
Surfacing Equipment	Riverside	2.05E-01	2.54E-01	1.52E-05	9.77E-05	5.51E-05	9.51E-08	7.98E-06	8.11E-03	0.00E+00	1.38E-06	8.13E-03	3
Surfacing Equipment	Riverside	4.99E-02	6.21E-02	3.70E-06	2.38E-05	1.34E-05	2.32E-08	1.94E-06	1.98E-03	0.00E+00	3.34E-07	1.98E-03	1
Surfacing Equipment	Riverside	3.04E-03	3.78E-03	2.03E-07	1.73E-06	9.04E-07	1.82E-09	8.93E-08	1.62E-04	0.00E+00	1.83E-08	1.62E-04	0
Surfacing Equipment	Riverside	4.14E-04	5.14E-04	2.75E-08	2.36E-07	1.23E-07	2.48E-10	1.21E-08	2.20E-05	0.00E+00	2.48E-09	2.21E-05	0
Surfacing Equipment	Riverside	1.53E-01	1.91E-01	1.03E-05	8.77E-05	4.56E-05	9.20E-08	4.53E-06	8.18E-03	0.00E+00	9.27E-07	8.20E-03	3
Surfacing Equipment	Riverside	3.75E-02	4.65E-02	2.49E-06	2.13E-05	1.11E-05	2.24E-08	1.10E-06	1.99E-03	0.00E+00	2.25E-07	2.00E-03	1
Surfacing Equipment	Riverside	6.09E-03	7.56E-03	4.74E-07	5.21E-06	1.47E-06	5.73E-09	1.87E-07	5.10E-04	0.00E+00	4.27E-08	5.11E-04	0
Surfacing Equipment	Riverside	8.28E-04	1.03E-03	6.44E-08	7.08E-07	1.99E-07	7.80E-10	2.54E-08	6.93E-05	0.00E+00	5.81E-09	6.94E-05	0
Surfacing Equipment	Riverside	3.07E-01	3.82E-01	2.39E-05	2.63E-04	7.35E-05	2.89E-07	9.38E-06	2.57E-02	0.00E+00	2.15E-06	2.58E-02	8
Surfacing Equipment	Riverside	7.49E-02	9.31E-02	5.83E-06	6.41E-05	1.80E-05	7.06E-08	2.30E-06	6.27E-03	0.00E+00	5.26E-07	6.28E-03	2
Surfacing Equipment	Riverside	5.07E-02	6.30E-02	5.83E-06	6.46E-05	2.45E-05	6.84E-08	2.33E-06	6.97E-03	0.00E+00	5.26E-07	6.98E-03	2
Surfacing Equipment	Riverside	6.90E-03	8.57E-03	7.93E-07	8.78E-06	3.33E-06	9.29E-09	3.17E-07	9.47E-04	0.00E+00	7.15E-08	9.48E-04	0
Surfacing Equipment	Riverside	2.56E+00	3.18E+00	2.93E-04	3.26E-03	1.23E-03	3.45E-06	1.17E-04	3.51E-01	0.00E+00	2.64E-05	3.52E-01	111
Surfacing Equipment	Riverside	6.24E-01	7.76E-01	7.18E-05	7.95E-04	3.01E-04	8.41E-07	2.87E-05	8.57E-02	0.00E+00	6.48E-06	8.59E-02	27

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Surfacing Equipment	Riverside	1.25E-02	1.56E-02	2.30E-06	2.56E-05	9.48E-06	2.71E-08	9.13E-07	2.70E-03	0.00E+00	2.08E-07	2.70E-03	1
Surfacing Equipment	Riverside	1.69E-03	2.10E-03	3.11E-07	3.45E-06	1.28E-06	3.66E-09	1.23E-07	3.64E-04	0.00E+00	2.80E-08	3.65E-04	0
Surfacing Equipment	Riverside	6.31E-01	7.85E-01	1.16E-04	1.29E-03	4.75E-04	1.37E-06	4.59E-05	1.36E-01	0.00E+00	1.05E-05	1.36E-01	43
Surfacing Equipment	Riverside	1.54E-01	1.92E-01	2.83E-05	3.15E-04	1.17E-04	3.34E-07	1.12E-05	3.32E-02	0.00E+00	2.56E-06	3.33E-02	10
Signal Boards	Riverside	2.86E+00	5.87E+00	2.11E-05	1.32E-04	1.11E-04	2.82E-07	4.94E-06	1.81E-02	0.00E+00	1.90E-06	1.81E-02	6
Signal Boards	Riverside	3.88E-01	7.98E-01	2.86E-06	1.79E-05	1.50E-05	3.83E-08	6.72E-07	2.46E-03	0.00E+00	2.58E-07	2.47E-03	1
Signal Boards	Riverside	1.44E+02	2.96E+02	1.06E-03	6.65E-03	5.57E-03	1.42E-05	2.49E-04	9.12E-01	0.00E+00	9.58E-05	9.14E-01	288
Signal Boards	Riverside	3.51E+01	7.23E+01	2.59E-04	1.62E-03	1.36E-03	3.47E-06	6.08E-05	2.23E-01	0.00E+00	2.34E-05	2.23E-01	70
Signal Boards	Riverside	1.42E-02	2.08E-02	1.55E-06	3.84E-06	3.98E-06	4.87E-09	3.79E-07	3.77E-04	0.00E+00	1.40E-07	3.80E-04	0
Signal Boards	Riverside	1.93E-03	2.83E-03	2.11E-07	5.22E-07	5.42E-07	6.62E-10	5.15E-08	5.12E-05	0.00E+00	1.91E-08	5.16E-05	0
Signal Boards	Riverside	7.16E-01	1.05E+00	7.85E-05	1.93E-04	2.01E-04	2.45E-07	1.91E-05	1.90E-02	0.00E+00	7.08E-06	1.91E-02	6
Signal Boards	Riverside	1.75E-01	2.56E-01	1.91E-05	4.72E-05	4.90E-05	5.99E-08	4.66E-06	4.64E-03	0.00E+00	1.73E-06	4.67E-03	1
Signal Boards	Riverside	2.32E-01	3.41E-01	2.55E-05	1.61E-04	9.16E-05	1.60E-07	1.35E-05	1.37E-02	0.00E+00	2.30E-06	1.37E-02	4
Signal Boards	Riverside	3.16E-02	4.63E-02	3.46E-06	2.19E-05	1.25E-05	2.18E-08	1.83E-06	1.86E-03	0.00E+00	3.12E-07	1.86E-03	1
Signal Boards	Riverside	1.17E+01	1.72E+01	1.29E-03	8.11E-03	4.62E-03	8.07E-06	6.82E-04	6.88E-01	0.00E+00	1.16E-04	6.91E-01	217
Signal Boards	Riverside	2.86E+00	4.19E+00	3.13E-04	1.98E-03	1.13E-03	1.97E-06	1.66E-04	1.68E-01	0.00E+00	2.83E-05	1.69E-01	53
Signal Boards	Riverside	1.44E-01	2.11E-01	2.02E-05	1.71E-04	8.91E-05	1.84E-07	8.94E-06	1.63E-02	0.00E+00	1.82E-06	1.64E-02	5
Signal Boards	Riverside	1.96E-02	2.87E-02	2.74E-06	2.33E-05	1.21E-05	2.50E-08	1.22E-06	2.22E-03	0.00E+00	2.47E-07	2.22E-03	1
Signal Boards	Riverside	7.26E+00	1.07E+01	1.02E-03	8.64E-03	4.49E-03	9.25E-06	4.52E-04	8.22E-01	0.00E+00	9.21E-05	8.24E-01	259
Signal Boards	Riverside	1.77E+00	2.60E+00	2.48E-04	2.11E-03	1.10E-03	2.26E-06	1.10E-04	2.01E-01	0.00E+00	2.24E-05	2.01E-01	63
Signal Boards	Riverside	3.04E-02	4.47E-02	4.57E-06	5.60E-05	1.37E-05	6.41E-08	1.76E-06	5.69E-03	0.00E+00	4.12E-07	5.70E-03	2
Signal Boards	Riverside	4.14E-03	6.07E-03	6.21E-07	7.61E-06	1.86E-06	8.71E-09	2.39E-07	7.74E-04	0.00E+00	5.61E-08	7.75E-04	0
Signal Boards	Riverside	1.53E+00	2.25E+00	2.30E-04	2.83E-03	6.87E-04	3.23E-06	8.84E-05	2.87E-01	0.00E+00	2.08E-05	2.87E-01	90
Signal Boards	Riverside	3.75E-01	5.49E-01	5.62E-05	6.89E-04	1.68E-04	7.88E-07	2.16E-05	7.01E-02	0.00E+00	5.07E-06	7.02E-02	22
Trenchers	Riverside	7.61E-02	1.29E-01	6.35E-07	3.97E-06	3.33E-06	8.48E-09	1.49E-07	5.45E-04	0.00E+00	5.73E-08	5.46E-04	0
Trenchers	Riverside	1.03E-02	1.75E-02	8.63E-08	5.40E-07	4.53E-07	1.15E-09	2.02E-08	7.41E-05	0.00E+00	7.79E-09	7.43E-05	0
Trenchers	Riverside	3.84E+00	6.50E+00	3.20E-05	2.00E-04	1.68E-04	4.28E-07	7.51E-06	2.75E-02	0.00E+00	2.89E-06	2.75E-02	9
Trenchers	Riverside	9.36E-01	1.59E+00	7.81E-06	4.89E-05	4.10E-05	1.04E-07	1.83E-06	6.71E-03	0.00E+00	7.05E-07	6.72E-03	2
Trenchers	Riverside	8.02E-02	1.36E-01	2.72E-06	1.73E-05	9.20E-06	2.83E-08	8.50E-07	2.23E-03	0.00E+00	2.45E-07	2.24E-03	1
Trenchers	Riverside	1.09E-02	1.85E-02	3.69E-07	2.36E-06	1.25E-06	3.85E-09	1.15E-07	3.04E-04	0.00E+00	3.33E-08	3.04E-04	0
Trenchers	Riverside	4.04E+00	6.85E+00	1.37E-04	8.74E-04	4.64E-04	1.43E-06	4.29E-05	1.13E-01	0.00E+00	1.24E-05	1.13E-01	36
Trenchers	Riverside	9.86E-01	1.67E+00	3.34E-05	2.13E-04	1.13E-04	3.49E-07	1.05E-05	2.75E-02	0.00E+00	3.02E-06	2.75E-02	9
Trenchers	Riverside	3.05E+00	5.30E+00	4.86E-04	9.58E-04	1.16E-03	1.13E-06	1.07E-04	8.71E-02	0.00E+00	4.39E-05	8.81E-02	28
Trenchers	Riverside	4.15E-01	7.20E-01	6.61E-05	1.30E-04	1.57E-04	1.53E-07	1.46E-05	1.18E-02	0.00E+00	5.97E-06	1.20E-02	4
Trenchers	Riverside	1.54E+02	2.68E+02	2.46E-02	4.83E-02	5.83E-02	5.69E-05	5.42E-03	4.40E+00	0.00E+00	2.22E-03	4.45E+00	1,400
Trenchers	Riverside	3.75E+01	6.52E+01	5.99E-03	1.18E-02	1.42E-02	1.39E-05	1.32E-03	1.07E+00	0.00E+00	5.40E-04	1.08E+00	341
Trenchers	Riverside	4.13E+00	7.18E+00	5.42E-04	3.26E-03	1.74E-03	2.73E-06	2.79E-04	2.33E-01	0.00E+00	4.89E-05	2.34E-01	74
Trenchers	Riverside	5.62E-01	9.76E-01	7.36E-05	4.43E-04	2.36E-04	3.71E-07	3.79E-05	3.16E-02	0.00E+00	6.64E-06	3.18E-02	10
Trenchers	Riverside	2.08E+02	3.63E+02	2.74E-02	1.64E-01	8.76E-02	1.38E-04	1.41E-02	1.18E+01	0.00E+00	2.47E-03	1.18E+01	3,717
Trenchers	Riverside	5.09E+01	8.84E+01	6.66E-03	4.01E-02	2.14E-02	3.36E-05	3.43E-03	2.86E+00	0.00E+00	6.01E-04	2.88E+00	906
Trenchers	Riverside	4.53E-01	7.86E-01	8.86E-05	7.06E-04	3.47E-04	6.36E-07	3.89E-05	5.65E-02	0.00E+00	7.99E-06	5.67E-02	18
Trenchers	Riverside	6.15E-02	1.07E-01	1.20E-05	9.59E-05	4.72E-05	8.64E-08	5.29E-06	7.68E-03	0.00E+00	1.09E-06	7.70E-03	2
Trenchers	Riverside	2.28E+01	3.97E+01	4.49E-03	3.57E-02	1.75E-02	3.21E-05	1.97E-03	2.85E+00	0.00E+00	4.05E-04	2.86E+00	901
Trenchers	Riverside	5.57E+00	9.67E+00	1.09E-03	8.68E-03	4.27E-03	7.82E-06	4.79E-04	6.95E-01	0.00E+00	9.83E-05	6.97E-01	219
Trenchers	Riverside	4.06E-02	7.05E-02	9.74E-06	9.44E-05	2.87E-05	8.83E-08	3.88E-06	7.85E-03	0.00E+00	8.79E-07	7.87E-03	2
Trenchers	Riverside	5.52E-03	9.58E-03	1.32E-06	1.28E-05	3.90E-06	1.20E-08	5.27E-07	1.07E-03	0.00E+00	1.20E-07	1.07E-03	0
Trenchers	Riverside	2.05E+00	3.56E+00	4.90E-04	4.77E-03	1.44E-03	4.46E-06	1.94E-04	3.96E-01	0.00E+00	4.42E-05	3.97E-01	125
Trenchers	Riverside	4.99E-01	8.67E-01	1.20E-04	1.16E-03	3.53E-04	1.09E-06	4.77E-05	9.66E-02	0.00E+00	1.08E-05	9.68E-02	30
Trenchers	Riverside	5.17E-02	8.99E-02	1.55E-05	1.53E-04	7.32E-05	1.37E-07	6.16E-06	1.40E-02	0.00E+00	1.40E-06	1.40E-02	4
Trenchers	Riverside	7.03E-03	1.22E-02	2.11E-06	2.07E-05	9.96E-06	1.86E-08	8.37E-07	1.90E-03	0.00E+00	1.91E-07	1.90E-03	1
Trenchers	Riverside	2.61E+00	4.54E+00	7.80E-04	7.68E-03	3.66E-03	6.93E-06	3.08E-04	7.06E-01	0.00E+00	7.04E-05	7.07E-01	223
Trenchers	Riverside	6.37E-01	1.11E+00	1.91E-04	1.88E-03	9.01E-04	1.69E-06	7.57E-05	1.72E-01	0.00E+00	1.73E-05	1.72E-01	54

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Trenchers	Riverside	2.50E-03	4.35E-03	1.43E-06	1.42E-05	6.68E-06	1.28E-08	5.66E-07	1.27E-03	0.00E+00	1.29E-07	1.28E-03	0
Trenchers	Riverside	3.38E-04	5.87E-04	1.93E-07	1.91E-06	9.02E-07	1.73E-09	7.65E-08	1.72E-04	0.00E+00	1.75E-08	1.73E-04	0
Trenchers	Riverside	1.26E-01	2.20E-01	7.21E-05	7.16E-04	3.34E-04	6.48E-07	2.84E-05	6.44E-02	0.00E+00	6.50E-06	6.46E-02	20
Trenchers	Riverside	3.08E-02	5.35E-02	1.76E-05	1.74E-04	8.23E-05	1.58E-07	6.97E-06	1.57E-02	0.00E+00	1.59E-06	1.57E-02	5
Bore/Drill Rigs	Riverside	1.01E-02	2.26E-02	1.36E-07	8.50E-07	7.12E-07	1.81E-09	3.48E-08	1.17E-04	0.00E+00	1.22E-08	1.17E-04	0
Bore/Drill Rigs	Riverside	1.38E-03	3.07E-03	1.85E-08	1.16E-07	9.68E-08	2.47E-10	4.73E-09	1.59E-05	0.00E+00	1.66E-09	1.59E-05	0
Bore/Drill Rigs	Riverside	5.11E-01	1.14E+00	6.84E-06	4.28E-05	3.59E-05	9.14E-08	1.76E-06	5.88E-03	0.00E+00	6.17E-07	5.89E-03	2
Bore/Drill Rigs	Riverside	1.25E-01	2.78E-01	1.67E-06	1.05E-05	8.76E-06	2.23E-08	4.28E-07	1.43E-03	0.00E+00	1.51E-07	1.44E-03	0
Bore/Drill Rigs	Riverside	3.04E-02	6.77E-02	6.64E-07	4.25E-06	2.23E-06	6.86E-09	2.19E-07	5.41E-04	0.00E+00	5.99E-08	5.42E-04	0
Bore/Drill Rigs	Riverside	4.14E-03	9.20E-03	9.03E-08	5.78E-07	3.03E-07	9.32E-10	2.97E-08	7.35E-05	0.00E+00	8.14E-09	7.37E-05	0
Bore/Drill Rigs	Riverside	1.53E+00	3.41E+00	3.35E-05	2.14E-04	1.12E-04	3.46E-07	1.10E-05	2.72E-02	0.00E+00	3.02E-06	2.73E-02	9
Bore/Drill Rigs	Riverside	3.75E-01	8.33E-01	8.17E-06	5.23E-05	2.75E-05	8.44E-08	2.69E-06	6.65E-03	0.00E+00	7.37E-07	6.67E-03	2
Bore/Drill Rigs	Riverside	1.33E-01	3.06E-01	8.35E-06	4.31E-05	3.83E-05	6.14E-08	2.97E-06	4.75E-03	0.00E+00	7.53E-07	4.76E-03	1
Bore/Drill Rigs	Riverside	1.81E-02	4.16E-02	1.13E-06	5.86E-06	5.21E-06	8.34E-09	4.03E-07	6.45E-04	0.00E+00	1.02E-07	6.47E-04	0
Bore/Drill Rigs	Riverside	6.70E+00	1.54E+01	4.22E-04	2.16E-03	1.93E-03	3.08E-06	1.49E-04	2.38E-01	0.00E+00	3.81E-05	2.39E-01	75
Bore/Drill Rigs	Riverside	1.64E+00	3.77E+00	1.03E-04	5.31E-04	4.72E-04	7.55E-07	3.65E-05	5.84E-02	0.00E+00	9.27E-06	5.86E-02	18
Bore/Drill Rigs	Riverside	4.08E-01	9.40E-01	3.40E-05	2.89E-04	2.26E-04	4.25E-07	2.14E-05	3.62E-02	0.00E+00	3.06E-06	3.63E-02	11
Bore/Drill Rigs	Riverside	5.54E-02	1.28E-01	4.62E-06	3.93E-05	3.07E-05	5.77E-08	2.91E-06	4.92E-03	0.00E+00	4.16E-07	4.93E-03	2
Bore/Drill Rigs	Riverside	2.06E+01	4.71E+01	1.71E-03	1.45E-02	1.13E-02	2.13E-05	1.08E-03	1.82E+00	0.00E+00	1.55E-04	1.82E+00	572
Bore/Drill Rigs	Riverside	5.02E+00	1.16E+01	4.18E-04	3.56E-03	2.78E-03	5.23E-06	2.63E-04	4.45E-01	0.00E+00	3.77E-05	4.46E-01	140
Bore/Drill Rigs	Riverside	9.44E-02	2.17E-01	1.01E-05	9.94E-05	8.19E-05	1.72E-07	5.23E-06	1.53E-02	0.00E+00	9.12E-07	1.53E-02	5
Bore/Drill Rigs	Riverside	1.28E-02	2.95E-02	1.37E-06	1.35E-05	1.11E-05	2.34E-08	7.11E-07	2.08E-03	0.00E+00	1.24E-07	2.08E-03	1
Bore/Drill Rigs	Riverside	4.76E+00	1.09E+01	5.10E-04	5.00E-03	4.11E-03	8.64E-06	2.64E-04	7.68E-01	0.00E+00	4.60E-05	7.69E-01	242
Bore/Drill Rigs	Riverside	1.16E+00	2.67E+00	1.24E-04	1.22E-03	1.01E-03	2.12E-06	6.44E-05	1.89E-01	0.00E+00	1.12E-05	1.89E-01	59
Bore/Drill Rigs	Riverside	8.12E-02	1.87E-01	8.94E-06	1.11E-04	3.23E-05	1.98E-07	3.59E-06	1.76E-02	0.00E+00	8.07E-07	1.76E-02	6
Bore/Drill Rigs	Riverside	1.10E-02	2.54E-02	1.22E-06	1.51E-05	4.39E-06	2.69E-08	4.88E-07	2.39E-03	0.00E+00	1.10E-07	2.39E-03	1
Bore/Drill Rigs	Riverside	4.09E+00	9.38E+00	4.49E-04	5.57E-03	1.62E-03	9.91E-06	1.80E-04	8.81E-01	0.00E+00	4.05E-05	8.82E-01	278
Bore/Drill Rigs	Riverside	9.99E-01	2.30E+00	1.10E-04	1.36E-03	3.98E-04	2.43E-06	4.42E-05	2.16E-01	0.00E+00	9.92E-06	2.16E-01	68
Bore/Drill Rigs	Riverside	1.81E-01	4.16E-01	3.09E-05	3.55E-04	1.16E-04	6.35E-07	1.28E-05	6.47E-02	0.00E+00	2.79E-06	6.48E-02	20
Bore/Drill Rigs	Riverside	2.45E-02	5.66E-02	4.21E-06	4.82E-05	1.57E-05	8.63E-08	1.73E-06	8.79E-03	0.00E+00	3.80E-07	8.80E-03	3
Bore/Drill Rigs	Riverside	9.10E+00	2.09E+01	1.55E-03	1.78E-02	5.80E-03	3.18E-05	6.40E-04	3.24E+00	0.00E+00	1.40E-04	3.25E+00	1,022
Bore/Drill Rigs	Riverside	2.22E+00	5.12E+00	3.81E-04	4.36E-03	1.42E-03	7.81E-06	1.57E-04	7.96E-01	0.00E+00	3.44E-05	7.97E-01	251
Bore/Drill Rigs	Riverside	3.88E-02	8.94E-02	1.34E-05	1.55E-04	4.91E-05	2.76E-07	5.50E-06	2.75E-02	0.00E+00	1.21E-06	2.75E-02	9
Bore/Drill Rigs	Riverside	5.24E-03	1.21E-02	1.81E-06	2.10E-05	6.63E-06	3.73E-08	7.42E-07	3.71E-03	0.00E+00	1.63E-07	3.71E-03	1
Bore/Drill Rigs	Riverside	1.96E+00	4.49E+00	6.73E-04	7.82E-03	2.46E-03	1.39E-05	2.76E-04	1.38E+00	0.00E+00	6.07E-05	1.38E+00	434
Bore/Drill Rigs	Riverside	4.78E-01	1.10E+00	1.65E-04	1.91E-03	6.05E-04	3.40E-06	6.76E-05	3.38E-01	0.00E+00	1.49E-05	3.39E-01	107
Bore/Drill Rigs	Riverside	6.51E-02	1.50E-01	4.01E-05	6.22E-04	1.28E-04	6.99E-07	1.56E-05	6.95E-02	0.00E+00	3.62E-06	6.96E-02	22
Bore/Drill Rigs	Riverside	8.79E-03	2.02E-02	5.42E-06	8.40E-05	1.73E-05	9.44E-08	2.10E-06	9.38E-03	0.00E+00	4.89E-07	9.39E-03	3
Bore/Drill Rigs	Riverside	3.28E+00	7.52E+00	2.01E-03	3.12E-02	6.41E-03	3.50E-05	7.81E-04	3.49E+00	0.00E+00	1.82E-04	3.49E+00	1,098
Bore/Drill Rigs	Riverside	8.01E-01	1.84E+00	4.94E-04	7.65E-03	1.57E-03	8.60E-06	1.91E-04	8.55E-01	0.00E+00	4.46E-05	8.56E-01	270
Excavators	Riverside	3.75E-02	1.44E-01	1.43E-06	9.05E-06	4.86E-06	1.50E-08	4.10E-07	1.18E-03	0.00E+00	1.29E-07	1.18E-03	0
Excavators	Riverside	5.10E-03	1.95E-02	1.94E-07	1.23E-06	6.61E-07	2.04E-09	5.57E-08	1.60E-04	0.00E+00	1.75E-08	1.61E-04	0
Excavators	Riverside	1.89E+00	7.24E+00	7.19E-05	4.56E-04	2.45E-04	7.55E-07	2.06E-05	5.95E-02	0.00E+00	6.49E-06	5.96E-02	19
Excavators	Riverside	4.62E-01	1.77E+00	1.76E-05	1.11E-04	5.98E-05	1.84E-07	5.04E-06	1.45E-02	0.00E+00	1.59E-06	1.46E-02	5
Excavators	Riverside	1.41E+00	5.52E+00	3.13E-04	7.28E-04	8.68E-04	8.92E-07	7.62E-05	6.90E-02	0.00E+00	2.82E-05	6.96E-02	22
Excavators	Riverside	1.92E-01	7.51E-01	4.25E-05	9.90E-05	1.18E-04	1.21E-07	1.04E-05	9.38E-03	0.00E+00	3.84E-06	9.46E-03	3
Excavators	Riverside	7.12E+01	2.78E+02	1.59E-02	3.67E-02	4.39E-02	4.50E-05	3.86E-03	3.48E+00	0.00E+00	1.43E-03	3.51E+00	1,104
Excavators	Riverside	1.74E+01	6.80E+01	3.85E-03	8.96E-03	1.07E-02	1.10E-05	9.37E-04	8.49E-01	0.00E+00	3.47E-04	8.57E-01	270
Excavators	Riverside	3.84E+00	1.50E+01	1.05E-03	6.30E-03	3.99E-03	6.47E-06	5.86E-04	5.52E-01	0.00E+00	9.47E-05	5.54E-01	174
Excavators	Riverside	5.22E-01	2.04E+00	1.43E-04	8.56E-04	5.42E-04	8.80E-07	7.97E-05	7.50E-02	0.00E+00	1.29E-05	7.53E-02	24
Excavators	Riverside	1.93E+02	7.56E+02	5.33E-02	3.18E-01	2.01E-01	3.26E-04	2.98E-02	2.78E+01	0.00E+00	4.81E-03	2.79E+01	8,783
Excavators	Riverside	4.72E+01	1.85E+02	1.29E-02	7.75E-02	4.91E-02	7.96E-05	7.21E-03	6.79E+00	0.00E+00	1.17E-03	6.81E+00	2,145

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Excavators	Riverside	7.40E+00	2.89E+01	2.12E-03	1.61E-02	9.69E-03	1.83E-05	9.60E-04	1.62E+00	0.00E+00	1.91E-04	1.63E+00	512
Excavators	Riverside	1.01E+00	3.93E+00	2.88E-04	2.19E-03	1.32E-03	2.48E-06	1.30E-04	2.21E-01	0.00E+00	2.60E-05	2.21E-01	70
Excavators	Riverside	3.73E+02	1.46E+03	1.08E-01	8.17E-01	4.88E-01	9.20E-04	4.87E-02	8.17E+01	0.00E+00	9.72E-03	8.20E+01	25,798
Excavators	Riverside	9.11E+01	3.56E+02	2.61E-02	1.98E-01	1.19E-01	2.25E-04	1.18E-02	2.00E+01	0.00E+00	2.36E-03	2.00E+01	6,300
Excavators	Riverside	3.01E+00	1.18E+01	8.54E-04	8.79E-03	2.31E-03	1.05E-05	3.05E-04	9.33E-01	0.00E+00	7.70E-05	9.35E-01	294
Excavators	Riverside	4.09E-01	1.60E+00	1.16E-04	1.19E-03	3.14E-04	1.43E-06	4.15E-05	1.27E-01	0.00E+00	1.05E-05	1.27E-01	40
Excavators	Riverside	1.52E+02	5.93E+02	4.31E-02	4.45E-01	1.16E-01	5.29E-04	1.54E-02	4.70E+01	0.00E+00	3.88E-03	4.71E+01	14,824
Excavators	Riverside	3.71E+01	1.45E+02	1.05E-02	1.08E-01	2.84E-02	1.29E-04	3.76E-03	1.15E+01	0.00E+00	9.48E-04	1.15E+01	3,620
Excavators	Riverside	2.17E+00	8.49E+00	8.41E-04	8.18E-03	2.61E-03	9.73E-06	3.01E-04	9.91E-01	0.00E+00	7.59E-05	9.93E-01	313
Excavators	Riverside	2.95E-01	1.15E+00	1.14E-04	1.11E-03	3.55E-04	1.32E-06	4.10E-05	1.35E-01	0.00E+00	1.03E-05	1.35E-01	42
Excavators	Riverside	1.09E+02	4.28E+02	4.24E-02	4.13E-01	1.31E-01	4.90E-04	1.52E-02	4.99E+01	0.00E+00	3.83E-03	5.00E+01	15,749
Excavators	Riverside	2.67E+01	1.04E+02	1.04E-02	1.01E-01	3.21E-02	1.20E-04	3.71E-03	1.22E+01	0.00E+00	9.34E-04	1.22E+01	3,846
Excavators	Riverside	1.96E-02	7.67E-02	1.27E-05	1.26E-04	3.91E-05	1.49E-07	4.59E-06	1.48E-02	0.00E+00	1.14E-06	1.49E-02	5
Excavators	Riverside	2.65E-03	1.04E-02	1.71E-06	1.71E-05	5.28E-06	2.01E-08	6.20E-07	2.00E-03	0.00E+00	1.55E-07	2.01E-03	1
Excavators	Riverside	9.89E-01	3.86E+00	6.40E-04	6.40E-03	1.96E-03	7.52E-06	2.31E-04	7.48E-01	0.00E+00	5.78E-05	7.49E-01	236
Excavators	Riverside	2.41E-01	9.44E-01	1.56E-04	1.56E-03	4.81E-04	1.84E-06	5.65E-05	1.83E-01	0.00E+00	1.41E-05	1.83E-01	58
Concrete/Industrial Saws	Riverside	4.06E-03	6.59E-03	6.60E-08	4.21E-07	2.23E-07	6.88E-10	2.06E-08	5.42E-05	0.00E+00	5.95E-09	5.44E-05	0
Concrete/Industrial Saws	Riverside	5.52E-04	8.96E-04	8.97E-09	5.72E-08	3.04E-08	9.35E-11	2.80E-09	7.37E-06	0.00E+00	8.09E-10	7.39E-06	0
Concrete/Industrial Saws	Riverside	2.05E-01	3.32E-01	3.32E-06	2.12E-05	1.13E-05	3.47E-08	1.04E-06	2.73E-03	0.00E+00	3.00E-07	2.74E-03	1
Concrete/Industrial Saws	Riverside	4.99E-02	8.11E-02	8.12E-07	5.18E-06	2.75E-06	8.47E-09	2.54E-07	6.67E-04	0.00E+00	7.32E-08	6.69E-04	0
Concrete/Industrial Saws	Riverside	3.55E-02	5.65E-02	3.48E-06	8.66E-06	9.06E-06	1.10E-08	8.49E-07	8.52E-04	0.00E+00	3.14E-07	8.59E-04	0
Concrete/Industrial Saws	Riverside	4.83E-03	7.68E-03	4.72E-07	1.18E-06	1.23E-06	1.50E-09	1.15E-07	1.16E-04	0.00E+00	4.26E-08	1.17E-04	0
Concrete/Industrial Saws	Riverside	1.79E+00	2.85E+00	1.76E-04	4.36E-04	4.57E-04	5.55E-07	4.29E-05	4.30E-02	0.00E+00	1.58E-05	4.33E-02	14
Concrete/Industrial Saws	Riverside	4.37E-01	6.95E-01	4.28E-05	1.07E-04	1.11E-04	1.36E-07	1.04E-05	1.05E-02	0.00E+00	3.86E-06	1.06E-02	3
Concrete/Industrial Saws	Riverside	6.19E-02	9.84E-02	6.61E-06	4.23E-05	2.45E-05	4.28E-08	3.54E-06	3.65E-03	0.00E+00	5.96E-07	3.66E-03	1
Concrete/Industrial Saws	Riverside	8.41E-03	1.34E-02	8.98E-07	5.75E-06	3.33E-06	5.81E-09	4.81E-07	4.96E-04	0.00E+00	8.10E-08	4.97E-04	0
Concrete/Industrial Saws	Riverside	3.12E+00	4.96E+00	3.35E-04	2.13E-03	1.23E-03	2.16E-06	1.79E-04	1.84E-01	0.00E+00	3.02E-05	1.84E-01	58
Concrete/Industrial Saws	Riverside	7.62E-01	1.21E+00	8.13E-05	5.21E-04	3.01E-04	5.26E-07	4.36E-05	4.49E-02	0.00E+00	7.33E-06	4.50E-02	14
Concrete/Industrial Saws	Riverside	2.03E-03	3.23E-03	3.11E-07	2.66E-06	1.42E-06	2.91E-09	1.39E-07	2.58E-04	0.00E+00	2.81E-08	2.59E-04	0
Concrete/Industrial Saws	Riverside	2.76E-04	4.39E-04	4.23E-08	3.61E-07	1.93E-07	3.95E-10	1.89E-08	3.51E-05	0.00E+00	3.82E-09	3.52E-05	0
Concrete/Industrial Saws	Riverside	1.02E-01	1.63E-01	1.58E-05	1.34E-04	7.14E-05	1.46E-07	7.05E-06	1.30E-02	0.00E+00	1.42E-06	1.30E-02	4
Concrete/Industrial Saws	Riverside	2.50E-02	3.97E-02	3.83E-06	3.27E-05	1.74E-05	3.58E-08	1.71E-06	3.18E-03	0.00E+00	3.45E-07	3.19E-03	1
Cement and Mortar Mixers	Riverside	5.18E-01	4.27E-01	1.68E-06	1.08E-05	8.28E-06	2.10E-08	6.16E-07	1.35E-03	0.00E+00	1.52E-07	1.35E-03	0
Cement and Mortar Mixers	Riverside	7.05E-02	5.80E-02	2.29E-07	1.46E-06	1.12E-06	2.85E-09	8.38E-08	1.83E-04	0.00E+00	2.06E-08	1.83E-04	0
Cement and Mortar Mixers	Riverside	2.61E+01	2.15E+01	8.47E-05	5.43E-04	4.17E-04	1.06E-06	3.10E-05	6.79E-02	0.00E+00	7.64E-06	6.80E-02	21
Cement and Mortar Mixers	Riverside	6.38E+00	5.25E+00	2.07E-05	1.33E-04	1.02E-04	2.58E-07	7.58E-06	1.66E-02	0.00E+00	1.87E-06	1.66E-02	5
Cement and Mortar Mixers	Riverside	4.67E-02	3.84E-02	6.63E-07	3.13E-06	1.81E-06	4.27E-09	2.05E-07	3.37E-04	0.00E+00	5.98E-08	3.38E-04	0
Cement and Mortar Mixers	Riverside	6.34E-03	5.22E-03	9.01E-08	4.26E-07	2.45E-07	5.81E-10	2.79E-08	4.58E-05	0.00E+00	8.13E-09	4.59E-05	0
Cement and Mortar Mixers	Riverside	2.35E+00	1.93E+00	3.33E-05	1.58E-04	9.07E-05	2.15E-07	1.03E-05	1.70E-02	0.00E+00	3.00E-06	1.70E-02	5
Cement and Mortar Mixers	Riverside	5.74E-01	4.72E-01	8.16E-06	3.85E-05	2.22E-05	5.26E-08	2.53E-06	4.14E-03	0.00E+00	7.36E-07	4.16E-03	1
Cranes	Riverside	3.45E-02	1.21E-01	7.78E-06	1.54E-05	1.92E-05	1.81E-08	1.75E-06	1.40E-03	0.00E+00	7.02E-07	1.42E-03	0
Cranes	Riverside	4.69E-03	1.65E-02	1.06E-06	2.10E-06	2.61E-06	2.47E-09	2.38E-07	1.91E-04	0.00E+00	9.54E-08	1.93E-04	0
Cranes	Riverside	1.74E+00	6.11E+00	3.94E-04	7.77E-04	9.68E-04	9.14E-07	8.84E-05	7.07E-02	0.00E+00	3.55E-05	7.15E-02	23
Cranes	Riverside	4.24E-01	1.49E+00	9.57E-05	1.90E-04	2.36E-04	2.23E-07	2.15E-05	1.73E-02	0.00E+00	8.63E-06	1.75E-02	5
Cranes	Riverside	3.78E-01	1.33E+00	7.42E-05	4.35E-04	2.47E-04	3.91E-07	4.00E-05	3.33E-02	0.00E+00	6.70E-06	3.34E-02	11
Cranes	Riverside	5.14E-02	1.81E-01	1.01E-05	5.91E-05	3.36E-05	5.31E-08	5.44E-06	4.53E-03	0.00E+00	9.10E-07	4.55E-03	1
Cranes	Riverside	1.91E+01	6.70E+01	3.76E-03	2.19E-02	1.25E-02	1.97E-05	2.03E-03	1.68E+00	0.00E+00	3.39E-04	1.69E+00	531
Cranes	Riverside	4.66E+00	1.64E+01	9.13E-04	5.35E-03	3.04E-03	4.81E-06	4.93E-04	4.10E-01	0.00E+00	8.24E-05	4.12E-01	130
Cranes	Riverside	3.78E-01	1.33E+00	8.05E-05	6.18E-04	3.24E-04	6.00E-07	3.58E-05	5.34E-02	0.00E+00	7.26E-06	5.35E-02	17
Cranes	Riverside	5.14E-02	1.81E-01	1.09E-05	8.40E-05	4.41E-05	8.16E-08	4.87E-06	7.25E-03	0.00E+00	9.87E-07	7.27E-03	2
Cranes	Riverside	1.91E+01	6.70E+01	4.08E-03	3.12E-02	1.63E-02	3.03E-05	1.81E-03	2.69E+00	0.00E+00	3.68E-04	2.70E+00	849
Cranes	Riverside	4.66E+00	1.64E+01	9.91E-04	7.61E-03	3.99E-03	7.39E-06	4.41E-04	6.57E-01	0.00E+00	8.94E-05	6.58E-01	207

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Cranes	Riverside	7.34E-01	2.58E+00	1.60E-04	1.59E-03	4.45E-04	1.62E-06	6.04E-05	1.44E-01	0.00E+00	1.44E-05	1.45E-01	46
Cranes	Riverside	9.97E-02	3.50E-01	2.17E-05	2.17E-04	6.05E-05	2.21E-07	8.22E-06	1.96E-02	0.00E+00	1.96E-06	1.97E-02	6
Cranes	Riverside	3.70E+01	1.30E+02	8.05E-03	8.05E-02	2.23E-02	8.19E-05	3.04E-03	7.28E+00	0.00E+00	7.26E-04	7.29E+00	2,295
Cranes	Riverside	9.03E+00	3.17E+01	1.97E-03	1.96E-02	5.48E-03	2.00E-05	7.44E-04	1.78E+00	0.00E+00	1.78E-04	1.78E+00	560
Cranes	Riverside	2.69E-01	9.44E-01	8.59E-05	8.36E-04	3.12E-04	8.34E-07	3.23E-05	8.50E-02	0.00E+00	7.75E-06	8.51E-02	27
Cranes	Riverside	3.65E-02	1.28E-01	1.17E-05	1.14E-04	4.24E-05	1.13E-07	4.39E-06	1.16E-02	0.00E+00	1.05E-06	1.16E-02	4
Cranes	Riverside	1.36E+01	4.76E+01	4.32E-03	4.21E-02	1.56E-02	4.20E-05	1.62E-03	4.28E+00	0.00E+00	3.90E-04	4.29E+00	1,351
Cranes	Riverside	3.31E+00	1.16E+01	1.06E-03	1.03E-02	3.84E-03	1.03E-05	3.97E-04	1.05E+00	0.00E+00	9.54E-05	1.05E+00	330
Cranes	Riverside	8.14E-02	2.86E-01	4.40E-05	4.36E-04	1.59E-04	4.35E-07	1.67E-05	4.33E-02	0.00E+00	3.97E-06	4.34E-02	14
Cranes	Riverside	1.10E-02	3.86E-02	5.95E-06	5.89E-05	2.15E-05	5.88E-08	2.25E-06	5.85E-03	0.00E+00	5.37E-07	5.86E-03	2
Cranes	Riverside	4.10E+00	1.44E+01	2.22E-03	2.20E-02	7.96E-03	2.19E-05	8.38E-04	2.18E+00	0.00E+00	2.00E-04	2.19E+00	688
Cranes	Riverside	1.00E+00	3.52E+00	5.42E-04	5.37E-03	1.96E-03	5.36E-06	2.05E-04	5.33E-01	0.00E+00	4.89E-05	5.34E-01	168
Cranes	Riverside	1.02E-01	3.59E-01	1.95E-04	2.18E-03	7.42E-04	1.75E-06	6.80E-05	1.74E-01	0.00E+00	1.76E-05	1.74E-01	55
Cranes	Riverside	1.38E-02	4.85E-02	2.64E-05	2.95E-04	1.00E-04	2.36E-07	9.19E-06	2.35E-02	0.00E+00	2.38E-06	2.35E-02	7
Cranes	Riverside	5.16E+00	1.81E+01	9.83E-03	1.10E-01	3.71E-02	8.82E-05	3.42E-03	8.77E+00	0.00E+00	8.87E-04	8.79E+00	2,767
Cranes	Riverside	1.26E+00	4.42E+00	2.41E-03	2.69E-02	9.13E-03	2.15E-05	8.37E-04	2.14E+00	0.00E+00	2.17E-04	2.15E+00	676
Graders	Riverside	1.42E-02	3.71E-02	2.60E-06	5.49E-06	6.65E-06	6.61E-09	6.01E-07	5.11E-04	0.00E+00	2.35E-07	5.16E-04	0
Graders	Riverside	1.93E-03	5.05E-03	3.54E-07	7.47E-07	9.05E-07	8.98E-10	8.16E-08	6.95E-05	0.00E+00	3.19E-08	7.01E-05	0
Graders	Riverside	7.16E-01	1.88E+00	1.32E-04	2.78E-04	3.37E-04	3.34E-07	3.05E-05	2.58E-02	0.00E+00	1.19E-05	2.61E-02	8
Graders	Riverside	1.75E-01	4.57E-01	3.20E-05	6.76E-05	8.19E-05	8.13E-08	7.39E-06	6.29E-03	0.00E+00	2.89E-06	6.35E-03	2
Graders	Riverside	9.48E-01	2.48E+00	1.93E-04	1.15E-03	6.76E-04	1.09E-06	1.05E-04	9.28E-02	0.00E+00	1.74E-05	9.32E-02	29
Graders	Riverside	1.29E-01	3.37E-01	2.62E-05	1.56E-04	9.19E-05	1.48E-07	1.43E-05	1.26E-02	0.00E+00	2.36E-06	1.27E-02	4
Graders	Riverside	4.78E+01	1.25E+02	9.80E-03	5.81E-02	3.42E-02	5.50E-05	5.36E-03	4.69E+00	0.00E+00	8.84E-04	4.70E+00	1,481
Graders	Riverside	1.17E+01	3.05E+01	2.37E-03	1.41E-02	8.32E-03	1.34E-05	1.30E-03	1.14E+00	0.00E+00	2.14E-04	1.15E+00	361
Graders	Riverside	3.24E+00	8.47E+00	7.38E-04	5.73E-03	3.13E-03	5.90E-06	3.32E-04	5.24E-01	0.00E+00	6.66E-05	5.25E-01	165
Graders	Riverside	4.40E-01	1.15E+00	1.00E-04	7.79E-04	4.26E-04	8.02E-07	4.51E-05	7.12E-02	0.00E+00	9.06E-06	7.14E-02	22
Graders	Riverside	1.63E+02	4.28E+02	3.76E-02	2.91E-01	1.58E-01	2.98E-04	1.69E-02	2.65E+01	0.00E+00	3.39E-03	2.65E+01	8,354
Graders	Riverside	3.98E+01	1.04E+02	9.09E-03	7.05E-02	3.86E-02	7.26E-05	4.08E-03	6.45E+00	0.00E+00	8.20E-04	6.47E+00	2,036
Graders	Riverside	2.01E+00	5.25E+00	4.62E-04	4.70E-03	1.29E-03	5.08E-06	1.74E-04	4.52E-01	0.00E+00	4.17E-05	4.53E-01	142
Graders	Riverside	2.73E-01	7.14E-01	6.28E-05	6.39E-04	1.76E-04	6.91E-07	2.36E-05	6.14E-02	0.00E+00	5.67E-06	6.15E-02	19
Graders	Riverside	1.01E+02	2.65E+02	2.33E-02	2.38E-01	6.50E-02	2.57E-04	8.75E-03	2.28E+01	0.00E+00	2.10E-03	2.29E+01	7,194
Graders	Riverside	2.47E+01	6.46E+01	5.69E-03	5.79E-02	1.59E-02	6.25E-05	2.14E-03	5.56E+00	0.00E+00	5.13E-04	5.57E+00	1,753
Graders	Riverside	5.68E-02	1.49E-01	1.59E-05	1.57E-04	5.58E-05	1.67E-07	5.98E-06	1.70E-02	0.00E+00	1.44E-06	1.71E-02	5
Graders	Riverside	7.72E-03	2.02E-02	2.17E-06	2.14E-05	7.58E-06	2.27E-08	8.14E-07	2.32E-03	0.00E+00	1.96E-07	2.32E-03	1
Graders	Riverside	2.86E+00	7.50E+00	8.04E-04	7.95E-03	2.80E-03	8.44E-06	3.01E-04	8.60E-01	0.00E+00	7.26E-05	8.62E-01	271
Graders	Riverside	6.99E-01	1.83E+00	1.96E-04	1.94E-03	6.86E-04	2.06E-06	7.36E-05	2.10E-01	0.00E+00	1.77E-05	2.10E-01	66
Graders	Riverside	1.25E-03	3.27E-03	7.49E-07	7.53E-06	2.60E-06	7.99E-09	2.83E-07	7.94E-04	0.00E+00	6.76E-08	7.96E-04	0
Graders	Riverside	1.69E-04	4.42E-04	1.01E-07	1.02E-06	3.51E-07	1.08E-09	3.82E-08	1.07E-04	0.00E+00	9.13E-09	1.07E-04	0
Graders	Riverside	6.31E-02	1.65E-01	3.78E-05	3.82E-04	1.31E-04	4.04E-07	1.43E-05	4.01E-02	0.00E+00	3.41E-06	4.02E-02	13
Graders	Riverside	1.54E-02	4.03E-02	9.22E-06	9.27E-05	3.20E-05	9.83E-08	3.48E-06	9.78E-03	0.00E+00	8.32E-07	9.80E-03	3
Off-Highway Trucks	Riverside	6.59E-02	3.60E-01	3.12E-05	2.31E-04	1.37E-04	2.53E-07	1.39E-05	2.25E-02	0.00E+00	2.82E-06	2.26E-02	7
Off-Highway Trucks	Riverside	8.96E-03	4.90E-02	4.24E-06	3.13E-05	1.87E-05	3.44E-08	1.89E-06	3.06E-03	0.00E+00	3.83E-07	3.07E-03	1
Off-Highway Trucks	Riverside	3.32E+00	1.82E+01	1.58E-03	1.17E-02	6.92E-03	1.28E-05	7.05E-04	1.13E+00	0.00E+00	1.43E-04	1.14E+00	358
Off-Highway Trucks	Riverside	8.12E-01	4.43E+00	3.84E-04	2.84E-03	1.69E-03	3.12E-06	1.71E-04	2.77E-01	0.00E+00	3.47E-05	2.78E-01	87
Off-Highway Trucks	Riverside	4.87E-01	2.66E+00	2.18E-04	2.15E-03	5.71E-04	2.49E-06	7.63E-05	2.21E-01	0.00E+00	1.97E-05	2.22E-01	70
Off-Highway Trucks	Riverside	6.62E-02	3.62E-01	2.96E-05	2.92E-04	7.77E-05	3.39E-07	1.04E-05	3.01E-02	0.00E+00	2.67E-06	3.01E-02	9
Off-Highway Trucks	Riverside	2.45E+01	1.34E+02	1.10E-02	1.09E-01	2.87E-02	1.26E-04	3.84E-03	1.12E+01	0.00E+00	9.91E-04	1.12E+01	3,518
Off-Highway Trucks	Riverside	5.99E+00	3.27E+01	2.68E-03	2.64E-02	7.03E-03	3.06E-05	9.39E-04	2.72E+00	0.00E+00	2.42E-04	2.73E+00	859
Off-Highway Trucks	Riverside	6.86E-01	3.75E+00	4.66E-04	4.34E-03	1.41E-03	5.00E-06	1.63E-04	5.10E-01	0.00E+00	4.21E-05	5.11E-01	161
Off-Highway Trucks	Riverside	9.32E-02	5.09E-01	6.34E-05	5.90E-04	1.92E-04	6.80E-07	2.22E-05	6.93E-02	0.00E+00	5.72E-06	6.94E-02	22
Off-Highway Trucks	Riverside	3.46E+01	1.89E+02	2.35E-02	2.19E-01	7.08E-02	2.52E-04	8.20E-03	2.57E+01	0.00E+00	2.12E-03	2.57E+01	8,100
Off-Highway Trucks	Riverside	8.44E+00	4.61E+01	5.74E-03	5.34E-02	1.74E-02	6.16E-05	2.01E-03	6.27E+00	0.00E+00	5.18E-04	6.28E+00	1,978

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Off-Highway Trucks	Riverside	2.63E-01	1.43E+00	2.92E-04	2.78E-03	8.76E-04	3.18E-06	1.03E-04	3.16E-01	0.00E+00	2.63E-05	3.17E-01	100
Off-Highway Trucks	Riverside	3.55E-02	1.94E-01	3.94E-05	3.75E-04	1.18E-04	4.30E-07	1.39E-05	4.27E-02	0.00E+00	3.55E-06	4.28E-02	13
Off-Highway Trucks	Riverside	1.32E+01	7.23E+01	1.47E-02	1.41E-01	4.40E-02	1.60E-04	5.19E-03	1.60E+01	0.00E+00	1.33E-03	1.60E+01	5,031
Off-Highway Trucks	Riverside	3.23E+00	1.77E+01	3.59E-03	3.42E-02	1.08E-02	3.92E-05	1.27E-03	3.90E+00	0.00E+00	3.24E-04	3.90E+00	1,229
Off-Highway Trucks	Riverside	1.23E-01	6.72E-01	2.16E-04	2.46E-03	6.93E-04	2.11E-06	7.45E-05	2.10E-01	0.00E+00	1.95E-05	2.10E-01	66
Off-Highway Trucks	Riverside	1.66E-02	9.08E-02	2.92E-05	3.32E-04	9.36E-05	2.85E-07	1.01E-05	2.83E-02	0.00E+00	2.64E-06	2.84E-02	9
Off-Highway Trucks	Riverside	6.21E+00	3.39E+01	1.09E-02	1.24E-01	3.47E-02	1.06E-04	3.75E-03	1.06E+01	0.00E+00	9.82E-04	1.06E+01	3,334
Off-Highway Trucks	Riverside	1.52E+00	8.27E+00	2.66E-03	3.03E-02	8.53E-03	2.60E-05	9.17E-04	2.58E+00	0.00E+00	2.40E-04	2.59E+00	814
Crushing/Proc. Equipment	Riverside	1.62E-01	4.25E-01	4.83E-05	9.98E-05	1.19E-04	1.21E-07	1.10E-05	9.35E-03	0.00E+00	4.35E-06	9.44E-03	3
Crushing/Proc. Equipment	Riverside	2.21E-02	5.78E-02	6.56E-06	1.36E-05	1.61E-05	1.64E-08	1.50E-06	1.27E-03	0.00E+00	5.92E-07	1.28E-03	0
Crushing/Proc. Equipment	Riverside	8.18E+00	2.14E+01	2.44E-03	5.03E-03	5.99E-03	6.09E-06	5.58E-04	4.71E-01	0.00E+00	2.20E-04	4.76E-01	150
Crushing/Proc. Equipment	Riverside	2.00E+00	5.23E+00	5.94E-04	1.23E-03	1.46E-03	1.49E-06	1.36E-04	1.15E-01	0.00E+00	5.36E-05	1.16E-01	37
Crushing/Proc. Equipment	Riverside	4.58E-01	1.20E+00	1.05E-04	6.22E-04	3.57E-04	5.84E-07	5.75E-05	4.98E-02	0.00E+00	9.51E-06	5.00E-02	16
Crushing/Proc. Equipment	Riverside	6.22E-02	1.63E-01	1.43E-05	8.45E-05	4.85E-05	7.94E-08	7.82E-06	6.77E-03	0.00E+00	1.29E-06	6.79E-03	2
Crushing/Proc. Equipment	Riverside	2.31E+01	6.04E+01	5.34E-03	3.14E-02	1.80E-02	2.94E-05	2.91E-03	2.51E+00	0.00E+00	4.82E-04	2.52E+00	793
Crushing/Proc. Equipment	Riverside	5.63E+00	1.47E+01	1.30E-03	7.65E-03	4.39E-03	7.18E-06	7.08E-04	6.12E-01	0.00E+00	1.17E-04	6.15E-01	194
Crushing/Proc. Equipment	Riverside	1.94E-01	5.07E-01	6.01E-05	4.72E-04	2.47E-04	4.77E-07	2.71E-05	4.24E-02	0.00E+00	5.42E-06	4.25E-02	13
Crushing/Proc. Equipment	Riverside	2.63E-02	6.90E-02	8.17E-06	6.42E-05	3.36E-05	6.49E-08	3.68E-06	5.76E-03	0.00E+00	7.37E-07	5.78E-03	2
Crushing/Proc. Equipment	Riverside	9.77E+00	2.56E+01	3.04E-03	2.38E-02	1.24E-02	2.40E-05	1.37E-03	2.14E+00	0.00E+00	2.75E-04	2.14E+00	675
Crushing/Proc. Equipment	Riverside	2.38E+00	6.24E+00	7.39E-04	5.81E-03	3.04E-03	5.87E-06	3.33E-04	5.22E-01	0.00E+00	6.67E-05	5.23E-01	165
Crushing/Proc. Equipment	Riverside	1.93E-02	5.05E-02	5.66E-06	6.42E-05	1.57E-05	6.94E-08	2.12E-06	6.17E-03	0.00E+00	5.10E-07	6.18E-03	2
Crushing/Proc. Equipment	Riverside	2.62E-03	6.86E-03	7.69E-07	8.73E-06	2.13E-06	9.43E-09	2.88E-07	8.38E-04	0.00E+00	6.94E-08	8.40E-04	0
Crushing/Proc. Equipment	Riverside	9.72E-01	2.54E+00	2.85E-04	3.24E-03	7.88E-04	3.50E-06	1.07E-04	3.11E-01	0.00E+00	2.57E-05	3.11E-01	98
Crushing/Proc. Equipment	Riverside	2.37E-01	6.21E-01	6.96E-05	7.91E-04	1.93E-04	8.54E-07	2.61E-05	7.59E-02	0.00E+00	6.28E-06	7.60E-02	24
Crushing/Proc. Equipment	Riverside	1.09E-01	2.84E-01	4.39E-05	4.90E-04	1.50E-04	5.21E-07	1.69E-05	5.31E-02	0.00E+00	3.96E-06	5.31E-02	17
Crushing/Proc. Equipment	Riverside	1.48E-02	3.86E-02	5.97E-06	6.66E-05	2.03E-05	7.08E-08	2.29E-06	7.21E-03	0.00E+00	5.38E-07	7.22E-03	2
Crushing/Proc. Equipment	Riverside	5.47E+00	1.43E+01	2.21E-03	2.47E-02	7.50E-03	2.62E-05	8.47E-04	2.67E+00	0.00E+00	1.99E-04	2.68E+00	843
Crushing/Proc. Equipment	Riverside	1.34E+00	3.50E+00	5.40E-04	6.03E-03	1.84E-03	6.41E-06	2.07E-04	6.53E-01	0.00E+00	4.87E-05	6.54E-01	206
Crushing/Proc. Equipment	Riverside	2.09E-03	5.46E-03	1.35E-06	1.54E-05	4.43E-06	1.62E-08	5.19E-07	1.61E-03	0.00E+00	1.22E-07	1.61E-03	1
Crushing/Proc. Equipment	Riverside	2.82E-04	7.38E-04	1.83E-07	2.08E-06	5.99E-07	2.18E-09	7.01E-08	2.17E-04	0.00E+00	1.65E-08	2.17E-04	0
Crushing/Proc. Equipment	Riverside	1.05E-01	2.76E-01	6.82E-05	7.79E-04	2.23E-04	8.15E-07	2.61E-05	8.10E-02	0.00E+00	6.15E-06	8.12E-02	26
Crushing/Proc. Equipment	Riverside	2.57E-02	6.73E-02	1.67E-05	1.90E-04	5.46E-05	1.99E-07	6.39E-06	1.98E-02	0.00E+00	1.50E-06	1.98E-02	6
Crushing/Proc. Equipment	Riverside	2.09E-03	5.46E-03	3.78E-06	4.39E-05	1.31E-05	3.59E-08	1.31E-06	3.57E-03	0.00E+00	3.41E-07	3.58E-03	1
Crushing/Proc. Equipment	Riverside	2.82E-04	7.38E-04	5.10E-07	5.93E-06	1.77E-06	4.85E-09	1.78E-07	4.82E-04	0.00E+00	4.60E-08	4.83E-04	0
Crushing/Proc. Equipment	Riverside	1.05E-01	2.76E-01	1.90E-04	2.21E-03	6.57E-04	1.81E-06	6.61E-05	1.80E-01	0.00E+00	1.71E-05	1.80E-01	57
Crushing/Proc. Equipment	Riverside	2.57E-02	6.73E-02	4.65E-05	5.40E-04	1.62E-04	4.42E-07	1.62E-05	4.39E-02	0.00E+00	4.19E-06	4.40E-02	14
Rough Terrain Forklifts	Riverside	1.13E-01	3.50E-01	2.79E-05	6.23E-05	7.33E-05	7.66E-08	6.61E-06	5.93E-03	0.00E+00	2.51E-06	5.98E-03	2
Rough Terrain Forklifts	Riverside	1.53E-02	4.76E-02	3.79E-06	8.46E-06	9.96E-06	1.04E-08	8.99E-07	8.05E-04	0.00E+00	3.42E-07	8.13E-04	0
Rough Terrain Forklifts	Riverside	5.68E+00	1.77E+01	1.41E-03	3.14E-03	3.70E-03	3.86E-06	3.35E-04	2.99E-01	0.00E+00	1.28E-04	3.01E-01	95
Rough Terrain Forklifts	Riverside	1.39E+00	4.31E+00	3.43E-04	7.66E-04	9.02E-04	9.43E-07	8.14E-05	7.29E-02	0.00E+00	3.09E-05	7.36E-02	23
Rough Terrain Forklifts	Riverside	5.39E+00	1.68E+01	1.02E-03	6.14E-03	3.73E-03	6.14E-06	5.67E-04	5.23E-01	0.00E+00	9.18E-05	5.25E-01	165
Rough Terrain Forklifts	Riverside	7.33E-01	2.28E+00	1.38E-04	8.35E-04	5.07E-04	8.35E-07	7.71E-05	7.11E-02	0.00E+00	1.25E-05	7.14E-02	22
Rough Terrain Forklifts	Riverside	2.72E+02	8.45E+02	5.17E-02	3.10E-01	1.88E-01	3.09E-04	2.88E-02	2.64E+01	0.00E+00	4.66E-03	2.65E+01	8,332
Rough Terrain Forklifts	Riverside	6.64E+01	2.06E+02	1.25E-02	7.56E-02	4.59E-02	7.55E-05	6.98E-03	6.44E+00	0.00E+00	1.13E-03	6.46E+00	2,035
Rough Terrain Forklifts	Riverside	6.91E-01	2.15E+00	1.76E-04	1.38E-03	7.84E-04	1.51E-06	8.05E-05	1.34E-01	0.00E+00	1.59E-05	1.34E-01	42
Rough Terrain Forklifts	Riverside	9.39E-02	2.92E-01	2.40E-05	1.88E-04	1.07E-04	2.05E-07	1.09E-05	1.82E-02	0.00E+00	2.16E-06	1.83E-02	6
Rough Terrain Forklifts	Riverside	3.48E+01	1.08E+02	8.95E-03	7.00E-02	3.95E-02	7.60E-05	4.09E-03	6.76E+00	0.00E+00	8.08E-04	6.77E+00	2,132
Rough Terrain Forklifts	Riverside	8.50E+00	2.64E+01	2.17E-03	1.70E-02	9.65E-03	1.86E-05	9.90E-04	1.65E+00	0.00E+00	1.96E-04	1.65E+00	521
Rough Terrain Forklifts	Riverside	3.86E-02	1.20E-01	9.13E-06	9.97E-05	2.56E-05	1.15E-07	3.39E-06	1.02E-02	0.00E+00	8.24E-07	1.02E-02	3
Rough Terrain Forklifts	Riverside	5.24E-03	1.63E-02	1.24E-06	1.36E-05	3.48E-06	1.56E-08	4.61E-07	1.39E-03	0.00E+00	1.12E-07	1.39E-03	0
Rough Terrain Forklifts	Riverside	1.94E+00	6.04E+00	4.61E-04	5.04E-03	1.29E-03	5.80E-06	1.71E-04	5.16E-01	0.00E+00	4.16E-05	5.16E-01	163
Rough Terrain Forklifts	Riverside	4.74E-01	1.48E+00	1.12E-04	1.23E-03	3.15E-04	1.42E-06	4.18E-05	1.26E-01	0.00E+00	1.01E-05	1.26E-01	40

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Rough Terrain Forklifts	Riverside	2.54E-02	7.89E-02	8.26E-06	8.67E-05	2.71E-05	9.93E-08	3.11E-06	1.01E-02	0.00E+00	7.46E-07	1.01E-02	3
Rough Terrain Forklifts	Riverside	3.45E-03	1.07E-02	1.12E-06	1.18E-05	3.68E-06	1.35E-08	4.22E-07	1.37E-03	0.00E+00	1.01E-07	1.38E-03	0
Rough Terrain Forklifts	Riverside	1.28E+00	3.98E+00	4.17E-04	4.37E-03	1.36E-03	5.00E-06	1.56E-04	5.10E-01	0.00E+00	3.76E-05	5.10E-01	161
Rough Terrain Forklifts	Riverside	3.12E-01	9.71E-01	1.02E-04	1.07E-03	3.33E-04	1.22E-06	3.82E-05	1.24E-01	0.00E+00	9.18E-06	1.25E-01	39
Rubber Tired Loaders	Riverside	1.42E-02	3.73E-02	3.83E-07	2.45E-06	1.30E-06	4.00E-09	1.20E-07	3.15E-04	0.00E+00	3.46E-08	3.16E-04	0
Rubber Tired Loaders	Riverside	1.93E-03	5.07E-03	5.21E-08	3.33E-07	1.76E-07	5.44E-10	1.63E-08	4.29E-05	0.00E+00	4.70E-09	4.30E-05	0
Rubber Tired Loaders	Riverside	7.16E-01	1.88E+00	1.93E-05	1.23E-04	6.54E-05	2.02E-07	6.05E-06	1.59E-02	0.00E+00	1.74E-06	1.59E-02	5
Rubber Tired Loaders	Riverside	1.75E-01	4.59E-01	4.72E-06	3.01E-05	1.60E-05	4.92E-08	1.48E-06	3.88E-03	0.00E+00	4.26E-07	3.89E-03	1
Rubber Tired Loaders	Riverside	2.76E-01	7.38E-01	5.76E-05	1.23E-04	1.48E-04	1.49E-07	1.33E-05	1.15E-02	0.00E+00	5.20E-06	1.16E-02	4
Rubber Tired Loaders	Riverside	3.75E-02	1.00E-01	7.83E-06	1.67E-05	2.01E-05	2.02E-08	1.81E-06	1.56E-03	0.00E+00	7.06E-07	1.58E-03	0
Rubber Tired Loaders	Riverside	1.39E+01	3.72E+01	2.93E-03	6.21E-03	7.48E-03	7.49E-06	6.76E-04	5.80E-01	0.00E+00	2.64E-04	5.85E-01	184
Rubber Tired Loaders	Riverside	3.40E+00	9.08E+00	7.09E-04	1.51E-03	1.82E-03	1.83E-06	1.64E-04	1.41E-01	0.00E+00	6.39E-05	1.43E-01	45
Rubber Tired Loaders	Riverside	7.50E+00	2.01E+01	1.21E-03	7.25E-03	4.28E-03	6.93E-06	6.63E-04	5.91E-01	0.00E+00	1.09E-04	5.93E-01	187
Rubber Tired Loaders	Riverside	1.02E+00	2.73E+00	1.65E-04	9.85E-04	5.82E-04	9.42E-07	9.02E-05	8.03E-02	0.00E+00	1.49E-05	8.06E-02	25
Rubber Tired Loaders	Riverside	3.78E+02	1.01E+03	6.15E-02	3.67E-01	2.16E-01	3.50E-04	3.37E-02	2.98E+01	0.00E+00	5.55E-03	2.99E+01	9,419
Rubber Tired Loaders	Riverside	9.23E+01	2.47E+02	1.49E-02	8.92E-02	5.27E-02	8.53E-05	8.16E-03	7.27E+00	0.00E+00	1.34E-03	7.30E+00	2,297
Rubber Tired Loaders	Riverside	4.23E+00	1.13E+01	8.35E-04	6.51E-03	3.57E-03	6.76E-06	3.76E-04	6.01E-01	0.00E+00	7.54E-05	6.02E-01	190
Rubber Tired Loaders	Riverside	5.75E-01	1.54E+00	1.14E-04	8.85E-04	4.86E-04	9.19E-07	5.11E-05	8.17E-02	0.00E+00	1.02E-05	8.19E-02	26
Rubber Tired Loaders	Riverside	2.13E+02	5.71E+02	4.25E-02	3.30E-01	1.80E-01	3.41E-04	1.91E-02	3.03E+01	0.00E+00	3.83E-03	3.04E+01	9,568
Rubber Tired Loaders	Riverside	5.20E+01	1.39E+02	1.03E-02	8.01E-02	4.40E-02	8.32E-05	4.63E-03	7.39E+00	0.00E+00	9.27E-04	7.41E+00	2,333
Rubber Tired Loaders	Riverside	4.21E+00	1.12E+01	8.39E-04	8.64E-03	2.36E-03	9.42E-06	3.16E-04	8.37E-01	0.00E+00	7.57E-05	8.39E-01	264
Rubber Tired Loaders	Riverside	5.72E-01	1.53E+00	1.14E-04	1.17E-03	3.21E-04	1.28E-06	4.30E-05	1.14E-01	0.00E+00	1.03E-05	1.14E-01	36
Rubber Tired Loaders	Riverside	2.12E+02	5.68E+02	4.23E-02	4.37E-01	1.19E-01	4.75E-04	1.59E-02	4.22E+01	0.00E+00	3.82E-03	4.23E+01	13,323
Rubber Tired Loaders	Riverside	5.17E+01	1.38E+02	1.03E-02	1.06E-01	2.91E-02	1.16E-04	3.89E-03	1.03E+01	0.00E+00	9.32E-04	1.03E+01	3,249
Rubber Tired Loaders	Riverside	1.75E+00	4.68E+00	5.08E-04	5.07E-03	1.79E-03	5.44E-06	1.91E-04	5.54E-01	0.00E+00	4.58E-05	5.55E-01	175
Rubber Tired Loaders	Riverside	2.38E-01	6.36E-01	6.91E-05	6.89E-04	2.43E-04	7.40E-07	2.60E-05	7.53E-02	0.00E+00	6.23E-06	7.55E-02	24
Rubber Tired Loaders	Riverside	8.82E+01	2.36E+02	2.56E-02	2.56E-01	8.96E-02	2.75E-04	9.63E-03	2.80E+01	0.00E+00	2.31E-03	2.80E+01	8,819
Rubber Tired Loaders	Riverside	2.15E+01	5.76E+01	6.25E-03	6.24E-02	2.20E-02	6.69E-05	2.36E-03	6.82E+00	0.00E+00	5.64E-04	6.83E+00	2,151
Rubber Tired Loaders	Riverside	5.05E-02	1.35E-01	3.03E-05	3.08E-04	1.06E-04	3.29E-07	1.15E-05	3.28E-02	0.00E+00	2.73E-06	3.28E-02	10
Rubber Tired Loaders	Riverside	6.82E-03	1.82E-02	4.09E-06	4.16E-05	1.43E-05	4.45E-08	1.55E-06	4.43E-03	0.00E+00	3.69E-07	4.43E-03	1
Rubber Tired Loaders	Riverside	2.55E+00	6.82E+00	1.53E-03	1.56E-02	5.30E-03	1.66E-05	5.79E-04	1.65E+00	0.00E+00	1.38E-04	1.66E+00	522
Rubber Tired Loaders	Riverside	6.22E-01	1.66E+00	3.72E-04	3.79E-03	1.30E-03	4.06E-06	1.41E-04	4.03E-01	0.00E+00	3.36E-05	4.04E-01	127
Rubber Tired Loaders	Riverside	5.43E-03	1.45E-02	4.46E-06	5.17E-05	1.62E-05	4.32E-08	1.56E-06	4.30E-03	0.00E+00	4.02E-07	4.31E-03	1
Rubber Tired Loaders	Riverside	7.33E-04	1.96E-03	6.02E-07	6.98E-06	2.19E-06	5.84E-09	2.11E-07	5.81E-04	0.00E+00	5.43E-08	5.82E-04	0
Rubber Tired Loaders	Riverside	2.74E-01	7.32E-01	2.25E-04	2.61E-03	8.11E-04	2.18E-06	7.87E-05	2.17E-01	0.00E+00	2.03E-05	2.18E-01	68
Rubber Tired Loaders	Riverside	6.68E-02	1.78E-01	5.49E-05	6.36E-04	1.99E-04	5.32E-07	1.92E-05	5.30E-02	0.00E+00	4.95E-06	5.31E-02	17
Rubber Tired Dozers	Riverside	1.01E-02	4.55E-02	5.45E-06	4.06E-05	1.97E-05	3.31E-08	2.36E-06	2.94E-03	0.00E+00	4.92E-07	2.95E-03	1
Rubber Tired Dozers	Riverside	1.38E-03	6.18E-03	7.41E-07	5.52E-06	2.68E-06	4.50E-09	3.20E-07	4.00E-04	0.00E+00	6.69E-08	4.01E-04	0
Rubber Tired Dozers	Riverside	5.11E-01	2.30E+00	2.76E-04	2.05E-03	9.96E-04	1.67E-06	1.19E-04	1.49E-01	0.00E+00	2.49E-05	1.49E-01	47
Rubber Tired Dozers	Riverside	1.25E-01	5.60E-01	6.71E-05	5.00E-04	2.43E-04	4.07E-07	2.90E-05	3.62E-02	0.00E+00	6.05E-06	3.63E-02	11
Rubber Tired Dozers	Riverside	2.49E-01	1.11E+00	1.54E-04	1.36E-03	4.31E-04	1.15E-06	5.96E-05	1.02E-01	0.00E+00	1.39E-05	1.02E-01	32
Rubber Tired Dozers	Riverside	3.38E-02	1.51E-01	2.10E-05	1.85E-04	5.86E-05	1.56E-07	8.10E-06	1.39E-02	0.00E+00	1.89E-06	1.39E-02	4
Rubber Tired Dozers	Riverside	1.25E+01	5.63E+01	7.75E-03	6.88E-02	2.16E-02	5.81E-05	2.99E-03	5.16E+00	0.00E+00	7.00E-04	5.17E+00	1,629
Rubber Tired Dozers	Riverside	3.06E+00	1.37E+01	1.90E-03	1.68E-02	5.30E-03	1.41E-05	7.33E-04	1.26E+00	0.00E+00	1.71E-04	1.26E+00	397
Rubber Tired Dozers	Riverside	3.83E-01	1.71E+00	3.10E-04	2.75E-03	1.49E-03	2.23E-06	1.17E-04	2.27E-01	0.00E+00	2.80E-05	2.27E-01	72
Rubber Tired Dozers	Riverside	5.20E-02	2.33E-01	4.21E-05	3.73E-04	2.02E-04	3.03E-07	1.59E-05	3.08E-02	0.00E+00	3.80E-06	3.09E-02	10
Rubber Tired Dozers	Riverside	1.93E+01	8.66E+01	1.56E-02	1.38E-01	7.43E-02	1.12E-04	5.87E-03	1.15E+01	0.00E+00	1.40E-03	1.15E+01	3,617
Rubber Tired Dozers	Riverside	4.71E+00	2.11E+01	3.81E-03	3.38E-02	1.83E-02	2.74E-05	1.44E-03	2.79E+00	0.00E+00	3.44E-04	2.80E+00	881
Rubber Tired Dozers	Riverside	5.55E-02	2.49E-01	6.79E-05	6.09E-04	3.25E-04	4.98E-07	2.58E-05	4.96E-02	0.00E+00	6.13E-06	4.97E-02	16
Rubber Tired Dozers	Riverside	7.50E-03	3.36E-02	9.17E-06	8.23E-05	4.39E-05	6.73E-08	3.48E-06	6.70E-03	0.00E+00	8.28E-07	6.71E-03	2
Rubber Tired Dozers	Riverside	2.80E+00	1.26E+01	3.41E-03	3.08E-02	1.62E-02	2.52E-05	1.30E-03	2.51E+00	0.00E+00	3.08E-04	2.51E+00	791
Rubber Tired Dozers	Riverside	6.83E-01	3.06E+00	8.36E-04	7.50E-03	4.00E-03	6.14E-06	3.17E-04	6.10E-01	0.00E+00	7.54E-05	6.12E-01	193

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Rubber Tired Dozers	Riverside	3.76E-03	1.68E-02	7.12E-06	7.13E-05	3.52E-05	5.00E-08	2.54E-06	4.97E-03	0.00E+00	6.43E-07	4.99E-03	2
Rubber Tired Dozers	Riverside	5.07E-04	2.27E-03	9.62E-07	9.63E-06	4.76E-06	6.75E-09	3.43E-07	6.72E-04	0.00E+00	8.68E-08	6.74E-04	0
Rubber Tired Dozers	Riverside	1.89E-01	8.50E-01	3.58E-04	3.60E-03	1.76E-03	2.53E-06	1.28E-04	2.51E-01	0.00E+00	3.23E-05	2.52E-01	79
Rubber Tired Dozers	Riverside	4.62E-02	2.07E-01	8.77E-05	8.78E-04	4.34E-04	6.16E-07	3.13E-05	6.12E-02	0.00E+00	7.91E-06	6.14E-02	19
Tractors/Loaders/Backhoes	Riverside	2.86E-01	7.39E-01	7.89E-06	4.86E-05	2.52E-05	7.43E-08	2.67E-06	5.86E-03	0.00E+00	7.12E-07	5.87E-03	2
Tractors/Loaders/Backhoes	Riverside	3.89E-02	1.00E-01	1.07E-06	6.61E-06	3.42E-06	1.01E-08	3.62E-07	7.96E-04	0.00E+00	9.67E-08	7.98E-04	0
Tractors/Loaders/Backhoes	Riverside	1.44E+01	3.72E+01	3.97E-04	2.45E-03	1.27E-03	3.75E-06	1.34E-04	2.95E-01	0.00E+00	3.58E-05	2.96E-01	93
Tractors/Loaders/Backhoes	Riverside	3.52E+00	9.09E+00	9.70E-05	5.98E-04	3.10E-04	9.14E-07	3.28E-05	7.21E-02	0.00E+00	8.76E-06	7.23E-02	23
Tractors/Loaders/Backhoes	Riverside	1.71E+00	4.54E+00	2.86E-04	7.06E-04	8.05E-04	8.89E-07	7.08E-05	6.88E-02	0.00E+00	2.58E-05	6.93E-02	22
Tractors/Loaders/Backhoes	Riverside	2.32E-01	6.17E-01	3.88E-05	9.60E-05	1.09E-04	1.21E-07	9.62E-06	9.35E-03	0.00E+00	3.50E-06	9.43E-03	3
Tractors/Loaders/Backhoes	Riverside	8.62E+01	2.29E+02	1.45E-02	3.56E-02	4.08E-02	4.48E-05	3.59E-03	3.47E+00	0.00E+00	1.31E-03	3.50E+00	1,101
Tractors/Loaders/Backhoes	Riverside	2.10E+01	5.58E+01	3.51E-03	8.69E-03	9.91E-03	1.09E-05	8.71E-04	8.47E-01	0.00E+00	3.17E-04	8.53E-01	269
Tractors/Loaders/Backhoes	Riverside	2.29E+01	6.07E+01	2.76E-03	1.72E-02	1.10E-02	1.84E-05	1.57E-03	1.57E+00	0.00E+00	2.49E-04	1.57E+00	495
Tractors/Loaders/Backhoes	Riverside	3.11E+00	8.25E+00	3.76E-04	2.34E-03	1.49E-03	2.50E-06	2.13E-04	2.13E-01	0.00E+00	3.39E-05	2.14E-01	67
Tractors/Loaders/Backhoes	Riverside	1.15E+03	3.06E+03	1.41E-01	8.70E-01	5.55E-01	9.28E-04	7.97E-02	7.91E+01	0.00E+00	1.27E-02	7.93E+01	24,978
Tractors/Loaders/Backhoes	Riverside	2.81E+02	7.47E+02	3.40E-02	2.12E-01	1.35E-01	2.26E-04	1.93E-02	1.93E+01	0.00E+00	3.07E-03	1.94E+01	6,097
Tractors/Loaders/Backhoes	Riverside	1.71E+00	4.53E+00	2.76E-04	2.19E-03	1.33E-03	2.58E-06	1.27E-04	2.29E-01	0.00E+00	2.49E-05	2.30E-01	72
Tractors/Loaders/Backhoes	Riverside	2.32E-01	6.16E-01	3.75E-05	2.97E-04	1.81E-04	3.51E-07	1.73E-05	3.12E-02	0.00E+00	3.38E-06	3.13E-02	10
Tractors/Loaders/Backhoes	Riverside	8.60E+01	2.28E+02	1.40E-02	1.11E-01	6.72E-02	1.30E-04	6.48E-03	1.16E+01	0.00E+00	1.27E-03	1.16E+01	3,650
Tractors/Loaders/Backhoes	Riverside	2.10E+01	5.57E+01	3.39E-03	2.69E-02	1.64E-02	3.18E-05	1.57E-03	2.82E+00	0.00E+00	3.06E-04	2.83E+00	891
Tractors/Loaders/Backhoes	Riverside	5.52E-01	1.47E+00	1.04E-04	1.14E-03	2.95E-04	1.41E-06	3.83E-05	1.26E-01	0.00E+00	9.37E-06	1.26E-01	40
Tractors/Loaders/Backhoes	Riverside	7.50E-02	1.99E-01	1.41E-05	1.54E-04	4.02E-05	1.92E-07	5.21E-06	1.71E-02	0.00E+00	1.27E-06	1.71E-02	5
Tractors/Loaders/Backhoes	Riverside	2.78E+01	7.39E+01	5.25E-03	5.75E-02	1.49E-02	7.13E-05	1.93E-03	6.34E+00	0.00E+00	4.74E-04	6.35E+00	1,998
Tractors/Loaders/Backhoes	Riverside	6.79E+00	1.80E+01	1.28E-03	1.40E-02	3.63E-03	1.74E-05	4.72E-04	1.55E+00	0.00E+00	1.15E-04	1.55E+00	488
Tractors/Loaders/Backhoes	Riverside	8.91E-01	2.36E+00	3.11E-04	3.22E-03	1.00E-03	4.58E-06	1.16E-04	4.07E-01	0.00E+00	2.80E-05	4.08E-01	128
Tractors/Loaders/Backhoes	Riverside	1.21E-01	3.21E-01	4.22E-05	4.38E-04	1.36E-04	6.23E-07	1.57E-05	5.54E-02	0.00E+00	3.81E-06	5.55E-02	17
Tractors/Loaders/Backhoes	Riverside	4.49E+01	1.19E+02	1.57E-02	1.63E-01	5.04E-02	2.31E-04	5.83E-03	2.05E+01	0.00E+00	1.42E-03	2.06E+01	6,474
Tractors/Loaders/Backhoes	Riverside	1.10E+01	2.91E+01	3.82E-03	3.96E-02	1.23E-02	5.64E-05	1.42E-03	5.01E+00	0.00E+00	3.45E-04	5.02E+00	1,580
Tractors/Loaders/Backhoes	Riverside	2.53E-01	6.70E-01	1.33E-04	1.41E-03	4.26E-04	1.95E-06	5.01E-05	1.73E-01	0.00E+00	1.20E-05	1.73E-01	55
Tractors/Loaders/Backhoes	Riverside	3.41E-02	9.05E-02	1.80E-05	1.91E-04	5.76E-05	2.63E-07	6.76E-06	2.34E-02	0.00E+00	1.63E-06	2.34E-02	7
Tractors/Loaders/Backhoes	Riverside	1.27E+01	3.38E+01	6.74E-03	7.17E-02	2.14E-02	9.83E-05	2.53E-03	8.74E+00	0.00E+00	6.08E-04	8.75E+00	2,754
Tractors/Loaders/Backhoes	Riverside	3.11E+00	8.25E+00	1.64E-03	1.74E-02	5.25E-03	2.40E-05	6.16E-04	2.13E+00	0.00E+00	1.48E-04	2.14E+00	672
Crawler Tractors	Riverside	1.42E-02	4.10E-02	2.97E-06	5.69E-06	7.21E-06	6.59E-09	6.57E-07	5.10E-04	0.00E+00	2.68E-07	5.15E-04	0
Crawler Tractors	Riverside	1.93E-03	5.57E-03	4.03E-07	7.74E-07	9.80E-07	8.96E-10	8.93E-08	6.93E-05	0.00E+00	3.64E-08	7.00E-05	0
Crawler Tractors	Riverside	7.16E-01	2.07E+00	1.51E-04	2.88E-04	3.65E-04	3.33E-07	3.33E-05	2.58E-02	0.00E+00	1.36E-05	2.61E-02	8
Crawler Tractors	Riverside	1.75E-01	5.05E-01	3.65E-05	7.01E-05	8.87E-05	8.11E-08	8.08E-06	6.27E-03	0.00E+00	3.29E-06	6.34E-03	2
Crawler Tractors	Riverside	8.06E+00	2.33E+01	1.80E-03	1.05E-02	5.83E-03	8.97E-06	9.53E-04	7.65E-01	0.00E+00	1.63E-04	7.68E-01	242
Crawler Tractors	Riverside	1.10E+00	3.16E+00	2.45E-04	1.43E-03	7.93E-04	1.22E-06	1.30E-04	1.04E-01	0.00E+00	2.21E-05	1.04E-01	33
Crawler Tractors	Riverside	4.06E+02	1.18E+03	9.17E-02	5.32E-01	2.95E-01	4.54E-04	4.85E-02	3.87E+01	0.00E+00	8.28E-03	3.88E+01	12,227
Crawler Tractors	Riverside	9.92E+01	2.86E+02	2.22E-02	1.29E-01	7.18E-02	1.10E-04	1.17E-02	9.41E+00	0.00E+00	2.00E-03	9.45E+00	2,976
Crawler Tractors	Riverside	2.73E+00	7.87E+00	7.64E-04	5.82E-03	2.99E-03	5.36E-06	3.37E-04	4.77E-01	0.00E+00	6.90E-05	4.78E-01	150
Crawler Tractors	Riverside	3.71E-01	1.07E+00	1.04E-04	7.91E-04	4.06E-04	7.29E-07	4.58E-05	6.48E-02	0.00E+00	9.38E-06	6.50E-02	20
Crawler Tractors	Riverside	1.37E+02	3.98E+02	3.89E-02	2.95E-01	1.51E-01	2.71E-04	1.71E-02	2.41E+01	0.00E+00	3.51E-03	2.42E+01	7,609
Crawler Tractors	Riverside	3.36E+01	9.69E+01	9.41E-03	7.16E-02	3.68E-02	6.60E-05	4.15E-03	5.86E+00	0.00E+00	8.49E-04	5.88E+00	1,852
Crawler Tractors	Riverside	2.34E+00	6.77E+00	6.93E-04	6.57E-03	1.94E-03	6.32E-06	2.65E-04	5.61E-01	0.00E+00	6.25E-05	5.63E-01	177
Crawler Tractors	Riverside	3.19E-01	9.20E-01	9.42E-05	8.93E-04	2.63E-04	8.59E-07	3.60E-05	7.63E-02	0.00E+00	8.50E-06	7.65E-02	24
Crawler Tractors	Riverside	1.18E+02	3.42E+02	3.49E-02	3.33E-01	9.73E-02	3.19E-04	1.33E-02	2.84E+01	0.00E+00	3.15E-03	2.85E+01	8,957
Crawler Tractors	Riverside	2.88E+01	8.33E+01	8.53E-03	8.09E-02	2.39E-02	7.77E-05	3.26E-03	6.91E+00	0.00E+00	7.69E-04	6.93E+00	2,180
Crawler Tractors	Riverside	1.61E+00	4.64E+00	6.74E-04	6.31E-03	2.76E-03	5.89E-06	2.55E-04	6.00E-01	0.00E+00	6.08E-05	6.02E-01	189
Crawler Tractors	Riverside	2.18E-01	6.30E-01	9.16E-05	8.58E-04	3.75E-04	8.01E-07	3.46E-05	8.16E-02	0.00E+00	8.27E-06	8.18E-02	26
Crawler Tractors	Riverside	8.09E+01	2.34E+02	3.39E-02	3.18E-01	1.38E-01	2.98E-04	1.28E-02	3.04E+01	0.00E+00	3.06E-03	3.04E+01	9,576
Crawler Tractors	Riverside	1.98E+01	5.71E+01	8.30E-03	7.76E-02	3.39E-02	7.25E-05	3.13E-03	7.39E+00	0.00E+00	7.48E-04	7.40E+00	2,331

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Crawler Tractors	Riverside	3.34E-02	9.64E-02	2.52E-05	2.40E-04	1.03E-04	2.25E-07	9.58E-06	2.24E-02	0.00E+00	2.28E-06	2.24E-02	7
Crawler Tractors	Riverside	4.51E-03	1.30E-02	3.41E-06	3.24E-05	1.39E-05	3.04E-08	1.29E-06	3.02E-03	0.00E+00	3.08E-07	3.03E-03	1
Crawler Tractors	Riverside	1.68E+00	4.88E+00	1.27E-03	1.22E-02	5.15E-03	1.14E-05	4.83E-04	1.13E+00	0.00E+00	1.15E-04	1.13E+00	357
Crawler Tractors	Riverside	4.11E-01	1.19E+00	3.11E-04	2.95E-03	1.26E-03	2.77E-06	1.18E-04	2.75E-01	0.00E+00	2.80E-05	2.76E-01	87
Crawler Tractors	Riverside	3.34E-02	9.63E-02	3.84E-05	4.14E-04	1.63E-04	3.18E-07	1.35E-05	3.17E-02	0.00E+00	3.47E-06	3.17E-02	10
Crawler Tractors	Riverside	4.51E-03	1.30E-02	5.19E-06	5.59E-05	2.20E-05	4.30E-08	1.83E-06	4.28E-03	0.00E+00	4.68E-07	4.29E-03	1
Crawler Tractors	Riverside	1.68E+00	4.87E+00	1.94E-03	2.09E-02	8.14E-03	1.61E-05	6.82E-04	1.60E+00	0.00E+00	1.75E-04	1.60E+00	505
Crawler Tractors	Riverside	4.11E-01	1.19E+00	4.73E-04	5.09E-03	2.00E-03	3.92E-06	1.67E-04	3.90E-01	0.00E+00	4.27E-05	3.91E-01	123
Skid Steer Loaders	Riverside	1.95E+00	4.46E+00	5.53E-05	2.79E-04	1.56E-04	3.90E-07	1.76E-05	3.07E-02	0.00E+00	4.99E-06	3.08E-02	10
Skid Steer Loaders	Riverside	2.65E-01	6.06E-01	7.52E-06	3.79E-05	2.12E-05	5.29E-08	2.39E-06	4.17E-03	0.00E+00	6.78E-07	4.19E-03	1
Skid Steer Loaders	Riverside	9.82E+01	2.25E+02	2.78E-03	1.40E-02	7.82E-03	1.96E-05	8.85E-04	1.55E+00	0.00E+00	2.51E-04	1.55E+00	489
Skid Steer Loaders	Riverside	2.40E+01	5.48E+01	6.80E-04	3.43E-03	1.91E-03	4.79E-06	2.16E-04	3.78E-01	0.00E+00	6.14E-05	3.79E-01	119
Skid Steer Loaders	Riverside	1.77E+01	4.13E+01	1.62E-03	5.09E-03	5.18E-03	6.81E-06	4.48E-04	5.27E-01	0.00E+00	1.46E-04	5.30E-01	167
Skid Steer Loaders	Riverside	2.40E+00	5.62E+00	2.21E-04	6.91E-04	7.04E-04	9.26E-07	6.09E-05	7.16E-02	0.00E+00	1.99E-05	7.20E-02	23
Skid Steer Loaders	Riverside	8.90E+02	2.08E+03	8.25E-02	2.56E-01	2.61E-01	3.42E-04	2.27E-02	2.65E+01	0.00E+00	7.44E-03	2.66E+01	8,389
Skid Steer Loaders	Riverside	2.17E+02	5.08E+02	2.00E-02	6.26E-02	6.37E-02	8.38E-05	5.51E-03	6.48E+00	0.00E+00	1.80E-03	6.52E+00	2,052
Skid Steer Loaders	Riverside	9.26E+00	2.16E+01	6.58E-04	4.47E-03	3.05E-03	5.42E-06	3.85E-04	4.62E-01	0.00E+00	5.93E-05	4.64E-01	146
Skid Steer Loaders	Riverside	1.26E+00	2.94E+00	8.94E-05	6.08E-04	4.15E-04	7.37E-07	5.23E-05	6.29E-02	0.00E+00	8.07E-06	6.30E-02	20
Skid Steer Loaders	Riverside	4.67E+02	1.09E+03	3.34E-02	2.26E-01	1.54E-01	2.73E-04	1.95E-02	2.33E+01	0.00E+00	3.01E-03	2.33E+01	7,342
Skid Steer Loaders	Riverside	1.14E+02	2.66E+02	8.09E-03	5.50E-02	3.76E-02	6.67E-05	4.74E-03	5.69E+00	0.00E+00	7.30E-04	5.71E+00	1,796
Off-Highway Tractors	Riverside	1.01E-03	3.12E-03	3.83E-07	2.21E-06	1.16E-06	1.71E-09	1.96E-07	1.46E-04	0.00E+00	3.46E-08	1.47E-04	0
Off-Highway Tractors	Riverside	1.38E-04	4.24E-04	5.21E-08	3.01E-07	1.58E-07	2.33E-10	2.66E-08	1.98E-05	0.00E+00	4.70E-09	1.99E-05	0
Off-Highway Tractors	Riverside	5.11E-02	1.57E-01	1.94E-05	1.12E-04	5.85E-05	8.65E-08	9.94E-06	7.37E-03	0.00E+00	1.75E-06	7.41E-03	2
Off-Highway Tractors	Riverside	1.25E-02	3.84E-02	4.71E-06	2.72E-05	1.43E-05	2.11E-08	2.41E-06	1.80E-03	0.00E+00	4.25E-07	1.81E-03	1
Off-Highway Tractors	Riverside	1.24E+00	3.81E+00	4.43E-04	3.37E-03	1.63E-03	2.80E-06	1.93E-04	2.48E-01	0.00E+00	4.00E-05	2.49E-01	78
Off-Highway Tractors	Riverside	1.69E-01	5.18E-01	6.03E-05	4.58E-04	2.22E-04	3.80E-07	2.63E-05	3.38E-02	0.00E+00	5.44E-06	3.39E-02	11
Off-Highway Tractors	Riverside	6.25E+01	1.93E+02	2.25E-02	1.70E-01	8.23E-02	1.41E-04	9.80E-03	1.25E+01	0.00E+00	2.03E-03	1.26E+01	3,964
Off-Highway Tractors	Riverside	1.53E+01	4.69E+01	5.46E-03	4.14E-02	2.01E-02	3.44E-05	2.38E-03	3.06E+00	0.00E+00	4.92E-04	3.07E+00	966
Off-Highway Tractors	Riverside	1.17E+00	3.60E+00	3.38E-04	3.07E-03	9.61E-04	2.64E-06	1.32E-04	2.35E-01	0.00E+00	3.05E-05	2.35E-01	74
Off-Highway Tractors	Riverside	1.59E-01	4.90E-01	4.60E-05	4.17E-04	1.31E-04	3.59E-07	1.80E-05	3.19E-02	0.00E+00	4.15E-06	3.20E-02	10
Off-Highway Tractors	Riverside	5.91E+01	1.82E+02	1.70E-02	1.55E-01	4.82E-02	1.33E-04	6.63E-03	1.19E+01	0.00E+00	1.53E-03	1.19E+01	3,744
Off-Highway Tractors	Riverside	1.44E+01	4.44E+01	4.16E-03	3.78E-02	1.18E-02	3.25E-05	1.63E-03	2.89E+00	0.00E+00	3.76E-04	2.90E+00	912
Off-Highway Tractors	Riverside	2.10E-01	6.44E-01	2.38E-04	2.20E-03	1.14E-03	1.84E-06	9.19E-05	1.83E-01	0.00E+00	2.15E-05	1.83E-01	58
Off-Highway Tractors	Riverside	2.83E-02	8.70E-02	3.22E-05	2.97E-04	1.55E-04	2.48E-07	1.24E-05	2.47E-02	0.00E+00	2.90E-06	2.47E-02	8
Off-Highway Tractors	Riverside	1.06E+01	3.25E+01	1.20E-02	1.11E-01	5.72E-02	9.28E-05	4.62E-03	9.23E+00	0.00E+00	1.08E-03	9.26E+00	2,914
Off-Highway Tractors	Riverside	2.58E+00	7.93E+00	2.93E-03	2.71E-02	1.41E-02	2.26E-05	1.13E-03	2.25E+00	0.00E+00	2.65E-04	2.26E+00	710
Off-Highway Tractors	Riverside	2.21E-02	6.79E-02	3.80E-05	3.89E-04	1.88E-04	2.78E-07	1.36E-05	2.76E-02	0.00E+00	3.43E-06	2.77E-02	9
Off-Highway Tractors	Riverside	2.99E-03	9.17E-03	5.14E-06	5.25E-05	2.53E-05	3.75E-08	1.84E-06	3.73E-03	0.00E+00	4.63E-07	3.74E-03	1
Off-Highway Tractors	Riverside	1.12E+00	3.43E+00	1.91E-03	1.96E-02	9.37E-03	1.40E-05	6.85E-04	1.40E+00	0.00E+00	1.72E-04	1.40E+00	441
Off-Highway Tractors	Riverside	2.72E-01	8.36E-01	4.68E-04	4.79E-03	2.31E-03	3.42E-06	1.68E-04	3.40E-01	0.00E+00	4.22E-05	3.41E-01	107
Dumpers/Tenders	Riverside	2.44E-02	4.42E-02	2.39E-07	1.42E-06	7.43E-07	2.14E-09	8.04E-08	1.68E-04	0.00E+00	2.15E-08	1.69E-04	0
Dumpers/Tenders	Riverside	3.31E-03	6.01E-03	3.25E-08	1.93E-07	1.01E-07	2.90E-10	1.09E-08	2.29E-05	0.00E+00	2.93E-09	2.29E-05	0
Dumpers/Tenders	Riverside	1.23E+00	2.23E+00	1.20E-05	7.17E-05	3.74E-05	1.08E-07	4.04E-06	8.48E-03	0.00E+00	1.08E-06	8.51E-03	3
Dumpers/Tenders	Riverside	3.00E-01	5.44E-01	2.94E-06	1.75E-05	9.14E-06	2.63E-08	9.89E-07	2.07E-03	0.00E+00	2.65E-07	2.08E-03	1
Other Construction Equipment	Riverside	3.36E-01	6.35E-01	3.73E-06	2.34E-05	1.96E-05	4.99E-08	9.58E-07	3.21E-03	0.00E+00	3.37E-07	3.22E-03	1
Other Construction Equipment	Riverside	4.57E-02	8.64E-02	5.08E-07	3.18E-06	2.66E-06	6.79E-09	1.30E-07	4.36E-04	0.00E+00	4.58E-08	4.37E-04	0
Other Construction Equipment	Riverside	1.69E+01	3.20E+01	1.88E-04	1.18E-03	9.87E-04	2.52E-06	4.83E-05	1.62E-01	0.00E+00	1.70E-05	1.62E-01	51
Other Construction Equipment	Riverside	4.13E+00	7.82E+00	4.60E-05	2.88E-04	2.41E-04	6.14E-07	1.18E-05	3.95E-02	0.00E+00	4.15E-06	3.96E-02	12
Other Construction Equipment	Riverside	5.68E-02	1.08E-01	8.72E-07	5.58E-06	2.93E-06	9.01E-09	2.87E-07	7.10E-04	0.00E+00	7.87E-08	7.11E-04	0
Other Construction Equipment	Riverside	7.72E-03	1.46E-02	1.19E-07	7.59E-07	3.98E-07	1.22E-09	3.90E-08	9.65E-05	0.00E+00	1.07E-08	9.67E-05	0
Other Construction Equipment	Riverside	2.86E+00	5.42E+00	4.39E-05	2.81E-04	1.48E-04	4.54E-07	1.45E-05	3.58E-02	0.00E+00	3.96E-06	3.59E-02	11
Other Construction Equipment	Riverside	6.99E-01	1.32E+00	1.07E-05	6.87E-05	3.60E-05	1.11E-07	3.53E-06	8.73E-03	0.00E+00	9.68E-07	8.75E-03	3

Construction and Mining (2010- Riverside County)				Tons/Day									MTons/Year
Equipment	**County**	**Population**	**Activity**	**ROG Exhaust**	**NOX Exhaust**	**CO Exhaust**	**SO2 Exhaust**	**PM Exhaust**	**CO2 Exhaust**	**N2O Exhaust**	**CH4 Exhaust**	**CO2e**	**CO2e**
Other Construction Equipment	Riverside	8.73E-02	1.69E-01	8.71E-06	2.35E-05	2.47E-05	3.05E-08	2.22E-06	2.36E-03	0.00E+00	7.86E-07	2.37E-03	1
Other Construction Equipment	Riverside	1.19E-02	2.29E-02	1.18E-06	3.19E-06	3.36E-06	4.14E-09	3.02E-07	3.20E-04	0.00E+00	1.07E-07	3.23E-04	0
Other Construction Equipment	Riverside	4.40E+00	8.49E+00	4.42E-04	1.18E-03	1.25E-03	1.53E-06	1.12E-04	1.19E-01	0.00E+00	3.99E-05	1.20E-01	38
Other Construction Equipment	Riverside	1.07E+00	2.07E+00	1.07E-04	2.89E-04	3.04E-04	3.75E-07	2.73E-05	2.90E-02	0.00E+00	9.67E-06	2.92E-02	9
Other Construction Equipment	Riverside	1.44E-01	2.78E-01	1.84E-05	1.20E-04	7.53E-05	1.32E-07	1.03E-05	1.12E-02	0.00E+00	1.66E-06	1.13E-02	4
Other Construction Equipment	Riverside	1.96E-02	3.78E-02	2.50E-06	1.64E-05	1.02E-05	1.79E-08	1.40E-06	1.53E-03	0.00E+00	2.25E-07	1.53E-03	0
Other Construction Equipment	Riverside	7.26E+00	1.40E+01	9.33E-04	6.08E-03	3.80E-03	6.64E-06	5.23E-04	5.66E-01	0.00E+00	8.42E-05	5.68E-01	179
Other Construction Equipment	Riverside	1.77E+00	3.42E+00	2.26E-04	1.48E-03	9.27E-04	1.62E-06	1.27E-04	1.38E-01	0.00E+00	2.04E-05	1.39E-01	44
Other Construction Equipment	Riverside	1.99E-01	3.84E-01	2.25E-05	1.91E-04	1.13E-04	2.30E-07	1.04E-05	2.04E-02	0.00E+00	2.03E-06	2.05E-02	6
Other Construction Equipment	Riverside	2.70E-02	5.22E-02	3.05E-06	2.59E-05	1.54E-05	3.13E-08	1.42E-06	2.78E-03	0.00E+00	2.75E-07	2.78E-03	1
Other Construction Equipment	Riverside	1.00E+01	1.93E+01	1.14E-03	9.65E-03	5.71E-03	1.16E-05	5.29E-04	1.03E+00	0.00E+00	1.03E-04	1.03E+00	325
Other Construction Equipment	Riverside	2.45E+00	4.73E+00	2.76E-04	2.35E-03	1.39E-03	2.83E-06	1.28E-04	2.51E-01	0.00E+00	2.49E-05	2.52E-01	79
Other Construction Equipment	Riverside	4.62E-01	8.92E-01	7.59E-05	8.83E-04	2.70E-04	1.11E-06	3.02E-05	1.13E-01	0.00E+00	6.85E-06	1.13E-01	36
Other Construction Equipment	Riverside	6.28E-02	1.21E-01	1.03E-05	1.20E-04	3.67E-05	1.51E-07	4.10E-06	1.54E-02	0.00E+00	9.32E-07	1.54E-02	5
Other Construction Equipment	Riverside	2.33E+01	4.49E+01	3.83E-03	4.45E-02	1.36E-02	5.60E-05	1.52E-03	5.70E+00	0.00E+00	3.45E-04	5.71E+00	1,798
Other Construction Equipment	Riverside	5.68E+00	1.10E+01	9.35E-04	1.09E-02	3.32E-03	1.37E-05	3.72E-04	1.39E+00	0.00E+00	8.43E-05	1.40E+00	439
		15,056	29,794	2	14	11	0	1	1,296	0.01	0.18	1,302	409,905
		Population	**Activity**	**lbs/day**					Tons/Day				MTons/Year
As a Percent of Riverside County Residential Building Permits		1,321	2,614	352	2,419	1,900	3	153	114	0.00	0.02	114	**35,969**

Annual GHG emissions (MTons/Year) multiplied by 347 days/year to account for reduced/limited construction activity on weekends and holidays. This assumption is consistent with the California Air Resources Board's (CARB) methodology for transportation within the Climate Change Scoping Plan Measure Documentation Supplement.

Employment

Source. U.S. Census Bureau. 2010. Longitudinal Employer-Household Dynamics.

	Menifee 2010 Count	County 2010 Count
Total Jobs	8,776	565,555
Menifee as a Percent of the County	**1.6%**	

Population

Source. U.S. Census Bureau, 2010.

	Menifee 2010 Count	County 2010 Count
Population	77,519	2,189,641
Menifee as a Percent of the County	**3.5%**	

Large Stationary Sources

USEPA GHG Reporting. GHG Data Publication Tool.

Source: U.S. Environmental Protection Agency (EPA). Greenhouse Gas Reporting Program Data fro Calendar Year 2010. http://www.epa.gov/climatechange/emissions/ghgdata/index.htm

Larger generators, excludes biogenic emissions.

Direct Emissions

Facility Name	Reporting Year	Address	General Stationary Fuel Combustion (MTons)				Electricity Generation (MTons)				Total
			CO_2	CH_4	N_2O	CO_2e	CO_2	CH_4	N_2O	CO_2e	CO_2e
Inland Empire Energy Center	2010	26226 Antelope Road	691.8	0.01	0.001	692	1,310,250.30	24.3	2.431	1,311,514	1,312,207

Description: Electricity generated from turbines fueled by natural gas supply line.

** There is a possibility that electricity produced at the Inland Empire Energy Center is double-counted in the SCE data.

Indirect Emissions

Note: This facility also uses 4.5 million gallons of water per day (maximum) or 5,00 acre-feet per year. This will primarily be (80% during the first 5 years) from recycled water from Eastern Municipal Water District (EMWD) and 20 percent potable water from the Metropolitan Water District (MWD). After 5 years, all water would be recycled water.

SCAQMD Facility Information Detail (FIND) Database

Source: South Coast Air Quality Management District (SCAQMD). Facility Information Detail (FIND). http://www3.aqmd.gov/webappl/fim/prog/emission.aspx?fac_id=129816

Facility Name	Reporting Year	Address	Criteria Air Pollutants (Tons/Year)					Criteria Air Pollutants (lbs/day)					
			ROG	NOx	CO	SOx	TSP	ROG	NOx	CO	SOx	PM10	PM2.5
Inland Empire Energy Center	2010	26226 Antelope Road	26.889	73.3	55.983	8.089	95.999	5	13	10	1	17	1

** Assumes PM10 is 99.4 percent of total suspended particulate matter (TSP) and PM2.5 is 92.2 percent of TSP based on interal combustion of gaseous fuel (SCAQMD 2006, Appendix A)

Summary of Stationary Sources

	lbs/day						MTons/Year
Year 2009/2010	ROG	NOx	CO	SOx	PM10	PM2.5	CO2e
Small Pemitted Sources	20	40	11	1	5	5	1
Inland Empire Energy Center	5	13	10	1	17	1	1,312,207
TOTAL	25	53	21	2	23	6	1,312,207

SCAQMD Active Facilties in the City of Menifee

Facility ID	Facility Name	Lbs/day, After Controls Emi Amount R2 ROG	Lbs/day, After Controls Emi Amount R2 NOX	Lbs/day, After Controls Emi Amount R2 CO	Lbs/day, After Controls Emi Amount R2 SOX	Lbs/day, After Controls Emi Amount R2 PM10	PM2.5*	Operational Weeks Per Year	Operational Days Per Week	Operational Hours Per Day	Equipment (B-cat) Description	Location Street Address	Location City
87990	TARGET STORE-MENIFEE, T-678	0.22	0.22	0.30	0.00	0.00		52	0	0	I C E (50-500 HP) EM ELEC GEN-NAT GAS	30251 ANTELOPE RD	MENIFEE
87990	TARGET STORE-MENIFEE, T-678	0.14	1.40	0.29	0.00	0.00		29	1	0	I C E (50-500 HP) EM ELEC GEN-NAT GAS	30251 ANTELOPE RD	MENIFEE
87990	TARGET STORE-MENIFEE, T-678	0.10	1.40	0.30	0.00	0.00		52	1	0	I C E (50-500 HP) EM ELEC GEN-NAT GAS	30251 ANTELOPE RD	MENIFEE
87990	TARGET STORE-MENIFEE, T-678	0.20	0.20	0.30	0.00	0.00		52	1	0	I C E (50-500 HP) EM ELEC GEN-NAT GAS	30251 ANTELOPE RD	MENIFEE
88601	DRYCLEAN EXPRESS, E & R SAHL	1.00	0.00	0.00	0.00	0.00		52	6	8	DRY CLEANING EQUIP PERCHLOROETHYLENE	30133 ANTELOPE RD	MENIFEE
101321	RIVERSIDE CTY, MENIFEE FIRE STATION	0.00	0.00	0.00	0.00	0.00		52	7	24	STORAGE TANK GASOLINE	26020 WICKARD RD	MENIFEE
119478	GRAHAM CRACKERS DEMO, INC	0.00	0.00	0.00	0.00	0.00		0	0	0	PLAN RULE 1166 (CONTAMINATED SOIL HAND.)	VARIOUS LOCATIONS IN SCAQMD	MENIFEE
119478	GRAHAM CRACKERS DEMO, INC	0.00	0.00	0.00	0.00	0.00		50	5	0	PLAN RULE 1166 (CONTAMINATED SOIL HAND.)	VARIOUS LOCATIONS IN SCAQMD	MENIFEE
119478	GRAHAM CRACKERS DEMO, INC	0.00	0.00	0.00	0.00	0.00		50	5	0	PLAN RULE 1166 (CONTAMINATED SOIL HAND.)	VARIOUS LOCATIONS IN SCAQMD	MENIFEE
119478	GRAHAM CRACKERS DEMO, INC	0.00	0.00	0.00	0.00	0.00		52	7	0	PLAN RULE 1166 (CONTAMINATED SOIL HAND.)	VARIOUS LOCATIONS IN SCAQMD	MENIFEE
122941	RALPHS GROCERY #140	0.00	0.00	0.00	0.00	0.00		0	0	0	RULE 1415 PLAN NOTIFICATIONS	30125 ANTELOPE RD	MENIFEE
122941	RALPHS GROCERY #140	0.00	0.00	0.00	0.00	0.00		0	0	0	RULE 1415 PLAN NOTIFICATIONS	30125 ANTELOPE RD	MENIFEE
122941	RALPHS GROCERY #140	0.00	0.00	0.00	0.00	0.00		0	0	0	RULE 1415 PLAN NOTIFICATIONS	30125 ANTELOPE RD	MENIFEE
130313	EASTERN MUNICIPAL WATER DISTRICT	0.20	2.91	0.06	0.09	0.00		29	1	1	I C E (50-500 HP) EM ELEC GEN-DIESEL	28187 CRAIG AVE	MENIFEE
134766	EASTERN MUNICIPAL WATER DISTRICT	0.00	1.90	0.00	0.00	0.00		29	1	1	I C E (50-500 HP) EM ELEC GEN-DIESEL	LINDENBERGER/ OBSIDIAN	MENIFEE
136444	VERIZON WIRELESS	0.00	0.80	0.10	0.00	0.00		29	1	1	I C E (50-500 HP) EM ELEC GEN-DIESEL	26047 SCOTT RD	MENIFEE
138836	VERIZON WIRELESS	0.08	0.85	0.13	0.03	0.00		29	1	1	I C E (50-500 HP) EM ELEC GEN-DIESEL	31740 MENIFEE RD	MENIFEE
138836	VERIZON WIRELESS	0.07	1.04	0.16	0.00	0.02		50	1	1	I C E (50-500 HP) EM ELEC GEN-DIESEL	31740 MENIFEE RD	MENIFEE
139836	NEW LOOK CLEANERS	0.00	0.00	0.00	0.00	0.00		0	0	0	DRY CLEANING, DRY-TO-DRY NON-VENT, PERC	25908 NEWPORT RD	MENIFEE
139836	NEW LOOK CLEANERS	0.17	0.00	0.00	0.00	0.00		52	6	12	DRY CLEANING EQUIP PETROLEUM SOLVENT	25908 NEWPORT RD	MENIFEE
140448	EASTERN MUN WATER DIST/ EL CENTRO STA.	0.35	0.97	0.13	0.06	0.03		29	1	5.3	I C E (50-500 HP) EM ELEC GEN-DIESEL	EL CENTRO LN@SCOTT RD	MENIFEE
140450	EASTERN MUN WATER DIST/NEWPORT LIFT STA.	0.05	1.07	0.13	0.04	0.03		29	1	5.3	I C E (50-500 HP) EM ELEC GEN-DIESEL	NEWPORT RD @ LINDENBERGER RD	MENIFEE
142668	MENIFEE CAR WASH, LP	0.00	0.00	0.00	0.00	0.00		0	0	0	SERV STAT STORAGE & DISPENSING GASOLINE	26825 NEWPORT RD	MENIFEE
142668	MENIFEE CAR WASH, LP	0.92	0.00	0.00	0.00	0.00		52	7	24	SERV STAT STORAGE & DISPENSING GASOLINE	26825 NEWPORT RD	MENIFEE
142668	MENIFEE CAR WASH, LP	0.92	0.00	0.00	0.00	0.00		52	7	24	SERV STAT STORAGE & DISPENSING GASOLINE	26825 NEWPORT RD	MENIFEE
142668	MENIFEE CAR WASH, LP	0.87	0.00	0.00	0.00	0.00		52	7	24	SERV STAT STORAGE & DISPENSING GASOLINE	26825 NEWPORT RD	MENIFEE
142900	EASTERN MUNICIPAL WATER DISTRICT	0.05	1.07	0.13	0.04	0.00		29	1	1	I C E (50-500 HP) EM ELEC GEN-DIESEL	#NAME?	MENIFEE
143681	MENIFEE LAKES COUNTRY CLUB	0.02	0.00	0.00	0.00	0.00		52	7	8	SERV STAT STORAGE & DISPENSING GASOLINE	29950 ANTELOPE RD	MENIFEE
143870	ABACHERLI DAIRY, RONALD ABACHERLI	2.89	0.00	0.00	0.00	0.55		52	7	24	AgOps LACAF Dairy	29875 NEWPORT RD	MENIFEE
143870	ABACHERLI DAIRY, RONALD ABACHERLI	0.28	3.52	0.77	0.05	0.24		52	1	1	AGOPS EMERGENCY ICE (50-500 HP)	29875 NEWPORT RD	MENIFEE
143870	ABACHERLI DAIRY, RONALD ABACHERLI	0.00	0.00	0.00	0.00	0.00		0	0	0	AGOPS EMERGENCY ICE (50-500 HP)	29875 NEWPORT RD	MENIFEE
144203	ARCO #82552 - MENIFEE MART, INC.	1.22	0.00	0.00	0.00	0.00		52	7	24	SERV STAT STORAGE & DISPENSING GASOLINE	26925 NEWPORT RD	MENIFEE
144203	ARCO #82552 - MENIFEE MART, INC.	1.16	0.00	0.00	0.00	0.00		52	7	24	SERV STAT STORAGE & DISPENSING GASOLINE	26925 NEWPORT RD	MENIFEE
144951	NORCO RANCH INC	2.64	0.00	0.00	0.00	3.16		52	7	24	AgOps LCAF Poultry	30150 BRIGGS RD	MENIFEE
144951	NORCO RANCH INC	0.26	3.28	0.71	0.05	0.23		52	1	1	AGOPS EMERGENCY ICE (50-500 HP)	30150 BRIGGS RD	MENIFEE
144951	NORCO RANCH INC	0.22	2.70	0.59	0.04	0.18		52	1	1	AGOPS EMERGENCY ICE (50-500 HP)	30150 BRIGGS RD	MENIFEE
144951	NORCO RANCH INC	0.21	2.58	0.56	0.04	0.18		52	1	1	AGOPS EMERGENCY ICE (50-500 HP)	30150 BRIGGS RD	MENIFEE
144951	NORCO RANCH INC	0.01	0.00	0.00	0.00	0.00		1	1	0.01	AGOPS FUEL STORAGE & DISPENSING	30150 BRIGGS RD	MENIFEE
144951	NORCO RANCH INC	0.00	0.00	0.00	0.00	0.01		1	1	0.01	AGOPS CONV FEED/STOR/DIST SYS	30150 BRIGGS RD	MENIFEE
144951	NORCO RANCH INC	0.00	0.00	0.00	0.00	0.00		0	0	0	AGOPS EMERGENCY ICE (50-500 HP)	30150 BRIGGS RD	MENIFEE
144951	NORCO RANCH INC	0.00	0.00	0.00	0.00	0.00		0	0	0	AGOPS EMERGENCY ICE (50-500 HP)	30150 BRIGGS RD	MENIFEE
144951	NORCO RANCH INC	0.00	0.00	0.00	0.00	0.00		0	0	0	AGOPS EMERGENCY ICE (50-500 HP)	30150 BRIGGS RD	MENIFEE
145030	JOHN BOERE DAIRY	1.37	0.00	0.00	0.00	0.20		52	7	24	AGOPS DAIRY	30490 BRIGGS RD	MENIFEE
145030	JOHN BOERE DAIRY	0.41	5.16	1.12	0.08	0.35		52	1	1	AGOPS EMERGENCY ICE (50-500 HP)	30490 BRIGGS RD	MENIFEE
151970	TESORO REFINING & MKTN ANTELOPE SHELL	0.00	0.00	0.00	0.00	0.00		0	0	0	SERV STAT STORAGE & DISPENSING GASOLINE	30107 ANTELOPE RD	MENIFEE
151970	TESORO REFINING & MKTN ANTELOPE SHELL	0.92	0.00	0.00	0.00	0.00		52	7	24	SERV STAT STORAGE & DISPENSING GASOLINE	30107 ANTELOPE RD	MENIFEE
151970	TESORO REFINING & MKTN ANTELOPE SHELL	0.87	0.00	0.00	0.00	0.00		52	7	24	SERV STAT STORAGE & DISPENSING GASOLINE	30107 ANTELOPE RD	MENIFEE
151970	TESORO REFINING & MKTN ANTELOPE SHELL	0.00	0.00	0.00	0.00	0.00		52	5	0	R-461-Gasoline Transfer and Disp (GDF)	30107 ANTELOPE RD	MENIFEE
153316	HUSKER ENGINEERING, INC	0.00	0.00	0.00	0.00	0.00		0	0	0	PLAN, RULE 403 COMPLIANCE	29950 WOODBINE LN	MENIFEE
153463	EASTERN MUNICIPAL WATER DISTRICT	0.03	1.11	0.09	0.00	0.00		29	1	1	I C E (50-500 HP) EM ELEC GEN-DIESEL	24745 PRARIE TRAIL CT	MENIFEE
154817	LOWE'S HIW, INC.	0.16	3.02	1.06	0.22	0.17		1	1	3.3	I C E (>500 HP) EM ELEC GEN DIESEL	NEC LA PIEDRA & HAUN RD	MENIFEE
155654	EASTERN MUNICIPAL WATER DISTRICT	0.19	3.20	2.56	0.01	0.00		29	1	1	I C E (>500 HP) EM ELEC GEN DIESEL	30245 SCOTT RD	MENIFEE
156045	TARGET STORE T-2471	0.35	0.35	0.47	0.00	0.01		50	1	1	I C E (50-500 HP) EM ELEC GEN-NAT GAS	30340 HAUN RD	MENIFEE
156045	TARGET STORE T-2471	0.00	0.00	0.00	0.00	0.00		0	0	0	RULE 1415 PLAN NOTIFICATIONS	30340 HAUN RD	MENIFEE
156045	TARGET STORE T-2471	0.84	0.84	1.12	0.00	0.02		50	1	1	I C E (50-500 HP) EM ELEC GEN-NAT GAS	30340 HAUN RD	MENIFEE
156908	RED ROBIN INTERNATIONAL INC	0.00	0.00	0.00	0.00	0.00		0	0	0	CHARBROILER - NATURAL GAS	30142 HAUN RD	MENIFEE
159766	M.H.C. NAC, INC.	0.00	0.00	0.00	0.00	0.00		0	0	0	CHARBROILER - NATURAL GAS	30605 BRIGGS RD	MENIFEE
159766	M.H.C. NAC, INC.	0.00	0.00	0.00	0.00	0.00		0	0	0	SEWAGE TREATMENT (<=5 MMG/D)	30605 BRIGGS RD	MENIFEE
159766	M.H.C. NAC, INC.	0.00	0.00	0.00	0.00	0.00		52	7	24	SEWAGE TREATMENT (<=5 MMG/D)	30605 BRIGGS RD	MENIFEE
159766	M.H.C. NAC, INC.	0.01	0.00	0.00	0.00	0.00		52	7	24	SEWAGE TREATMENT (<=5 MMG/D)	30605 BRIGGS RD	MENIFEE
159858	COUNTY OF RIVERSIDE	0.01	0.19	0.01	0.00	0.00		50	1	1	I C E (50-500 HP) EM ELEC GEN-NAT GAS	26024 WICKERD RD	MENIFEE
161556	CHEVRON STATIONS INC. TEXACO #355923	0.66	0.00	0.00	0.00	0.00		52	7	24	SERV STAT STORAGE & DISPENSING GASOLINE	26015 NEWPORT RD	MENIFEE
162204	COUNTY OF RIVERSIDE, FIRE DEPARTMENT	0.00	0.00	0.00	0.00	0.00		0	0	0	I C E (50-500 HP) EM ELEC GEN-DIESEL	29950 MENIFEE RD STATION 76	MENIFEE
165633	LIVING SPACES, MENIFEE	0.00	0.00	0.00	0.00	0.00		0	0	0		30251 ANTELOPE RD	MENIFEE
* Assumes PM2.5 is 99% of PM10		ROG	NOX	CO	SOx	PM10	PM2.5						
		19.85	**39.56**	**10.79**	**0.75**	**5.38**	**5.3262**						

Fuel Usage in the City of Menifee (based upon 2 facilities in SCAQMD's 2009 Annual AER Data Collection)

AER Year	Fuel Type and Units	Annual Usage		EMISSION FACTOR*	MTons CO_2
		1000 Gallons	Gallons	kg CO_2/ gallon	
2009	Diesel/Distillate Oil	0.075	75	10.96	**0.822**

* Source: California Air Resources Board (CARB). 2010, May. Local Government Operations Protocol. Based on Distillate Fuel Oil No. 4 typically used for commercial heating/boilers.

Appl Status	Appl Status Description
1	READY FOR PROCESSING - CLASS III
2	NEEDS FIELD EVALUATION - CLASS III
3	NEED A/I LETTER - CLASS III
4	OTHER -WORKABLE - CLASS III
5	AWAITING A/I - CLASS III
6	AWAITING SOURCE TESTING - CLASS III
7	AWAITING NSR INFORMATION - CLASS III
8	AWAITING MODELING - CLASS III
9	AWAITING HEALTH RISK ASSESSMENT - CLASS III
10	AWAITING ADDITIONAL APPLICATION - CLASS III
11	AWAITING POLICY DECISION - CLASS III
12	AWAITING CEQA - CLASS III
13	NEEDS RECORDS PULLED - CLASS III
15	NOT OPERATING - NEEDS F/E - CLASS III
16	IN PUBLIC NOTICE - CLASS III
17	OTHER - NOT WORKABLE - CLASS III
20	ASSIGNED TO ENGINEER - CLASS I (open application)
21	ASSIGNED TO ENGINEER - CLASS III (open application)
25	PERMIT TO CONSTRUCT GRANTED (open application)
26	APPLICATION CHANGED FROM CLASS I - III (open application)
27	APPLICATION UNDER PRORATION
29	R461 APPL READY FOR P/O TO BE ISSUED
31	PERMIT TO OPERATE GRANTED
32	BANKING/ PLAN GRANTED
40	APPLICATION DENIED
48	RECLAIM PC STATUS
49	RECLAIM PO STATUS
50	APPLICATION CANCELLED, REFUND ALL FEES
51	APPLICATION CANCELLED, KEEP FILING FEES
52	APPLICATION CANCELLED, KEEP ALL FEES
53	APPLICATION CANCELLED, PARTIALLY REFUND FEES
54	APPLICATION CANCELLED, FOR NON-PAYMENT OVER 1 YEAR
61	APPLICATION IS EXPIRED FOR NON-PAYMENT
63	APPLICATION IS SUSPENDED
70	REACTIVATE APPLICATION
80	APPLICATION REJECTED
81	READY FOR PROCESSING - CLASS I
82	NEEDS FIELD EVALUATION - CLASS I
83	NEEDS A/I LETTER - CLASS I
84	OTHER - WORKABLE - CLASS I
85	AWAITING A/I - CLASS I
86	AWAITING SOURCE TESTING - CLASS I
87	AWAITING NSR INFORMATION - CLASS I
88	AWAITING MODELING - CLASS I
89	AWAITING HEALTH RISK ASSESSMENT - CLASS I
90	AWAITING ADDITIONAL APPLICATION - CLASS I
91	AWAITING POLICY DECISION - CLASS I
92	AWAITING CEQA - CLASS I
93	NEEDS RECORDS PULLED - CLASS I
95	NOT OPERATING - NEEDS F/E - CLASS I
96	IN PUBLIC NOTICE - CLASS I
97	OTHER - NOT WORKABLE - CLASS I
210	APPLICATION READY FOR PRESCREENING (open application)
215	APPLICATION ON HOLD (open application)
230	APPLICATION REJECTED

Permit Status	Permit Status Description
ACTIVE	Active Permit to Operate - old 10
EXPIRED	Expired Permit to Operate -- old 12
INACTIVE	Inactive Permit to Operate (out of business) -- old 17
INACT_NR	Inactive Permit to Operate (non-renewable)
PRORATION	Proration (duplicate Id transferr)-- old18
SUSPENDED	Suspended Permit to Operate -- old 13
TRANSF TEMP	P/O issued to a transferred Temp. P/O under proration

SUN CITY, CALIFORNIA (048655)

Period of Record Monthly Climate Summary

Period of Record : 5/ 1/1973 to 1/31/2006

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	66.1	68.4	69.6	76.7	82.1	91.9	97.4	98.0	92.6	84.2	73.8	67.6	80.7
Average Min. Temperature (F)	36.3	38.7	41.1	44.4	49.6	54.0	58.9	59.4	57.5	49.2	39.8	34.5	46.9
Average Total Precipitation (in.)	2.66	3.25	1.96	0.66	0.31	0.05	0.03	0.24	0.15	0.25	0.66	1.02	11.22
Average Total SnowFall (in.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.
Max. Temp.: 92.2% Min. Temp.: 91.6% Precipitation: 94.4% Snowfall: 95.1% Snow Depth: 95%
Check Station Metadata or Metadata graphics for more detail about data completeness.

Western Regional Climate Center, wrcc@dri.edu