

2009 Sonoma County Comprehensive Transportation Plan EIR (Air Quality Modeling Outputs from EMFAC)

2008 Existing Conditions

Facility Type	Daily VMT	Speed	Emission Rates (grams/mile)								Base Pounds per Day								Tons Per Day							
			CO2	CH4	N2O	ROG	PM10	PM 2.5	Nox	Sox	CO	CO2	CH4	N2O	ROG	PM10	PM 2.5	Nox	Sox	CO	ROG	PM10	PM 2.5	Nox	Sox	CO
Freeway	3,946,149	56	408.091	0.035	0.059	0.199	0.042	0.019	1.045	0.004	4.552	3,550,297	304	513	1,731	365	165	9,091	35	39,601	0.87	0.18	0.08	4.55	0.02	19.80
Highway/Expressway	680,777	41	383.012	0.035	0.059	0.179	0.042	0.019	0.915	0.004	4.166	574,846	53	88	269	63	29	1,373	6	6,253	0.13	0.03	0.01	0.69	0.00	3.13
Arterial	4,839,837	32	424.927	0.040	0.067	0.214	0.047	0.022	0.918	0.004	4.583	4,533,977	427	719	2,283	501	235	9,795	43	48,901	1.14	0.25	0.12	4.90	0.02	24.45
Collector	1,048,674	30	441.309	0.042	0.071	0.227	0.048	0.023	0.928	0.004	4.73	1,020,276	97	163	525	111	53	2,145	9	10,935	0.26	0.06	0.03	1.07	0.00	5.47
Freeway Ramps	206,400	41	383.012	0.035	0.059	0.181	0.042	0.019	0.912	0.004	4.185	174,284	16	27	82	19	9	415	2	1,904	0.04	0.01	0.00	0.21	0.00	0.95
Local	719,974	20	580.066	0.055	0.093	0.342	0.062	0.033	1.027	0.006	5.888	920,722	87	147	543	98	52	1,630	10	9,346	0.27	0.05	0.03	0.82	0.00	4.67
TOTAL	11,441,811	36													5,433	1,158	543	24,450	104	116,940	2.72	0.58	0.27	12.23	0.05	58.47

2035 No Project

Facility Type	Daily VMT	Speed	Emission Rates (grams/mile)								Base Pounds per Day								Tons Per Day							
			CO2	CH4	N2O	ROG	PM10	PM 2.5	Nox	Sox	CO	CO2	CH4	N2O	ROG	PM10	PM 2.5	Nox	Sox	CO	ROG	PM10	PM 2.5	Nox	Sox	CO
Freeway	5,211,757	51	375.835	0.007	0.012	0.037	0.034	0.019	0.125	0.004	0.76	4,318,328	80	135	425	391	218	1,436	46	8,732	0.21	0.20	0.11	0.72	0.02	4.37
Highway/Expressway	910,051	40	374.326	0.008	0.013	0.032	0.035	0.019	0.119	0.004	0.772	751,017	16	27	64	70	38	239	8	1,549	0.03	0.04	0.02	0.12	0.00	0.77
Arterial	6,276,871	16	662.148	0.017	0.029	0.06	0.056	0.04	0.157	0.006	1.093	9,162,892	235	396	830	775	554	2,173	83	15,125	0.42	0.39	0.28	1.09	0.04	7.56
Collector	1,293,610	28	448.902	0.010	0.017	0.038	0.04	0.024	0.128	0.004	0.882	1,280,233	29	48	108	114	68	365	11	2,515	0.05	0.06	0.03	0.18	0.01	1.26
Freeway Ramps	255,602	38	380.616	0.008	0.013	0.032	0.035	0.02	0.119	0.004	0.784	214,479	5	8	18	20	11	67	2	442	0.01	0.01	0.01	0.03	0.00	0.22
Local	820,520	20	567.094	0.014	0.024	0.049	0.049	0.033	0.143	0.005	1.008	1,025,837	25	43	89	89	60	259	9	1,823	0.04	0.04	0.03	0.13	0.00	0.91
TOTAL	14,768,411	24													1,535	1,458	949	4,538	160	30,187	0.77	0.73	0.47	2.27	0.08	15.09

2035 Project (CTP 2)

Facility Type	Daily VMT	Speed	Emission Rates (grams/mile)								Base Pounds per Day								Tons Per Day							
			CO2	CH4	N2O	ROG	PM10	PM 2.5	Nox	Sox	CO	CO2	CH4	N2O	ROG	PM10	PM 2.5	Nox	Sox	CO	ROG	PM10	PM 2.5	Nox	Sox	CO
Freeway	5,374,193	55	391.903	0.008	0.013	0.041	0.034	0.019	0.132	0.004	0.787	4,643,293	95	160	486	403	225	1,564	47	9,324	0.24	0.20	0.11	0.78	0.02	4.66
Highway/Expressway	937,347	40	374.326	0.008	0.013	0.032	0.035	0.019	0.119	0.004	0.772	773,544	17	28	66	72	39	246	8	1,595	0.03	0.04	0.02	0.12	0.00	0.80
Arterial	5,797,499	16	662.148	0.017	0.029	0.06	0.056	0.04	0.157	0.006	1.093	8,463,111	217	366	767	716	511	2,007	77	13,970	0.38	0.36	0.26	1.00	0.04	6.98
Collector	1,255,234	29	438.810	0.010	0.017	0.036	0.039	0.024	0.125	0.004	0.857	1,214,327	28	47	100	108	66	346	11	2,372	0.05	0.05	0.03	0.17	0.01	1.19
Freeway Ramps	250,057	40	374.326	0.008	0.013	0.032	0.034	0.019	0.119	0.004	0.767	206,359	4	7	18	19	10	66	2	423	0.01	0.01	0.01	0.03	0.00	0.21
Local	803,625	20	567.094	0.014	0.024	0.049	0.049	0.033	0.143	0.005	1.008	1,004,715	25	42	87	87	58	253	9	1,786	0.04	0.04	0.03	0.13	0.00	0.89
TOTAL	14,417,956	25													1,523	1,404	911	4,481	154	29,470	0.76	0.70	0.46	2.24	0.08	14.74

2035 Project (CTP 3)

Facility Type	Daily VMT	Speed	Emission Rates (grams/mile)								Base Pounds per Day								Tons Per Day							
			CO2	CH4	N2O	ROG	PM10	PM 2.5	Nox	Sox	CO	CO2	CH4	N2O	ROG	PM10	PM 2.5	Nox	Sox	CO	ROG	PM10	PM 2.5	Nox	Sox	CO
Freeway	5,303,803	56	391.903	0.008	0.013	0.042	0.034	0.019	0.134	0.004	0.797	4,582,476	94	157	491	398	222	1,567	47	9,319	0.25	0.20	0.11	0.78	0.02	4.66
Highway/Expressway	1,018,581	41	374.326	0.008	0.013	0.032	0.034	0.018	0.119	0.004	0.767	840,581	18	30	72	76	40	267	9	1,722	0.04	0.04	0.02	0.13	0.00	0.86
Arterial	5,857,040	19	662.148	0.017	0.029	0.051	0.05	0.034	0.146	0.006	1.027	8,550,028	220	370	659	646	439	1,885	77	13,261	0.33	0.32	0.22	0.94	0.04	6.63
Collector	1,199,473	29	438.810	0.010	0.017	0.037	0.039	0.023	0.126	0.004	0.869	1,160,383	26	45	98	103	61	333	11	2,298	0.05	0.05	0.03	0.17	0.01	1.15
Freeway Ramps	252,179	40	374.326	0.008	0.013	0.032	0.035	0.019	0.119	0.004	0.772	208,110	4	7	18	19	11	66	2	429	0.01	0.01	0.01	0.03	0.00	0.21
Local	804,647	20	567.094	0.014	0.024	0.049	0.049	0.033	0.143	0.005	1.008	1,005,992	25	42	87	87	59	254	9	1,788	0.04	0.04	0.03	0.13	0.00	0.89
TOTAL	14,435,724	28													1,424	1,329	832	4,372	155	28,818	0.71	0.66	0.42	2.19	0.08	14.41

2035 Project (CTP4)

Facility Type	Daily VMT	Speed	Emission Rates (grams/mile)									Base Pounds per Day							Tons Per Day									
			CO2	CH4	N2O	ROG	PM10	PM 2.5	Nox	Sox	CO	CO2	CH4	N2O	ROG	PM10	PM 2.5	Nox	Sox	CO	ROG	PM10	PM 2.5	Nox	Sox	CO		
Freeway	5,251,429	57	391.903	0.008	0.013	0.044	0.035	0.02	0.136	0.004	0.81	4,537,225	93	156	509	405	232	1,575	46	9,378	0.25	0.20	0.12	0.79	0.02	4.69		
Highway/Expressway	868,504	42	374.326	0.008	0.013	0.032	0.034	0.019	0.119	0.004	0.763	716,731	15	26	61	65	36	228	8	1,461	0.03	0.03	0.02	0.11	0.00	0.73		
Arterial	5,157,751	18	662.148	0.017	0.029	0.054	0.052	0.036	0.149	0.006	1.048	7,529,215	193	325	614	591	409	1,694	68	11,917	0.31	0.30	0.20	0.85	0.03	5.96		
Collector	1,138,099	29	438.810	0.010	0.017	0.037	0.039	0.024	0.126	0.004	0.869	1,101,009	25	42	93	98	60	316	10	2,180	0.05	0.05	0.03	0.16	0.01	1.09		
Freeway Ramps	236,080	40	374.326	0.008	0.013	0.032	0.035	0.019	0.119	0.004	0.772	194,824	4	7	17	18	10	62	2	402	0.01	0.01	0.00	0.03	0.00	0.20		
Local	697,660	20	567.094	0.014	0.024	0.049	0.049	0.033	0.143	0.005	1.008	872,235	22	36	75	75	51	220	8	1,550	0.04	0.04	0.03	0.11	0.00	0.78		
TOTAL	13,349,523	28															1,370	1,253	798	4,095	142	26,888	0.68	0.63	0.40	2.05	0.07	13.44

2035 Project (CTP 5)

Facility Type	Daily VMT	Speed	Emission Rates (grams/mile)									Base Pounds per Day							Tons Per Day									
			CO2	CH4	N2O	ROG	PM10	PM 2.5	Nox	Sox	CO	CO2	CH4	N2O	ROG	PM10	PM 2.5	Nox	Sox	CO	ROG	PM10	PM 2.5	Nox	Sox	CO		
Freeway	5,045,075	58	391.903	0.008	0.013	0.047	0.035	0.02	0.141	0.004	0.841	4,358,936	89	150	523	389	222	1,568	44	9,354	0.26	0.19	0.11	0.78	0.02	4.68		
Highway/Expressway	877,351	42	374.326	0.008	0.013	0.032	0.034	0.019	0.119	0.004	0.763	724,032	15	26	62	66	37	230	8	1,476	0.03	0.03	0.02	0.12	0.00	0.74		
Arterial	4,954,095	16	662.148	0.017	0.029	0.06	0.056	0.04	0.157	0.006	1.093	7,231,921	186	313	655	612	437	1,715	66	11,938	0.33	0.31	0.22	0.86	0.03	5.97		
Collector	1,056,051	30	438.810	0.010	0.017	0.036	0.039	0.023	0.125	0.004	0.857	1,021,634	23	39	84	91	54	291	9	1,995	0.04	0.05	0.03	0.15	0.00	1.00		
Freeway Ramps	224,339	40	374.326	0.008	0.013	0.032	0.035	0.019	0.119	0.004	0.772	185,135	4	7	16	17	9	59	2	382	0.01	0.01	0.00	0.03	0.00	0.19		
Local	632,104	20	567.094	0.014	0.024	0.049	0.049	0.033	0.143	0.005	1.008	790,275	20	33	68	68	46	199	7	1,405	0.03	0.03	0.02	0.10	0.00	0.70		
TOTAL	12,789,015	26															1,408	1,243	805	4,062	136	26,549	0.70	0.62	0.40	2.03	0.07	13.27

2035 Project (CTP 6)

Facility Type	Daily VMT	Speed	Emission Rates (grams/mile)									Base Pounds per Day							Tons Per Day									
			CO2	CH4	N2O	ROG	PM10	PM 2.5	Nox	Sox	CO	CO2	CH4	N2O	ROG	PM10	PM 2.5	Nox	Sox	CO	ROG	PM10	PM 2.5	Nox	Sox	CO		
Freeway	4,813,666	60	391.903	0.008	0.013	0.049	0.035	0.02	0.144	0.004	0.86	4,158,999	85	143	520	371	212	1,528	42	9,127	0.26	0.19	0.11	0.76	0.02	4.56		
Highway/Expressway	900,389	43	374.326	0.008	0.013	0.033	0.034	0.019	0.119	0.004	0.759	743,044	16	27	66	67	38	236	8	1,507	0.03	0.03	0.02	0.12	0.00	0.75		
Arterial	4,400,116	21	662.148	0.017	0.029	0.047	0.047	0.031	0.141	0.005	0.989	6,423,229	165	278	456	456	301	1,368	49	9,594	0.23	0.23	0.15	0.68	0.02	4.80		
Collector	916,325	31	438.810	0.010	0.017	0.035	0.038	0.023	0.124	0.004	0.846	886,462	20	34	71	77	46	250	8	1,709	0.04	0.04	0.02	0.13	0.00	0.85		
Freeway Ramps	212,332	41	374.326	0.008	0.013	0.032	0.034	0.019	0.119	0.004	0.767	175,227	4	6	15	16	9	56	2	359	0.01	0.01	0.00	0.03	0.00	0.18		
Local	554,944	20	567.094	0.014	0.024	0.049	0.049	0.033	0.143	0.005	1.008	693,807	17	29	60	60	40	175	6	1,233	0.03	0.03	0.02	0.09	0.00	0.62		
TOTAL	11,797,772	31															1,187	1,047	646	3,613	115	23,528	0.59	0.52	0.32	1.81	0.06	11.76