Appendix J

Air Quality, Greenhouse Gas, and Health Risk Assessment Supporting Documentation

Construction – Unmitigated Summary and Calculations

Code	Description	Start Year	Working Days	2023	2024	2025
CerMerAlign	CERES TO MERCED EXTENSION ALIGNMENT					
CerMerAlignSW	Site Work	2023	196	196		
CerMerAlignRW	Rail Work	2024	168		168	
CerMerAlignStr	Structures	2023	336	240	96	
MerLayMain	MERCED LAYOVER & MAINTENANCE FACILITY					
MerLayMainSW	Site Work	2023	168	168		
MerLayMainRW	Rail Work	2023	56	56		
MerLayMainStr	Structures	2023	252	16	236	
MerStat	MERCED STATION					
MerStatSW	Site Work	2024	112		112	
MerStatRW	Rail Work	N/A	0			
MerStatStr	Structures	2024	56		56	
LivStat	LIVINGSTON STATION					
LivStatSW	Site Work	2024	112		112	
LivStatRW	Rail Work	N/A				
LivStatStr	Structures	2024	84		84	
AtwatStat	ATWATER STATION ALTERNATIVE					
AtwatStatSW	Site Work	2024	112		112	
AtwatStatRW	Rail Work	N/A				
AtwatStatStr	Structures	2024	84		84	
TurStat	TURLOCK STATION					
TurStatSW	Site Work	2024	112		112	
TurStatRW	Rail Work					
TurStatStr	Structures	2024	112		112	

Code	Working Days			2023 Pounds per day								2023 Metric tons per day				2023 Gal/day
	2023	2024	2025	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign				3	28	21	1	1	9	4	0	3	0	0	3	279
CerMerAlignSW	196	0	0	2	18	9	1	1	8	4	0	1	0	0	2	146
CerMerAlignRW	0	168	0													
CerMerAlignStr	240	96	0	1	11	12	0	0	1	0	0	1	0	0	1	133
MerLayMain				10	106	39	4	4	12	6	0	5	0	0	5	500
MerLayMainSW	168	0	0	2	18	9	1	1	8	4	0	1	0	0	2	146
MerLayMainRW	56	0	0	7	77	19	3	3	3	1	0	2	0	0	2	221
MerLayMainStr	16	236	0	1	11	12	0	0	1	0	0	1	0	0	1	133
MerStat				0	0	0	0	0	0	0	0	0	0	0	0	0
MerStatSW	0	112	0													
MerStatRW	0	0	0													
MerStatStr	0	56	0													
LivStat				0	0	0	0	0	0	0	0	0	0	0	0	0
LivStatSW	0	112	0													
LivStatRW	0	0	0													
LivStatStr	0	84	0													
AtwatStat				0	0	0	0	0	0	0	0	0	0	0	0	0
AtwatStatSW	0	112	0													
AtwatStatRW	0	0	0													
AtwatStatStr	0	84	0													
TurStat				0	0	0	0	0	0	0	0	0	0	0	0	0
TurStatSW	0	112	0													
TurStatRW	0	0	0													
TurStatStr	0	112	0													
				0	0	0	0	0	0	0	0	0	0	0	0	0

Code	2024 Pounds per day								2024 Metric tons per day				2024 Gal/day
	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign	8	87	30	3	3	4	2	0	4	0	0	4	352
CerMerAlignSW													
CerMerAlignRW	7	77	18	3	3	3	1	0	2	0	0	2	220
CerMerAlignStr	1	10	12	0	0	1	0	0	1	0	0	1	132
MerLayMain	1	10	12	0	0	1	0	0	1	0	0	1	132
MerLayMainSW													
MerLayMainRW													
MerLayMainStr	1	10	12	0	0	1	0	0	1	0	0	1	132
MerStat	3	27	20	1	1	8	4	0	3	0	0	3	277
MerStatSW	2	17	9	1	1	7	4	0	1	0	0	2	145
MerStatRW													
MerStatStr	1	10	12	0	0	1	0	0	1	0	0	1	132
LivStat	3	27	20	1	1	8	4	0	3	0	0	3	277
LivStatSW	2	17	9	1	1	7	4	0	1	0	0	2	145
LivStatRW													
LivStatStr	1	10	12	0	0	1	0	0	1	0	0	1	132
AtwatStat	3	27	20	1	1	8	4	0	3	0	0	3	277
AtwatStatSW	2	17	9	1	1	7	4	0	1	0	0	2	145
AtwatStatRW													
AtwatStatStr	1	10	12	0	0	1	0	0	1	0	0	1	132
TurStat	3	27	20	1	1	8	4	0	3	0	0	3	277
TurStatSW	2	17	9	1	1	7	4	0	1	0	0	2	145
TurStatRW													
TurStatStr	1	10	12	0	0	1	0	0	1	0	0	1	132
	0	0	0	0	0	0	0	0	0	0	0	0	0

Code	2025 Pounds per day								2025 Metric tons per day				2025 Gal/day
	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign	0	0	0	0	0	0	0	0	0	0	0	0	0
MerLayMain	0	0	0	0	0	0	0	0	0	0	0	0	0
MerStat	0	0	0	0	0	0	0	0	0	0	0	0	0
LivStat	0	0	0	0	0	0	0	0	0	0	0	0	0
AtwatStat	0	0	0	0	0	0	0	0	0	0	0	0	0
TurStat	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0

Code	Working Days			2023 Tons per year								2023 Metric tons per year				2023 Gal/yr
	2023	2024	2025	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign				0	3	2	0	0	1	0	0	608	0	0	620	60,577
CerMerAlignSW	196	0	0	0	2	1	0	0	1	0	0	290	0	0	298	28,634
CerMerAlignRW	0	168	0													
CerMerAlignStr	240	96	0	0	1	1	0	0	0	0	0	319	0	0	323	31,943
MerLayMain				0	4	1	0	0	1	0	0	394	0	0	403	39,026
MerLayMainSW	168	0	0	0	1	1	0	0	1	0	0	248	0	0	255	24,543
MerLayMainRW	56	0	0	0	2	1	0	0	0	0	0	124	0	0	126	12,353
MerLayMainStr	16	236	0	0	0	0	0	0	0	0	0	21	0	0	22	2,130
MerStat				0	0	0	0	0	0	0	0	0	0	0	0	0
MerStatSW	0	112	0													
MerStatRW	0	0	0													
MerStatStr	0	56	0													
LivStat				0	0	0	0	0	0	0	0	0	0	0	0	0
LivStatSW	0	112	0													
LivStatRW	0	0	0													
LivStatStr	0	84	0													
AtwatStat				0	0	0	0	0	0	0	0	0	0	0	0	0
AtwatStatSW	0	112	0													
AtwatStatRW	0	0	0													
AtwatStatStr	0	84	0													
TurStat				0	0	0	0	0	0	0	0	0	0	0	0	0
TurStatSW	0	112	0													
TurStatRW	0	0	0													
TurStatStr	0	112	0													
				0	0	0	0	0	0	0	0	0	0	0	0	0

Code	2024 Tons per year								2024 Metric tons per year				2024 Gal/year
	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign	1	7	2	0	0	0	0	0	499	0	0	505	49,627
CerMerAlignSW													
CerMerAlignRW	1	6	2	0	0	0	0	0	372	0	0	377	36,926
CerMerAlignStr	0	0	1	0	0	0	0	0	127	0	0	128	12,701
MerLayMain	0	1	1	0	0	0	0	0	312	0	0	316	31,222
MerLayMainSW													
MerLayMainRW													
MerLayMainStr	0	1	1	0	0	0	0	0	312	0	0	316	31,222
MerStat	0	1	1	0	0	0	0	0	238	0	0	244	23,666
MerStatSW	0	1	0	0	0	0	0	0	164	0	0	169	16,257
MerStatRW													
MerStatStr	0	0	0	0	0	0	0	0	74	0	0	75	7,409
LivStat	0	1	1	0	0	0	0	0	275	0	0	281	27,370
LivStatSW	0	1	0	0	0	0	0	0	164	0	0	169	16,257
LivStatRW													
LivStatStr	0	0	0	0	0	0	0	0	111	0	0	112	11,113
AtwatStat	0	1	1	0	0	0	0	0	275	0	0	281	27,370
AtwatStatSW	0	1	0	0	0	0	0	0	164	0	0	169	16,257
AtwatStatRW													
AtwatStatStr	0	0	0	0	0	0	0	0	111	0	0	112	11,113
TurStat	0	2	1	0	0	0	0	0	312	0	0	319	31,074
TurStatSW	0	1	0	0	0	0	0	0	164	0	0	169	16,257
TurStatRW													
TurStatStr	0	1	1	0	0	0	0	0	148	0	0	150	14,817
	0	0	0	0	0	0	0	0	0	0	0	0	0

Code	2025 Tons per year								2025 Metric tons per year				2025 Gal/yr
	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign	0	0	0	0	0	0	0	0	0	0	0	0	0
MerLayMain	0	0	0	0	0	0	0	0	0	0	0	0	0
MerStat	0	0	0	0	0	0	0	0	0	0	0	0	0
LivStat	0	0	0	0	0	0	0	0	0	0	0	0	0
AtwatStat	0	0	0	0	0	0	0	0	0	0	0	0	0
TurStat	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0

Offroad Calculations Location Onsite

														g/hp-hr (CalEEMod)											Pounds per day								Metric tons per day				Gal per day
Activity	**Year**	**Equip**	**#/day**	**Site hrs/day**	**Burden**	**Op hrs/day**	**CMOD Equipment Type**	**HP Bin**	**HP**	**LF**	**Fuel**	**Fuel (gal/day)**	**Concat**	**ROG**	**NOX**	**CO**	**PM10**	**PM2.5**	**PM10 D**	**PM2.5 D**	**SO2**	**CO2**	**CH4**	**N2O**	**ROG**	**NOX**	**CO**	**PM10**	**PM2.5**	**PM10 D**	**PM2.5 D**	**SO2**	**CO2**	**CH4**	**N2O**	**CO2e**	**Fuel**
Site Work	2023	Grader	1	7	0.6	4	Graders	175	187	0.4	Diesel	15	2023Graders175	0.4	3.5	3.5	0.2	0.2			0.0	478.5	0.2	0.0	0.3	2.5	2.4	0.1	0.1			0.0	0.2	0.0	0.0	0.2	15
Site Work	2023	D6 Dozer	2	7	0.7	5	Rubber Tired Dozers	250	247	0.4	Diesel	44	2023Rubber Tired Dozers250	0.4	4.1	1.8	0.2	0.2			0.0	474.6	0.2	0.0	0.8	8.6	3.8	0.4	0.4			0.0	0.5	0.0	0.0	0.5	44
Site Work	2023	D8 Dozer	1	6	0.6	4	Rubber Tired Dozers	250	247	0.4	Diesel	16	2023Rubber Tired Dozers250	0.4	4.1	1.8	0.2	0.2			0.0	474.6	0.2	0.0	0.3	3.2	1.4	0.1	0.1			0.0	0.2	0.0	0.0	0.2	16
Site Work	2023	Compactor	2	6	0.6	4	Plate Compactors	15	8	0.4	Diesel	1	2023Plate Compactors15	0.7	4.1	3.5	0.2	0.2			0.0	568.3	0.1	0.0	0.0	0.2	0.2	0.0	0.0			0.0	0.0	0.0	0.0	0.0	1
													2023 Site Work												1.4	14.5	7.8	0.7	0.6			0.0	0.8	0.0	0.0	0.8	77
Site Work	2024	Grader	1	7	0.6	4	Graders	175	187	0.4	Diesel	15	2024Graders175	0.4	3.2	3.4	0.2	0.2			0.0	478.5	0.2	0.0	0.3	2.3	2.4	0.1	0.1			0.0	0.2	0.0	0.0	0.2	15
Site Work	2024	D6 Dozer	2	7	0.7	5	Rubber Tired Dozers	250	247	0.4	Diesel	44	2024Rubber Tired Dozers250	0.4	4.1	1.8	0.2	0.2			0.0	474.6	0.2	0.0	0.8	8.6	3.8	0.4	0.4			0.0	0.5	0.0	0.0	0.5	44
Site Work	2024	D8 Dozer	1	6	0.6	4	Rubber Tired Dozers	250	247	0.4	Diesel	16	2024Rubber Tired Dozers250	0.4	4.1	1.8	0.2	0.2			0.0	474.6	0.2	0.0	0.3	3.2	1.4	0.1	0.1			0.0	0.2	0.0	0.0	0.2	16
Site Work	2024	Compactor	2	6	0.6	4	Plate Compactors	15	8	0.4	Diesel	1	2024Plate Compactors15	0.7	4.1	3.5	0.2	0.2			0.0	568.3	0.1	0.0	0.0	0.2	0.2	0.0	0.0			0.0	0.0	0.0	0.0	0.0	1
													2024 Site Work												1.4	14.3	7.8	0.7	0.6			0.0	0.8	0.0	0.0	0.8	77
Site Work	2025	Grader	1	7	0.6	4	Graders	175	187	0.4	Diesel	15	2025Graders175	0.3	2.8	3.4	0.2	0.1			0.0	478.5	0.2	0.0	0.2	2.0	2.4	0.1	0.1			0.0	0.2	0.0	0.0	0.2	15
Site Work	2025	D6 Dozer	2	7	0.7	5	Rubber Tired Dozers	250	247	0.4	Diesel	44	2025Rubber Tired Dozers250	0.4	3.8	1.7	0.2	0.2			0.0	474.6	0.2	0.0	0.8	8.0	3.6	0.4	0.3			0.0	0.5	0.0	0.0	0.5	44
Site Work	2025	D8 Dozer	1	6	0.6	4	Rubber Tired Dozers	250	247	0.4	Diesel	16	2025Rubber Tired Dozers250	0.4	3.8	1.7	0.2	0.2			0.0	474.6	0.2	0.0	0.3	2.9	1.3	0.1	0.1			0.0	0.2	0.0	0.0	0.2	16
Site Work	2025	Compactor	2	6	0.6	4	Plate Compactors	15	8	0.4	Diesel	1	2025Plate Compactors15	0.7	4.1	3.5	0.2	0.2			0.0	568.3	0.1	0.0	0.0	0.2	0.2	0.0	0.0			0.0	0.0	0.0	0.0	0.0	1
													2025 Site Work												1.3	13.2	7.6	0.6	0.5			0.0	0.8	0.0	0.0	0.8	77
Rail Work	2023	D6 Dozer	1	6	0.5	3	Rubber Tired Dozers	250	247	0.4	Diesel	14	2023Rubber Tired Dozers250	0.4	4.1	1.8	0.2	0.2			0.0	474.6	0.2	0.0	0.3	2.6	1.2	0.1	0.1			0.0	0.1	0.0	0.0	0.1	14
Rail Work	2023	Grader	1	6	0.5	3	Graders	175	187	0.4	Diesel	11	2023Graders175	0.4	3.5	3.5	0.2	0.2			0.0	478.5	0.2	0.0	0.2	1.8	1.7	0.1	0.1			0.0	0.1	0.0	0.0	0.1	11
Rail Work	2023	Tamper	1	4	0.4	2	Other Construction Equipment	120	100	0.4	Diesel	3	2023Other Construction Equipment120	0.4	3.8	3.6	0.3	0.2			0.0	472.0	0.2	0.0	0.1	0.6	0.5	0.0	0.0			0.0	0.0	0.0	0.0	0.0	3
Rail Work	2023	Alligner	1	4	0.4	2	Other Construction Equipment	120	100	0.4	Diesel	3	2023Other Construction Equipment120	0.4	3.8	3.6	0.3	0.2			0.0	472.0	0.2	0.0	0.1	0.6	0.5	0.0	0.0			0.0	0.0	0.0	0.0	0.0	3
Rail Work	2023	Swinger	1	5	0.3	2	Other Construction Equipment	50	50	0.4	Diesel	2	2023Other Construction Equipment50	0.9	4.6	5.1	0.3	0.3			0.0	529.3	0.2	0.0	0.1	0.3	0.3	0.0	0.0			0.0	0.0	0.0	0.0	0.0	2
Rail Work	2023	Welders	3	5	0.6	3	Welders	50	46	0.5	Diesel	10	2023Welders50	0.7	3.9	4.6	0.2	0.2			0.0	568.3	0.1	0.0	0.3	1.6	1.9	0.1	0.1			0.0	0.1	0.0	0.0	0.1	10
Rail Work	2023	Crane	1	5	0.6	3	Cranes	250	231	0.3	Diesel	9	2023Cranes250	0.3	3.2	1.6	0.1	0.1			0.0	473.0	0.2	0.0	0.1	1.4	0.7	0.1	0.1			0.0	0.1	0.0	0.0	0.1	9
Rail Work	2023	Wheel Loader	1	5	0.5	2	Rubber Tired Loaders	250	203	0.4	Diesel	8	2023Rubber Tired Loaders250	0.2	2.1	1.2	0.1	0.1			0.0	469.8	0.2	0.0	0.1	0.8	0.4	0.0	0.0			0.0	0.1	0.0	0.0	0.1	8
													2023 Rail Work												1.1	9.6	7.3	0.5	0.4			0.0	0.6	0.0	0.0	0.6	59
Rail Work	2024	D6 Dozer	1	6	0.5	3	Rubber Tired Dozers	250	247	0.4	Diesel	14	2024Rubber Tired Dozers250	0.4	4.1	1.8	0.2	0.2			0.0	474.6	0.2	0.0	0.3	2.6	1.2	0.1	0.1			0.0	0.1	0.0	0.0	0.1	14
Rail Work	2024	Grader	1	6	0.5	3	Graders	175	187	0.4	Diesel	11	2024Graders175	0.4	3.2	3.4	0.2	0.2			0.0	478.5	0.2	0.0	0.2	1.6	1.7	0.1	0.1			0.0	0.1	0.0	0.0	0.1	11
Rail Work	2024	Tamper	1	4	0.4	2	Other Construction Equipment	120	100	0.4	Diesel	3	2024Other Construction Equipment120	0.4	3.6	3.6	0.2	0.2			0.0	472.1	0.2	0.0	0.1	0.5	0.5	0.0	0.0			0.0	0.0	0.0	0.0	0.0	3
Rail Work	2024	Alligner	1	4	0.4	2	Other Construction Equipment	120	100	0.4	Diesel	3	2024Other Construction Equipment120	0.4	3.6	3.6	0.2	0.2			0.0	472.1	0.2	0.0	0.1	0.5	0.5	0.0	0.0			0.0	0.0	0.0	0.0	0.0	3
Rail Work	2024	Swinger	1	5	0.3	2	Other Construction Equipment	50	50	0.4	Diesel	2	2024Other Construction Equipment50	0.8	4.5	5.0	0.3	0.3			0.0	529.2	0.2	0.0	0.1	0.3	0.3	0.0	0.0			0.0	0.0	0.0	0.0	0.0	2
Rail Work	2024	Welders	3	5	0.6	3	Welders	50	46	0.5	Diesel	10	2024Welders50	0.6	3.8	4.6	0.1	0.1			0.0	568.3	0.1	0.0	0.3	1.6	1.9	0.1	0.1			0.0	0.1	0.0	0.0	0.1	10
Rail Work	2024	Crane	1	5	0.6	3	Cranes	250	231	0.3	Diesel	9	2024Cranes250	0.3	3.0	1.5	0.1	0.1			0.0	473.0	0.2	0.0	0.1	1.3	0.7	0.1	0.1			0.0	0.1	0.0	0.0	0.1	9
Rail Work	2024	Wheel Loader	1	5	0.5	2	Rubber Tired Loaders	250	203	0.4	Diesel	8	2024Rubber Tired Loaders250	0.2	1.8	1.2	0.1	0.1			0.0	469.8	0.2	0.0	0.1	0.7	0.4	0.0	0.0			0.0	0.1	0.0	0.0	0.1	8
													2024 Rail Work												1.1	9.1	7.3	0.4	0.4			0.0	0.6	0.0	0.0	0.6	59
Rail Work	2025	D6 Dozer	1	6	0.5	3	Rubber Tired Dozers	250	247	0.4	Diesel	14	2025Rubber Tired Dozers250	0.4	3.8	1.7	0.2	0.2			0.0	474.6	0.2	0.0	0.2	2.5	1.1	0.1	0.1			0.0	0.1	0.0	0.0	0.1	14
Rail Work	2025	Grader	1	6	0.5	3	Graders	175	187	0.4	Diesel	11	2025Graders175	0.3	2.8	3.4	0.2	0.1			0.0	478.5	0.2	0.0	0.2	1.4	1.7	0.1	0.1			0.0	0.1	0.0	0.0	0.1	11
Rail Work	2025	Tamper	1	4	0.4	2	Other Construction Equipment	120	100	0.4	Diesel	3	2025Other Construction Equipment120	0.3	3.3	3.6	0.2	0.2			0.0	472.7	0.2	0.0	0.0	0.5	0.5	0.0	0.0			0.0	0.0	0.0	0.0	0.0	3
Rail Work	2025	Alligner	1	4	0.4	2	Other Construction Equipment	120	100	0.4	Diesel	3	2025Other Construction Equipment120	0.3	3.3	3.6	0.2	0.2			0.0	472.7	0.2	0.0	0.0	0.5	0.5	0.0	0.0			0.0	0.0	0.0	0.0	0.0	3
Rail Work	2025	Swinger	1	5	0.3	2	Other Construction Equipment	50	50	0.4	Diesel	2	2025Other Construction Equipment50	0.8	4.3	4.9	0.3	0.2			0.0	529.0	0.2	0.0	0.1	0.3	0.3	0.0	0.0			0.0	0.0	0.0	0.0	0.0	2
Rail Work	2025	Welders	3	5	0.6	3	Welders	50	46	0.5	Diesel	10	2025Welders50	0.6	3.7	4.5	0.1	0.1			0.0	568.3	0.1	0.0	0.2	1.5	1.9	0.0	0.0			0.0	0.1	0.0	0.0	0.1	10
Rail Work	2025	Crane	1	5	0.6	3	Cranes	250	231	0.3	Diesel	9	2025Cranes250	0.3	2.7	1.5	0.1	0.1			0.0	473.0	0.2	0.0	0.1	1.2	0.6	0.1	0.0			0.0	0.1	0.0	0.0	0.1	9
Rail Work	2025	Wheel Loader	1	5	0.5	2	Rubber Tired Loaders	250	203	0.4	Diesel	8	2025Rubber Tired Loaders250	0.2	1.4	1.1	0.0	0.0			0.0	469.9	0.2	0.0	0.1	0.5	0.4	0.0	0.0			0.0	0.1	0.0	0.0	0.1	8
													2025 Rail Work												1.0	8.3	7.1	0.4	0.3			0.0	0.6	0.0	0.0	0.6	59
Structures	2023	Generator	2	9	0.8	7	Generator Sets	120	84	0.7	Diesel	50	2023Generator Sets120	0.3	2.5	3.3	0.1	0.1			0.0	568.3	0.0	0.0	0.6	4.9	6.6	0.2	0.2			0.0	0.5	0.0	0.0	0.5	50
Structures	2023	Crane	1	5	0.6	3	Cranes	250	231	0.3	Diesel	9	2023Cranes250	0.3	3.2	1.6	0.1	0.1			0.0	473.0	0.2	0.0	0.1	1.4	0.7	0.1	0.1			0.0	0.1	0.0	0.0	0.1	9
Structures	2023	Concrete Pump	1	7	0.2	1	Pumps	120	84	0.7	Diesel	5	2023Pumps120	0.3	2.5	3.4	0.1	0.1			0.0	568.3	0.0	0.0	0.1	0.5	0.7	0.0	0.0			0.0	0.0	0.0	0.0	0.0	5
Structures	2023	Wheel Loader	4	4	0.4	2	Rubber Tired Loaders	250	203	0.4	Diesel	22	2023Rubber Tired Loaders250	0.2	2.1	1.2	0.1	0.1			0.0	469.8	0.2	0.0	0.2	2.1	1.2	0.1	0.1			0.0	0.2	0.0	0.0	0.2	22
Structures	2023	Welders	2	5	0.5	3	Welders	50	46	0.5	Diesel	6	2023Welders50	0.7	3.9	4.6	0.2	0.2			0.0	568.3	0.1	0.0	0.2	0.9	1.0	0.0	0.0			0.0	0.1	0.0	0.0	0.1	6
													2023 Structures												1.1	9.8	10.2	0.4	0.4			0.0	0.9	0.0	0.0	0.9	91
Structures	2024	Generator	2	9	0.8	7	Generator Sets	120	84	0.7	Diesel	50	2024Generator Sets120	0.3	2.3	3.3	0.1	0.1			0.0	568.3	0.0	0.0	0.5	4.6	6.6	0.2	0.2			0.0	0.5	0.0	0.0	0.5	50
Structures	2024	Crane	1	5	0.6	3	Cranes	250	231	0.3	Diesel	9	2024Cranes250	0.3	3.0	1.5	0.1	0.1			0.0	473.0	0.2	0.0	0.1	1.3	0.7	0.1	0.1			0.0	0.1	0.0	0.0	0.1	9
Structures	2024	Concrete Pump	1	7	0.2	1	Pumps	120	84	0.7	Diesel	5	2024Pumps120	0.3	2.4	3.4	0.1	0.1			0.0	568.3	0.0	0.0	0.1	0.5	0.7	0.0	0.0			0.0	0.0	0.0	0.0	0.0	5
Structures	2024	Wheel Loader	4	4	0.4	2	Rubber Tired Loaders	250	203	0.4	Diesel	22	2024Rubber Tired Loaders250	0.2	1.8	1.2	0.1	0.1			0.0	469.8	0.2	0.0	0.2	1.9	1.2	0.1	0.1			0.0	0.2	0.0	0.0	0.2	22
Structures	2024	Welders	2	5	0.5	3	Welders	50	46	0.5	Diesel	6	2024Welders50	0.6	3.8	4.6	0.1	0.1			0.0	568.3	0.1	0.0	0.1	0.9	1.0	0.0	0.0			0.0	0.1	0.0	0.0	0.1	6
													2024 Structures												1.0	9.1	10.1	0.4	0.4			0.0	0.9	0.0	0.0	0.9	91
Structures	2025	Generator	2	9	0.8	7	Generator Sets	120	84	0.7	Diesel	50	2025Generator Sets120	0.2	2.2	3.3	0.1	0.1			0.0	568.3	0.0	0.0	0.5	4.3	6.6	0.2	0.2			0.0	0.5	0.0	0.0	0.5	50
Structures	2025	Crane	1	5	0.6	3	Cranes	250	231	0.3	Diesel	9	2025Cranes250	0.3	2.7	1.5	0.1	0.1			0.0	473.0	0.2	0.0	0.1	1.2	0.6	0.1	0.0			0.0	0.1	0.0	0.0	0.1	9
Structures	2025	Concrete Pump	1	7	0.2	1	Pumps	120	84	0.7	Diesel	5	2025Pumps120	0.3	2.2	3.4	0.1	0.1			0.0	568.3	0.0	0.0	0.1	0.4	0.7	0.0	0.0			0.0	0.0	0.0	0.0	0.0	5
Structures	2025	Wheel Loader	4	4	0.4	2	Rubber Tired Loaders	250	203	0.4	Diesel	22	2025Rubber Tired Loaders250	0.2	1.4	1.1	0.0	0.0			0.0	469.9	0.2	0.0	0.2	1.5	1.2	0.0	0.0			0.0	0.2	0.0	0.0	0.2	22
Structures	2025	Welders	2	5	0.5	3	Welders	50	46	0.5	Diesel	6	2025Welders50	0.6	3.7	4.5	0.1	0.1			0.0	568.3	0.1	0.0	0.1	0.8	1.0	0.0	0.0			0.0	0.1	0.0	0.0	0.1	6
													2025 Structures												1.0	8.2	10.1	0.3	0.3			0.0	0.9	0.0	0.0	0.9	91

Offroad	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
2023 Site Work	1	15	8	1	1	0	0	0	1	0	0	1	77
2024 Site Work	1	14	8	1	1	0	0	0	1	0	0	1	77
2025 Site Work	1	13	8	1	1	0	0	0	1	0	0	1	77
2023 Rail Work	1	10	7	0	0	0	0	0	1	0	0	1	59
2024 Rail Work	1	9	7	0	0	0	0	0	1	0	0	1	59
2025 Rail Work	1	8	7	0	0	0	0	0	1	0	0	1	59
2023 Structures	1	10	10	0	0	0	0	0	1	0	0	1	91
2024 Structures	1	9	10	0	0	0	0	0	1	0	0	1	91
2025 Structures	1	8	10	0	0	0	0	0	1	0	0	1	91

Employee Onroad Calculat Location Onsite

Activity	Year	Concat	Vehicle	Employee/ Day	Trips/ Day	Mi/Day	Fuel	Fuel (gal/day)	Vehicle	g/mi (EMFAC, AP 42)										
										ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O
2023 Site Work	2023	2023LDA-LDT	Employee Auto	11	22	370	Gas	10	LDA-LDT	0.0	0.0	0.6	0.0	0.0	0.3	0.1	0.0	234	0.0	0.0
2024 Site Work	2024	2024LDA-LDT	Employee Auto	11	22	370	Gas	10	LDA-LDT	0.0	0.0	0.5	0.0	0.0	0.3	0.1	0.0	230	0.0	0.0
2025 Site Work	2025	2025LDA-LDT	Employee Auto	11	22	370	Gas	9	LDA-LDT	0.0	0.0	0.5	0.0	0.0	0.3	0.1	0.0	225	0.0	0.0
2023 Rail Work	2023	2023LDA-LDT	Employee Auto	24	48	806	Gas	22	LDA-LDT	0.0	0.0	0.6	0.0	0.0	0.3	0.1	0.0	234	0.0	0.0
2024 Rail Work	2024	2024LDA-LDT	Employee Auto	24	48	806	Gas	21	LDA-LDT	0.0	0.0	0.5	0.0	0.0	0.3	0.1	0.0	230	0.0	0.0
2025 Rail Work	2025	2025LDA-LDT	Employee Auto	24	48	806	Gas	21	LDA-LDT	0.0	0.0	0.5	0.0	0.0	0.3	0.1	0.0	225	0.0	0.0
2023 Structures	2023	2023LDA-LDT	Employee Auto	24	48	806	Gas	22	LDA-LDT	0.0	0.0	0.6	0.0	0.0	0.3	0.1	0.0	234	0.0	0.0
2024 Structures	2024	2024LDA-LDT	Employee Auto	24	48	806	Gas	21	LDA-LDT	0.0	0.0	0.5	0.0	0.0	0.3	0.1	0.0	230	0.0	0.0
2025 Structures	2025	2025LDA-LDT	Employee Auto	24	48	806	Gas	21	LDA-LDT	0.0	0.0	0.5	0.0	0.0	0.3	0.1	0.0	225	0.0	0.0

Activity	Pounds per day								Metric tons per day				Gal per day
	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
2023 Site Work	0.0	0.0	0.5	0.0	0.0	0.3	0.1	0.0	0	0.0	0.0	0	10
2024 Site Work	0.0	0.0	0.4	0.0	0.0	0.3	0.1	0.0	0	0.0	0.0	0	10
2025 Site Work	0.0	0.0	0.4	0.0	0.0	0.3	0.1	0.0	0	0.0	0.0	0	9
2023 Rail Work	0.0	0.1	1.0	0.0	0.0	0.6	0.2	0.0	0	0.0	0.0	0	22
2024 Rail Work	0.0	0.1	1.0	0.0	0.0	0.6	0.2	0.0	0	0.0	0.0	0	21
2025 Rail Work	0.0	0.1	0.9	0.0	0.0	0.6	0.2	0.0	0	0.0	0.0	0	21
2023 Structures	0.0	0.1	1.0	0.0	0.0	0.6	0.2	0.0	0	0.0	0.0	0	22
2024 Structures	0.0	0.1	1.0	0.0	0.0	0.6	0.2	0.0	0	0.0	0.0	0	21
2025 Structures	0.0	0.1	0.9	0.0	0.0	0.6	0.2	0.0	0	0.0	0.0	0	21

Employee	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
2023 Site Work	0	0	0	0	0	0	0	0	0	0	0	0	10
2024 Site Work	0	0	0	0	0	0	0	0	0	0	0	0	10
2025 Site Work	0	0	0	0	0	0	0	0	0	0	0	0	9
2023 Rail Work	0	0	1	0	0	1	0	0	0	0	0	0	22
2024 Rail Work	0	0	1	0	0	1	0	0	0	0	0	0	21
2025 Rail Work	0	0	1	0	0	1	0	0	0	0	0	0	21
2023 Structures	0	0	1	0	0	1	0	0	0	0	0	0	22
2024 Structures	0	0	1	0	0	1	0	0	0	0	0	0	21
2025 Structures	0	0	1	0	0	1	0	0	0	0	0	0	21

Activity	Year	Concat	Vehicle	Trucks	RT Mi/ Truck	Fuel	Fuel (gal/day)	Vehicle	g/mi (EMFAC, AP 42)											Pounds per day								Metric tons per day				Gal per day
									ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
Site Work	2023	2023T6Onsite	Water Truck	1	18	Diesel	4	T6Onsite	0.1	6.7	0.8	0.0	0.0	0.3	0.1	0.0	2359	0.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	4
Site Work	2023	2023T7Onsite	Dump Truck	4	9	Diesel	12	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3499	0.0	0.6	0.0	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	12
								2023 Site Work												0.0	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	16
Site Work	2024	2024T6Onsite	Water Truck	1	18	Diesel	4	T6Onsite	0.1	6.9	0.8	0.0	0.0	0.3	0.1	0.0	2333	0.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	4
Site Work	2024	2024T7Onsite	Dump Truck	4	9	Diesel	12	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3455	0.0	0.5	0.0	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	12
								2024 Site Work												0.0	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	16
Site Work	2025	2025T6Onsite	Water Truck	1	18	Diesel	4	T6Onsite	0.1	7.0	0.8	0.0	0.0	0.3	0.1	0.0	2305	0.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	4
Site Work	2025	2025T7Onsite	Dump Truck	4	9	Diesel	12	T7Onsite	0.1	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3413	0.0	0.5	0.0	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	12
								2025 Site Work												0.0	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	16
Rail Work	2023	2023T6Onsite	Water Truck	2	15	Diesel	7	T6Onsite	0.1	6.7	0.8	0.0	0.0	0.3	0.1	0.0	2359	0.0	0.4	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	7
Rail Work	2023	2023T7Onsite	Flat Bed Truck	1	9	Diesel	3	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3499	0.0	0.6	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	3
Rail Work	2023	2023LDTOnsite	Pickup	3	5	Diesel	1	LDTOnsite	0.1	0.2	2.0	0.0	0.0	0.3	0.1	0.0	792	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
Rail Work	2023	2023MDVOnsite	SUV	2	13	Diesel	2	MDVOnsite	0.1	0.2	2.1	0.0	0.0	0.3	0.1	0.0	1009	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Rail Work	2023	2023T7Onsite	Flat Bed Tractor	1	4	Diesel	1	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3499	0.0	0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
								2023 Rail Work												0.0	0.8	0.3	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	15
Rail Work	2024	2024T6Onsite	Water Truck	2	15	Diesel	7	T6Onsite	0.1	6.9	0.8	0.0	0.0	0.3	0.1	0.0	2333	0.0	0.4	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	7
Rail Work	2024	2024T7Onsite	Flat Bed Truck	1	9	Diesel	3	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3455	0.0	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	3
Rail Work	2024	2024LDTOnsite	Pickup	3	5	Diesel	1	LDTOnsite	0.1	0.2	1.8	0.0	0.0	0.3	0.1	0.0	770	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
Rail Work	2024	2024MDVOnsite	SUV	2	13	Diesel	2	MDVOnsite	0.1	0.2	1.9	0.0	0.0	0.3	0.1	0.0	985	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Rail Work	2024	2024T7Onsite	Flat Bed Tractor	1	4	Diesel	1	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3455	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
								2024 Rail Work												0.0	0.8	0.3	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	15
Rail Work	2025	2025T6Onsite	Water Truck	2	15	Diesel	7	T6Onsite	0.1	7.0	0.8	0.0	0.0	0.3	0.1	0.0	2305	0.0	0.4	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	7
Rail Work	2025	2025T7Onsite	Flat Bed Truck	1	9	Diesel	3	T7Onsite	0.1	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3413	0.0	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	3
Rail Work	2025	2025LDTOnsite	Pickup	3	5	Diesel	1	LDTOnsite	0.1	0.1	1.7	0.0	0.0	0.3	0.1	0.0	751	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
Rail Work	2025	2025MDVOnsite	SUV	2	13	Diesel	2	MDVOnsite	0.1	0.2	1.8	0.0	0.0	0.3	0.1	0.0	963	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Rail Work	2025	2025T7Onsite	Flat Bed Tractor	1	4	Diesel	1	T7Onsite	0.1	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3413	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
								2025 Rail Work												0.0	0.8	0.3	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	15
Structures	2023	2023T6Onsite	Water Truck	1	8	Diesel	2	T6Onsite	0.1	6.7	0.8	0.0	0.0	0.3	0.1	0.0	2359	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Structures	2023	2023T7Onsite	Flat Bed Truck	1	8	Diesel	3	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3499	0.0	0.6	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	3
Structures	2023	2023LDTOnsite	Pickup	3	11	Diesel	2	LDTOnsite	0.1	0.2	2.0	0.0	0.0	0.3	0.1	0.0	792	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Structures	2023	2023T6Onsite	Concrete Truck	5	5	Diesel	6	T6Onsite	0.1	6.7	0.8	0.0	0.0	0.3	0.1	0.0	2359	0.0	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	6
								2023 Structures												0.0	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	13
Structures	2024	2024T6Onsite	Water Truck	1	8	Diesel	2	T6Onsite	0.1	6.9	0.8	0.0	0.0	0.3	0.1	0.0	2333	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Structures	2024	2024T7Onsite	Flat Bed Truck	1	8	Diesel	3	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3455	0.0	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	3
Structures	2024	2024LDTOnsite	Pickup	3	11	Diesel	2	LDTOnsite	0.1	0.2	1.8	0.0	0.0	0.3	0.1	0.0	770	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Structures	2024	2024T6Onsite	Concrete Truck	5	5	Diesel	6	T6Onsite	0.1	6.9	0.8	0.0	0.0	0.3	0.1	0.0	2333	0.0	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	6
								2024 Structures												0.0	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	12
Structures	2025	2025T6Onsite	Water Truck	1	8	Diesel	2	T6Onsite	0.1	7.0	0.8	0.0	0.0	0.3	0.1	0.0	2305	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Structures	2025	2025T7Onsite	Flat Bed Truck	1	8	Diesel	3	T7Onsite	0.1	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3413	0.0	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	3
Structures	2025	2025LDTOnsite	Pickup	3	11	Diesel	2	LDTOnsite	0.1	0.1	1.7	0.0	0.0	0.3	0.1	0.0	751	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Structures	2025	2025T6Onsite	Concrete Truck	5	5	Diesel	6	T6Onsite	0.1	7.0	0.8	0.0	0.0	0.3	0.1	0.0	2305	0.0	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	6
								2025 Structures												0.0	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	12

Onsite Onroad	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
2023 Site Work	0	1	0	0	0	0	0	0	0	0	0	0	16
2024 Site Work	0	1	0	0	0	0	0	0	0	0	0	0	16
2025 Site Work	0	1	0	0	0	0	0	0	0	0	0	0	16
2023 Rail Work	0	1	0	0	0	0	0	0	0	0	0	0	15
2024 Rail Work	0	1	0	0	0	0	0	0	0	0	0	0	15
2025 Rail Work	0	1	0	0	0	0	0	0	0	0	0	0	15
2023 Structures	0	1	0	0	0	0	0	0	0	0	0	0	13
2024 Structures	0	1	0	0	0	0	0	0	0	0	0	0	12
2025 Structures	0	1	0	0	0	0	0	0	0	0	0	0	12

Offsite Onroad Calculations Location Offsite

Activity	Year	Concat	Vehicle	Trucks	RT Mi/ Truck	Fuel	Fuel (gal/day)	Vehicle	g/mi (EMFAC, AP 42)											Pounds per day								Metric tons per day				Gal per day
									ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
Site Work	2023	2023T6	Water Truck	0	0	Diesel	0	T6	0.0	1.5	0.1	0.0	0.0	0.4	0.1	0.0	984	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Site Work	2023	2023T7	Dump Truck	4	63	Diesel	43	T7	0.0	3.6	0.4	0.0	0.0	0.4	0.1	0.0	1727	0.0	0.3	0.0	2.0	0.2	0.0	0.0	0.2	0.1	0.0	0	0.0	0.0	0	43
								2023 Site Work												0.0	2.0	0.2	0.0	0.0	0.2	0.1	0.0	0	0.0	0.0	0	43
Site Work	2024	2024T6	Water Truck	0	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	974	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Site Work	2024	2024T7	Dump Truck	4	63	Diesel	42	T7	0.0	3.5	0.4	0.0	0.0	0.4	0.1	0.0	1704	0.0	0.3	0.0	1.9	0.2	0.0	0.0	0.2	0.1	0.0	0	0.0	0.0	0	42
								2024 Site Work												0.0	1.9	0.2	0.0	0.0	0.2	0.1	0.0	0	0.0	0.0	0	42
Site Work	2025	2025T6	Water Truck	0	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	963	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Site Work	2025	2025T7	Dump Truck	4	63	Diesel	42	T7	0.0	3.5	0.4	0.0	0.0	0.4	0.1	0.0	1682	0.0	0.3	0.0	1.9	0.2	0.0	0.0	0.2	0.1	0.0	0	0.0	0.0	0	42
								2025 Site Work												0.0	1.9	0.2	0.0	0.0	0.2	0.1	0.0	0	0.0	0.0	0	42
Rail Work	2023	2023T6	Water Truck	2	0	Diesel	0	T6	0.0	1.5	0.1	0.0	0.0	0.4	0.1	0.0	984	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Rail Work	2023	2023T7	Flat Bed Truck	1	22	Diesel	4	T7	0.0	3.6	0.4	0.0	0.0	0.4	0.1	0.0	1727	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	4
Rail Work	2023	2023LDT	Pickup	3	35	Diesel	3	LDT	0.0	0.1	1.0	0.0	0.0	0.3	0.1	0.0	328	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	3
Rail Work	2023	2023MDV	SUV	0	0	Diesel	0	MDV	0.0	0.2	1.2	0.0	0.0	0.4	0.1	0.0	797	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Rail Work	2023	2023T7	Flat Bed Tractor	1	9	Diesel	1	T7	0.0	3.6	0.4	0.0	0.0	0.4	0.1	0.0	1727	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
								2023 Rail Work												0.0	0.3	0.3	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	9
Rail Work	2024	2024T6	Water Truck	2	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	974	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Rail Work	2024	2024T7	Flat Bed Truck	1	22	Diesel	4	T7	0.0	3.5	0.4	0.0	0.0	0.4	0.1	0.0	1704	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	4
Rail Work	2024	2024LDT	Pickup	3	35	Diesel	3	LDT	0.0	0.1	0.9	0.0	0.0	0.3	0.1	0.0	319	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	3
Rail Work	2024	2024MDV	SUV	0	0	Diesel	0	MDV	0.0	0.1	1.1	0.0	0.0	0.4	0.1	0.0	778	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Rail Work	2024	2024T7	Flat Bed Tractor	1	9	Diesel	1	T7	0.0	3.5	0.4	0.0	0.0	0.4	0.1	0.0	1704	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
								2024 Rail Work												0.0	0.3	0.2	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	8
Rail Work	2025	2025T6	Water Truck	2	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	963	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Rail Work	2025	2025T7	Flat Bed Truck	1	22	Diesel	4	T7	0.0	3.5	0.4	0.0	0.0	0.4	0.1	0.0	1682	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	4
Rail Work	2025	2025LDT	Pickup	3	35	Diesel	3	LDT	0.0	0.1	0.8	0.0	0.0	0.3	0.1	0.0	311	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	3
Rail Work	2025	2025MDV	SUV	0	0	Diesel	0	MDV	0.0	0.1	1.1	0.0	0.0	0.4	0.1	0.0	759	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Rail Work	2025	2025T7	Flat Bed Tractor	1	9	Diesel	1	T7	0.0	3.5	0.4	0.0	0.0	0.4	0.1	0.0	1682	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
								2025 Rail Work												0.0	0.3	0.2	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	8
Structures	2023	2023T6	Water Truck	0	0	Diesel	0	T6	0.0	1.5	0.1	0.0	0.0	0.4	0.1	0.0	984	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Structures	2023	2023LDT	Flat Bed Truck	1	18	Diesel	1	LDT	0.0	0.1	1.0	0.0	0.0	0.3	0.1	0.0	328	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
Structures	2023	2023LDT	Pickup	3	74	Diesel	7	LDT	0.0	0.1	1.0	0.0	0.0	0.3	0.1	0.0	328	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.0	0	0.0	0.0	0	7
Structures	2023	2023T6	Concrete Truck	0	0	Diesel	0	T6	0.0	1.5	0.1	0.0	0.0	0.4	0.1	0.0	984	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
								2023 Structures												0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.0	0	0.0	0.0	0	8
Structures	2024	2024T6	Water Truck	0	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	974	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Structures	2024	2024LDT	Flat Bed Truck	1	18	Diesel	1	LDT	0.0	0.1	0.9	0.0	0.0	0.3	0.1	0.0	319	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
Structures	2024	2024LDT	Pickup	3	74	Diesel	7	LDT	0.0	0.1	0.9	0.0	0.0	0.3	0.1	0.0	319	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0	0	0.0	0.0	0	7
Structures	2024	2024T6	Concrete Truck	0	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	974	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
								2024 Structures												0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.0	0	0.0	0.0	0	7
Structures	2025	2025T6	Water Truck	0	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	963	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Structures	2025	2025LDT	Flat Bed Truck	1	18	Diesel	1	LDT	0.0	0.1	0.8	0.0	0.0	0.3	0.1	0.0	311	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
Structures	2025	2025LDT	Pickup	3	74	Diesel	7	LDT	0.0	0.1	0.8	0.0	0.0	0.3	0.1	0.0	311	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0	0	0.0	0.0	0	7
Structures	2025	2025T6	Concrete Truck	0	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	963	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
								2025 Structures												0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0	0	0.0	0.0	0	7

Offsite Onroad	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
2023 Site Work	0	2	0	0	0	0	0	0	0	0	0	0	43
2024 Site Work	0	2	0	0	0	0	0	0	0	0	0	0	42
2025 Site Work	0	2	0	0	0	0	0	0	0	0	0	0	42
2023 Rail Work	0	0	0	0	0	0	0	0	0	0	0	0	9
2024 Rail Work	0	0	0	0	0	0	0	0	0	0	0	0	8
2025 Rail Work	0	0	0	0	0	0	0	0	0	0	0	0	8
2023 Structures	0	0	1	0	0	0	0	0	0	0	0	0	8
2024 Structures	0	0	0	0	0	0	0	0	0	0	0	0	7
2025 Structures	0	0	0	0	0	0	0	0	0	0	0	0	7

Locomotive Calculations Location Offsite

Code	Year	Loco	Engine Tier	#/day	Site hrs/day	Burden	Op hrs/day	HP	LF	Fuel	Fuel (gal/day)	g/hp-hr											Pounds per day								Metric tons per day				Gal per day
												ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
2023 Rail Work	2023	DSL LOCOMOTIVE	0	1	5	0.4	2	1500	0.8	Diesel	116	1.1	12.6	1.8	0.4	0.4			0.0	494.0	0.0	0.0	5.6	66.7	9.7	2.3	2.3			0.0	1.2	0.0	0.0	1.2	116
2024 Rail Work	2024	DSL LOCOMOTIVE	0	1	5	0.4	2	1500	0.8	Diesel	116	1.1	12.6	1.8	0.4	0.4			0.0	494.0	0.0	0.0	5.6	66.7	9.7	2.3	2.3			0.0	1.2	0.0	0.0	1.2	116
2025 Rail Work	2025	DSL LOCOMOTIVE	0	1	5	0.4	2	1500	0.8	Diesel	116	1.1	12.6	1.8	0.4	0.4			0.0	494.0	0.0	0.0	5.6	66.7	9.7	2.3	2.3			0.0	1.2	0.0	0.0	1.2	116

Locomotive	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
2023 Site Work	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 Site Work	0	0	0	0	0	0	0	0	0	0	0	0	0
2025 Site Work	0	0	0	0	0	0	0	0	0	0	0	0	0
2023 Rail Work	6	67	10	2	2	0	0	0	1	0	0	1	116
2024 Rail Work	6	67	10	2	2	0	0	0	1	0	0	1	116
2025 Rail Work	6	67	10	2	2	0	0	0	1	0	0	1	116
2023 Structures	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 Structures	0	0	0	0	0	0	0	0	0	0	0	0	0
2025 Structures	0	0	0	0	0	0	0	0	0	0	0	0	0

Earth Moving Calculations Location Onsite

Code	Days	Grading (acres)	Cut/fill (cy)	Dozing (hour/day)	Emission Factor						Pounds per day								Metric tons per day				Gal per day
					PM10 G (lb/acre)	PM2.5 G (lb/acre)	PM10 C/F (lb/ton)	PM2.5 C/F (lb/ton)	PM10 Doz (lb/hr)	PM2.5 Doz (lb/hr)	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign					0.4	0.0447	0.0001	0.0000	0.8	0.4													
CerMerAlignSW	196	650.0	50,000	9	0.4	0.0447	0.0001	0.0000	0.8	0.4						7.8	3.7						
CerMerAlignRW	168			3	0.4	0.0447	0.0001	0.0000	0.8	0.4						2.3	1.2						
CerMerAlignStr	336	2.0	2,000		0.4	0.0447	0.0001	0.0000	0.8	0.4						0.0	0.0						
MerLayMain					0.4	0.0447	0.0001	0.0000	0.8	0.4													
MerLayMainSW	168	35.0	25,000	9	0.4	0.0447	0.0001	0.0000	0.8	0.4						6.5	3.5						
MerLayMainRW	56	15.0	10,000	3	0.4	0.0447	0.0001	0.0000	0.8	0.4						2.4	1.3						
MerLayMainStr	252	5.0	40,000		0.4	0.0447	0.0001	0.0000	0.8	0.4						0.0	0.0						
MerStat					0.4	0.0447	0.0001	0.0000	0.8	0.4													
MerStatSW	112	4.0	10,000	9	0.4	0.0447	0.0001	0.0000	0.8	0.4						6.4	3.5						
MerStatRW	0	NA	NA	3	0.4	0.0447	0.0001	0.0000	0.8	0.4													
MerStatStr	56	0.5	1,500		0.4	0.0447	0.0001	0.0000	0.8	0.4						0.0	0.0						
LivStat					0.4	0.0447	0.0001	0.0000	0.8	0.4													
LivStatSW	112	3.5	10,000	9	0.4	0.0447	0.0001	0.0000	0.8	0.4						6.4	3.5						
LivStatRW	0	NA	NA	3	0.4	0.0447	0.0001	0.0000	0.8	0.4													
LivStatStr	84	1.0	5,000		0.4	0.0447	0.0001	0.0000	0.8	0.4						0.0	0.0						
AtwatStat					0.4	0.0447	0.0001	0.0000	0.8	0.4													
AtwatStatSW	112	3.1	8,000	9	0.4	0.0447	0.0001	0.0000	0.8	0.4						6.4	3.5						
AtwatStatRW	0	NA	NA	3	0.4	0.0447	0.0001	0.0000	0.8	0.4													
AtwatStatStr	84	1.0	5,000		0.4	0.0447	0.0001	0.0000	0.8	0.4						0.0	0.0						
TurStat					0.4	0.0447	0.0001	0.0000	0.8	0.4													
TurStatSW	112	3.0	10,000	9	0.4	0.0447	0.0001	0.0000	0.8	0.4						6.4	3.5						
TurStatRW	0	NA	NA	3	0.4	0.0447	0.0001	0.0000	0.8	0.4													
TurStatStr	112	1.0	3,000		0.4	0.0447	0.0001	0.0000	0.8	0.4						0.0	0.0						

Paving Calculations Location Onsite

Code	Days	Paved (sf)	Emission Factor	Pounds per day								Metric tons per day				Gal per day
			ROG (lbs per acre)	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign	0		2.6													
CerMerAlignSW	196	155,000	2.6	0.048												
CerMerAlignRW	168	NA	2.6													
CerMerAlignStr	336	16,000	2.6	0.003												
MerLayMain	0		2.6													
MerLayMainSW	168	272,000	2.6	0.097												
MerLayMainRW	56	NA	2.6													
MerLayMainStr	252	210,000	2.6	0.050												
MerStat	0		2.6													
MerStatSW	112	166,000	2.6	0.089												
MerStatRW	0	NA	2.6													
MerStatStr	56	16,750	2.6	0.018												
LivStat	0		2.6													
LivStatSW	112	127,000	2.6	0.068												
LivStatRW	0	NA	2.6													
LivStatStr	84	34,000	2.6	0.024												
AtwatStat	0		2.6													
AtwatStatSW	112	105,000	2.6	0.056												
AtwatStatRW	0	NA	2.6													
AtwatStatStr	84	34,000	2.6	0.024												
TurStat	0		2.6													
TurStatSW	112	110,000	2.6	0.059												
TurStatRW	0	NA	2.6													
TurStatStr	112	37,000	2.6	0.020												

Demolition Calculatior Location Onsite

Code	Days	Demo (sf)	Emission Factor		Pounds per day								Metric tons per day				Gal per day
			PM10 G (lb/ton)	PM2.5 G (lb/ton)	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign	0		0.022	0.003													
CerMerAlignSW	196	0	0.022	0.003						0.000	0.000						
CerMerAlignRW	168		0.022	0.003													
CerMerAlignStr	336		0.022	0.003													
MerLayMain	0		0.022	0.003													
MerLayMainSW	168	207,000	0.022	0.003						1.246	0.189						
MerLayMainRW	56		0.022	0.003													
MerLayMainStr	252		0.022	0.003													
MerStat	0		0.022	0.003													
MerStatSW	112	28,470	0.022	0.003						0.257	0.039						
MerStatRW	0		0.022	0.003													
MerStatStr	56		0.022	0.003													
LivStat	0		0.022	0.003													
LivStatSW	112	9,200	0.022	0.003						0.083	0.013						
LivStatRW	0		0.022	0.003													
LivStatStr	84		0.022	0.003													
AtwatStat	0		0.022	0.003													
AtwatStatSW	112	19,460	0.022	0.003						0.176	0.027						
AtwatStatRW	0		0.022	0.003													
AtwatStatStr	84		0.022	0.003													
TurStat	0		0.022	0.003													
TurStatSW	112	0	0.022	0.003						0.000	0.000						
TurStatRW	0		0.022	0.003													
TurStatStr	112		0.022	0.003													

Re-entrained Paved Road Dust Emission Factors

Methodology

Calculation Methodology: USEPA AP-42, Paved Roads, Section 13.2.1, Revised January 2011:
https://www.arb.ca.gov/ei/areasrc/PMSJVPavedRoadMethod2003.pdf
Avg vehicle weight and silt loading on Local Roads within San Joaquin, Stanislaus, and Merced Counties
http://www.arb.ca.gov/ei/areasrc/fullpdf/full7-9.pdf
Precipitation Days greater than 0.254mm (0.01 in)
https://www.arb.ca.gov/ei/areasrc/fullpdf/full7-9_2016.pdf

	sL	W	P		
				San Joaquin County	no SJ County for this extension
	0.1	2.4	52	Stanislaus County	
	0.1	2.4	51	Merced County	
Average	0.1	2.4	52		

Equation 2

Pollutant	k	sL	W	P	N	EF (g per mi)
	Variables					
PM_{10}	0.0022	0.1	2.4	52	365	0.28927
$PM_{2.5}$	0.00054	0.1	2.4	52	365	0.07100

E = particulate emission factor (grams of particulate matter/VMT)
k = particle size multiplier (lb/VMT) — default from AP-42
sL = local roadway silt loading (g/m2) — CalEEMod default
W = average weight of vehicles on the road (tons) — ARB Section 7.9, Table 3
P = number of wet days with at least 0.254mm of precipitation — from WRCC
N = number of days in the averaging period — annual days (365)
g to lb conversion — 0.002204623

	sL	W	P	
	0.32	2.4	58	Santa Clara County
	0.32	2.4	63	Alameda County
Average	0.32	2.4	61	

For BAAQMD

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Pollutant	k	sL	W	P	N	EF (g per mi)
	Variables					
PM_{10}	0.0022	0.32	2.4	61	365	0.82834
$PM_{2.5}$	0.00054	0.32	2.4	61	365	0.20332

Construction – Mitigated Summary and Calculations

Code	Description	Start Year	Working Days	2023	2024	2025
CerMerAlign	CERES TO MERCED EXTENSION ALIGNMENT					
CerMerAlignSW	Site Work	2023	196	196		
CerMerAlignRW	Rail Work	2024	168		168	
CerMerAlignStr	Structures	2023	336	240	96	
MerLayMain	MERCED LAYOVER & MAINTENANCE FACILITY					
MerLayMainSW	Site Work	2023	168	168		
MerLayMainRW	Rail Work	2023	56	56		
MerLayMainStr	Structures	2023	252	16	236	
MerStat	MERCED STATION					
MerStatSW	Site Work	2024	112		112	
MerStatRW	Rail Work	N/A	0			
MerStatStr	Structures	2024	56		56	
LivStat	LIVINGSTON STATION					
LivStatSW	Site Work	2024	112		112	
LivStatRW	Rail Work	N/A				
LivStatStr	Structures	2024	84		84	
AtwatStat	ATWATER STATION ALTERNATIVE					
AtwatStatSW	Site Work	2024	112		112	
AtwatStatRW	Rail Work	N/A				
AtwatStatStr	Structures	2024	84		84	
TurStat	TURLOCK STATION					
TurStatSW	Site Work	2024	112		112	
TurStatRW	Rail Work					
TurStatStr	Structures	2024	112		112	

Code	Working Days			2023												
				Pounds per day								Metric tons per day				Gal/day
	2023	2024	2025	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign				1	7	20	0	0	9	4	0	3	0	0	3	288
CerMerAlignSW	196	0	0	0	4	9	0	0	8	4	0	2	0	0	2	155
CerMerAlignRW	0	168	0													
CerMerAlignStr	240	96	0	0	3	11	0	0	1	0	0	1	0	0	1	133
MerLayMain				2	16	38	0	0	12	6	0	5	0	0	5	515
MerLayMainSW	168	0	0	0	4	9	0	0	8	4	0	2	0	0	2	155
MerLayMainRW	56	0	0	1	9	18	0	0	3	1	0	2	0	0	2	226
MerLayMainStr	16	236	0	0	3	11	0	0	1	0	0	1	0	0	1	133
MerStat				0	0	0	0	0	0	0	0	0	0	0	0	0
MerStatSW	0	112	0													
MerStatRW	0	0	0													
MerStatStr	0	56	0													
LivStat				0	0	0	0	0	0	0	0	0	0	0	0	0
LivStatSW	0	112	0													
LivStatRW	0	0	0													
LivStatStr	0	84	0													
AtwatStat				0	0	0	0	0	0	0	0	0	0	0	0	0
AtwatStatSW	0	112	0													
AtwatStatRW	0	0	0													
AtwatStatStr	0	84	0													
TurStat				0	0	0	0	0	0	0	0	0	0	0	0	0
TurStatSW	0	112	0													
TurStatRW	0	0	0													
TurStatStr	0	112	0													
				0	0	0	0	0	0	0	0	0	0	0	0	0

Code	2024												
	Pounds per day								Metric tons per day				Gal/day
	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign	1	11	29	0	0	4	2	0	4	0	0	4	358
CerMerAlignSW													
CerMerAlignRW	1	9	18	0	0	3	1	0	2	0	0	2	225
CerMerAlignStr	0	3	11	0	0	1	0	0	1	0	0	1	133
MerLayMain	0	3	11	0	0	1	0	0	1	0	0	1	133
MerLayMainSW													
MerLayMainRW													
MerLayMainStr	0	3	11	0	0	1	0	0	1	0	0	1	133
MerStat	1	7	20	0	0	8	4	0	3	0	0	3	287
MerStatSW	0	4	9	0	0	7	4	0	2	0	0	2	154
MerStatRW													
MerStatStr	0	3	11	0	0	1	0	0	1	0	0	1	133
LivStat	1	7	20	0	0	8	4	0	3	0	0	3	287
LivStatSW	0	4	9	0	0	7	4	0	2	0	0	2	154
LivStatRW													
LivStatStr	0	3	11	0	0	1	0	0	1	0	0	1	133
AtwatStat	1	7	20	0	0	8	4	0	3	0	0	3	287
AtwatStatSW	0	4	9	0	0	7	4	0	2	0	0	2	154
AtwatStatRW													
AtwatStatStr	0	3	11	0	0	1	0	0	1	0	0	1	133
TurStat	1	7	20	0	0	8	4	0	3	0	0	3	287
TurStatSW	0	4	9	0	0	7	4	0	2	0	0	2	154
TurStatRW													
TurStatStr	0	3	11	0	0	1	0	0	1	0	0	1	133
	0	0	0	0	0	0	0	0	0	0	0	0	0

Code	2025												
	Pounds per day								Metric tons per day				Gal/day
	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign	0	0	0	0	0	0	0	0	0	0	0	0	0
CerMerAlignSW													
CerMerAlignRW													
CerMerAlignStr													
MerLayMain	0	0	0	0	0	0	0	0	0	0	0	0	0
MerLayMainSW													
MerLayMainRW													
MerLayMainStr													
MerStat	0	0	0	0	0	0	0	0	0	0	0	0	0
MerStatSW													
MerStatRW													
MerStatStr													
LivStat	0	0	0	0	0	0	0	0	0	0	0	0	0
LivStatSW													
LivStatRW													
LivStatStr													
AtwatStat	0	0	0	0	0	0	0	0	0	0	0	0	0
AtwatStatSW													
AtwatStatRW													
AtwatStatStr													
TurStat	0	0	0	0	0	0	0	0	0	0	0	0	0
TurStatSW													
TurStatRW													
TurStatStr													
	0	0	0	0	0	0	0	0	0	0	0	0	0

Code	Working Days			2023												
				Tons per year								Metric tons per year				Gal/yr
	2023	2024	2025	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign				0	1	2	0	0	1	0	0	627	0	0	638	62,377
CerMerAlignSW	196	0	0	0	0	1	0	0	1	0	0	307	0	0	314	30,362
CerMerAlignRW	0	168	0													
CerMerAlignStr	240	96	0	0	0	1	0	0	0	0	0	319	0	0	323	32,015
MerLayMain				0	1	1	0	0	1	0	0	412	0	0	420	40,828
MerLayMainSW	168	0	0	0	0	1	0	0	1	0	0	263	0	0	270	26,025
MerLayMainRW	56	0	0	0	0	1	0	0	0	0	0	128	0	0	129	12,669
MerLayMainStr	16	236	0	0	0	0	0	0	0	0	0	21	0	0	22	2,134
MerStat				0	0	0	0	0	0	0	0	0	0	0	0	0
MerStatSW	0	112	0													
MerStatRW	0	0	0													
MerStatStr	0	56	0													
LivStat				0	0	0	0	0	0	0	0	0	0	0	0	0
LivStatSW	0	112	0													
LivStatRW	0	0	0													
LivStatStr	0	84	0													
AtwatStat				0	0	0	0	0	0	0	0	0	0	0	0	0
AtwatStatSW	0	112	0													
AtwatStatRW	0	0	0													
AtwatStatStr	0	84	0													
TurStat				0	0	0	0	0	0	0	0	0	0	0	0	0
TurStatSW	0	112	0													
TurStatRW	0	0	0													
TurStatStr	0	112	0													
				0	0	0	0	0	0	0	0	0	0	0	0	0

Code	2024												
	Tons per year								Metric tons per year				Gal/year
	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign	0	1	2	0	0	0	0	0	509	0	0	515	50,606
CerMerAlignSW													
CerMerAlignRW	0	1	2	0	0	0	0	0	382	0	0	386	37,876
CerMerAlignStr	0	0	1	0	0	0	0	0	127	0	0	129	12,730
MerLayMain	0	0	1	0	0	0	0	0	312	0	0	316	31,294
MerLayMainSW													
MerLayMainRW													
MerLayMainStr	0	0	1	0	0	0	0	0	312	0	0	316	31,294
MerStat	0	0	1	0	0	0	0	0	249	0	0	254	24,670
MerStatSW	0	0	1	0	0	0	0	0	175	0	0	179	17,244
MerStatRW													
MerStatStr	0	0	0	0	0	0	0	0	74	0	0	75	7,426
LivStat	0	0	1	0	0	0	0	0	286	0	0	291	28,383
LivStatSW	0	0	1	0	0	0	0	0	175	0	0	179	17,244
LivStatRW													
LivStatStr	0	0	0	0	0	0	0	0	111	0	0	112	11,138
AtwatStat	0	0	1	0	0	0	0	0	286	0	0	291	28,383
AtwatStatSW	0	0	1	0	0	0	0	0	175	0	0	179	17,244
AtwatStatRW													
AtwatStatStr	0	0	0	0	0	0	0	0	111	0	0	112	11,138
TurStat	0	0	1	0	0	0	0	0	323	0	0	329	32,096
TurStatSW	0	0	1	0	0	0	0	0	175	0	0	179	17,244
TurStatRW													
TurStatStr	0	0	1	0	0	0	0	0	148	0	0	150	14,851
	0	0	0	0	0	0	0	0	0	0	0	0	0

Code	2025												
	Tons per year								Metric tons per year				Gal/yr
	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign	0	0	0	0	0	0	0	0	0	0	0	0	0
CerMerAlignSW													
CerMerAlignRW													
CerMerAlignStr													
MerLayMain	0	0	0	0	0	0	0	0	0	0	0	0	0
MerLayMainSW													
MerLayMainRW													
MerLayMainStr													
MerStat	0	0	0	0	0	0	0	0	0	0	0	0	0
MerStatSW													
MerStatRW													
MerStatStr													
LivStat	0	0	0	0	0	0	0	0	0	0	0	0	0
LivStatSW													
LivStatRW													
LivStatStr													
AtwatStat	0	0	0	0	0	0	0	0	0	0	0	0	0
AtwatStatSW													
AtwatStatRW													
AtwatStatStr													
TurStat	0	0	0	0	0	0	0	0	0	0	0	0	0
TurStatSW													
TurStatRW													
TurStatStr													
	0	0	0	0	0	0	0	0	0	0	0	0	0

Offroad Calculations Location Onsite

Activity	Year	Equip	#/day	Site hrs/day	Burden	Op hrs/day	CMOD Equipment Type	HP Bin	HP	LF	Fuel	Fuel (gal/day)	Concat	g/hp-hr (CalEEMod) ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	Pounds per day ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	Metric tons per day CO2	CH4	N2O	CO2e	Gal per day Fuel
Site Work	2023	Grader	1	7	0.6	4	Graders	175-299	187	0.4	Diesel	17	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.2	1.6	0.0	0.0			0.0	0.2	0.0	0.0	0.2	17
Site Work	2023	D6 Dozer	2	7	0.7	5	Rubber Tired Dozers	175-299	247	0.4	Diesel	50	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.1	0.5	4.6	0.0	0.0			0.0	0.5	0.0	0.0	0.5	50
Site Work	2023	D8 Dozer	1	6	0.6	4	Rubber Tired Dozers	175-299	247	0.4	Diesel	18	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.2	1.7	0.0	0.0			0.0	0.2	0.0	0.0	0.2	18
Site Work	2023	Compactor	2	6	0.6	4	Plate Compactors	15	8	0.4	Diesel	1	2023Plate Compactors15	0.7	4.1	3.5	0.2	0.2			0.0	568.3	0.1	0.0	0.0	0.2	0.2	0.0	0.0			0.0	0.0	0.0	0.0	0.0	1
													2023 Site Work												0.3	1.2	8.1	0.0	0.0			0.0	0.9	0.0	0.0	0.9	86
Site Work	2024	Grader	1	7	0.6	4	Graders	175-299	187	0.4	Diesel	17	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.2	1.6	0.0	0.0			0.0	0.2	0.0	0.0	0.2	17
Site Work	2024	D6 Dozer	2	7	0.7	5	Rubber Tired Dozers	175-299	247	0.4	Diesel	50	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.1	0.5	4.6	0.0	0.0			0.0	0.5	0.0	0.0	0.5	50
Site Work	2024	D8 Dozer	1	6	0.6	4	Rubber Tired Dozers	175-299	247	0.4	Diesel	18	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.2	1.7	0.0	0.0			0.0	0.2	0.0	0.0	0.2	18
Site Work	2024	Compactor	2	6	0.6	4	Plate Compactors	15	8	0.4	Diesel	1	2024Plate Compactors15	0.7	4.1	3.5	0.2	0.2			0.0	568.3	0.1	0.0	0.0	0.2	0.2	0.0	0.0			0.0	0.0	0.0	0.0	0.0	1
													2024 Site Work												0.3	1.2	8.1	0.0	0.0			0.0	0.9	0.0	0.0	0.9	86
Site Work	2025	Grader	1	7	0.6	4	Graders	175-299	187	0.4	Diesel	17	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.2	1.6	0.0	0.0			0.0	0.2	0.0	0.0	0.2	17
Site Work	2025	D6 Dozer	2	7	0.7	5	Rubber Tired Dozers	175-299	247	0.4	Diesel	50	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.1	0.5	4.6	0.0	0.0			0.0	0.5	0.0	0.0	0.5	50
Site Work	2025	D8 Dozer	1	6	0.6	4	Rubber Tired Dozers	175-299	247	0.4	Diesel	18	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.2	1.7	0.0	0.0			0.0	0.2	0.0	0.0	0.2	18
Site Work	2025	Compactor	2	6	0.6	4	Plate Compactors	15	8	0.4	Diesel	1	2025Plate Compactors15	0.7	4.1	3.5	0.2	0.2			0.0	568.3	0.1	0.0	0.0	0.2	0.2	0.0	0.0			0.0	0.0	0.0	0.0	0.0	1
													2025 Site Work												0.3	1.2	8.1	0.0	0.0			0.0	0.9	0.0	0.0	0.9	86
Rail Work	2023	D6 Dozer	1	6	0.5	3	Rubber Tired Dozers	175-299	247	0.4	Diesel	15	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.2	1.4	0.0	0.0			0.0	0.2	0.0	0.0	0.2	15
Rail Work	2023	Grader	1	6	0.5	3	Graders	175-299	187	0.4	Diesel	12	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.1	1.1	0.0	0.0			0.0	0.1	0.0	0.0	0.1	12
Rail Work	2023	Tamper	1	4	0.4	2	Other Construction Equipment	100-174	100	0.4	Diesel	3	100-174	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.0	0.3	0.0	0.0			0.0	0.0	0.0	0.0	0.0	3
Rail Work	2023	Alligner	1	4	0.4	2	Other Construction Equipment	100-174	100	0.4	Diesel	3	100-174	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.0	0.3	0.0	0.0			0.0	0.0	0.0	0.0	0.0	3
Rail Work	2023	Swinger	1	5	0.3	2	Other Construction Equipment	50-74	50	0.4	Diesel	2	50-74	0.1	2.7	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.2	0.2	0.0	0.0			0.0	0.0	0.0	0.0	0.0	2
Rail Work	2023	Welders	3	5	0.6	3	Welders	50	46	0.5	Diesel	10	2023Welders50	0.7	3.9	4.6	0.2	0.2			0.0	568.3	0.1	0.0	0.3	1.6	1.9	0.1	0.1			0.0	0.1	0.0	0.0	0.1	10
Rail Work	2023	Crane	1	5	0.6	3	Cranes	175-299	231	0.3	Diesel	10	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.1	1.0	0.0	0.0			0.0	0.1	0.0	0.0	0.1	10
Rail Work	2023	Wheel Loader	1	5	0.5	2	Rubber Tired Loaders	175-299	203	0.4	Diesel	9	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.1	0.8	0.0	0.0			0.0	0.1	0.0	0.0	0.1	9
													2023 Rail Work												0.4	2.4	7.0	0.1	0.1			0.0	0.7	0.0	0.0	0.7	65
Rail Work	2024	D6 Dozer	1	6	0.5	3	Rubber Tired Dozers	175-299	247	0.4	Diesel	15	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.2	1.4	0.0	0.0			0.0	0.2	0.0	0.0	0.2	15
Rail Work	2024	Grader	1	6	0.5	3	Graders	175-299	187	0.4	Diesel	12	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.1	1.1	0.0	0.0			0.0	0.1	0.0	0.0	0.1	12
Rail Work	2024	Tamper	1	4	0.4	2	Other Construction Equipment	100-174	100	0.4	Diesel	3	100-174	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.0	0.3	0.0	0.0			0.0	0.0	0.0	0.0	0.0	3
Rail Work	2024	Alligner	1	4	0.4	2	Other Construction Equipment	100-174	100	0.4	Diesel	3	100-174	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.0	0.3	0.0	0.0			0.0	0.0	0.0	0.0	0.0	3
Rail Work	2024	Swinger	1	5	0.3	2	Other Construction Equipment	50-74	50	0.4	Diesel	2	50-74	0.1	2.7	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.2	0.2	0.0	0.0			0.0	0.0	0.0	0.0	0.0	2
Rail Work	2024	Welders	3	5	0.6	3	Welders	50	46	0.5	Diesel	10	2024Welders50	0.6	3.8	4.6	0.1	0.1			0.0	568.3	0.1	0.0	0.3	1.6	1.9	0.1	0.1			0.0	0.1	0.0	0.0	0.1	10
Rail Work	2024	Crane	1	5	0.6	3	Cranes	175-299	231	0.3	Diesel	10	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.1	1.0	0.0	0.0			0.0	0.1	0.0	0.0	0.1	10
Rail Work	2024	Wheel Loader	1	5	0.5	2	Rubber Tired Loaders	175-299	203	0.4	Diesel	9	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.1	0.8	0.0	0.0			0.0	0.1	0.0	0.0	0.1	9
													2024 Rail Work												0.4	2.3	7.0	0.1	0.1			0.0	0.7	0.0	0.0	0.7	65
Rail Work	2025	D6 Dozer	1	6	0.5	3	Rubber Tired Dozers	175-299	247	0.4	Diesel	15	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.2	1.4	0.0	0.0			0.0	0.2	0.0	0.0	0.2	15
Rail Work	2025	Grader	1	6	0.5	3	Graders	175-299	187	0.4	Diesel	12	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.1	1.1	0.0	0.0			0.0	0.1	0.0	0.0	0.1	12
Rail Work	2025	Tamper	1	4	0.4	2	Other Construction Equipment	100-174	100	0.4	Diesel	3	100-174	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.0	0.3	0.0	0.0			0.0	0.0	0.0	0.0	0.0	3
Rail Work	2025	Alligner	1	4	0.4	2	Other Construction Equipment	100-174	100	0.4	Diesel	3	100-174	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.0	0.3	0.0	0.0			0.0	0.0	0.0	0.0	0.0	3
Rail Work	2025	Swinger	1	5	0.3	2	Other Construction Equipment	50-74	50	0.4	Diesel	2	50-74	0.1	2.7	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.2	0.2	0.0	0.0			0.0	0.0	0.0	0.0	0.0	2
Rail Work	2025	Welders	3	5	0.6	3	Welders	50	46	0.5	Diesel	10	2025Welders50	0.6	3.7	4.5	0.1	0.1			0.0	568.3	0.1	0.0	0.2	1.5	1.9	0.0	0.0			0.0	0.1	0.0	0.0	0.1	10
Rail Work	2025	Crane	1	5	0.6	3	Cranes	175-299	231	0.3	Diesel	10	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.1	1.0	0.0	0.0			0.0	0.1	0.0	0.0	0.1	10
Rail Work	2025	Wheel Loader	1	5	0.5	2	Rubber Tired Loaders	175-299	203	0.4	Diesel	9	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.1	0.8	0.0	0.0			0.0	0.1	0.0	0.0	0.1	9
													2025 Rail Work												0.4	2.3	7.0	0.1	0.1			0.0	0.7	0.0	0.0	0.7	65
Structures	2023	Generator	2	9	0.8	7	Generator Sets	100-174	84	0.7	Diesel	47	100-174	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.1	0.5	4.3	0.0	0.0			0.0	0.5	0.0	0.0	0.5	47
Structures	2023	Crane	1	5	0.6	3	Cranes	175-299	231	0.3	Diesel	10	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.1	1.0	0.0	0.0			0.0	0.1	0.0	0.0	0.1	10
Structures	2023	Concrete Pump	1	7	0.2	1	Pumps	100-174	84	0.7	Diesel	5	100-174	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.0	0.4	0.0	0.0			0.0	0.0	0.0	0.0	0.0	5
Structures	2023	Wheel Loader	4	4	0.4	2	Rubber Tired Loaders	175-299	203	0.4	Diesel	24	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.1	0.3	2.3	0.0	0.0			0.0	0.2	0.0	0.0	0.3	24
Structures	2023	Welders	2	5	0.5	3	Welders	50	46	0.5	Diesel	6	2023Welders50	0.7	3.9	4.6	0.2	0.2			0.0	568.3	0.1	0.0	0.2	0.9	1.0	0.0	0.0			0.0	0.1	0.0	0.0	0.1	6
													2023 Structures												0.4	1.8	9.1	0.1	0.1			0.0	0.9	0.0	0.0	0.9	92
Structures	2024	Generator	2	9	0.8	7	Generator Sets	100-174	84	0.7	Diesel	47	100-174	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.1	0.5	4.3	0.0	0.0			0.0	0.5	0.0	0.0	0.5	47
Structures	2024	Crane	1	5	0.6	3	Cranes	175-299	231	0.3	Diesel	10	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.1	1.0	0.0	0.0			0.0	0.1	0.0	0.0	0.1	10
Structures	2024	Concrete Pump	1	7	0.2	1	Pumps	100-174	84	0.7	Diesel	5	100-174	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.0	0.4	0.0	0.0			0.0	0.0	0.0	0.0	0.0	5
Structures	2024	Wheel Loader	4	4	0.4	2	Rubber Tired Loaders	175-299	203	0.4	Diesel	24	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.1	0.3	2.3	0.0	0.0			0.0	0.2	0.0	0.0	0.3	24
Structures	2024	Welders	2	5	0.5	3	Welders	50	46	0.5	Diesel	6	2024Welders50	0.6	3.8	4.6	0.1	0.1			0.0	568.3	0.1	0.0	0.1	0.9	1.0	0.0	0.0			0.0	0.1	0.0	0.0	0.1	6
													2024 Structures												0.4	1.8	9.1	0.1	0.1			0.0	0.9	0.0	0.0	0.9	92
Structures	2025	Generator	2	9	0.8	7	Generator Sets	100-174	84	0.7	Diesel	47	100-174	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.1	0.5	4.3	0.0	0.0			0.0	0.5	0.0	0.0	0.5	47
Structures	2025	Crane	1	5	0.6	3	Cranes	175-299	231	0.3	Diesel	10	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.1	1.0	0.0	0.0			0.0	0.1	0.0	0.0	0.1	10
Structures	2025	Concrete Pump	1	7	0.2	1	Pumps	100-174	84	0.7	Diesel	5	100-174	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.0	0.0	0.4	0.0	0.0			0.0	0.0	0.0	0.0	0.0	5
Structures	2025	Wheel Loader	4	4	0.4	2	Rubber Tired Loaders	175-299	203	0.4	Diesel	24	175-299	0.1	0.3	2.2	0.0	0.0			0.0	530.6	0.0	0.0	0.1	0.3	2.3	0.0	0.0			0.0	0.2	0.0	0.0	0.3	24
Structures	2025	Welders	2	5	0.5	3	Welders	50	46	0.5	Diesel	6	2025Welders50	0.6	3.7	4.5	0.1	0.1			0.0	568.3	0.1	0.0	0.1	0.8	1.0	0.0	0.0			0.0	0.1	0.0	0.0	0.1	6
													2025 Structures												0.4	1.8	9.0	0.1	0.1			0.0	0.9	0.0	0.0	0.9	92

Offroad	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
2023 Site Work	0	1	8	0	0	0	0	0	1	0	0	1	86
2024 Site Work	0	1	8	0	0	0	0	0	1	0	0	1	86
2025 Site Work	0	1	8	0	0	0	0	0	1	0	0	1	86
2023 Rail Work	0	2	7	0	0	0	0	0	1	0	0	1	65
2024 Rail Work	0	2	7	0	0	0	0	0	1	0	0	1	65
2025 Rail Work	0	2	7	0	0	0	0	0	1	0	0	1	65
2023 Structures	0	2	9	0	0	0	0	0	1	0	0	1	92
2024 Structures	0	2	9	0	0	0	0	0	1	0	0	1	92
2025 Structures	0	2	9	0	0	0	0	0	1	0	0	1	92

Employee Onroad Calculat | Location | Onsite

Activity	Year	Concat	Vehicle	Employee/ Day	Trips/ Day	Mi/Day	Fuel	Fuel (gal/day)	Vehicle	g/mi (EMFAC, AP 42)										
										ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O
2023 Site Work	2023	2023LDA-LDT	Employee Auto	11	22	370	Gas	10	LDA-LDT	0.0	0.0	0.6	0.0	0.0	0.3	0.1	0.0	234	0.0	0.0
2024 Site Work	2024	2024LDA-LDT	Employee Auto	11	22	370	Gas	10	LDA-LDT	0.0	0.0	0.5	0.0	0.0	0.3	0.1	0.0	230	0.0	0.0
2025 Site Work	2025	2025LDA-LDT	Employee Auto	11	22	370	Gas	9	LDA-LDT	0.0	0.0	0.5	0.0	0.0	0.3	0.1	0.0	225	0.0	0.0
2023 Rail Work	2023	2023LDA-LDT	Employee Auto	24	48	806	Gas	22	LDA-LDT	0.0	0.0	0.6	0.0	0.0	0.3	0.1	0.0	234	0.0	0.0
2024 Rail Work	2024	2024LDA-LDT	Employee Auto	24	48	806	Gas	21	LDA-LDT	0.0	0.0	0.5	0.0	0.0	0.3	0.1	0.0	230	0.0	0.0
2025 Rail Work	2025	2025LDA-LDT	Employee Auto	24	48	806	Gas	21	LDA-LDT	0.0	0.0	0.5	0.0	0.0	0.3	0.1	0.0	225	0.0	0.0
2023 Structures	2023	2023LDA-LDT	Employee Auto	24	48	806	Gas	22	LDA-LDT	0.0	0.0	0.6	0.0	0.0	0.3	0.1	0.0	234	0.0	0.0
2024 Structures	2024	2024LDA-LDT	Employee Auto	24	48	806	Gas	21	LDA-LDT	0.0	0.0	0.5	0.0	0.0	0.3	0.1	0.0	230	0.0	0.0
2025 Structures	2025	2025LDA-LDT	Employee Auto	24	48	806	Gas	21	LDA-LDT	0.0	0.0	0.5	0.0	0.0	0.3	0.1	0.0	225	0.0	0.0

Activity	Pounds per day								Metric tons per day				Gal per day
	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
2023 Site Work	0.0	0.0	0.5	0.0	0.0	0.3	0.1	0.0	0	0.0	0.0	0	10
2024 Site Work	0.0	0.0	0.4	0.0	0.0	0.3	0.1	0.0	0	0.0	0.0	0	10
2025 Site Work	0.0	0.0	0.4	0.0	0.0	0.3	0.1	0.0	0	0.0	0.0	0	9
2023 Rail Work	0.0	0.1	1.0	0.0	0.0	0.6	0.2	0.0	0	0.0	0.0	0	22
2024 Rail Work	0.0	0.1	1.0	0.0	0.0	0.6	0.2	0.0	0	0.0	0.0	0	21
2025 Rail Work	0.0	0.1	0.9	0.0	0.0	0.6	0.2	0.0	0	0.0	0.0	0	21
2023 Structures	0.0	0.1	1.0	0.0	0.0	0.6	0.2	0.0	0	0.0	0.0	0	22
2024 Structures	0.0	0.1	1.0	0.0	0.0	0.6	0.2	0.0	0	0.0	0.0	0	21
2025 Structures	0.0	0.1	0.9	0.0	0.0	0.6	0.2	0.0	0	0.0	0.0	0	21

Employee	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
2023 Site Work	0	0	0	0	0	0	0	0	0	0	0	0	10
2024 Site Work	0	0	0	0	0	0	0	0	0	0	0	0	10
2025 Site Work	0	0	0	0	0	0	0	0	0	0	0	0	9
2023 Rail Work	0	0	1	0	0	1	0	0	0	0	0	0	22
2024 Rail Work	0	0	1	0	0	1	0	0	0	0	0	0	21
2025 Rail Work	0	0	1	0	0	1	0	0	0	0	0	0	21
2023 Structures	0	0	1	0	0	1	0	0	0	0	0	0	22
2024 Structures	0	0	1	0	0	1	0	0	0	0	0	0	21
2025 Structures	0	0	1	0	0	1	0	0	0	0	0	0	21

Onsite Onroad Calculations Location Onsite

Activity	Year	Concat	Vehicle	Trucks	RT Mi/ Truck	Fuel	Fuel (gal/day)	Vehicle	g/mi (EMFAC, AP 42)											Pounds per day								Metric tons per day				Gal per day
									ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
Site Work	2023	2023T6Onsite	Water Truck	1	18	Diesel	4	T6Onsite	0.1	6.7	0.8	0.0	0.0	0.3	0.1	0.0	2359	0.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	4
Site Work	2023	2023T7Onsite	Dump Truck	4	9	Diesel	12	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3499	0.0	0.6	0.0	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	12
								2023 Site Work												0.0	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	16
Site Work	2024	2024T6Onsite	Water Truck	1	18	Diesel	4	T6Onsite	0.1	6.9	0.8	0.0	0.0	0.3	0.1	0.0	2333	0.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	4
Site Work	2024	2024T7Onsite	Dump Truck	4	9	Diesel	12	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3455	0.0	0.5	0.0	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	12
								2024 Site Work												0.0	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	16
Site Work	2025	2025T6Onsite	Water Truck	1	18	Diesel	4	T6Onsite	0.1	7.0	0.8	0.0	0.0	0.3	0.1	0.0	2305	0.0	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	4
Site Work	2025	2025T7Onsite	Dump Truck	4	9	Diesel	12	T7Onsite	0.1	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3413	0.0	0.5	0.0	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	12
								2025 Site Work												0.0	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	16
Rail Work	2023	2023T6Onsite	Water Truck	2	15	Diesel	7	T6Onsite	0.1	6.7	0.8	0.0	0.0	0.3	0.1	0.0	2359	0.0	0.4	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	7
Rail Work	2023	2023T7Onsite	Flat Bed Truck	1	9	Diesel	3	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3499	0.0	0.6	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	3
Rail Work	2023	2023LDTOnsite	Pickup	3	5	Diesel	1	LDTOnsite	0.1	0.2	2.0	0.0	0.0	0.3	0.1	0.0	792	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
Rail Work	2023	2023MDVOnsite	SUV	2	13	Diesel	2	MDVOnsite	0.1	0.2	2.1	0.0	0.0	0.3	0.1	0.0	1009	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Rail Work	2023	2023T7Onsite	Flat Bed Tractor	1	4	Diesel	1	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3499	0.0	0.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
								2023 Rail Work												0.0	0.8	0.3	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	15
Rail Work	2024	2024T6Onsite	Water Truck	2	15	Diesel	7	T6Onsite	0.1	6.9	0.8	0.0	0.0	0.3	0.1	0.0	2333	0.0	0.4	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	7
Rail Work	2024	2024T7Onsite	Flat Bed Truck	1	9	Diesel	3	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3455	0.0	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	3
Rail Work	2024	2024LDTOnsite	Pickup	3	5	Diesel	1	LDTOnsite	0.1	0.2	1.8	0.0	0.0	0.3	0.1	0.0	770	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
Rail Work	2024	2024MDVOnsite	SUV	2	13	Diesel	2	MDVOnsite	0.1	0.2	1.9	0.0	0.0	0.3	0.1	0.0	985	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Rail Work	2024	2024T7Onsite	Flat Bed Tractor	1	4	Diesel	1	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3455	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
								2024 Rail Work												0.0	0.8	0.3	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	15
Rail Work	2025	2025T6Onsite	Water Truck	2	15	Diesel	7	T6Onsite	0.1	7.0	0.8	0.0	0.0	0.3	0.1	0.0	2305	0.0	0.4	0.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	7
Rail Work	2025	2025T7Onsite	Flat Bed Truck	1	9	Diesel	3	T7Onsite	0.1	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3413	0.0	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	3
Rail Work	2025	2025LDTOnsite	Pickup	3	5	Diesel	1	LDTOnsite	0.1	0.1	1.7	0.0	0.0	0.3	0.1	0.0	751	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
Rail Work	2025	2025MDVOnsite	SUV	2	13	Diesel	2	MDVOnsite	0.1	0.2	1.8	0.0	0.0	0.3	0.1	0.0	963	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Rail Work	2025	2025T7Onsite	Flat Bed Tractor	1	4	Diesel	1	T7Onsite	0.1	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3413	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
								2025 Rail Work												0.0	0.8	0.3	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	15
Structures	2023	2023T6Onsite	Water Truck	1	8	Diesel	2	T6Onsite	0.1	6.7	0.8	0.0	0.0	0.3	0.1	0.0	2359	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Structures	2023	2023T7Onsite	Flat Bed Truck	1	8	Diesel	3	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3499	0.0	0.6	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	3
Structures	2023	2023LDTOnsite	Pickup	3	11	Diesel	2	LDTOnsite	0.1	0.2	2.0	0.0	0.0	0.3	0.1	0.0	792	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Structures	2023	2023T6Onsite	Concrete Truck	5	5	Diesel	6	T6Onsite	0.1	6.7	0.8	0.0	0.0	0.3	0.1	0.0	2359	0.0	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	6
								2023 Structures												0.0	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	13
Structures	2024	2024T6Onsite	Water Truck	1	8	Diesel	2	T6Onsite	0.1	6.9	0.8	0.0	0.0	0.3	0.1	0.0	2333	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Structures	2024	2024T7Onsite	Flat Bed Truck	1	8	Diesel	3	T7Onsite	0.2	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3455	0.0	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	3
Structures	2024	2024LDTOnsite	Pickup	3	11	Diesel	2	LDTOnsite	0.1	0.2	1.8	0.0	0.0	0.3	0.1	0.0	770	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Structures	2024	2024T6Onsite	Concrete Truck	5	5	Diesel	6	T6Onsite	0.1	6.9	0.8	0.0	0.0	0.3	0.1	0.0	2333	0.0	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	6
								2024 Structures												0.0	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	12
Structures	2025	2025T6Onsite	Water Truck	1	8	Diesel	2	T6Onsite	0.1	7.0	0.8	0.0	0.0	0.3	0.1	0.0	2305	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Structures	2025	2025T7Onsite	Flat Bed Truck	1	8	Diesel	3	T7Onsite	0.1	10.7	1.8	0.0	0.0	0.3	0.1	0.0	3413	0.0	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	3
Structures	2025	2025LDTOnsite	Pickup	3	11	Diesel	2	LDTOnsite	0.1	0.1	1.7	0.0	0.0	0.3	0.1	0.0	751	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	2
Structures	2025	2025T6Onsite	Concrete Truck	5	5	Diesel	6	T6Onsite	0.1	7.0	0.8	0.0	0.0	0.3	0.1	0.0	2305	0.0	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	6
								2025 Structures												0.0	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	12

Onsite Onroad	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
2023 Site Work	0	1	0	0	0	0	0	0	0	0	0	0	16
2024 Site Work	0	1	0	0	0	0	0	0	0	0	0	0	16
2025 Site Work	0	1	0	0	0	0	0	0	0	0	0	0	16
2023 Rail Work	0	1	0	0	0	0	0	0	0	0	0	0	15
2024 Rail Work	0	1	0	0	0	0	0	0	0	0	0	0	15
2025 Rail Work	0	1	0	0	0	0	0	0	0	0	0	0	15
2023 Structures	0	1	0	0	0	0	0	0	0	0	0	0	13
2024 Structures	0	1	0	0	0	0	0	0	0	0	0	0	12
2025 Structures	0	1	0	0	0	0	0	0	0	0	0	0	12

Offsite Onroad Calculations Location Offsite

									g/mi (EMFAC, AP 42)											Pounds per day								Metric tons per day				Gal per day
Activity	**Year**	**Concat**	**Vehicle**	**Trucks**	**RT Mi/ Truck**	**Fuel**	**Fuel (gal/day)**	**Vehicle**	**ROG**	**NOX**	**CO**	**PM10**	**PM2.5**	**PM10 D**	**PM2.5 D**	**SO2**	**CO2**	**CH4**	**N2O**	**ROG**	**NOX**	**CO**	**PM10**	**PM2.5**	**PM10 D**	**PM2.5 D**	**SO2**	**CO2**	**CH4**	**N2O**	**CO2e**	**Fuel**
Site Work	2023	2023T6	Water Truck	0	0	Diesel	0	T6	0.0	1.5	0.1	0.0	0.0	0.4	0.1	0.0	984	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Site Work	2023	2023T7	Dump Truck	4	63	Diesel	43	T7	0.0	3.6	0.4	0.0	0.0	0.4	0.1	0.0	1727	0.0	0.3	0.0	2.0	0.2	0.0	0.0	0.2	0.1	0.0	0	0.0	0.0	0	43
								2023 Site Work												0.0	2.0	0.2	0.0	0.0	0.2	0.1	0.0	0	0.0	0.0	0	43
Site Work	2024	2024T6	Water Truck	0	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	974	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Site Work	2024	2024T7	Dump Truck	4	63	Diesel	42	T7	0.0	3.5	0.4	0.0	0.0	0.4	0.1	0.0	1704	0.0	0.3	0.0	1.9	0.2	0.0	0.0	0.2	0.1	0.0	0	0.0	0.0	0	42
								2024 Site Work												0.0	1.9	0.2	0.0	0.0	0.2	0.1	0.0	0	0.0	0.0	0	42
Site Work	2025	2025T6	Water Truck	0	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	963	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Site Work	2025	2025T7	Dump Truck	4	63	Diesel	42	T7	0.0	3.5	0.4	0.0	0.0	0.4	0.1	0.0	1682	0.0	0.3	0.0	1.9	0.2	0.0	0.0	0.2	0.1	0.0	0	0.0	0.0	0	42
								2025 Site Work												0.0	1.9	0.2	0.0	0.0	0.2	0.1	0.0	0	0.0	0.0	0	42
Rail Work	2023	2023T6	Water Truck	2	0	Diesel	0	T6	0.0	1.5	0.1	0.0	0.0	0.4	0.1	0.0	984	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Rail Work	2023	2023T7	Flat Bed Truck	1	22	Diesel	4	T7	0.0	3.6	0.4	0.0	0.0	0.4	0.1	0.0	1727	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	4
Rail Work	2023	2023LDT	Pickup	3	35	Diesel	3	LDT	0.0	0.1	1.0	0.0	0.0	0.3	0.1	0.0	328	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	3
Rail Work	2023	2023MDV	SUV	0	0	Diesel	0	MDV	0.0	0.2	1.2	0.0	0.0	0.4	0.1	0.0	797	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Rail Work	2023	2023T7	Flat Bed Tractor	1	9	Diesel	1	T7	0.0	3.6	0.4	0.0	0.0	0.4	0.1	0.0	1727	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
								2023 Rail Work												0.0	0.3	0.3	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	9
Rail Work	2024	2024T6	Water Truck	2	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	974	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Rail Work	2024	2024T7	Flat Bed Truck	1	22	Diesel	4	T7	0.0	3.5	0.4	0.0	0.0	0.4	0.1	0.0	1704	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	4
Rail Work	2024	2024LDT	Pickup	3	35	Diesel	3	LDT	0.0	0.1	0.9	0.0	0.0	0.3	0.1	0.0	319	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	3
Rail Work	2024	2024MDV	SUV	0	0	Diesel	0	MDV	0.0	0.1	1.1	0.0	0.0	0.4	0.1	0.0	778	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Rail Work	2024	2024T7	Flat Bed Tractor	1	9	Diesel	1	T7	0.0	3.5	0.4	0.0	0.0	0.4	0.1	0.0	1704	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
								2024 Rail Work												0.0	0.3	0.2	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	8
Rail Work	2025	2025T6	Water Truck	2	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	963	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Rail Work	2025	2025T7	Flat Bed Truck	1	22	Diesel	4	T7	0.0	3.5	0.4	0.0	0.0	0.4	0.1	0.0	1682	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	4
Rail Work	2025	2025LDT	Pickup	3	35	Diesel	3	LDT	0.0	0.1	0.8	0.0	0.0	0.3	0.1	0.0	311	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	3
Rail Work	2025	2025MDV	SUV	0	0	Diesel	0	MDV	0.0	0.1	1.1	0.0	0.0	0.4	0.1	0.0	759	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Rail Work	2025	2025T7	Flat Bed Tractor	1	9	Diesel	1	T7	0.0	3.5	0.4	0.0	0.0	0.4	0.1	0.0	1682	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
								2025 Rail Work												0.0	0.3	0.2	0.0	0.0	0.1	0.0	0.0	0	0.0	0.0	0	8
Structures	2023	2023T6	Water Truck	0	0	Diesel	0	T6	0.0	1.5	0.1	0.0	0.0	0.4	0.1	0.0	984	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Structures	2023	2023LDT	Flat Bed Truck	1	18	Diesel	1	LDT	0.0	0.1	1.0	0.0	0.0	0.3	0.1	0.0	328	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
Structures	2023	2023LDT	Pickup	3	74	Diesel	7	LDT	0.0	0.1	1.0	0.0	0.0	0.3	0.1	0.0	328	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.0	0	0.0	0.0	0	7
Structures	2023	2023T6	Concrete Truck	0	0	Diesel	0	T6	0.0	1.5	0.1	0.0	0.0	0.4	0.1	0.0	984	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
								2023 Structures												0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.0	0	0.0	0.0	0	8
Structures	2024	2024T6	Water Truck	0	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	974	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Structures	2024	2024LDT	Flat Bed Truck	1	18	Diesel	1	LDT	0.0	0.1	0.9	0.0	0.0	0.3	0.1	0.0	319	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
Structures	2024	2024LDT	Pickup	3	74	Diesel	7	LDT	0.0	0.1	0.9	0.0	0.0	0.3	0.1	0.0	319	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0	0	0.0	0.0	0	7
Structures	2024	2024T6	Concrete Truck	0	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	974	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
								2024 Structures												0.0	0.0	0.5	0.0	0.0	0.2	0.0	0.0	0	0.0	0.0	0	7
Structures	2025	2025T6	Water Truck	0	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	963	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
Structures	2025	2025LDT	Flat Bed Truck	1	18	Diesel	1	LDT	0.0	0.1	0.8	0.0	0.0	0.3	0.1	0.0	311	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	1
Structures	2025	2025LDT	Pickup	3	74	Diesel	7	LDT	0.0	0.1	0.8	0.0	0.0	0.3	0.1	0.0	311	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0	0	0.0	0.0	0	7
Structures	2025	2025T6	Concrete Truck	0	0	Diesel	0	T6	0.0	1.6	0.1	0.0	0.0	0.4	0.1	0.0	963	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0	0
								2025 Structures												0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0	0	0.0	0.0	0	7

Offsite Onroad	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
2023 Site Work	0	2	0	0	0	0	0	0	0	0	0	0	43
2024 Site Work	0	2	0	0	0	0	0	0	0	0	0	0	42
2025 Site Work	0	2	0	0	0	0	0	0	0	0	0	0	42
2023 Rail Work	0	0	0	0	0	0	0	0	0	0	0	0	9
2024 Rail Work	0	0	0	0	0	0	0	0	0	0	0	0	8
2025 Rail Work	0	0	0	0	0	0	0	0	0	0	0	0	8
2023 Structures	0	0	1	0	0	0	0	0	0	0	0	0	8
2024 Structures	0	0	0	0	0	0	0	0	0	0	0	0	7
2025 Structures	0	0	0	0	0	0	0	0	0	0	0	0	7

Locomotive Calculations Location Offsite

Code	Year	Loco	Engine Tier	#/day	Site hrs/day	Burden	Op hrs/day	HP	LF	Fuel	Fuel (gal/day)
2023 Rail Work	2023	DSL LOCOMOTIVE	4	1	5	0.4	2	1500	0.8	Diesel	116
2024 Rail Work	2024	DSL LOCOMOTIVE	4	1	5	0.4	2	1500	0.8	Diesel	116
2025 Rail Work	2025	DSL LOCOMOTIVE	4	1	5	0.4	2	1500	0.8	Diesel	116

Code	g/hp-hr										
	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O
2023 Rail Work	0.1	1.0	1.8	0.0	0.0			0.0	494.0	0.0	0.0
2024 Rail Work	0.1	1.0	1.8	0.0	0.0			0.0	494.0	0.0	0.0
2025 Rail Work	0.1	1.0	1.8	0.0	0.0			0.0	494.0	0.0	0.0

Code	Pounds per day								Metric tons per day				Gal per day
	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
2023 Rail Work	0.4	5.3	9.7	0.1	0.1			0.0	1.2	0.0	0.0	1.2	116
2024 Rail Work	0.4	5.3	9.7	0.1	0.1			0.0	1.2	0.0	0.0	1.2	116
2025 Rail Work	0.4	5.3	9.7	0.1	0.1			0.0	1.2	0.0	0.0	1.2	116

Locomotive	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
2023 Site Work	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 Site Work	0	0	0	0	0	0	0	0	0	0	0	0	0
2025 Site Work	0	0	0	0	0	0	0	0	0	0	0	0	0
2023 Rail Work	0	5	10	0	0	0	0	0	1	0	0	1	116
2024 Rail Work	0	5	10	0	0	0	0	0	1	0	0	1	116
2025 Rail Work	0	5	10	0	0	0	0	0	1	0	0	1	116
2023 Structures	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 Structures	0	0	0	0	0	0	0	0	0	0	0	0	0
2025 Structures	0	0	0	0	0	0	0	0	0	0	0	0	0

Earth Moving Calculations Location Onsite

Code	Days	Grading (acres)	Cut/fill (cy)	Dozing (hour/day)	Emission Factor						Pounds per day								Metric tons per day				Gal per day
					PM10 G (lb/acre)	PM2.5 G (lb/acre)	PM10 C/F (lb/ton)	PM2.5 C/F (lb/ton)	PM10 Doz (lb/hr)	PM2.5 Doz (lb/hr)	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign					0.4	0.0447	0.0001	0.0000	0.8	0.4													
CerMerAlignSW	196	650.0	50,000	9	0.4	0.0447	0.0001	0.0000	0.8	0.4						7.8	3.7						
CerMerAlignRW	168			3	0.4	0.0447	0.0001	0.0000	0.8	0.4						2.3	1.2						
CerMerAlignStr	336	2.0	2,000		0.4	0.0447	0.0001	0.0000	0.8	0.4						0.0	0.0						
MerLayMain					0.4	0.0447	0.0001	0.0000	0.8	0.4													
MerLayMainSW	168	35.0	25,000	9	0.4	0.0447	0.0001	0.0000	0.8	0.4						6.5	3.5						
MerLayMainRW	56	15.0	10,000	3	0.4	0.0447	0.0001	0.0000	0.8	0.4						2.4	1.3						
MerLayMainStr	252	5.0	40,000		0.4	0.0447	0.0001	0.0000	0.8	0.4						0.0	0.0						
MerStat					0.4	0.0447	0.0001	0.0000	0.8	0.4													
MerStatSW	112	4.0	10,000	9	0.4	0.0447	0.0001	0.0000	0.8	0.4						6.4	3.5						
MerStatRW	0	NA	NA	3	0.4	0.0447	0.0001	0.0000	0.8	0.4													
MerStatStr	56	0.5	1,500		0.4	0.0447	0.0001	0.0000	0.8	0.4						0.0	0.0						
LivStat					0.4	0.0447	0.0001	0.0000	0.8	0.4													
LivStatSW	112	3.5	10,000	9	0.4	0.0447	0.0001	0.0000	0.8	0.4						6.4	3.5						
LivStatRW	0	NA	NA	3	0.4	0.0447	0.0001	0.0000	0.8	0.4													
LivStatStr	84	1.0	5,000		0.4	0.0447	0.0001	0.0000	0.8	0.4						0.0	0.0						
AtwatStat					0.4	0.0447	0.0001	0.0000	0.8	0.4													
AtwatStatSW	112	3.1	8,000	9	0.4	0.0447	0.0001	0.0000	0.8	0.4						6.4	3.5						
AtwatStatRW	0	NA	NA	3	0.4	0.0447	0.0001	0.0000	0.8	0.4													
AtwatStatStr	84	1.0	5,000		0.4	0.0447	0.0001	0.0000	0.8	0.4						0.0	0.0						
TurStat					0.4	0.0447	0.0001	0.0000	0.8	0.4													
TurStatSW	112	3.0	10,000	9	0.4	0.0447	0.0001	0.0000	0.8	0.4						6.4	3.5						
TurStatRW	0	NA	NA	3	0.4	0.0447	0.0001	0.0000	0.8	0.4													
TurStatStr	112	1.0	3,000		0.4	0.0447	0.0001	0.0000	0.8	0.4						0.0	0.0						

Paving Calculations	Location	Onsite														

Code	Days	Paved (sf)	Emission Factor	Pounds per day								Metric tons per day				Gal per day
			ROG (lbs per acre)	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign	0		2.6													
CerMerAlignSW	196	155,000	2.6	0.048												
CerMerAlignRW	168	NA	2.6													
CerMerAlignStr	336	16,000	2.6	0.003												
MerLayMain	0		2.6													
MerLayMainSW	168	272,000	2.6	0.097												
MerLayMainRW	56	NA	2.6													
MerLayMainStr	252	210,000	2.6	0.050												
MerStat	0		2.6													
MerStatSW	112	166,000	2.6	0.089												
MerStatRW	0	NA	2.6													
MerStatStr	56	16,750	2.6	0.018												
LivStat	0		2.6													
LivStatSW	112	127,000	2.6	0.068												
LivStatRW	0	NA	2.6													
LivStatStr	84	34,000	2.6	0.024												
AtwatStat	0		2.6													
AtwatStatSW	112	105,000	2.6	0.056												
AtwatStatRW	0	NA	2.6													
AtwatStatStr	84	34,000	2.6	0.024												
TurStat	0		2.6													
TurStatSW	112	110,000	2.6	0.059												
TurStatRW	0	NA	2.6													
TurStatStr	112	37,000	2.6	0.020												

Demolition Calculatior Location Onsite

Code	Days	Demo (sf)	Emission Factor		Pounds per day								Metric tons per day				Gal per day
			PM10 G (lb/ton)	PM2.5 G (lb/ton)	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SO2	CO2	CH4	N2O	CO2e	Fuel
CerMerAlign	0		0.022	0.003													
CerMerAlignSW	196	0	0.022	0.003						0.000	0.000						
CerMerAlignRW	168		0.022	0.003													
CerMerAlignStr	336		0.022	0.003													
MerLayMain	0		0.022	0.003													
MerLayMainSW	168	207,000	0.022	0.003						1.246	0.189						
MerLayMainRW	56		0.022	0.003													
MerLayMainStr	252		0.022	0.003													
MerStat	0		0.022	0.003													
MerStatSW	112	28,470	0.022	0.003						0.257	0.039						
MerStatRW	0		0.022	0.003													
MerStatStr	56		0.022	0.003													
LivStat	0		0.022	0.003													
LivStatSW	112	9,200	0.022	0.003						0.083	0.013						
LivStatRW	0		0.022	0.003													
LivStatStr	84		0.022	0.003													
AtwatStat	0		0.022	0.003													
AtwatStatSW	112	19,460	0.022	0.003						0.176	0.027						
AtwatStatRW	0		0.022	0.003													
AtwatStatStr	84		0.022	0.003													
TurStat	0		0.022	0.003													
TurStatSW	112	0	0.022	0.003						0.000	0.000						
TurStatRW	0		0.022	0.003													
TurStatStr	112		0.022	0.003													

Re-entrained Paved Road Dust Emission Factors

Methodology

Calculation Methodology: USEPA AP-42, Paved Roads, Section 13.2.1, Revised January 2011:

https://www.arb.ca.gov/ei/areasrc/PMSJVPavedRoadMethod2003.pdf

Avg vehicle weight and silt loading on Local Roads within San Joaquin, Stanislaus, and Merced Counties

http://www.arb.ca.gov/ei/areasrc/fullpdf/full7-9.pdf

Precipitation Days greater than 0.254mm (0.01 in)

https://www.arb.ca.gov/ei/areasrc/fullpdf/full7-9_2016.pdf

	sL	W	P		
				San Joaquin County	no SJ County for this extension
	0.1	2.4	52	Stanislaus County	
	0.1	2.4	51	Merced County	
Average	0.1	2.4	52		

Equation 2

Pollutant	Variables					
	k	sL	W	P	N	EF (g per mi)
PM_{10}	0.0022	0.1	2.4	52	365	0.28927
$PM_{2.5}$	0.00054	0.1	2.4	52	365	0.07100

E = particulate emission factor (grams of particulate matter/VMT)

k = particle size multiplier (lb/VMT)	default from AP-42
sL = local roadway silt loading (g/m2)	CalEEMod default
W = average weight of vehicles on the road (tons)	ARB Section 7.9, Table 3
P = number of wet days with at least 0.254mm of precipitation	from WRCC
N = number of days in the averaging period	annual days (365)
g to lb conversion	0.002204623

	sL	W	P	
	0.32	2.4	58	Santa Clara County
	0.32	2.4	63	Alameda County
Average	0.32	2.4	61	

For BAAQMD

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Pollutant	Variables					
	k	sL	W	P	N	EF (g per mi)
PM_{10}	0.0022	0.32	2.4	61	365	0.82834
$PM_{2.5}$	0.00054	0.32	2.4	61	365	0.20332

Mitigated Emission Rates

From Carl Moyer
Table D-12
Controlled Off-Road Diesel Engines
Emission Factors (g/bhp-hr)

Horsepower	Tier	ROG	NOx	CO	PM10	PM2.5	SOX	CO2	CH4	N2O
25-49	1	1.74	5.26	2.20	0.48	0.48	0.00	530.61	0.03	0.01
	2	0.29	4.63	2.20	0.28	0.28	0.00	530.61	0.03	0.01
	4i	0.12	4.55	2.20	0.13	0.13	0.00	530.61	0.03	0.01
	4f	0.12	2.75	2.20	0.01	0.01	0.00	530.61	0.03	0.01
50-74	1	1.19	6.54	2.20	0.55	0.55	0.00	530.61	0.03	0.01
	2	0.23	4.75	2.20	0.19	0.19	0.00	530.61	0.03	0.01
	3(b)	0.12	2.74	2.20	0.19	0.19	0.00	530.61	0.03	0.01
	4i	0.12	2.74	2.20	0.11	0.11	0.00	530.61	0.03	0.01
	4f	0.12	2.74	2.20	0.01	0.01	0.00	530.61	0.03	0.01
75-99	1	1.19	6.54	2.20	0.55	0.55	0.00	530.61	0.03	0.01
	2	0.23	4.75	2.20	0.19	0.19	0.00	530.61	0.03	0.01
	3	0.12	2.74	2.20	0.19	0.19	0.00	530.61	0.03	0.01
	4 Phase-Out	0.12	2.74	2.20	0.01	0.01	0.00	530.61	0.03	0.01
	4i	0.11	2.14	2.20	0.01	0.01	0.00	530.61	0.03	0.01
	4f	0.06	0.26	2.20	0.01	0.01	0.00	530.61	0.03	0.01
100-174	1	0.82	6.54	2.20	0.27	0.27	0.00	530.61	0.03	0.01
	2	0.19	4.17	2.20	0.13	0.13	0.00	530.61	0.03	0.01
	3	0.12	2.32	2.20	0.11	0.11	0.00	530.61	0.03	0.01
	4 Phase-Out	0.12	2.32	2.20	0.01	0.01	0.00	530.61	0.03	0.01
	4i	0.06	2.15	2.20	0.01	0.01	0.00	530.61	0.03	0.01
	4f	0.06	0.26	2.20	0.01	0.01	0.00	530.61	0.03	0.01
175-299	1	0.38	5.93	2.20	0.11	0.11	0.00	530.61	0.03	0.01
	2	0.12	4.15	2.20	0.09	0.09	0.00	530.61	0.03	0.01
	3	0.12	2.32	2.20	0.09	0.09	0.00	530.61	0.03	0.01
	4 Phase-Out	0.12	2.32	2.20	0.01	0.01	0.00	530.61	0.03	0.01
	4i	0.08	1.29	2.20	0.01	0.01	0.00	530.61	0.03	0.01
	4f	0.06	0.26	2.20	0.01	0.01	0.00	530.61	0.03	0.01
300-750	1	0.38	5.93	2.20	0.11	0.11	0.00	530.61	0.03	0.01
	2	0.12	3.79	2.20	0.09	0.09	0.00	530.61	0.03	0.01
	3	0.12	2.32	2.20	0.09	0.09	0.00	530.61	0.03	0.01
	4 Phase-Out	0.12	2.32	2.20	0.01	0.01	0.00	530.61	0.03	0.01
	4i	0.08	1.29	2.20	0.01	0.01	0.00	530.61	0.03	0.01
	4f	0.06	0.26	2.20	0.01	0.01	0.00	530.61	0.03	0.01
751+	1	0.38	5.93	2.20	0.11	0.11	0.00	530.61	0.03	0.01
	2	0.12	3.79	2.20	0.09	0.09	0.00	530.61	0.03	0.01
	4i	0.12	2.24	2.20	0.05	0.05	0.00	530.61	0.03	0.01
	4f	0.06	2.24	2.2	0.016	0.016	4.88E-05	530.6073	0.030142	0.013512

HP	ROG	NOx	CO	PM10	PM2.5	SOX	CO2	CH4	N2O
25-49	0.12	2.75	2.20	0.01	0.01	0.00	530.61	0.03	0.01
50-74	0.12	2.74	2.20	0.01	0.01	0.00	530.61	0.03	0.01
75-99	0.06	0.26	2.20	0.01	0.01	0.00	530.61	0.03	0.01
100-174	0.06	0.26	2.20	0.01	0.01	0.00	530.61	0.03	0.01
175-299	0.06	0.26	2.20	0.01	0.01	0.00	530.61	0.03	0.01
300-750	0.06	0.26	2.20	0.01	0.01	0.00	530.61	0.03	0.01
751+	0.06	2.24	2.20	0.02	0.02	0.00	530.61	0.03	0.01

Calculation Details in CalEEMod Users Guide, Appendix A

			Mitigation Reduction	
Paving ROG EF	2.6200	lbs/acre	CalEEMod (no mitigation)	
Grading PM10 EF	0.4136	lbs/acre	39.00%	Fugitive PM10 and PM2.5 during site grading, grubbing, and excavation activities (WARP Handbook, Table 3-7, 3.2-hour watering interval). **See Materials tab for application.**
Grading PM2.5 EF	0.0447	lbs/acre	45.00%	Re-entrained PM10 and PM2.5 for onsite construction vehicles (WARP Handbook, Table 6-6, watering twice daily. **See UnPav RD EF tab for application.**
Bulldozing PM10 EF	0.7528	lbs/hr	CalEEMod (no mitigation)	
Bulldozing PM2.5 EF	0.4138	lbs/hr	CalEEMod (no mitigation)	
Truck loading PM10 EF	0.0001	lb/ton	CalEEMod (no mitigation)	
Truck loading PM2.5 EF	0.0000	lb/ton	CalEEMod (no mitigation)	
Demo PM10 EF	0.0220	lb/ton	CalEEMod (no mitigation)	
Demo PM2.5 EF	0.0033	lb/ton	CalEEMod (no mitigation)	

Construction – Off-Site Emission Factors

				Running (RUNEX, PMTW, PMBW, RD) grams per mile												Process (IDLEX, STREX, TOTEX, DIURN, HTSK, RUNLS, RESTL) grams per trip									
Air Basin	Vehicle Type	Year		ROG	TOG	CO	NOx	CO2	CH4	PM10 Ex	PM10 D	PM2.5 Ex	PM2.5 D	SOX	N2O	ROG	TOG	CO	NOx	CO2	CH4	PM10	PM2.5	SOX	N2O
SJVAB	LDALDT	2023	SJVABLDALDT2023	0.01	0.01	0.58	0.04	234	0.00	0.00	0.33	0.00	0.09	0.00	0.00	0.7	0.7	1.9	0.2	47	0.0	0.0	0.0	0.0	0.0
SJVAB	LDALDT	2024	SJVABLDALDT2024	0.01	0.01	0.54	0.04	230	0.00	0.00	0.33	0.00	0.09	0.00	0.00	0.7	0.7	1.8	0.2	47	0.0	0.0	0.0	0.0	0.0
SJVAB	LDALDT	2025	SJVABLDALDT2025	0.01	0.01	0.50	0.03	225	0.00	0.00	0.33	0.00	0.09	0.00	0.00	0.6	0.6	1.8	0.2	46	0.0	0.0	0.0	0.0	0.0
SJVAB	MDV	2023	SJVABMDV2023	0.03	0.04	1.23	0.16	797	0.01	0.01	0.42	0.01	0.12	0.01	0.07	1.5	1.5	3.4	0.4	91	0.1	0.0	0.0	0.0	0.0
SJVAB	MDV	2024	SJVABMDV2024	0.03	0.04	1.15	0.14	778	0.01	0.01	0.42	0.01	0.12	0.01	0.06	1.4	1.5	3.2	0.4	89	0.1	0.0	0.0	0.0	0.0
SJVAB	MDV	2025	SJVABMDV2025	0.03	0.04	1.07	0.12	759	0.00	0.01	0.42	0.01	0.12	0.01	0.06	1.4	1.4	3.1	0.3	87	0.1	0.0	0.0	0.0	0.0
SJVAB	T6 instate hea	2023	SJVABT6 instate heav	0.01	0.01	0.11	1.54	984	0.00	0.01	0.43	0.01	0.13	0.01	0.15	0.0	0.0	0.2	2.4	53	0.0	0.0	0.0	0.0	0.0
SJVAB	T6 instate hea	2024	SJVABT6 instate heav	0.01	0.01	0.11	1.58	974	0.00	0.01	0.43	0.01	0.13	0.01	0.15	0.0	0.0	0.2	2.4	53	0.0	0.0	0.0	0.0	0.0
SJVAB	T6 instate hea	2025	SJVABT6 instate heav	0.01	0.01	0.11	1.62	963	0.00	0.01	0.43	0.01	0.13	0.01	0.15	0.0	0.0	0.2	2.4	53	0.0	0.0	0.0	0.0	0.0
SJVAB	T7 single cons	2023	SJVABT7 single constr	0.04	0.05	0.43	3.55	1727	0.00	0.02	0.39	0.02	0.11	0.02	0.27	0.3	0.4	5.1	8.6	883	0.0	0.0	0.0	0.0	0.1
SJVAB	T7 single cons	2024	SJVABT7 single constr	0.04	0.05	0.43	3.51	1704	0.00	0.02	0.39	0.02	0.11	0.02	0.27	0.3	0.4	5.1	8.6	874	0.0	0.0	0.0	0.0	0.1
SJVAB	T7 single cons	2025	SJVABT7 single constr	0.04	0.05	0.43	3.47	1682	0.00	0.02	0.39	0.02	0.11	0.02	0.26	0.3	0.4	5.2	8.7	866	0.0	0.0	0.0	0.0	0.1
SJVAB	LDT	2023	SJVABLDT2023	0.02	0.03	0.97	0.09	328	0.00	0.00	0.33	0.00	0.09	0.00	0.01	1.4	1.4	2.7	0.3	69	0.1	0.0	0.0	0.0	0.0
SJVAB	LDT	2024	SJVABLDT2024	0.02	0.02	0.88	0.08	319	0.00	0.00	0.33	0.00	0.09	0.00	0.01	1.3	1.3	2.6	0.3	67	0.1	0.0	0.0	0.0	0.0
SJVAB	LDT	2025	SJVABLDT2025	0.01	0.02	0.81	0.07	311	0.00	0.00	0.33	0.00	0.09	0.00	0.01	1.2	1.2	2.5	0.2	65	0.1	0.0	0.0	0.0	0.0

	ROG	NOx	CO	PM10 Ex	PM10 D	PM2.5 Ex	PM2.5 D	SO2	CO2	CH4	N2O	ROG	NOx	CO	PM10 Ex	PM10 D	PM2.5 Ex	PM2.5 D	SO2	CO2	CH4	N2O
2023LDA-LDT	0.01	0.04	0.58	0.00	0.33	0.00	0.09	0.00	234	0.00	0	0.7	0.2	1.9	0.0	0	0.0	0	0.0	47	0.0	0.0
2024LDA-LDT	0.01	0.04	0.54	0.00	0.33	0.00	0.09	0.00	230	0.00	0	0.7	0.2	1.8	0.0	0	0.0	0	0.0	47	0.0	0.0
2025LDA-LDT	0.01	0.03	0.50	0.00	0.33	0.00	0.09	0.00	225	0.00	0	0.6	0.2	1.8	0.0	0	0.0	0	0.0	46	0.0	0.0
2023MDV	0.03	0.16	1.23	0.01	0.42	0.01	0.12	0.01	797	0.01	0	1.5	0.4	3.4	0.0	0	0.0	0	0.0	91	0.1	0.0
2024MDV	0.03	0.14	1.15	0.01	0.42	0.01	0.12	0.01	778	0.01	0	1.4	0.4	3.2	0.0	0	0.0	0	0.0	89	0.1	0.0
2025MDV	0.03	0.12	1.07	0.01	0.42	0.01	0.12	0.01	759	0.00	0	1.4	0.3	3.1	0.0	0	0.0	0	0.0	87	0.1	0.0
2023T6	0.01	1.54	0.11	0.01	0.43	0.01	0.13	0.01	984	0.00	0	0.0	2.4	0.2	0.0	0	0.0	0	0.0	53	0.0	0.0
2024T6	0.01	1.58	0.11	0.01	0.43	0.01	0.13	0.01	974	0.00	0	0.0	2.4	0.2	0.0	0	0.0	0	0.0	53	0.0	0.0
2025T6	0.01	1.62	0.11	0.01	0.43	0.01	0.13	0.01	963	0.00	0	0.0	2.4	0.2	0.0	0	0.0	0	0.0	53	0.0	0.0
2023T7	0.04	3.55	0.43	0.02	0.39	0.02	0.11	0.02	1727	0.00	0	0.3	8.6	5.1	0.0	0	0.0	0	0.0	883	0.0	0.1
2024T7	0.04	3.51	0.43	0.02	0.39	0.02	0.11	0.02	1704	0.00	0	0.3	8.6	5.1	0.0	0	0.0	0	0.0	874	0.0	0.1
2025T7	0.04	3.47	0.43	0.02	0.39	0.02	0.11	0.02	1682	0.00	0	0.3	8.7	5.2	0.0	0	0.0	0	0.0	866	0.0	0.1
2023LDT	0.02	0.09	0.97	0.00	0.33	0.00	0.09	0.00	328	0.00	0	1.4	0.3	2.7	0.0	0	0.0	0	0.0	69	0.1	0.0
2024LDT	0.02	0.08	0.88	0.00	0.33	0.00	0.09	0.00	319	0.00	0	1.3	0.3	2.6	0.0	0	0.0	0	0.0	67	0.1	0.0
2025LDT	0.01	0.07	0.81	0.00	0.33	0.00	0.09	0.00	311	0.00	0	1.2	0.2	2.5	0.0	0	0.0	0	0.0	65	0.1	0.0

									Running (RUNEX, PMTW, PMBW) grams per mile												Process (IDLEX, STREX, TOTEX, DIURN, HTSK, RUNLS, RESTL) grams per trip										Fuel
Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	VMT/yr	Trips/yr		ROG	TOG	CO	NOx	CO2	CH4	PM10 Ex	PM10 D	PM2.5 Ex	PM2.5 D	SOX	N2O	ROG	TOG	CO	NOx	CO2	CH4	PM10	PM2.5	SOX	N2O	gal/mi
San Joaquin Valley	2023	LDA	Aggregate	Aggregate	Gasoline	22,924,336,637	2,788,539,404	SJVABLDALDT2023	0	0	0	0	154	0	0	0	0	0	0	0	0	0	1	0	30	0	0	0	0	0	0
San Joaquin Valley	2023	LDA	Aggregate	Aggregate	Diesel	219,665,918	25,562,754	SJVABLDALDT2023	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2023	LDA	Aggregate	Aggregate	Electricity	491,140,959	58,509,433	SJVABLDALDT2023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2023	LDT1	Aggregate	Aggregate	Gasoline	2,161,533,114	281,702,405	SJVABLDALDT2023	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
San Joaquin Valley	2023	LDT1	Aggregate	Aggregate	Diesel	761,750	144,611	SJVABLDALDT2023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2023	LDT1	Aggregate	Aggregate	Electricity	19,157,002	2,193,585	SJVABLDALDT2023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2023	LDT2	Aggregate	Aggregate	Gasoline	7,276,408,936	935,271,191	SJVABLDALDT2023	0	0	0	0	62	0	0	0	0	0	0	0	0	0	1	0	13	0	0	0	0	0	0
San Joaquin Valley	2023	LDT2	Aggregate	Aggregate	Diesel	47,850,978	5,546,780	SJVABLDALDT2023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2023	LDT2	Aggregate	Aggregate	Electricity	64,527,491	10,121,726	SJVABLDALDT2023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2023	MDV	Aggregate	Aggregate	Gasoline	6,340,966,354	879,027,008	SJVABMDV2023	0	0	1	0	425	0	0	0	0	0	0	0	1	2	3	0	91	0	0	0	0	0	0
San Joaquin Valley	2023	MDV	Aggregate	Aggregate	Diesel	157,727,270	19,289,550	SJVABMDV2023	0	0	0	0	372	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2023	MDV	Aggregate	Aggregate	Electricity	37,880,138	5,839,810	SJVABMDV2023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2023	T6 instate heavy	Aggregate	Aggregate	Diesel	275,921,616	25,986,717	SJVABT6 instate heavy2023	0	0	0	2	984	0	0	0	0	0	0	0	0	0	0	2	53	0	0	0	0	0	0
San Joaquin Valley	2023	T7 single construction	Aggregate	Aggregate	Diesel	114,084,818	7,432,471	SJVABT7 single construction2023	0	0	0	4	1,727	0	0	0	0	0	0	0	0	0	5	9	883	0	0	0	0	0	0
San Joaquin Valley	2024	LDA	Aggregate	Aggregate	Gasoline	23,376,441,893	2,867,453,811	SJVABLDALDT2024	0	0	0	0	152	0	0	0	0	0	0	0	0	0	1	0	30	0	0	0	0	0	0
San Joaquin Valley	2024	LDA	Aggregate	Aggregate	Diesel	233,803,660	27,476,610	SJVABLDALDT2024	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2024	LDA	Aggregate	Aggregate	Electricity	605,163,650	70,544,391	SJVABLDALDT2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2024	LDT1	Aggregate	Aggregate	Gasoline	2,202,020,446	288,343,613	SJVABLDALDT2024	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
San Joaquin Valley	2024	LDT1	Aggregate	Aggregate	Diesel	698,561	131,441	SJVABLDALDT2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2024	LDT1	Aggregate	Aggregate	Electricity	26,092,507	2,931,447	SJVABLDALDT2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2024	LDT2	Aggregate	Aggregate	Gasoline	7,355,505,801	952,662,588	SJVABLDALDT2024	0	0	0	0	60	0	0	0	0	0	0	0	0	0	1	0	13	0	0	0	0	0	0
San Joaquin Valley	2024	LDT2	Aggregate	Aggregate	Diesel	51,963,944	6,120,802	SJVABLDALDT2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2024	LDT2	Aggregate	Aggregate	Electricity	80,337,630	12,806,529	SJVABLDALDT2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2024	MDV	Aggregate	Aggregate	Gasoline	6,174,893,393	863,495,851	SJVABMDV2024	0	0	1	0	416	0	0	0	0	0	0	0	1	1	3	0	89	0	0	0	0	0	0
San Joaquin Valley	2024	MDV	Aggregate	Aggregate	Diesel	162,298,026	20,228,090	SJVABMDV2024	0	0	0	0	363	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2024	MDV	Aggregate	Aggregate	Electricity	50,006,581	7,843,757	SJVABMDV2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2024	T6 instate heavy	Aggregate	Aggregate	Diesel	271,561,958	26,742,047	SJVABT6 instate heavy2024	0	0	0	2	974	0	0	0	0	0	0	0	0	0	0	2	53	0	0	0	0	0	0
San Joaquin Valley	2024	T7 single construction	Aggregate	Aggregate	Diesel	118,142,338	7,641,343	SJVABT7 single construction2024	0	0	0	4	1,704	0	0	0	0	0	0	0	0	0	5	9	874	0	0	0	0	0	0
San Joaquin Valley	2025	LDA	Aggregate	Aggregate	Gasoline	23,794,692,854	2,944,549,510	SJVABLDALDT2025	0	0	0	0	149	0	0	0	0	0	0	0	0	0	1	0	30	0	0	0	0	0	0
San Joaquin Valley	2025	LDA	Aggregate	Aggregate	Diesel	246,773,965	29,321,314	SJVABLDALDT2025	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2025	LDA	Aggregate	Aggregate	Electricity	735,761,445	83,990,705	SJVABLDALDT2025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2025	LDT1	Aggregate	Aggregate	Gasoline	2,242,278,285	295,241,302	SJVABLDALDT2025	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
San Joaquin Valley	2025	LDT1	Aggregate	Aggregate	Diesel	649,460	121,361	SJVABLDALDT2025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2025	LDT1	Aggregate	Aggregate	Electricity	33,966,569	3,748,909	SJVABLDALDT2025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2025	LDT2	Aggregate	Aggregate	Gasoline	7,435,775,943	970,531,382	SJVABLDALDT2025	0	0	0	0	58	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0
San Joaquin Valley	2025	LDT2	Aggregate	Aggregate	Diesel	55,832,847	6,680,806	SJVABLDALDT2025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2025	LDT2	Aggregate	Aggregate	Electricity	97,416,565	15,780,160	SJVABLDALDT2025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2025	MDV	Aggregate	Aggregate	Gasoline	6,026,447,174	849,178,607	SJVABMDV2025	0	0	1	0	407	0	0	0	0	0	0	0	1	1	3	0	87	0	0	0	0	0	0
San Joaquin Valley	2025	MDV	Aggregate	Aggregate	Diesel	166,189,256	21,081,944	SJVABMDV2025	0	0	0	0	353	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2025	MDV	Aggregate	Aggregate	Electricity	63,073,228	10,065,900	SJVABMDV2025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2025	T6 instate heavy	Aggregate	Aggregate	Diesel	267,483,534	27,687,410	SJVABT6 instate heavy2025	0	0	0	2	963	0	0	0	0	0	0	0	0	0	0	2	53	0	0	0	0	0	0
San Joaquin Valley	2025	T7 single construction	Aggregate	Aggregate	Diesel	120,033,926	7,755,475	SJVABT7 single construction2025	0	0	0	3	1,682	0	0	0	0	0	0	0	0	0	5	9	866	0	0	0	0	0	0
								SAFE Table Column #	3	3	5	4	7	8	6	8	6	8	8	8	2	2	5	4	7	8	6	6	8	8	7
San Joaquin Valley	2023	LDT1	Aggregate	Aggregate	Gasoline	2,161,533,114	281,702,405	SJVABLDT2023	0	0	0	0	71	0	0	0	0	0	0	0	0	0	1	0	15	0	0	0	0	0	0
San Joaquin Valley	2023	LDT1	Aggregate	Aggregate	Diesel	761,750	144,611	SJVABLDT2023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2023	LDT1	Aggregate	Aggregate	Electricity	19,157,002	2,193,585	SJVABLDT2023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2023	LDT2	Aggregate	Aggregate	Gasoline	7,276,408,936	935,271,191	SJVABLDT2023	0	0	1	0	256	0	0	0	0	0	0	0	1	1	2	0	54	0	0	0	0	0	0
San Joaquin Valley	2023	LDT2	Aggregate	Aggregate	Diesel	47,850,978	5,546,780	SJVABLDT2023	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2023	LDT2	Aggregate	Aggregate	Electricity	64,527,491	10,121,726	SJVABLDT2023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2024	LDT1	Aggregate	Aggregate	Gasoline	2,202,020,446	288,343,613	SJVABLDT2024	0	0	0	0	70	0	0	0	0	0	0	0	0	0	1	0	15	0	0	0	0	0	0
San Joaquin Valley	2024	LDT1	Aggregate	Aggregate	Diesel	698,561	131,441	SJVABLDT2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2024	LDT1	Aggregate	Aggregate	Electricity	26,092,507	2,931,447	SJVABLDT2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2024	LDT2	Aggregate	Aggregate	Gasoline	7,355,505,801	952,662,588	SJVABLDT2024	0	0	1	0	248	0	0	0	0	0	0	0	1	1	2	0	52	0	0	0	0	0	0
San Joaquin Valley	2024	LDT2	Aggregate	Aggregate	Diesel	51,963,944	6,120,802	SJVABLDT2024	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2024	LDT2	Aggregate	Aggregate	Electricity	80,337,630	12,806,529	SJVABLDT2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2025	LDT1	Aggregate	Aggregate	Gasoline	2,242,278,285	295,241,302	SJVABLDT2025	0	0	0	0	69	0	0	0	0	0	0	0	0	0	1	0	14	0	0	0	0	0	0
San Joaquin Valley	2025	LDT1	Aggregate	Aggregate	Diesel	649,460	121,361	SJVABLDT2025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2025	LDT1	Aggregate	Aggregate	Electricity	33,966,569	3,748,909	SJVABLDT2025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2025	LDT2	Aggregate	Aggregate	Gasoline	7,435,775,943	970,531,382	SJVABLDT2025	0	0	1	0	241	0	0	0	0	0	0	0	1	1	2	0	51	0	0	0	0	0	0
San Joaquin Valley	2025	LDT2	Aggregate	Aggregate	Diesel	55,832,847	6,680,806	SJVABLDT2025	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2025	LDT2	Aggregate	Aggregate	Electricity	97,416,565	15,780,160	SJVABLDT2025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
													Paved Road Dust Factor			0.29		0.07													

Running (RUNEX, PMTW, PMBW) grams per mile												Process (IDLEX, STREX, TOTEX, DIURN, HTSK, RUNLS, RESTL) grams per trip										Fuel
ROG	TOG	CO	NOx	CO2	CH4	PM10 Ex	PM10 D	PM2.5 Ex	PM2.5 D	SOX	N2O	ROG	TOG	CO	NOx	CO2	CH4	PM10	PM2.5	SOX	N2O	gal/mi
0.01	0.01	0.59	0.03	263.52	0.00	0.00	0.04	0.00	0.02	0.00	0.00	1	1	2	0	54	0	0	0	0	0	0
0.01	0.01	0.20	0.06	198.85	0.00	0.01	0.04	0.01	0.02	0.00	0.03	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.03	0.04	1.23	0.11	309.72	0.01	0.00	0.04	0.00	0.02	0.00	0.01	2	2	2	0	65	0	0	0	0	0	0
0.17	0.20	1.17	1.06	423.65	0.01	0.13	0.04	0.13	0.02	0.00	0.07	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.02	0.02	0.90	0.09	332.70	0.00	0.00	0.04	0.00	0.02	0.00	0.01	1	1	3	0	70	0	0	0	0	0	0
0.02	0.02	0.13	0.04	268.50	0.00	0.01	0.04	0.01	0.02	0.00	0.04	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.02	0.03	1.02	0.11	419.65	0.01	0.00	0.04	0.00	0.02	0.00	0.01	1	2	3	0	90	0	0	0	0	0	0
0.01	0.01	0.21	0.05	372.19	0.00	0.01	0.04	0.00	0.02	0.00	0.06	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.01	0.01	0.11	1.54	984.37	0.00	0.01	0.14	0.01	0.06	0.01	0.15	0	0	0	2	53	0	0	0	0	0	0
0.04	0.05	0.43	3.55	1726.74	0.00	0.02	0.10	0.02	0.04	0.02	0.27	0	0	5	9	883	0	0	0	0	0	0
0.01	0.01	0.56	0.03	256.24	0.00	0.00	0.04	0.00	0.02	0.00	0.00	1	1	2	0	53	0	0	0	0	0	0
0.01	0.01	0.19	0.05	193.68	0.00	0.00	0.04	0.00	0.02	0.00	0.03	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.02	0.03	1.10	0.10	301.19	0.01	0.00	0.04	0.00	0.02	0.00	0.01	2	2	2	0	63	0	0	0	0	0	0
0.16	0.18	1.08	0.97	417.76	0.01	0.12	0.04	0.12	0.02	0.00	0.07	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.01	0.02	0.83	0.07	321.28	0.00	0.00	0.04	0.00	0.02	0.00	0.01	1	1	3	0	68	0	0	0	0	0	0
0.01	0.02	0.13	0.04	261.08	0.00	0.00	0.04	0.00	0.02	0.00	0.04	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.02	0.03	0.93	0.09	407.26	0.00	0.00	0.04	0.00	0.02	0.00	0.01	1	1	3	0	87	0	0	0	0	0	0
0.01	0.01	0.21	0.05	362.58	0.00	0.00	0.04	0.00	0.02	0.00	0.06	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.01	0.01	0.11	1.58	973.93	0.00	0.01	0.14	0.01	0.06	0.01	0.15	0	0	0	2	53	0	0	0	0	0	0
0.04	0.05	0.43	3.51	1704.13	0.00	0.02	0.10	0.02	0.04	0.02	0.27	0	0	5	9	874	0	0	0	0	0	0
0.01	0.01	0.52	0.03	248.93	0.00	0.00	0.04	0.00	0.02	0.00	0.00	1	1	2	0	51	0	0	0	0	0	0
0.01	0.01	0.18	0.04	188.58	0.00	0.00	0.04	0.00	0.02	0.00	0.03	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.02	0.03	0.98	0.08	292.67	0.00	0.00	0.04	0.00	0.02	0.00	0.01	2	2	2	0	61	0	0	0	0	0	0
0.15	0.17	1.01	0.90	410.49	0.01	0.11	0.04	0.11	0.02	0.00	0.06	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.01	0.02	0.77	0.07	310.06	0.00	0.00	0.04	0.00	0.02	0.00	0.01	1	1	3	0	66	0	0	0	0	0	0
0.01	0.02	0.13	0.04	253.84	0.00	0.00	0.04	0.00	0.02	0.00	0.04	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.02	0.02	0.85	0.08	394.40	0.00	0.00	0.04	0.00	0.02	0.00	0.01	1	1	3	0	85	0	0	0	0	0	0
0.01	0.01	0.21	0.04	352.78	0.00	0.00	0.04	0.00	0.02	0.00	0.06	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.01	0.01	0.11	1.62	962.91	0.00	0.01	0.14	0.01	0.06	0.01	0.15	0	0	0	2	53	0	0	0	0	0	0
0.04	0.05	0.43	3.47	1682.27	0.00	0.02	0.10	0.02	0.04	0.02	0.26	0	0	5	9	866	0	0	0	0	0	0

0.03	0.04	1.23	0.11	309.72	0.01	0.00	0.04	0.00	0.02	0.00	0.01	2	2	2	0	65	0	0	0	0	0	0
0.17	0.20	1.17	1.06	423.65	0.01	0.13	0.04	0.13	0.02	0.00	0.07	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.02	0.02	0.90	0.09	332.70	0.00	0.00	0.04	0.00	0.02	0.00	0.01	1	1	3	0	70	0	0	0	0	0	0
0.02	0.02	0.13	0.04	268.50	0.00	0.01	0.04	0.01	0.02	0.00	0.04	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.02	0.03	1.10	0.10	301.19	0.01	0.00	0.04	0.00	0.02	0.00	0.01	2	2	2	0	63	0	0	0	0	0	0
0.16	0.18	1.08	0.97	417.76	0.01	0.12	0.04	0.12	0.02	0.00	0.07	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.01	0.02	0.83	0.07	321.28	0.00	0.00	0.04	0.00	0.02	0.00	0.01	1	1	3	0	68	0	0	0	0	0	0
0.01	0.02	0.13	0.04	261.08	0.00	0.00	0.04	0.00	0.02	0.00	0.04	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0
0.02	0.03	0.98	0.08	292.67	0.00	0.00	0.04	0.00	0.02	0.00	0.01	2	2	2	0	61	0	0	0	0	0	0
0.15	0.17	1.01	0.90	410.49	0.01	0.11	0.04	0.11	0.02	0.00	0.06	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0

0.01	0.02	0.77	0.07	310.06	0.00	0.00	0.04	0.00	0.02	0.00	0.01	1	1	3	0	66	0	0	0	0	0	0
0.01	0.02	0.13	0.04	253.84	0.00	0.00	0.04	0.00	0.02	0.00	0.04	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0

Running (RUNEX, PMTW, PMBW) Tons per Year												Process (IDLEX, STREX, TOTEX, DIURN, HTSK, RUNLS, RESTL) Tons per Year										Fuel
ROG	TOG	CO	NOx	CO2	CH4	PM10 Ex	PM10 D	PM2.5 Ex	PM2.5 D	SOX	N2O	ROG	TOG	CO	NOx	CO2	CH4	PM10	PM2.5	SOX	N2O	gal/yr
205	299	14951	878	6659060	55	35	1131	32	449	66	107	2007	2071	6771	567	166261	153	6	5	2	79	720,434,445
3	3	48	15	48149	0	1	11	1	4	0	8	0	0	0	0	0	0	0	0	0	0	4,291,189
0	0	0	0	0	0	0	24	0	10	0	0	1	1	0	0	0	0	0	0	0	0	0
64	93	2939	266	737961	14	5	107	4	42	7	20	578	590	756	89	20115	25	1	1	0	9	80,017,366
0	0	1	1	356	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31,704
0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	195	7234	684	2668571	33	12	359	11	142	26	55	1278	1312	2911	316	72615	75	2	2	1	34	289,340,933
1	1	7	2	14162	0	0	2	0	1	0	2	0	0	0	0	0	0	0	0	0	0	1,262,182
0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
147	215	7109	739	2933227	35	10	313	9	124	29	58	1438	1480	3280	380	86854	88	2	2	1	36	318,779,191
2	2	37	9	64711	0	1	8	1	3	1	10	0	0	0	0	0	0	0	0	0	0	5,767,219
0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
3	3	32	468	299396	0	2	43	2	18	3	47	0	0	5	68	1520	0	0	0	0	0	26,818,606
6	6	54	447	217149	0	2	12	2	4	2	34	3	3	42	71	7233	0	0	0	0	1	19,997,641
180	263	14303	798	6602694	50	34	1153	32	457	65	102	1934	1994	6744	548	166201	146	6	5	2	78	714,478,558
3	3	49	13	49916	0	1	12	1	5	0	8	0	0	0	0	0	0	0	0	0	0	4,448,702
0	0	0	0	0	0	0	30	0	12	0	0	1	1	0	0	0	0	0	0	0	0	0
55	80	2659	232	731089	13	4	109	4	43	7	18	538	549	743	83	20000	23	1	1	0	9	79,279,877
0	0	1	1	322	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28,670
0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
119	173	6748	602	2604995	29	11	363	11	144	26	51	1233	1265	2870	295	71505	71	2	2	1	33	282,513,068
1	1	8	2	14955	0	0	3	0	1	0	2	0	0	0	0	0	0	0	0	0	0	1,332,792
0	0	0	0	0	0	0	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
126	184	6325	629	2772059	31	9	305	9	121	27	51	1361	1398	3065	344	82957	80	2	2	1	34	301,356,064
2	2	38	8	64866	0	1	8	1	3	1	10	0	0	0	0	0	0	0	0	0	0	5,781,050
0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
3	3	32	474	291541	0	2	43	2	18	3	46	0	0	5	70	1557	0	0	0	0	0	26,121,755
6	6	56	457	221928	0	2	13	2	5	2	35	3	3	43	73	7366	0	0	0	0	1	20,435,389
160	233	13739	736	6529267	45	34	1174	31	466	65	98	1875	1932	6684	530	165803	139	6	5	2	77	706,686,064
3	3	49	11	51299	0	1	12	1	5	0	8	0	0	0	0	0	0	0	0	0	0	4,571,893
0	0	0	0	0	0	0	36	0	14	0	0	1	1	0	0	0	0	0	0	0	0	0
47	69	2411	203	723392	11	4	111	4	44	7	17	502	512	729	78	19878	21	1	1	0	9	78,454,572
0	0	1	1	294	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26,191
0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
105	154	6321	534	2541442	26	11	367	10	145	25	47	1192	1221	2827	276	70385	67	2	2	1	32	275,686,656
1	1	8	2	15623	0	0	3	0	1	0	2	0	0	0	0	0	0	0	0	0	0	1,392,328
0	0	0	0	0	0	0	5	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
108	158	5678	539	2619986	27	9	297	8	118	26	46	1288	1322	2874	310	79196	73	2	2	1	31	284,907,269
2	2	38	8	64626	0	1	8	1	3	1	10	0	0	0	0	0	0	0	0	0	0	5,759,645
0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
3	3	32	478	283914	0	2	42	2	17	3	45	0	0	6	72	1604	0	0	0	0	0	25,446,154
5	6	57	460	222589	0	2	13	2	5	2	35	3	3	44	74	7400	0	0	0	0	1	20,497,341
64	93	2939	266	737961	14	5	107	4	42	7	20	578	590	756	89	20115	25	1	1	0	9	80,017,366
0	0	1	1	356	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31,704
0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	195	7234	684	2668571	33	12	359	11	142	26	55	1278	1312	2911	316	72615	75	2	2	1	34	289,340,933
1	1	7	2	14162	0	0	2	0	1	0	2	0	0	0	0	0	0	0	0	0	0	1,262,182
0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
55	80	2659	232	731089	13	4	109	4	43	7	18	538	549	743	83	20000	23	1	1	0	9	79,279,877
0	0	1	1	322	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28,670
0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
119	173	6748	602	2604995	29	11	363	11	144	26	51	1233	1265	2870	295	71505	71	2	2	1	33	282,513,068
1	1	8	2	14955	0	0	3	0	1	0	2	0	0	0	0	0	0	0	0	0	0	1,332,792
0	0	0	0	0	0	0	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
47	69	2411	203	723392	11	4	111	4	44	7	17	502	512	729	78	19878	21	1	1	0	9	78,454,572
0	0	1	1	294	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26,191

0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
105	154	6321	534	2541442	26	11	367	10	145	25	47	1192	1221	2827	276	70385	67	2	2	1	32	275,686,656
1	1	8	2	15623	0	0	3	0	1	0	2	0	0	0	0	0	0	0	0	0	0	1,392,328
0	0	0	0	0	0	0	5	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: EMFAC2017 (v1.0.3) Emissions Inventory
Region Type: Air Basin
Region: San Joaquin Valley
Calendar Year: 2023, 2024, 2025
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/year for VMT, trips/year for Trips, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLEX	NOx_STRE	NOx_TOTE	PM2.5_RU	PM2.5_IDL	PM2.5_STF	PM2.5_TO	PM2.5_PM
San Joaquin	2023	LDA	Aggregate	Aggregate	Gasoline	1709767	2.29E+10	2.79E+09	878.2711	0	566.6588	1444.93	32.11298	0	5.231516	37.3445	50.53951
San Joaquin	2023	LDA	Aggregate	Aggregate	Diesel	15469.4	2.2E+08	25562754	14.6108	0	0	14.6108	1.345356	0	0	1.345356	0.48428
San Joaquin	2023	LDA	Aggregate	Aggregate	Electricity	33804.77	4.91E+08	58509433	0	0	0	0	0	0	0	0	1.08278
San Joaquin	2023	LDT1	Aggregate	Aggregate	Gasoline	179531	2.16E+09	2.82E+08	266.4009	0	88.78809	355.189	4.349234	0	0.765395	5.114629	4.765365
San Joaquin	2023	LDT1	Aggregate	Aggregate	Diesel	125.0755	761750.2	144611	0.887576	0	0	0.887576	0.107171	0	0	0.107171	0.001679
San Joaquin	2023	LDT1	Aggregate	Aggregate	Electricity	1244.748	19157002	2193585	0	0	0	0	0	0	0	0	0.042234
San Joaquin	2023	LDT2	Aggregate	Aggregate	Gasoline	584245.1	7.28E+09	9.35E+08	683.7418	0	315.8341	999.5759	10.81244	0	1.819924	12.63237	16.04174
San Joaquin	2023	LDT2	Aggregate	Aggregate	Diesel	3271.495	47850978	5546780	2.338948	0	0	2.338948	0.282415	0	0	0.282415	0.105493
San Joaquin	2023	LDT2	Aggregate	Aggregate	Electricity	5782.498	64527491	10121726	0	0	0	0	0	0	0	0	0.142259
San Joaquin	2023	MDV	Aggregate	Aggregate	Gasoline	563121.3	6.34E+09	8.79E+08	738.6168	0	380.168	1118.785	9.237881	0	1.743454	10.98134	13.97944
San Joaquin	2023	MDV	Aggregate	Aggregate	Diesel	11633.37	1.58E+08	19289550	9.299513	0	0	9.299513	0.868968	0	0	0.868968	0.347729
San Joaquin	2023	MDV	Aggregate	Aggregate	Electricity	3310.179	37880138	5839810	0	0	0	0	0	0	0	0	0.083511
San Joaquin	2023	T6 instate I	Aggregate	Aggregate	Diesel	7217.657	2.76E+08	25986717	468.2501	7.088212	60.71297	536.0512	2.143256	0.001693	0	2.144949	0.912455
San Joaquin	2023	T7 single cc	Aggregate	Aggregate	Diesel	5269.239	1.14E+08	7432471	446.5375	34.42133	36.29232	517.2512	2.171031	0.013425	0	2.184456	1.131813
San Joaquin	2024	LDA	Aggregate	Aggregate	Gasoline	1757776	2.34E+10	2.87E+09	798.0661	0	547.9002	1345.966	31.62965	0	5.181945	36.81159	51.53623
San Joaquin	2024	LDA	Aggregate	Aggregate	Diesel	16608.43	2.34E+08	27476610	12.54806	0	0	12.54806	1.176138	0	0	1.176138	0.515449
San Joaquin	2024	LDA	Aggregate	Aggregate	Electricity	40853.63	6.05E+08	70544391	0	0	0	0	0	0	0	0	1.334157
San Joaquin	2024	LDT1	Aggregate	Aggregate	Gasoline	183222.7	2.2E+09	2.88E+08	232.0331	0	83.33203	315.3651	4.105565	0	0.727168	4.832734	4.854624
San Joaquin	2024	LDT1	Aggregate	Aggregate	Diesel	113.5731	698561.4	131440.6	0.749433	0	0	0.749433	0.089425	0	0	0.089425	0.00154
San Joaquin	2024	LDT1	Aggregate	Aggregate	Electricity	1668.941	26092507	2931447	0	0	0	0	0	0	0	0	0.057524
San Joaquin	2024	LDT2	Aggregate	Aggregate	Gasoline	594846.1	7.36E+09	9.53E+08	601.514	0	294.8174	896.3314	10.54506	0	1.790128	12.33519	16.21611
San Joaquin	2024	LDT2	Aggregate	Aggregate	Diesel	3616.911	51963944	6120802	2.273275	0	0	2.273275	0.269797	0	0	0.269797	0.114561
San Joaquin	2024	LDT2	Aggregate	Aggregate	Electricity	7340.461	80337630	12806529	0	0	0	0	0	0	0	0	0.177114
San Joaquin	2024	MDV	Aggregate	Aggregate	Gasoline	553701.5	6.17E+09	8.63E+08	628.8184	0	343.5214	972.3398	8.677851	0	1.63772	10.31557	13.61331
San Joaquin	2024	MDV	Aggregate	Aggregate	Diesel	12251.54	1.62E+08	20228090	8.498154	0	0	8.498154	0.827458	0	0	0.827458	0.357806
San Joaquin	2024	MDV	Aggregate	Aggregate	Electricity	4462.212	50006581	7843757	0	0	0	0	0	0	0	0	0.110246
San Joaquin	2024	T6 instate I	Aggregate	Aggregate	Diesel	7427.445	2.72E+08	26742047	473.7584	7.294238	62.47594	543.5285	2.189243	0.001742	0	2.190985	0.898037
San Joaquin	2024	T7 single cc	Aggregate	Aggregate	Diesel	5417.318	1.18E+08	7641343	456.7988	35.35375	37.43276	529.5854	2.196457	0.013528	0	2.209985	1.172067
San Joaquin	2025	LDA	Aggregate	Aggregate	Gasoline	1805341	2.38E+10	2.94E+09	735.9835	0	530.4587	1266.442	31.10897	0	5.160125	36.2691	52.45832
San Joaquin	2025	LDA	Aggregate	Aggregate	Diesel	17722.98	2.47E+08	29321314	10.85703	0	0	10.85703	1.061566	0	0	1.061566	0.544043
San Joaquin	2025	LDA	Aggregate	Aggregate	Electricity	48753.75	7.36E+08	83990705	0	0	0	0	0	0	0	0	1.622076
San Joaquin	2025	LDT1	Aggregate	Aggregate	Gasoline	187152.2	2.24E+09	2.95E+08	203.1489	0	78.38467	281.5336	3.886091	0	0.695126	4.581217	4.943377
San Joaquin	2025	LDT1	Aggregate	Aggregate	Diesel	104.8759	649459.6	121361.4	0.64304	0	0	0.64304	0.076718	0	0	0.076718	0.001432
San Joaquin	2025	LDT1	Aggregate	Aggregate	Electricity	2142.098	33966569	3748909	0	0	0	0	0	0	0	0	0.074883
San Joaquin	2025	LDT2	Aggregate	Aggregate	Gasoline	605874	7.44E+09	9.71E+08	533.6118	0	276.3027	809.9145	10.29254	0	1.770541	12.06308	16.39308
San Joaquin	2025	LDT2	Aggregate	Aggregate	Diesel	3956.516	55832847	6680806	2.215591	0	0	2.215591	0.267579	0	0	0.267579	0.12309
San Joaquin	2025	LDT2	Aggregate	Aggregate	Electricity	9075.965	97416565	15780160	0	0	0	0	0	0	0	0	0.214767
San Joaquin	2025	MDV	Aggregate	Aggregate	Gasoline	544924	6.03E+09	8.49E+08	538.9015	0	309.8627	848.7642	8.183904	0	1.554456	9.73836	13.28604
San Joaquin	2025	MDV	Aggregate	Aggregate	Diesel	12818.51	1.66E+08	21081944	7.723718	0	0	7.723718	0.778952	0	0	0.778952	0.366385
San Joaquin	2025	MDV	Aggregate	Aggregate	Electricity	5748.557	63073228	10065900	0	0	0	0	0	0	0	0	0.139053
San Joaquin	2025	T6 instate I	Aggregate	Aggregate	Diesel	7690.014	2.67E+08	27687410	477.8651	7.552098	64.68199	550.0992	2.225875	0.001804	0	2.227678	0.88455
San Joaquin	2025	T7 single cc	Aggregate	Aggregate	Diesel	5498.232	1.2E+08	7755475	459.557	35.84973	38.09977	533.5065	2.188837	0.013491	0	2.202328	1.190833

Calendar Y	Vehicle Cat	Fuel	PM2.5_PM	PM2.5_TO	PM10_RUN	PM10_IDLE	PM10_STR	PM10_TOT	PM10_PMT	PM10_PME	PM10_TOT	CO2_RUNE	CO2_IDLEX	CO2_STREX
2023	LDA	Gasoline	397.9987	485.8827	34.92554	0	5.689617	40.61515	202.158	928.6635	1171.437	6659060	0	166260.8
2023	LDA	Diesel	3.813709	5.643345	1.406187	0	0	1.406187	1.937122	8.898653	12.24196	48149.05	0	0
2023	LDA	Electricity	8.526896	9.609677	0	0	0	0	4.331122	19.89609	24.22721	0	0	0
2023	LDT1	Gasoline	37.52725	47.40724	4.730048	0	0.832399	5.562447	19.06146	87.56358	112.1875	737961.3	0	20114.89
2023	LDT1	Diesel	0.013225	0.122076	0.112017	0	0	0.112017	0.006717	0.030858	0.149593	355.7366	0	0
2023	LDT1	Electricity	0.332592	0.374826	0	0	0	0	0.168936	0.776049	0.944985	0	0	0
2023	LDT2	Gasoline	126.3287	155.0028	11.7593	0	1.979276	13.73858	64.16694	294.7669	372.6724	2668571	0	72614.88
2023	LDT2	Diesel	0.83076	1.218668	0.295184	0	0	0.295184	0.421973	1.93844	2.655598	14162.24	0	0
2023	LDT2	Electricity	1.120288	1.262547	0	0	0	0	0.569035	2.614005	3.18304	0	0	0
2023	MDV	Gasoline	110.0881	135.0488	10.04619	0	1.895928	11.94212	55.91775	256.8722	324.732	2933227	0	86854.03
2023	MDV	Diesel	2.738367	3.955064	0.908259	0	0	0.908259	1.390916	6.389522	8.688698	64710.76	0	0
2023	MDV	Electricity	0.657652	0.741164	0	0	0	0	0.334046	1.534522	1.868568	0	0	0
2023	T6 instate I	Diesel	16.9899	20.04731	2.240164	0.001769	0	2.241934	3.649818	39.64311	45.53486	299396.2	1520.47	0
2023	T7 single cc	Diesel	3.32753	6.643799	2.269195	0.014032	0	2.283228	4.527251	7.764236	14.57472	217149.3	7233.077	0
2024	LDA	Gasoline	405.8478	494.1957	34.40013	0	5.635838	40.03597	206.1449	946.9783	1193.159	6602694	0	166200.8
2024	LDA	Diesel	4.05916	5.750746	1.229318	0	0	1.229318	2.061795	9.471372	12.76249	49916.42	0	0
2024	LDA	Electricity	10.50649	11.84065	0	0	0	0	5.33663	24.51514	29.85177	0	0	0
2024	LDT1	Gasoline	38.23016	47.91752	4.465119	0	0.790846	5.255966	19.4185	89.20372	113.8782	731089.4	0	19999.91
2024	LDT1	Diesel	0.012128	0.103093	0.093468	0	0	0.093468	0.00616	0.028299	0.127927	321.6875	0	0
2024	LDT1	Electricity	0.453003	0.510527	0	0	0	0	0.230097	1.057006	1.287102	0	0	0
2024	LDT2	Gasoline	127.7019	156.2532	11.46864	0	1.946907	13.41555	64.86446	297.9711	376.2511	2604995	0	71504.62
2024	LDT2	Diesel	0.902167	1.286525	0.281996	0	0	0.281996	0.458244	2.105056	2.845296	14954.52	0	0
2024	LDT2	Electricity	1.394774	1.571888	0	0	0	0	0.708457	3.254473	3.962929	0	0	0
2024	MDV	Gasoline	107.2048	131.1337	9.437652	0	1.781085	11.21874	54.45324	250.1446	315.8165	2772059	0	82956.82
2024	MDV	Diesel	2.817721	4.002985	0.864871	0	0	0.864871	1.431224	6.574683	8.870779	64865.95	0	0
2024	MDV	Electricity	0.868184	0.97843	0	0	0	0	0.440983	2.025764	2.466746	0	0	0
2024	T6 instate I	Diesel	16.72146	19.81048	2.288231	0.001821	0	2.290051	3.59215	39.01673	44.89893	291540.9	1556.849	0
2024	T7 single cc	Diesel	3.445876	6.827928	2.295771	0.01414	0	2.30991	4.688267	8.040378	15.03855	221928.2	7365.982	0
2025	LDA	Gasoline	413.1093	501.8367	33.83385	0	5.612107	39.44595	209.8333	963.9216	1213.201	6529267	0	165803
2025	LDA	Diesel	4.284342	5.889952	1.109566	0	0	1.109566	2.176174	9.996799	13.28254	51298.67	0	0
2025	LDA	Electricity	12.77385	14.39593	0	0	0	0	6.488305	29.80565	36.29396	0	0	0
2025	LDT1	Gasoline	38.9291	48.45369	4.226479	0	0.756013	4.982492	19.77351	90.83456	115.5906	723392.5	0	19877.92
2025	LDT1	Diesel	0.011276	0.089425	0.080187	0	0	0.080187	0.005727	0.02631	0.112223	293.871	0	0
2025	LDT1	Electricity	0.589707	0.664591	0	0	0	0	0.299534	1.375984	1.675518	0	0	0
2025	LDT2	Gasoline	129.0955	157.5517	11.19408	0	1.925624	13.1197	65.57232	301.2228	379.9149	2541442	0	70385.01
2025	LDT2	Diesel	0.969337	1.360006	0.279677	0	0	0.279677	0.492361	2.261785	3.033824	15622.54	0	0
2025	LDT2	Electricity	1.691288	1.906055	0	0	0	0	0.859067	3.946339	4.805406	0	0	0
2025	MDV	Gasoline	104.6276	127.652	8.900697	0	1.6906	10.5913	53.14417	244.131	307.8665	2619986	0	79195.84
2025	MDV	Diesel	2.885279	4.030615	0.814173	0	0	0.814173	1.465538	6.732317	9.012028	64625.77	0	0
2025	MDV	Electricity	1.09504	1.234092	0	0	0	0	0.556211	2.555093	3.111303	0	0	0
2025	T6 instate I	Diesel	16.47033	19.58256	2.326519	0.001885	0	2.328404	3.538202	38.43077	44.29737	283913.6	1603.569	0
2025	T7 single cc	Diesel	3.501048	6.894209	2.287807	0.014101	0	2.301908	4.763331	8.169113	15.23435	222589	7400.266	0

Calendar Y	Vehicle Cat	Fuel	CO2_TOTE	CH4_RUNE	CH4_IDLEX	CH4_STRE	CH4_TOTE	N2O_RUNE	N2O_IDLEX	N2O_STRE	N2O_TOTE	ROG_RUNE	ROG_IDLEX	ROG_STRE	ROG_TOTE	ROG_DIUR	ROG_HOTS	ROG_RUNL	ROG_RESTI	ROG_TOTA
2023	LDA	Gasoline	6825321	54.9775	0	153.3907	208.3682	107.061	0	79.05512	186.1161	204.6302	0	675.9939	880.6241	188.7498	317.2075	683.1849	141.6951	2211.461
2023	LDA	Diesel	48149.05	0.138744	0	0	0.138744	7.56836	0	0	7.56836	2.987083	0	0	2.987083	0	0	0	0	2.987083
2023	LDA	Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0.377689	0.315256	0	0.130865	0.823811
2023	LDT1	Gasoline	758076.2	14.42857	0	24.74527	39.17385	20.13582	0	9.337553	29.47338	63.50178	0	126.7804	190.2822	59.1864	80.12053	272.7175	39.15554	641.4622
2023	LDT1	Diesel	355.7366	0.006802	0	0	0.006802	0.055917	0	0	0.055917	0.146436	0	0	0.146436	0	0	0	0	0.146436
2023	LDT1	Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0.013935	0.011819	0	0.00483	0.030585
2023	LDT2	Gasoline	2741186	32.55645	0	75.3885	107.9449	55.18954	0	34.2343	89.42384	133.8575	0	358.1466	492.0041	117.2352	163.7589	548.4827	90.58262	1412.064
2023	LDT2	Diesel	14162.24	0.037781	0	0	0.037781	2.226107	0	0	2.226107	0.813398	0	0	0.813398	0	0	0	0	0.813398
2023	LDT2	Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0.064687	0.054537	0	0.0224	0.141624
2023	MDV	Gasoline	3020081	35.20544	0	87.91509	123.1205	58.42983	0	36.30737	94.73719	147.4997	0	442.1544	589.6541	130.659	185.1336	572.0409	107.9366	1585.424
2023	MDV	Diesel	64710.76	0.0972	0	0	0.0972	10.17163	0	0	10.17163	2.092662	0	0	2.092662	0	0	0	0	2.092662
2023	MDV	Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0.037064	0.031466	0	0.012839	0.081369
2023	T6 instate I	Diesel	300916.7	0.131404	0.005688	0	0.137092	47.06091	0.238997	0	47.29991	2.82909	0.122457	0	2.951547	0	0	0	0	2.951547
2023	T7 single cc	Diesel	224382.4	0.257722	0.132679	0	0.390401	34.13285	1.136939	0	35.26979	5.548682	2.856536	0	8.405218	0	0	0	0	8.405218
2024	LDA	Gasoline	6768895	49.58088	0	146.0971	195.678	102.1158	0	78.27596	180.3917	180.0321	0	633.7649	813.797	179.4228	306.0996	678.5071	135.9785	2113.805
2024	LDA	Diesel	49916.42	0.129882	0	0	0.129882	7.846165	0	0	7.846165	2.796273	0	0	2.796273	0	0	0	0	2.796273
2024	LDA	Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0.456273	0.380102	0	0.157984	0.994359
2024	LDT1	Gasoline	751089.3	12.58858	0	22.89248	35.48106	18.22847	0	9.107267	27.33574	54.82612	0	115.4962	170.3223	54.8794	74.68302	256.1513	36.73996	592.776
2024	LDT1	Diesel	321.6875	0.005691	0	0	0.005691	0.050565	0	0	0.050565	0.122534	0	0	0.122534	0	0	0	0	0.122534
2024	LDT1	Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0.018682	0.015795	0	0.006474	0.040951
2024	LDT2	Gasoline	2676499	29.27285	0	71.25147	100.5243	50.50997	0	33.02258	83.53255	118.7116	0	334.3829	453.0945	113.9448	157.9047	537.7128	89.03184	1351.689
2024	LDT2	Diesel	14954.52	0.039225	0	0	0.039225	2.350643	0	0	2.350643	0.844483	0	0	0.844483	0	0	0	0	0.844483
2024	LDT2	Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0.082115	0.069003	0	0.028433	0.179551
2024	MDV	Gasoline	2855016	30.52732	0	80.12669	110.654	51.47848	0	33.83474	85.31322	126.1436	0	398.6575	524.8011	126.1431	177.0875	553.4457	105.1966	1486.674
2024	MDV	Diesel	64865.95	0.095574	0	0	0.095574	10.19602	0	0	10.19602	2.057644	0	0	2.057644	0	0	0	0	2.057644
2024	MDV	Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0.049949	0.042263	0	0.0173	0.109512
2024	T6 instate I	Diesel	293097.7	0.131509	0.005853	0	0.137362	45.82616	0.244715	0	46.07088	2.831345	0.126016	0	2.957362	0	0	0	0	2.957362
2024	T7 single cc	Diesel	229294.1	0.255582	0.136618	0	0.392199	34.88402	1.15783	0	36.04185	5.502602	2.941342	0	8.443944	0	0	0	0	8.443944
2025	LDA	Gasoline	6695070	44.94842	0	139.0592	184.0076	98.22033	0	77.28169	175.502	159.8452	0	595.2851	755.1302	172.5497	296.8699	679.1155	131.6472	2035.313
2025	LDA	Diesel	51298.67	0.123283	0	0	0.123283	8.063437	0	0	8.063437	2.654209	0	0	2.654209	0	0	0	0	2.654209
2025	LDA	Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0.544328	0.452552	0	0.188366	1.185246
2025	LDT1	Gasoline	743270.4	10.96545	0	21.18305	32.1485	16.62409	0	8.880852	25.50494	47.22173	0	105.2497	152.4714	51.04245	69.72254	241.4598	34.57545	549.2716
2025	LDT1	Diesel	293.871	0.004908	0	0	0.004908	0.046192	0	0	0.046192	0.105662	0	0	0.105662	0	0	0	0	0.105662
2025	LDT1	Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0.023976	0.0202	0	0.008306	0.052482
2025	LDT2	Gasoline	2611827	26.35798	0	67.42018	93.77816	46.63071	0	31.90644	78.53714	105.4283	0	312.7384	418.1667	111.1301	152.5239	527.3984	87.71191	1296.931
2025	LDT2	Diesel	15622.54	0.040876	0	0	0.040876	2.455646	0	0	2.455646	0.880043	0	0	0.880043	0	0	0	0	0.880043
2025	LDT2	Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0.101525	0.085025	0	0.035152	0.221703
2025	MDV	Gasoline	2699182	26.51257	0	72.94495	99.45751	45.63329	0	31.49879	77.13208	108.1594	0	358.9502	467.1096	122.4971	169.2256	534.4289	102.9194	1396.181
2025	MDV	Diesel	64625.77	0.092222	0	0	0.092222	10.15827	0	0	10.15827	1.985487	0	0	1.985487	0	0	0	0	1.985487
2025	MDV	Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0.064334	0.054236	0	0.022279	0.14085
2025	T6 instate I	Diesel	285517.2	0.131432	0.00606	0	0.137492	44.62726	0.252059	0	44.87932	2.829704	0.130471	0	2.960175	0	0	0	0	2.960175
2025	T7 single cc	Diesel	229989.3	0.249351	0.138849	0	0.3882	34.98789	1.163219	0	36.15111	5.368451	2.989379	0	8.35783	0	0	0	0	8.35783

Calendar Y	Vehicle Cat	Fuel	TOG_RUNE	TOG_IDLEX	TOG_STRE	TOG_TOTE	TOG_DIURI	TOG_HOTS	TOG_RUNL	TOG_RESTI	TOG_TOTA	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	SOx_RUNE	SOx_IDLEX	SOx_STREX	SOx_TOTE	Fuel Consu
2023	LDA	Gasoline	298.5092	0	740.126	1038.635	188.7498	317.2075	683.1849	141.6951	2369.473	14950.73	0	6771.239	21721.97	65.89679	0	1.645286	67.54208	720434.4
2023	LDA	Diesel	3.400595	0	0	3.400595	0	0	0	0	3.400595	47.62814	0	0	47.62814	0.455182	0	0	0.455182	4291.189
2023	LDA	Electricity	0	0	0	0	0.377689	0.315256	0	0.130865	0.823811	0	0	0	0	0	0	0	0	0
2023	LDT1	Gasoline	92.64153	0	138.8083	231.4499	59.1864	80.12053	272.7175	39.15554	682.6299	2938.815	0	755.5326	3694.348	7.302725	0	0.199053	7.501778	80017.37
2023	LDT1	Diesel	0.166708	0	0	0.166708	0	0	0	0	0.166708	0.980655	0	0	0.980655	0.003363	0	0	0.003363	31.70432
2023	LDT1	Electricity	0	0	0	0	0.013935	0.011819	0	0.00483	0.030585	0	0	0	0	0	0	0	0	0
2023	LDT2	Gasoline	195.287	0	392.1249	587.4119	117.2352	163.7589	548.4827	90.58262	1507.471	7233.57	0	2911.487	10145.06	26.40767	0	0.718583	27.12625	289340.9
2023	LDT2	Diesel	0.925999	0	0	0.925999	0	0	0	0	0.925999	6.917416	0	0	6.917416	0.133884	0	0	0.133884	1262.182
2023	LDT2	Electricity	0	0	0	0	0.064687	0.054537	0	0.0224	0.141624	0	0	0	0	0	0	0	0	0
2023	MDV	Gasoline	214.9331	0	484.0993	699.0324	130.659	185.1336	572.0409	107.9366	1694.803	7108.638	0	3280.078	10388.72	29.02666	0	0.859491	29.88615	318779.2
2023	MDV	Diesel	2.382356	0	0	2.382356	0	0	0	0	2.382356	37.11647	0	0	37.11647	0.611749	0	0	0.611749	5767.219
2023	MDV	Electricity	0	0	0	0	0.037064	0.031466	0	0.012839	0.081369	0	0	0	0	0	0	0	0	0
2023	T6 instate I	Diesel	3.220703	0.139408	0	3.360111	0	0	0	0	3.360111	32.19403	5.185419	0	37.37945	2.828547	0.014365	0	2.842912	26818.61
2023	T7 single cc	Diesel	6.316752	3.251948	0	9.5687	0	0	0	0	9.5687	53.60201	42.05625	0	95.65826	2.051519	0.068335	0	2.119854	19997.64
2024	LDA	Gasoline	262.7025	0	693.8928	956.5952	179.4228	306.0996	678.5071	135.9785	2256.603	14303	0	6743.639	21046.64	65.33901	0	1.644691	66.9837	714478.6
2024	LDA	Diesel	3.183371	0	0	3.183371	0	0	0	0	3.183371	48.8266	0	0	48.8266	0.47189	0	0	0.47189	4448.702
2024	LDA	Electricity	0	0	0	0	0.456273	0.380102	0	0.157984	0.994359	0	0	0	0	0	0	0	0	0
2024	LDT1	Gasoline	79.99402	0	126.4537	206.4477	54.8794	74.68302	256.1513	36.73996	628.9014	2658.511	0	743.4331	3401.944	7.234722	0	0.197915	7.432637	79279.88
2024	LDT1	Diesel	0.139497	0	0	0.139497	0	0	0	0	0.139497	0.834947	0	0	0.834947	0.003041	0	0	0.003041	28.66976
2024	LDT1	Electricity	0	0	0	0	0.018682	0.015795	0	0.006474	0.040951	0	0	0	0	0	0	0	0	0
2024	LDT2	Gasoline	173.2111	0	366.107	539.3181	113.9448	157.9047	537.7128	89.03184	1437.912	6748.097	0	2869.744	9617.841	25.77853	0	0.707596	26.48613	282513.1
2024	LDT2	Diesel	0.961388	0	0	0.961388	0	0	0	0	0.961388	7.555685	0	0	7.555685	0.141374	0	0	0.141374	1332.792
2024	LDT2	Electricity	0	0	0	0	0.082115	0.069003	0	0.028433	0.179551	0	0	0	0	0	0	0	0	0
2024	MDV	Gasoline	183.9579	0	436.4783	620.4362	126.1431	177.0875	553.4457	105.1966	1582.309	6324.548	0	3064.783	9389.331	27.43177	0	0.820925	28.2527	301356.1
2024	MDV	Diesel	2.34249	0	0	2.34249	0	0	0	0	2.34249	38.03174	0	0	38.03174	0.613217	0	0	0.613217	5781.05
2024	MDV	Electricity	0	0	0	0	0.049949	0.042263	0	0.0173	0.109512	0	0	0	0	0	0	0	0	0
2024	T6 instate I	Diesel	3.223271	0.14346	0	3.366731	0	0	0	0	3.366731	32.21969	5.336139	0	37.55582	2.754333	0.014708	0	2.769042	26121.76
2024	T7 single cc	Diesel	6.264294	3.348494	0	9.612788	0	0	0	0	9.612788	55.55573	43.32804	0	98.88377	2.096667	0.06959	0	2.166257	20435.39
2025	LDA	Gasoline	233.2457	0	651.7622	885.0079	172.5497	296.8699	679.1155	131.6472	2165.19	13738.72	0	6683.998	20422.71	64.61239	0	1.640755	66.25314	706686.1
2025	LDA	Diesel	3.021641	0	0	3.021641	0	0	0	0	3.021641	49.45404	0	0	49.45404	0.484957	0	0	0.484957	4571.893
2025	LDA	Electricity	0	0	0	0	0.544328	0.452552	0	0.188366	1.185246	0	0	0	0	0	0	0	0	0
2025	LDT1	Gasoline	68.90584	0	115.2351	184.141	51.04245	69.72254	241.4598	34.57545	580.9412	2411.468	0	729.1609	3140.629	7.158555	0	0.196708	7.355263	78454.57
2025	LDT1	Diesel	0.120289	0	0	0.120289	0	0	0	0	0.120289	0.723621	0	0	0.723621	0.002778	0	0	0.002778	26.19067
2025	LDT1	Electricity	0	0	0	0	0.023976	0.0202	0	0.008306	0.052482	0	0	0	0	0	0	0	0	0
2025	LDT2	Gasoline	153.8407	0	342.4092	496.2499	111.1301	152.5239	527.3984	87.71191	1375.014	6320.933	0	2826.737	9147.67	25.14962	0	0.696517	25.84614	275686.7
2025	LDT2	Diesel	1.00187	0	0	1.00187	0	0	0	0	1.00187	8.111675	0	0	8.111675	0.147689	0	0	0.147689	1392.328
2025	LDT2	Electricity	0	0	0	0	0.101525	0.085025	0	0.035152	0.221703	0	0	0	0	0	0	0	0	0
2025	MDV	Gasoline	157.8033	0	393.005	550.8083	122.4971	169.2256	534.4289	102.9194	1479.879	5677.778	0	2874.36	8552.137	25.92688	0	0.783707	26.71059	284907.3
2025	MDV	Diesel	2.260345	0	0	2.260345	0	0	0	0	2.260345	38.17695	0	0	38.17695	0.610946	0	0	0.610946	5759.645
2025	MDV	Electricity	0	0	0	0	0.064334	0.054236	0	0.022279	0.14085	0	0	0	0	0	0	0	0	0
2025	T6 instate I	Diesel	3.221402	0.148531	0	3.369934	0	0	0	0	3.369934	32.201	5.524777	0	37.72578	2.682275	0.01515	0	2.697425	25446.15
2025	T7 single cc	Diesel	6.111572	3.40318	0	9.514753	0	0	0	0	9.514753	56.53942	44.05609	0	100.5955	2.102911	0.069914	0	2.172825	20497.34

SAFE Off-Model Adjustment Factors for Gasoline Light Duty Vehicle Emissions in EMFAC2017

Year	TOG Evaporative	TOG Exhaust	NOx Exhaust	CO Exhaust	PM Exhaust	CO2	All others (not scaled)
2021	1.0001	1.0002	1.0002	1.0005	1.0009	1.0023	1
2022	1.0003	1.0004	1.0004	1.0014	1.0018	1.0065	1
2023	1.0006	1.0007	1.0007	1.0027	1.0032	1.0126	1
2024	1.0010	1.0011	1.0012	1.0044	1.0051	1.0207	1
2025	1.0016	1.0016	1.0018	1.0065	1.0074	1.0309	1
2026	1.0022	1.0020	1.0023	1.0083	1.0091	1.0394	1
2027	1.0028	1.0024	1.0028	1.0102	1.0105	1.0475	1
2028	1.0035	1.0028	1.0034	1.0120	1.0117	1.0554	1
2029	1.0042	1.0032	1.0040	1.0138	1.0129	1.0629	1
2030	1.0051	1.0037	1.0047	1.0156	1.0142	1.0702	1
2031	1.0061	1.0042	1.0054	1.0173	1.0155	1.0770	1
2032	1.0072	1.0047	1.0061	1.0189	1.0169	1.0834	1
2033	1.0083	1.0052	1.0068	1.0204	1.0182	1.0893	1
2034	1.0095	1.0058	1.0075	1.0218	1.0196	1.0947	1
2035	1.0108	1.0063	1.0081	1.0232	1.0210	1.0997	1
2036	1.0121	1.0069	1.0088	1.0244	1.0223	1.1041	1
2037	1.0134	1.0074	1.0094	1.0255	1.0236	1.1080	1
2038	1.0148	1.0079	1.0099	1.0265	1.0248	1.1114	1
2039	1.0161	1.0085	1.0104	1.0274	1.0259	1.1143	1
2040	1.0174	1.0090	1.0109	1.0281	1.0270	1.1168	1
2041	1.0186	1.0095	1.0113	1.0288	1.0279	1.1189	1
2042	1.0198	1.0099	1.0116	1.0294	1.0286	1.1207	1
2043	1.0207	1.0103	1.0119	1.0299	1.0293	1.1221	1
2044	1.0216	1.0106	1.0122	1.0303	1.0299	1.1233	1
2045	1.0225	1.0109	1.0124	1.0306	1.0303	1.1243	1
2046	1.0233	1.0111	1.0125	1.0309	1.0308	1.1251	1
2047	1.0240	1.0113	1.0127	1.0311	1.0311	1.1258	1
2048	1.0246	1.0115	1.0128	1.0313	1.0314	1.1263	1
2049	1.0252	1.0116	1.0128	1.0315	1.0316	1.1268	1
2050	1.0257	1.0117	1.0129	1.0316	1.0318	1.1272	1

https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf
https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf?utm_medium=email&utm_source=govdelivery

Construction – On-Site Emission Factors

Final Weighted

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	VMT/yr	Trips/yr		Running (RUNEX, PMTW, PMBW) grams per mile											
									ROG	TOG	CO	NOx	CO2	CH4	PM10 Ex	PM10 D	PM2.5 Ex	PM2.5 D	SOX	N2O
San Joaquin Valley	2023	LDT1	Aggregate	5	Gasoline	2,671,727		SJVAB2023LDT	0	0	1	0.0496	172	0	0	0	0	0	0	0
San Joaquin Valley	2023	LDT1	Aggregate	5	Diesel	992		SJVAB2023LDT	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2023	LDT2	Aggregate	5	Gasoline	8,933,532		SJVAB2023LDT	0	0	1	0	617	0	0	0	0	0	0	0
San Joaquin Valley	2023	LDT2	Aggregate	5	Diesel	57,765		SJVAB2023LDT	0	0	0	0	3	0	0	0	0	0	0	0
San Joaquin Valley	2023	MDV	Aggregate	5	Gasoline	7,911,305		SJVAB2023MDV	0	0	2	0	987	0	0	0	0	0	0	0
San Joaquin Valley	2023	MDV	Aggregate	5	Diesel	197,095		SJVAB2023MDV	0	0	0	0	21	0	0	0	0	0	0	0
San Joaquin Valley	2023	T6 instate heavy	Aggregate	5	Diesel	4,243,711		SJVAB2023T6 instate heavy	0	0	1	7	2,359	0	0	0	0	0	0	0
San Joaquin Valley	2023	T7 single construction	Aggregate	5	Diesel	13,849,787		SJVAB2023T7 single construction	0	0	2	11	3,499	0	0	0	0	0	0	1
San Joaquin Valley	2024	LDT1	Aggregate	5	Gasoline	3,218,198		SJVAB2024LDT	0	0	1	0	169	0	0	0	0	0	0	0
San Joaquin Valley	2024	LDT1	Aggregate	5	Diesel	1,081		SJVAB2024LDT	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2024	LDT2	Aggregate	5	Gasoline	10,691,594		SJVAB2024LDT	0	0	1	0	597	0	0	0	0	0	0	0
San Joaquin Valley	2024	LDT2	Aggregate	5	Diesel	74,742		SJVAB2024LDT	0	0	0	0	4	0	0	0	0	0	0	0
San Joaquin Valley	2024	MDV	Aggregate	5	Gasoline	9,123,912		SJVAB2024MDV	0	0	2	0	963	0	0	0	0	0	0	0
San Joaquin Valley	2024	MDV	Aggregate	5	Diesel	240,068		SJVAB2024MDV	0	0	0	0	22	0	0	0	0	0	0	0
San Joaquin Valley	2024	T6 instate heavy	Aggregate	5	Diesel	4,176,658		SJVAB2024T6 instate heavy	0	0	1	7	2,333	0	0	0	0	0	0	0
San Joaquin Valley	2024	T7 single construction	Aggregate	5	Diesel	14,342,366		SJVAB2024T7 single construction	0	0	2	11	3,455	0	0	0	0	0	0	1
San Joaquin Valley	2025	LDT1	Aggregate	5	Gasoline	3,271,940		SJVAB2025LDT	0	0	0	0	166	0	0	0	0	0	0	0
San Joaquin Valley	2025	LDT1	Aggregate	5	Diesel	1,002		SJVAB2025LDT	0	0	0	0	0	0	0	0	0	0	0	0
San Joaquin Valley	2025	LDT2	Aggregate	5	Gasoline	10,797,915		SJVAB2025LDT	0	0	1	0	581	0	0	0	0	0	0	0
San Joaquin Valley	2025	LDT2	Aggregate	5	Diesel	80,332		SJVAB2025LDT	0	0	0	0	4	0	0	0	0	0	0	0
San Joaquin Valley	2025	MDV	Aggregate	5	Gasoline	8,888,385		SJVAB2025MDV	0	0	2	0	940	0	0	0	0	0	0	0
San Joaquin Valley	2025	MDV	Aggregate	5	Diesel	245,348		SJVAB2025MDV	0	0	0	0	23	0	0	0	0	0	0	0
San Joaquin Valley	2025	T6 instate heavy	Aggregate	5	Diesel	4,113,932		SJVAB2025T6 instate heavy	0	0	1	7	2,305	0	0	0	0	0	0	0
San Joaquin Valley	2025	T7 single construction	Aggregate	5	Diesel	14,572,003		SJVAB2025T7 single construction	0	0	2	11	3,413	0	0	0	0	0	0	1
								SAFE Table Column #	3	3	5	4	7	8	6	8	6	8	8	8
														Paved Road Dust Factor		12.45		1.24		

Operations – ACE Locomotive Summary and Assumptions

Total Emissions

	Pounds per day									Tons per year						Metric tons per year			
Option	**ROG**	**NOX**	**CO**	**PM10**	**PM2.5**	**SO2**	**CO2**	**CH4**	**N2O**	**ROG**	**NOX**	**CO**	**PM10**	**PM2.5**	**SO2**	**CO2**	**CH4**	**N2O**	**CO2e**
Existing (2019)	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0
2030 No Build	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0
2030 Project (with Livingston)	0.9	21.5	27.5	0.3	0.3	0.1	10,607	0.9	0.3	0.1	2.7	3.5	0.0	0.0	0.0	1,222	0.1	0.0	1,234
2030 Project (with Atwater)	0.9	21.5	27.5	0.3	0.3	0.1	10,607	0.9	0.3	0.1	2.7	3.5	0.0	0.0	0.0	1,222	0.1	0.0	1,234
2040 No Build	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0
2040 Project (with Livingston)	0.9	21.5	27.5	0.3	0.3	0.1	10,607	0.9	0.3	0.1	2.7	3.5	0.0	0.0	0.0	1,222	0.1	0.0	1,234
2040 Project (with Atwater)	0.9	21.5	27.5	0.3	0.3	0.1	10,607	0.9	0.3	0.1	2.7	3.5	0.0	0.0	0.0	1,222	0.1	0.0	1,234
Relative to Existing																			
2030 Project (with Livingston)	0.9	21.5	27.5	0.3	0.3	0.1	10,607	0.9	0.3	0.1	2.7	3.5	0.0	0.0	0.0	1,222	0.1	0.0	1,234
2030 Project (with Atwater)	0.9	21.5	27.5	0.3	0.3	0.1	10,607	0.9	0.3	0.1	2.7	3.5	0.0	0.0	0.0	1,222	0.1	0.0	1,234
2040 Project (with Livingston)	0.9	21.5	27.5	0.3	0.3	0.1	10,607	0.9	0.3	0.1	2.7	3.5	0.0	0.0	0.0	1,222	0.1	0.0	1,234
2040 Project (with Atwater)	0.9	21.5	27.5	0.3	0.3	0.1	10,607	0.9	0.3	0.1	2.7	3.5	0.0	0.0	0.0	1,222	0.1	0.0	1,234
Relative to No Build																			
2030 Project (with Livingston)	0.9	21.5	27.5	0.3	0.3	0.1	10,607	0.9	0.3	0.1	2.7	3.5	0.0	0.0	0.0	1,222	0.1	0.0	1,234
2030 Project (with Atwater)	0.9	21.5	27.5	0.3	0.3	0.1	10,607	0.9	0.3	0.1	2.7	3.5	0.0	0.0	0.0	1,222	0.1	0.0	1,234
2040 Project (with Livingston)	0.9	21.5	27.5	0.3	0.3	0.1	10,607	0.9	0.3	0.1	2.7	3.5	0.0	0.0	0.0	1,222	0.1	0.0	1,234
2040 Project (with Atwater)	0.9	21.5	27.5	0.3	0.3	0.1	10,607	0.9	0.3	0.1	2.7	3.5	0.0	0.0	0.0	1,222	0.1	0.0	1,234

Option	Daily Operating Hours						
	Tier 0+	Tier 4			Tier 0+	Tier 4	
Existing (2019)	0.00	0.0		2019	13.20		4.4
2025 No Build	0.00	0.0		2030	0.00		
2025 Project (with Livingston)	1.1	3.8					
2025 Project (with Atwater)	1.1	3.8					
2030 No Build	0.00	0.0	0.0				
2030 Project (with Livingston)	0.0	4.8	4.8				
2030 Project (with Atwater)	0.0	4.8	4.8				
			0.0				
			0.0				
2040 No Build	0.0	0.0	0.0				
2040 Project (with Livingston)	0.0	4.8	4.8				
2040 Project (with Atwater)	0.0	4.8	4.8				
			0.0				
			0.0				

**Source: Project Description Schedule*

New Engine Tier	Tier 4
Existing Engine Tier	Tier 0+
Days per year	254

Source: Email from Bryan Pennino Re: ACEforward - Operational Project Questions (4/11/2016)

Default variables for calculating horsepower and load factors per EPA protocol

Notch	Percent of operating hours at each notch power level*	Reweighted time (split idle and moving time)*		Percent of full power by notch*
Normal Idle	47%	0	100%	0%
Dynamic Break	6%	6.2	12%	2%
Notch 1	7%	7	13%	5%
Notch 2	5%	5.1	10%	11%
Notch 3	6%	5.7	11%	23%
Notch 4	5%	4.7	9%	34%
Notch 5	4%	4	8%	48%
Notch 6	3%	2.9	6%	64%
Notch 7	1%	1.4	3%	87%
Notch 8	16%	15.6	30%	102%
**Source: EPA 1998 (Locomotive Regulatory Standards, Table 4-5)*		*Calculated		**Source: EPA 1998 (based on data in Appendix B)*

EPA Protocol = Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas (Appendix I

		Tier 4	Tier 0+
Engine Hp*		4200	3200
	Normal Idle	18	14
	Dynamic Break	92	70
	Notch 1	211	161
	Notch 2	480	366
	Notch 3	985	750
	Notch 4	1440	1097
	Notch 5	2022	1541
	Notch 6	2700	2057
	Notch 7	3636	2770
	Notch 8	4304	3279

**Source: Email from Bryan Pennino Re: ACEforward - Operational Project Questions (4/11/2016)*

Time-weighted engine horsepower

Activity	Tier 4	Tier 0+
Idle	18	14
Moving	1997	1521

Engine load factors

Activity	Tier 4	Tier 0+	
			not used
			for HRA
Idle	0.4%	0.4%	
Moving	47.5%	47.5%	

Combined	48.0%	48.0%			100.0%
Existing					
Air District	Miles	%			
SJVAPCD	100	100%			
BAAQMD	0	0%			
Track Miles					
BAAQMD					
SJVAPCD					
%					
BAAQMD	0%	0%	0%	0%	
SJVAPCD	100%	100%	100%	100%	

for HRA

Distance of whole route	34	miles
emissions per km	2.69	g/km
emissions per 2km segment	5.37	grams
Number of hours of train activity	8	hours
Emission rate for 2km segment	0.00019	grams/second

		Inbound								Outbound							
	Train Number	**A01**	**302**	**204**	**A03**	**A05**	**A07**	**A09**	**304**	**A98**	**A04**	**A06**	**A08**	**A10**	**215**	**315**	**217**
Station Name	Merced	3:43	4:31	5:31					6:31		18:17				19:35	20:35	21:35
	Livingston (	3:57	4:45	5:45					6:45		18:03				19:21	20:21	21:21
	Turlock	4:08	4:56	5:56					6:56		17:52				19:10	20:10	21:10
	Ceres	4:17	5:05	6:05					7:05		17:43				18:55	19:55	20:55
	Modesto	4:25	5:13	6:13					7:13		17:37				18:49	19:49	20:49
	Ripon	4:36	5:24	6:24					7:24		17:25				18:37	19:37	20:37
	Manteca	4:44	5:32	6:32					7:32		17:17				18:28	19:28	20:28
	Natomos		7:09	8:09			6:19	7:19	9:09	15:41		19:41			16:51	17:51	18:51
	North Sac		6:58	7:58			6:29	7:29	8:58	15:33		19:33			17:04	18:04	19:04
	Midtown		6:51	7:51			6:36	7:36	8:51	15:26		19:26			17:11	18:11	19:11
	Sutter/City College		6:45	7:45			6:42	7:42	8:45	15:20		19:20			17:17	18:17	19:17
	Elk Grove		6:31	7:31			6:56	7:56	8:31	15:06		19:06			17:31	18:31	19:31
	Lodi		6:09	7:09			7:18	8:25	8:09	14:44		18:44			17:53	18:53	19:53
	Stockton		5:52	6:52	5:33	6:33	7:33	8:39	7:52	14:28		18:28	19:27	20:27	18:07	19:07	20:07
	North Lathrop		<u>5:41</u>	<u>6:41</u>	<u>5:45</u>	<u>6:45</u>	<u>7:45</u>		<u>7:41</u>			<u>18:16</u>	<u>19:16</u>	<u>20:16</u>	<u>18:20</u>	<u>19:20</u>	<u>20:20</u>
	Lathrop/Manteca	4:52			5:52	6:52	7:52				17:10	18:10	19:10	20:10			
	Tracy	5:04			6:04	7:04	8:04				16:51	17:51	18:51	19:51			
	Vasco Road	5:33			6:33	7:33	8:33				16:22	17:22	18:22	19:22			
	Livermore	5:38			6:38	7:38	8:38				16:17	17:17	18:17	19:17			
	Pleasanton	5:46			6:46	7:46	8:46				16:08	17:08	18:08	19:08			
	Fremont	6:08			7:08	8:08	9:08				15:45	16:45	17:45	18:45			
	Great Amer	6:26			7:26	8:26	9:26				15:29	16:29	17:29	18:29			
	Santa Clara	6:33			7:33	8:33	9:33				15:20	16:20	17:20	18:20			
	San Jose	6:45			7:45	8:45	9:45				15:15	16:15	17:15	18:15			

Note: Timed transfers are indicated with <u>underlined text</u>

	A01	302	204	A03	A05	A07	A09	304	A98	A04	A06	A08	A10	215	315	217
Ceres-Merced Segment Only (Livingston)	0:34	0:34	0:34					0:34		0:34				0:40	0:40	0:40
Ceres-Merced Segment Only (Atwater)	0:34	0:34	0:34					0:34		0:34				0:40	0:40	0:40

Total daily operating time (Livingston)	4:50	4.833333
Total daily operating time (Atwater)	4:50	4.833333

	Tier 4	Tier 0+
2019 Tier Engine Assumptions (no build)	25%	75%
2019 Tier Engine Assumptions (build)	52%	48%
2025 Tier Engine Assumptions (no build)	66%	34%
2025 Tier Engine Assumptions (build)	78%	22%
2030 Tier Engine Assumptions	100%	0%
2040 Tier Engine Assumptions	100%	0%

	No Build		**Build**	
	Tier 4	Tier 0+	Tier 4	Tier 0+
2019	25%	75%	52%	48%
2030	100%	0%	100%	0%
2025	66%	34%	78%	22%

Line-Haul Emission Factors (g/bhp-hr)

Engine Tier	HC	ROG	NOX	CO	PM10	PM2.5	SO2	CO2	CH4	N2O
Uncontrolled	0.48	0.51	13.00	1.28	0.32	0.31	0.005	494	0.040	0.013
Tier 0	0.48	0.51	8.60	1.28	0.32	0.31	0.005	494	0.040	0.013
Tier 0+	0.30	0.32	7.20	1.28	0.20	0.19	0.005	494	0.040	0.013
Tier 1	0.47	0.49	6.70	1.28	0.32	0.31	0.005	494	0.040	0.013
Tier 1+	0.29	0.31	6.70	1.28	0.20	0.19	0.005	494	0.040	0.013
Tier 2	0.26	0.27	4.95	1.28	0.18	0.17	0.005	494	0.040	0.013
Tier 2+ and 3	0.13	0.14	4.95	1.28	0.08	0.08	0.005	494	0.040	0.013
Tier 4	0.04	0.04	1.00	1.28	0.02	0.01	0.005	494	0.040	0.013

Sources: Emission Factors for Locomotives, EPA-420-F-09-025 and Port of Long Beach 2014 Air Emissions Inventory (GHGs)

ROG/HC	1.053	*EPA-420-F-09-025 (page 4)*
PM2.5/PM10	0.97	*EPA-420-F-09-025 (page 4)*
Sulfur content (ppm)	15	*US EPA Stan* https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100O9ZI.pdf
Fuel desnity (g/gal)	3200	*EPA-420-F-09-025 (page 5)*
Fraction SO2	97.8%	*EPA-420-F-09-025 (page 5)*
Molecular weight	2	*EPA-420-F-09-025 (page 5)*
Bhphr-gal	20.8	*EPA-420-F-09-025 (Table 3)*
SO2 (g/gal)	0.09	Calculated

pounds/gram	0.0022046
metric ton/pound	0.0004536
ton/pound	0.0005

CH4 GWP	25	AR4
N2O GWP	298	AR4

seconds per hour	3600
kilometers per mile	1.6

Operations – ACE Locomotive Idling

Station Idle Emissions	Idle per Day (hr)				2030										2040									
	2030		2040		Pounds per Day						Metric Tons per Year				Pounds per Day						Metric Tons per Year			
	0+	4	0+	4	ROG	NOX	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e	ROG	NOX	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
Merced	0.00	0.20	0.00	0.20	0.00	0.01	0.01	0.00	0.00	0.00	0	0.00	0.00	0	0.00	0.01	0.01	0.00	0.00	0.00	0	0.00	0.00	0
Livingston or Atwater	0.00	0.20	0.00	0.20	0.00	0.01	0.01	0.00	0.00	0.00	0	0.00	0.00	0	0.00	0.01	0.01	0.00	0.00	0.00	0	0.00	0.00	0
Turlock	0.00	0.20	0.00	0.20	0.00	0.01	0.01	0.00	0.00	0.00	0	0.00	0.00	0	0.00	0.01	0.01	0.00	0.00	0.00	0	0.00	0.00	0
Ceres	0.00	0.20	0.00	0.20	0.00	0.01	0.01	0.00	0.00	0.00	0	0.00	0.00	0	0.00	0.01	0.01	0.00	0.00	0.00	0	0.00	0.00	0
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
					3	4	5	6	7	8	9	10	11		3	4	5	6	7	8	9	10	11	

Days per year	254
pounds per gram	0.0022046
metric tons per gram	1.00E-06
ch4 gwp	25
n2o gwp	298

The duty cycles used in the operational analysis account for station idling (refer to "ACE Operation.xls). Accordingly, to avoid double counting, station idling emissions were not quantified separately for the mass emissions analysis
Only PM2.5 emissions are used for the HRA

Layover Idle Emissions	Idle per Day (hr)		Pounds per Day						Tons per year						Metric Tons per Year			
	0+	4	ROG	NOX	CO	PM10	PM2.5	SO2	ROG	NOX	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
Existing (2019)	0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
2030 No Build	0.00	2.00	0.00	0.08	0.10	0.001	0.001	0.000	0.00	0.01	0.01	0.00	0.00	0.00	5	0.00	0.00	5
2030 Project (with Livingston)	0.00	2.00	0.00	0.08	0.10	0.001	0.001	0.000	0.00	0.01	0.01	0.00	0.00	0.00	5	0.00	0.00	5
2030 Project (with Atwater)	0.00	2.00	0.00	0.08	0.10	0.001	0.001	0.000	0.00	0.01	0.01	0.00	0.00	0.00	5	0.00	0.00	5
			0.00	0.00	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
2040 No Build	0.00	2.00	0.00	0.08	0.10	0.001	0.001	0.000	0.00	0.01	0.01	0.00	0.00	0.00	5	0.00	0.00	5
2040 Project (with Livingston)	0.00	2.00	0.00	0.08	0.10	0.001	0.001	0.000	0.00	0.01	0.01	0.00	0.00	0.00	5	0.00	0.00	5
2040 Project (with Atwater)	0.00	2.00	0.00	0.08	0.10	0.001	0.001	0.000	0.00	0.01	0.01	0.00	0.00	0.00	5	0.00	0.00	5

Maintenance Facility Idling	Idle per Day (hr)		Pounds per Day						Tons per year						Metric Tons per Year			
	0+	4	ROG	NOX	CO	PM10	PM2.5	SO2	ROG	NOX	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
Existing (2019)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
2030 No Build	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
2030 Project (with Livingston)	0.00	4.00	0.01	0.16	0.21	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.00	0.00	9	0.00	0.00	9
2030 Project (with Atwater)	0.00	4.00	0.01	0.16	0.21	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.00	0.00	9	0.00	0.00	9
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
2040 No Build	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
2040 Project (with Livingston)	0.00	4.00	0.01	0.16	0.21	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.00	0.00	9	0.00	0.00	9
2040 Project (with Atwater)	0.00	4.00	0.01	0.16	0.21	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.00	0.00	9	0.00	0.00	9

Station Idle time	Max Daily Stops**	Idle per Stop (min)	Idle per Stop (hr)	Idle per Day (hr)	2030 Idle per Day (hr) Tier 0+	2030 Idle per Day (hr) Tier 4	2040 Idle per Day (hr) Tier 0+	2040 Idle per Day (hr) Tier 4
Merced	8	1.5	0.025	0.2	0.00	0.20	0	0.2
Livingston or Atwater	8	1.5	0.025	0.2	0.00	0.20	0	0.2
Turlock	8	1.5	0.025	0.2	0.00	0.20	0	0.2
Ceres	8	1.5	0.025	0.2	0.00	0.20	0	0.2

Layover Idle Time	Idle per Day (hr)	Idle per Day (hr) Tier 0+	Idle per Day (hr) Tier 4
Existing (2019)	0.0	0.00	0.00
2030 No Build	2.0	0.00	2.00
2030 Project (with Livingston)	2.0	0.00	2.00
2030 Project (with Atwater)	2.0	0.00	2.00
2040 No Build	2.0	0.00	2.00
2040 Project (with Livingston)	2.0	0.00	2.00
2040 Project (with Atwater)	2.0	0.00	2.00

*end of line time would be 15 minutes, from Daniel Hartman in the operational data needs sheet on Sh

For HRA:

Layover Emissions at Merced Station	0.06829268293	grams PM10/hour
	0.00001897019	grams PM10/second

Maintenance Idle time	Idle per Day (hr)	Idle per Day (hr) Tier 0+	Idle per Day (hr) Tier 4
2030 No Build	0	0.00	0.00
2030 Project (with Livingston)	4	0.00	4.00
2030 Project (with Atwater)	4	0.00	4.00
2040 No Build	0	0.00	0.00
2040 Project (with Livingston)	4	0.00	4.00
2040 Project (with Atwater)	4	0.00	4.00

*each train would idle for 1 hour per day, from Daniel Hartman in the operational data needs sheet on

For HRA:

Layover Emissions at Merced Station	0.27317073171	grams PM10/hour
	0.00007588076	grams PM10/second

Line-Haul Emission Factors (g/bhp-hr)

Engine Tier	HC	ROG	NOX	CO	PM10	PM2.5	SO2	CO2	CH4	N2O
Uncontrolled	0.48	0.51	13.00	1.28	0.32	0.31	0.005	494	0.040	0.013
Tier 0	0.48	0.51	8.60	1.28	0.32	0.31	0.005	494	0.040	0.013
0+	0.30	0.32	7.20	1.28	0.20	0.19	0.005	494	0.040	0.013
Tier 1	0.47	0.49	6.70	1.28	0.32	0.31	0.005	494	0.040	0.013
Tier 1+	0.29	0.31	6.70	1.28	0.20	0.19	0.005	494	0.040	0.013
Tier 2	0.26	0.27	4.95	1.28	0.18	0.17	0.005	494	0.040	0.013
Tier 2+ and 3	0.13	0.14	4.95	1.28	0.08	0.08	0.005	494	0.040	0.013
4	0.04	0.04	1.00	1.28	0.02	0.01	0.005	494	0.040	0.013

Sources: Emission Factors for Locomotives, EPA-420-F-09-025 and Port of Long Beach 2014 Air Emissions Inventory (GHGs)

ROG/HC	1.053	*EPA-420-F-09-025 (page 4)*
PM2.5/PM10	0.97	*EPA-420-F-09-025 (page 4)*
Sulfur content (ppm)	15	*EPA-420-F-09-025 (page 5)*
Fuel desnity (g/gal)	3200	*EPA-420-F-09-025 (page 5)*
Fraction SO2	97.8%	*EPA-420-F-09-025 (page 5)*
Molecular weight	2	*EPA-420-F-09-025 (page 5)*
Bhphr-gal	20.8	*EPA-420-F-09-025 (Table 3)*
SO2 (g/gal)	0.09	Calculated

pounds/gram	0.0022046
metric ton/pound	0.0004536
ton/pound	0.0005

CH4 GWP	25	AR4
N2O GWP	298	AR4

New Engine Tier	Tier 4
Existing Engine Tier	Tier 0+

Days per year 254

Source: Email from Bryan Pennino Re: ACEforward - Operational Project Questions (4/11/2016)

Default variables for calculating horsepower and load factors per EPA protocol

Notch	Percent of operating hours at each notch power level*	Reweighted time (split idle and moving time)*	Percent of full power by notch*
Normal Idle	47%	100%	0%
Dynamic Break	6%	12%	2%
Notch 1	7%	13%	5%
Notch 2	5%	10%	11%
Notch 3	6%	11%	23%
Notch 4	5%	9%	34%
Notch 5	4%	8%	48%
Notch 6	3%	6%	64%
Notch 7	1%	3%	87%
Notch 8	16%	30%	102%

**Source: EPA 1998 (Locomotive Regulatory Standards, Table 4-5)*   *Calculated   **Source: EPA 1998 (based on data in Appendix B)*

EPA Protocol = Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas (Appendix I

		Tier 4	Tier 0+
Engine Hp*		4200	3200
	Normal Idle	18	14
	Dynamic Break	92	70
	Notch 1	211	161
	Notch 2	480	366
	Notch 3	985	750
	Notch 4	1440	1097
	Notch 5	2022	1541
	Notch 6	2700	2057
	Notch 7	3636	2770
	Notch 8	4304	3279

**Source: Email from Bryan Pennino Re: ACEforward - Operational Project Questions (4/11/2016)*

Time-weighted engine horsepower

Activity	Tier 4	Tier 0+
Idle	18	14
Moving	1997	1521

Engine load factors

Activity	Tier 4	Tier 0+
Idle	0.4%	0.4%
Moving	47.5%	47.5%
Combined	48.0%	48.0%

Shuttle Emission Factors

Total Emissions (all in BAAQMD)

Scenario	Annual VMT GA (CNG)	Annual VMT Pleas (diesel)	Daily VMT GA (CNG)	Daily VMT Pleas (diesel)	Pounds per Day ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dus	SOX
Existing (2019)	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2030 No Build	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2030 Build	12,000	5,000	47	20	0.01	0.08	5.17	0.00	0.00	0.06	0.02	0.00
2040 No Build	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2040 Build	34,000	0	134	0	0.03	0.14	14.63	0.00	0.00	0.12	0.03	0.00
			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2030 Net Project Effect	12,000	5,000	47	20	0.01	0.08	5.17	0.00	0.00	0.06	0.02	0.00
2040 Net Project Effect	34,000	0	134	0	0.03	0.14	14.63	0.00	0.00	0.12	0.03	0.00
					2	3	4	5	6	7	8	9

Scenario	Tons per Year ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dus	SOX	Metric Tons per Year CO2	CH4	N2O	CO2e		
Existing (2019)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	DSL:2019	CNG:2019
2030 No Build	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	DSL:2030	CNG:2030
2030 Build	0.00	0.01	0.66	0.00	0.00	0.01	0.00	0.00	32	0	0	35	DSL:2030	CNG:2030
2040 No Build	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	DSL:2040	CNG:2040
2040 Build	0.00	0.02	1.86	0.00	0.00	0.01	0.00	0.00	68	0	0	78	DSL:2040	CNG:2040
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	DSL:2040	CNG:2040
2030 Net Project Effect	0.00	0.01	0.66	0.00	0.00	0.01	0.00	0.00	32	0	0	35	DSL:2040	CNG:2040
2040 Net Project Effect	0.00	0.02	1.86	0.00	0.00	0.01	0.00	0.00	68	0	0	78	DSL:2040	CNG:2040
									10	11	12			

FUEL

Scenario	Annual Gal Diesel (gal)	Annual Gal CNG (DGE)		
Existing (2019)	0	0	2015_D	2015_N
2030 No Build	0	0	2030_D	2030_N
2030 Build	676	3,111	2030_D	2030_N
2040 No Build	0	0	2040_D	2040_N
2040 Build	0	8,710	2040_D	2040_N

*No data for 2025 right now. Placeholder in case we get data

Ceres Bus Bridge

Scenario	Annual VMT	Daily VMT	Pounds per Day ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dus	SOX
Existing (2019)	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2030 No Build	79,000	311	0.00	0.00	0.00	0.00	0.00	0.28	0.08	0.00
2040 No Build	89,000	350	0.00	0.00	0.00	0.00	0.00	0.32	0.09	0.00
2040 Build	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			2	3	4	5	6	7	8	9

Scenario	Tons per Year ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dus	SOX	Metric Tons per Year CO2	CH4	N2O	CO2e		Annual Gal All fuel (gal)		
Existing (2019)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	2019	-	2015_D	2015_N
2030 No Build	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0	0	0	0	2030	-	2030_D	2030_N
2040 No Build	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0	0	0	0	2040	-	2040_D	2040_N
2040 Build	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	2040	-	2040_D	2040_N
									10	11	12			13		

Raw Shuttle VMT Numbers		Source:	Email from Anthony Mangonon (AECOM) 10/01/2020
Scenario	Annual VMT		
	GA (CNG)	Pleas (diesel)	
Existing (2019)	274,000	52,000	
2030 No Build	418,000	92,000	
2030 Build	430,000	97,000	
Net - 2030	12,000	5,000	
2040 No Build	507,000	104,000	
2040 Build	541,000	104,000	
Net - 2040	34,000	-	

calendar_year	season_month	sub_area	vehicle_class	fuel	Look up	pollutant	ton/day	gram/day	gram/mi	
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030HC	HC	0.0	4378	0.08	RUNEX
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030CO	CO	0.0	7237	0.12	RUNEX
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030NOx	NOx	0.0	44934	0.78	RUNEX
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030SOx	SOx	0.0	809	0.01	RUNEX
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030PM	PM	0.0	334	0.01	RUNEX
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030TOG	TOG	0.0	4369	0.08	RUNEX
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030ROG	ROG	0.0	62	0.00	RUNEX
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030PM10	PM10	0.0	332	0.01	RUNEX
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030PM2_5	PM2_5	0.0	318	0.01	RUNEX
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030PM	PM	0.0	1839	0.03	PMTW
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030PM10	PM10	0.0	1839	0.03	PMTW
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030PM2_5	PM2_5	0.0	460	0.01	PMTW
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030PM	PM	0.0	4368	0.08	PMBW
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030PM10	PM10	0.0	4281	0.07	PMBW
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030PM2_5	PM2_5	0.0	1835	0.03	PMBW
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040HC	HC	0.0	4388	0.08	RUNEX
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040CO	CO	0.0	7253	0.12	RUNEX
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040NOx	NOx	0.0	45036	0.78	RUNEX
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040SOx	SOx	0.0	811	0.01	RUNEX
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040PM	PM	0.0	335	0.01	RUNEX
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040TOG	TOG	0.0	4379	0.08	RUNEX
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040ROG	ROG	0.0	62	0.00	RUNEX
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040PM10	PM10	0.0	333	0.01	RUNEX
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040PM2_5	PM2_5	0.0	318	0.01	RUNEX
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040PM	PM	0.0	1843	0.03	PMTW
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040PM10	PM10	0.0	1843	0.03	PMTW
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040PM2_5	PM2_5	0.0	461	0.01	PMTW
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040PM	PM	0.0	4378	0.08	PMBW
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040PM10	PM10	0.0	4290	0.07	PMBW
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040PM2_5	PM2_5	0.0	1839	0.03	PMBW
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030HC	HC	0.1	110919	6.53	RUNEX
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030CO	CO	0.9	841894	49.57	RUNEX
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030NOx	NOx	0.0	8284	0.49	RUNEX
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030PM	PM	0.0	57	0.00	RUNEX
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030TOG	TOG	0.1	110697	6.52	RUNEX
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030ROG	ROG	0.0	1550	0.09	RUNEX
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030PM10	PM10	0.0	56	0.00	RUNEX
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030PM2_5	PM2_5	0.0	54	0.00	RUNEX
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030PM	PM	0.0	573	0.03	PMTW
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030PM10	PM10	0.0	573	0.03	PMTW
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030PM2_5	PM2_5	0.0	143	0.01	PMTW
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030PM	PM	0.0	1183	0.07	PMBW
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030PM10	PM10	0.0	1160	0.07	PMBW
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030PM2_5	PM2_5	0.0	497	0.03	PMBW
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040HC	HC	0.1	111170	6.53	RUNEX
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040CO	CO	0.9	843801	49.57	RUNEX
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040NOx	NOx	0.0	8302	0.49	RUNEX
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040PM	PM	0.0	57	0.00	RUNEX
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040TOG	TOG	0.1	110947	6.52	RUNEX
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040ROG	ROG	0.0	1553	0.09	RUNEX
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040PM10	PM10	0.0	56	0.00	RUNEX
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040PM2_5	PM2_5	0.0	54	0.00	RUNEX
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040PM	PM	0.0	574	0.03	PMTW
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040PM10	PM10	0.0	574	0.03	PMTW
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040PM2_5	PM2_5	0.0	143	0.01	PMTW
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040PM	PM	0.0	1186	0.07	PMBW
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040PM10	PM10	0.0	1162	0.07	PMBW
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040PM2_5	PM2_5	0.0	498	0.03	PMBW
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030CO2	CO2	94.3	85586331	1477.61	RUNEX
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030CH4	CH4	0.0	4280	0.07	RUNEX
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030Fuel	Fuel	8.4	7627713	131.69	RUNEX
2030	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2030N2O	N2O	0.0	13453	0.23	RUNEX
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040CO2	CO2	94.6	85779834	1477.61	RUNEX
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040CH4	CH4	0.0	4290	0.07	RUNEX
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040Fuel	Fuel	8.4	7644959	131.69	RUNEX
2040	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2040N2O	N2O	0.0	13483	0.23	RUNEX
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030CO2	CO2	37.6	34149474	2010.53	RUNEX
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030CH4	CH4	0.1	108465	6.39	RUNEX
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030Fuel	Fuel	4.4	3947158	232.39	RUNEX
2030	Annual	Santa Clara (SF)	UBUS	NG	NG:2030N2O	N2O	0.0	6962	0.41	RUNEX
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040CO2	CO2	37.7	34226801	2010.53	RUNEX
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040CH4	CH4	0.1	108711	6.39	RUNEX
2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040Fuel	Fuel	4.4	3956096	232.39	RUNEX

2040	Annual	Santa Clara (SF)	UBUS	NG	NG:2040N2O	N2O	0.0	6977	0.41	RUNEX
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019HC	HC	0.0	8470	0.12	RUNEX
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019CO	CO	0.0	18927	0.27	RUNEX
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019NOx	NOx	0.2	180812	2.57	RUNEX
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019SOx	SOx	0.0	1109	0.02	RUNEX
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019PM	PM	0.0	495	0.01	RUNEX
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019TOG	TOG	0.0	8513	0.12	RUNEX
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019ROG	ROG	0.0	208	0.00	RUNEX
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019PM10	PM10	0.0	492	0.01	RUNEX
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019PM2_5	PM2_5	0.0	470	0.01	RUNEX
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019PM	PM	0.0	2208	0.03	PMTW
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019PM10	PM10	0.0	2208	0.03	PMTW
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019PM2_5	PM2_5	0.0	552	0.01	PMTW
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019PM	PM	0.0	5385	0.08	PMBW
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019PM10	PM10	0.0	5278	0.07	PMBW
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019PM2_5	PM2_5	0.0	2262	0.03	PMBW
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019HC	HC	0.1	79660	6.56	RUNEX
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019CO	CO	0.7	604912	49.81	RUNEX
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019NOx	NOx	0.0	5943	0.49	RUNEX
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019PM	PM	0.0	41	0.00	RUNEX
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019TOG	TOG	0.1	79501	6.55	RUNEX
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019ROG	ROG	0.0	1113	0.09	RUNEX
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019PM10	PM10	0.0	40	0.00	RUNEX
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019PM2_5	PM2_5	0.0	39	0.00	RUNEX
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019PM	PM	0.0	412	0.03	PMTW
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019PM10	PM10	0.0	412	0.03	PMTW
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019PM2_5	PM2_5	0.0	103	0.01	PMTW
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019PM	PM	0.0	839	0.07	PMBW
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019PM10	PM10	0.0	823	0.07	PMBW
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019PM2_5	PM2_5	0.0	353	0.03	PMBW
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019CO2	CO2	129.4	117347116	1667.00	RUNEX
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019CH4	CH4	0.0	8240	0.12	RUNEX
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019Fuel	Fuel	11.5	10458331	148.57	RUNEX
2019	Annual	Alameda (SF)	UBUS	Dsl	Dsl:2019N2O	N2O	0.0	18445	0.26	RUNEX
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019CO2	CO2	27.0	24489002	2016.39	RUNEX
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019CH4	CH4	0.1	77898	6.41	RUNEX
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019Fuel	Fuel	3.1	2830555	233.06	RUNEX
2019	Annual	Santa Clara (SF)	UBUS	NG	NG:2019N2O	N2O	0.0	4992	0.41	RUNEX

calendar_year	season_month	sub_area	vehicle_class	fuel	Look up	pollutant	ton/day	gram/day	gram/mi	
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019HC	HC	6.09E-05	55	0.03	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019CO	CO	0.000684498	621	0.31	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019NOx	NOx	0.000505886	459	0.23	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019SOx	SOx	4.41E-05	40	0.02	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019PM	PM	4.52E-06	4	0.00	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019TOG	TOG	6.59E-05	60	0.03	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019ROG	ROG	4.52E-05	41	0.02	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019PM10	PM10	4.04E-06	4	0.00	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019PM2_5	PM2_5	3.71E-06	3	0.00	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019HC	HC	4.98E-05	45	0.02	STREX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019CO	CO	0.000851204	772	0.38	STREX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019NOx	NOx	8.43E-05	76	0.04	STREX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019SOx	SOx	9.64E-08	0	0.00	STREX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019PM	PM	8.05E-08	0	0.00	STREX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019TOG	TOG	5.20E-05	47	0.02	STREX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019ROG	ROG	4.75E-05	43	0.02	STREX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019PM10	PM10	7.19E-08	0	0.00	STREX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019PM2_5	PM2_5	6.61E-08	0	0.00	STREX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019HC	HC	2.44E-06	2	0.00	HOTSOAK
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019TOG	TOG	2.61E-06	2	0.00	HOTSOAK
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019ROG	ROG	2.61E-06	2	0.00	HOTSOAK
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019HC	HC	1.37E-05	12	0.01	RUNLOSS
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019TOG	TOG	1.46E-05	13	0.01	RUNLOSS
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019ROG	ROG	1.46E-05	13	0.01	RUNLOSS
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019HC	HC	1.37E-07	0	0.00	RESTLOSS
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019TOG	TOG	1.49E-07	0	0.00	RESTLOSS
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019ROG	ROG	1.49E-07	0	0.00	RESTLOSS
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019HC	HC	2.85E-07	0	0.00	DIURN
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019TOG	TOG	3.09E-07	0	0.00	DIURN
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019ROG	ROG	3.09E-07	0	0.00	DIURN

2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019PM	PM	2.49E-05	23	0.01	PMTW
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019PM10	PM10	2.49E-05	23	0.01	PMTW
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019PM2_5	PM2_5	6.22E-06	6	0.00	PMTW
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019PM	PM	0.000276708	251	0.12	PMBW
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019PM10	PM10	0.000271174	246	0.12	PMBW
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019PM2_5	PM2_5	0.000116218	105	0.05	PMBW
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019HC	HC	0.000969193	879	0.24	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019CO	CO	0.001702291	1544	0.42	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019NOx	NOx	0.015740226	14279	3.88	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019SOx	SOx	6.89E-05	62	0.02	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019PM	PM	3.40E-05	31	0.01	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019TOG	TOG	0.000970409	880	0.24	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019ROG	ROG	2.09E-05	19	0.01	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019PM10	PM10	3.38E-05	31	0.01	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019PM2_5	PM2_5	3.23E-05	29	0.01	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019PM	PM	0.000130894	119	0.03	PMTW
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019PM10	PM10	0.000130894	119	0.03	PMTW
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019PM2_5	PM2_5	3.27E-05	30	0.01	PMTW
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019PM	PM	0.000298562	271	0.07	PMBW
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019PM10	PM10	0.000292591	265	0.07	PMBW
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019PM2_5	PM2_5	0.000125396	114	0.03	PMBW
2019	Annual	Stanislaus (SJV)	UBUS	Elec	Elec:2019PM	PM	1.12E-09	0	0.04	PMTW
2019	Annual	Stanislaus (SJV)	UBUS	Elec	Elec:2019PM10	PM10	1.12E-09	0	0.04	PMTW
2019	Annual	Stanislaus (SJV)	UBUS	Elec	Elec:2019PM2_5	PM2_5	2.79E-10	0	0.01	PMTW
2019	Annual	Stanislaus (SJV)	UBUS	Elec	Elec:2019PM	PM	1.95E-09	0	0.06	PMBW
2019	Annual	Stanislaus (SJV)	UBUS	Elec	Elec:2019PM10	PM10	1.91E-09	0	0.06	PMBW
2019	Annual	Stanislaus (SJV)	UBUS	Elec	Elec:2019PM2_5	PM2_5	8.20E-10	0	0.03	PMBW
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019HC	HC	0.028183897	25568	5.08	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019CO	CO	0.198376005	179964	35.78	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019NOx	NOx	0.003740257	3393	0.67	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019PM	PM	1.78E-05	16	0.00	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019TOG	TOG	0.028268691	25645	5.10	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019ROG	ROG	0.000614874	558	0.11	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019PM10	PM10	1.77E-05	16	0.00	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019PM2_5	PM2_5	1.69E-05	15	0.00	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019PM	PM	0.000132894	121	0.02	PMTW
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019PM10	PM10	0.000132894	121	0.02	PMTW
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019PM2_5	PM2_5	3.32E-05	30	0.01	PMTW
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019PM	PM	0.00053623	486	0.10	PMBW
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019PM10	PM10	0.000525505	477	0.09	PMBW
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019PM2_5	PM2_5	0.000225216	204	0.04	PMBW
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019HC	HC	0.000134071	122	0.03	RUNEX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019CO	CO	0.001497886	1359	0.28	RUNEX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019NOx	NOx	0.001106647	1004	0.21	RUNEX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019SOx	SOx	9.76E-05	89	0.02	RUNEX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019PM	PM	9.19E-06	8	0.00	RUNEX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019TOG	TOG	0.000145162	132	0.03	RUNEX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019ROG	ROG	9.95E-05	90	0.02	RUNEX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019PM10	PM10	8.22E-06	7	0.00	RUNEX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019PM2_5	PM2_5	7.56E-06	7	0.00	RUNEX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019HC	HC	8.05E-05	73	0.02	STREX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019CO	CO	0.001426607	1294	0.27	STREX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019NOx	NOx	0.000159287	145	0.03	STREX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019SOx	SOx	1.64E-07	0	0.00	STREX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019PM	PM	1.34E-07	0	0.00	STREX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019TOG	TOG	8.40E-05	76	0.02	STREX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019ROG	ROG	7.68E-05	70	0.01	STREX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019PM10	PM10	1.20E-07	0	0.00	STREX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019PM2_5	PM2_5	1.10E-07	0	0.00	STREX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019HC	HC	3.14E-06	3	0.00	HOTSOAK
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019TOG	TOG	3.36E-06	3	0.00	HOTSOAK
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019ROG	ROG	3.36E-06	3	0.00	HOTSOAK
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019HC	HC	1.64E-05	15	0.00	RUNLOSS
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019TOG	TOG	1.75E-05	16	0.00	RUNLOSS
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019ROG	ROG	1.75E-05	16	0.00	RUNLOSS
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019HC	HC	1.76E-07	0	0.00	RESTLOSS
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019TOG	TOG	1.91E-07	0	0.00	RESTLOSS
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019ROG	ROG	1.91E-07	0	0.00	RESTLOSS
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019HC	HC	4.06E-07	0	0.00	DIURN
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019TOG	TOG	4.41E-07	0	0.00	DIURN
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019ROG	ROG	4.41E-07	0	0.00	DIURN
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019PM	PM	5.60E-05	51	0.01	PMTW

2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019PM10	PM10	5.60E-05	51	0.01	PMTW
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019PM2_5	PM2_5	1.40E-05	13	0.00	PMTW
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019PM	PM	0.00062499	567	0.12	PMBW
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019PM10	PM10	0.000612491	556	0.12	PMBW
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019PM2_5	PM2_5	0.000262496	238	0.05	PMBW
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019HC	HC	0.000203025	184	0.06	RUNEX
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019CO	CO	0.00032879	298	0.10	RUNEX
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019NOx	NOx	0.002183274	1981	0.68	RUNEX
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019SOx	SOx	4.53E-05	41	0.01	RUNEX
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019PM	PM	1.68E-05	15	0.01	RUNEX
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019TOG	TOG	0.000202618	184	0.06	RUNEX
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019ROG	ROG	2.84E-06	3	0.00	RUNEX
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019PM10	PM10	1.67E-05	15	0.01	RUNEX
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019PM2_5	PM2_5	1.59E-05	14	0.00	RUNEX
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019PM	PM	8.04E-05	73	0.02	PMTW
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019PM10	PM10	8.04E-05	73	0.02	PMTW
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019PM2_5	PM2_5	2.01E-05	18	0.01	PMTW
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019PM	PM	0.000307605	279	0.10	PMBW
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019PM10	PM10	0.000301453	273	0.09	PMBW
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019PM2_5	PM2_5	0.000129194	117	0.04	PMBW
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019HC	HC	0.01773322	16087	4.60	RUNEX
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019CO	CO	0.0598779	54320	15.54	RUNEX
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019NOx	NOx	0.011566116	10493	3.00	RUNEX
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019PM	PM	1.67E-05	15	0.00	RUNEX
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019TOG	TOG	0.018593509	16868	4.83	RUNEX
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019ROG	ROG	0.001581419	1435	0.41	RUNEX
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019PM10	PM10	1.66E-05	15	0.00	RUNEX
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019PM2_5	PM2_5	1.58E-05	14	0.00	RUNEX
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019PM	PM	4.81E-05	44	0.01	PMTW
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019PM10	PM10	4.81E-05	44	0.01	PMTW
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019PM2_5	PM2_5	1.20E-05	11	0.00	PMTW
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019PM	PM	0.000506797	460	0.13	PMBW
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019PM10	PM10	0.000496661	451	0.13	PMBW
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019PM2_5	PM2_5	0.000212855	193	0.06	PMBW
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030HC	HC	6.66E-05	60	0.03	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030CO	CO	0.000780512	708	0.31	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030NOx	NOx	0.000553883	502	0.22	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030SOx	SOx	4.11E-05	37	0.02	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030PM	PM	6.74E-06	6	0.00	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030TOG	TOG	7.21E-05	65	0.03	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030ROG	ROG	4.94E-05	45	0.02	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030PM10	PM10	6.03E-06	5	0.00	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030PM2_5	PM2_5	5.54E-06	5	0.00	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030HC	HC	5.63E-05	51	0.02	STREX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030CO	CO	0.000972134	882	0.38	STREX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030NOx	NOx	9.33E-05	85	0.04	STREX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030SOx	SOx	9.26E-08	0	0.00	STREX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030PM	PM	1.26E-07	0	0.00	STREX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030TOG	TOG	5.88E-05	53	0.02	STREX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030ROG	ROG	5.37E-05	49	0.02	STREX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030PM10	PM10	1.12E-07	0	0.00	STREX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030PM2_5	PM2_5	1.03E-07	0	0.00	STREX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030HC	HC	2.90E-06	3	0.00	HOTSOAK
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030TOG	TOG	3.10E-06	3	0.00	HOTSOAK
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030ROG	ROG	3.10E-06	3	0.00	HOTSOAK
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030HC	HC	1.63E-05	15	0.01	RUNLOSS
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030TOG	TOG	1.75E-05	16	0.01	RUNLOSS
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030ROG	ROG	1.75E-05	16	0.01	RUNLOSS
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030HC	HC	1.61E-07	0	0.00	RESTLOSS
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030TOG	TOG	1.75E-07	0	0.00	RESTLOSS
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030ROG	ROG	1.75E-07	0	0.00	RESTLOSS
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030HC	HC	3.34E-07	0	0.00	DIURN
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030TOG	TOG	3.63E-07	0	0.00	DIURN
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030ROG	ROG	3.63E-07	0	0.00	DIURN
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030PM	PM	2.84E-05	26	0.01	PMTW
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030PM10	PM10	2.84E-05	26	0.01	PMTW
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030PM2_5	PM2_5	7.11E-06	6	0.00	PMTW
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030PM	PM	0.000316402	287	0.12	PMBW
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030PM10	PM10	0.000310074	281	0.12	PMBW
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030PM2_5	PM2_5	0.000132889	121	0.05	PMBW
2030	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2030HC	HC	0.000150891	137	0.07	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2030CO	CO	0.00025638	233	0.12	RUNEX

2030	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2030NOx	NOx	0.001534969	1393	0.70	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2030SOx	SOx	2.82E-05	26	0.01	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2030PM	PM	1.21E-05	11	0.01	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2030TOG	TOG	0.000152949	139	0.07	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2030ROG	ROG	8.77E-06	8	0.00	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2030PM10	PM10	1.20E-05	11	0.01	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2030PM2_5	PM2_5	1.15E-05	10	0.01	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2030PM	PM	6.00E-05	54	0.03	PMTW
2030	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2030PM10	PM10	6.00E-05	54	0.03	PMTW
2030	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2030PM2_5	PM2_5	1.50E-05	14	0.01	PMTW
2030	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2030PM	PM	0.000189824	172	0.09	PMBW
2030	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2030PM10	PM10	0.000186028	169	0.09	PMBW
2030	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2030PM2_5	PM2_5	7.97E-05	72	0.04	PMBW
2030	Annual	Stanislaus (SJV) UBUS	NG	NG:2030HC	HC	0.048452398	43955	5.51	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	NG	NG:2030CO	CO	0.361924421	328332	41.13	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	NG	NG:2030NOx	NOx	0.003754384	3406	0.43	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	NG	NG:2030PM	PM	2.77E-05	25	0.00	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	NG	NG:2030TOG	TOG	0.048364996	43876	5.50	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	NG	NG:2030ROG	ROG	0.000703802	638	0.08	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	NG	NG:2030PM10	PM10	2.75E-05	25	0.00	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	NG	NG:2030PM2_5	PM2_5	2.63E-05	24	0.00	RUNEX
2030	Annual	Stanislaus (SJV) UBUS	NG	NG:2030PM	PM	0.000241647	219	0.03	PMTW
2030	Annual	Stanislaus (SJV) UBUS	NG	NG:2030PM10	PM10	0.000241647	219	0.03	PMTW
2030	Annual	Stanislaus (SJV) UBUS	NG	NG:2030PM2_5	PM2_5	6.04E-05	55	0.01	PMTW
2030	Annual	Stanislaus (SJV) UBUS	NG	NG:2030PM	PM	0.00076472	694	0.09	PMBW
2030	Annual	Stanislaus (SJV) UBUS	NG	NG:2030PM10	PM10	0.000749426	680	0.09	PMBW
2030	Annual	Stanislaus (SJV) UBUS	NG	NG:2030PM2_5	PM2_5	0.000321182	291	0.04	PMBW
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040HC	HC	7.27E-05	66	0.03	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040CO	CO	0.000829594	753	0.29	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040NOx	NOx	0.00056566	513	0.20	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040SOx	SOx	4.34E-05	39	0.02	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040PM	PM	7.44E-06	7	0.00	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040TOG	TOG	7.87E-05	71	0.03	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040ROG	ROG	5.39E-05	49	0.02	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040PM10	PM10	6.65E-06	6	0.00	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040PM2_5	PM2_5	6.11E-06	6	0.00	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040HC	HC	5.95E-05	54	0.02	STREX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040CO	CO	0.001066277	967	0.38	STREX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040NOx	NOx	9.87E-05	90	0.04	STREX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040SOx	SOx	9.83E-08	0	0.00	STREX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040PM	PM	1.39E-07	0	0.00	STREX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040TOG	TOG	6.21E-05	56	0.02	STREX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040ROG	ROG	5.67E-05	51	0.02	STREX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040PM10	PM10	1.24E-07	0	0.00	STREX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040PM2_5	PM2_5	1.14E-07	0	0.00	STREX
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040HC	HC	3.04E-06	3	0.00	HOTSOAK
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040TOG	TOG	3.25E-06	3	0.00	HOTSOAK
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040ROG	ROG	3.25E-06	3	0.00	HOTSOAK
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040HC	HC	1.73E-05	16	0.01	RUNLOSS
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040TOG	TOG	1.85E-05	17	0.01	RUNLOSS
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040ROG	ROG	1.85E-05	17	0.01	RUNLOSS
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040HC	HC	1.70E-07	0	0.00	RESTLOSS
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040TOG	TOG	1.85E-07	0	0.00	RESTLOSS
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040ROG	ROG	1.85E-07	0	0.00	RESTLOSS
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040HC	HC	3.55E-07	0	0.00	DIURN
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040TOG	TOG	3.85E-07	0	0.00	DIURN
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040ROG	ROG	3.85E-07	0	0.00	DIURN
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040PM	PM	3.14E-05	28	0.01	PMTW
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040PM10	PM10	3.14E-05	28	0.01	PMTW
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040PM2_5	PM2_5	7.84E-06	7	0.00	PMTW
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040PM	PM	0.000349031	317	0.12	PMBW
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040PM10	PM10	0.000342051	310	0.12	PMBW
2040	Annual	Stanislaus (SJV) UBUS	Gas	Gas:2040PM2_5	PM2_5	0.000146593	133	0.05	PMBW
2040	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2040HC	HC	0.000167288	152	0.07	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2040CO	CO	0.000300348	272	0.12	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2040NOx	NOx	0.001694288	1537	0.70	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2040SOx	SOx	3.11E-05	28	0.01	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2040PM	PM	1.38E-05	13	0.01	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2040TOG	TOG	0.000169927	154	0.07	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2040ROG	ROG	1.07E-05	10	0.00	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2040PM10	PM10	1.37E-05	12	0.01	RUNEX
2040	Annual	Stanislaus (SJV) UBUS	Dsl	Dsl:2040PM2_5	PM2_5	1.31E-05	12	0.01	RUNEX

2040	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2040PM	PM	6.62E-05	60	0.03	PMTW
2040	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2040PM10	PM10	6.62E-05	60	0.03	PMTW
2040	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2040PM2_5	PM2_5	1.65E-05	15	0.01	PMTW
2040	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2040PM	PM	0.0002094	190	0.09	PMBW
2040	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2040PM10	PM10	0.000205212	186	0.09	PMBW
2040	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2040PM2_5	PM2_5	8.79E-05	80	0.04	PMBW
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040HC	HC	0.053452505	48491	5.51	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040CO	CO	0.399319139	362256	41.14	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040NOx	NOx	0.00414568	3761	0.43	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040PM	PM	3.24E-05	29	0.00	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040TOG	TOG	0.053357578	48405	5.50	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040ROG	ROG	0.000780647	708	0.08	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040PM10	PM10	3.22E-05	29	0.00	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040PM2_5	PM2_5	3.08E-05	28	0.00	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040PM	PM	0.000266567	242	0.03	PMTW
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040PM10	PM10	0.000266567	242	0.03	PMTW
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040PM2_5	PM2_5	6.66E-05	60	0.01	PMTW
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040PM	PM	0.000843583	765	0.09	PMBW
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040PM10	PM10	0.000826711	750	0.09	PMBW
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040PM2_5	PM2_5	0.000354305	321	0.04	PMBW
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030HC	HC	0.000144983	132	0.02	RUNEX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030CO	CO	0.001771091	1607	0.28	RUNEX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030NOx	NOx	0.001199687	1088	0.19	RUNEX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030SOx	SOx	9.46E-05	86	0.02	RUNEX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030PM	PM	1.63E-05	15	0.00	RUNEX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030TOG	TOG	0.000156976	142	0.03	RUNEX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030ROG	ROG	0.000107577	98	0.02	RUNEX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030PM10	PM10	1.46E-05	13	0.00	RUNEX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030PM2_5	PM2_5	1.34E-05	12	0.00	RUNEX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030HC	HC	9.05E-05	82	0.01	STREX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030CO	CO	0.001681085	1525	0.27	STREX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030NOx	NOx	0.000167492	152	0.03	STREX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030SOx	SOx	1.64E-07	0	0.00	STREX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030PM	PM	2.39E-07	0	0.00	STREX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030TOG	TOG	9.45E-05	86	0.02	STREX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030ROG	ROG	8.63E-05	78	0.01	STREX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030PM10	PM10	2.14E-07	0	0.00	STREX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030PM2_5	PM2_5	1.97E-07	0	0.00	STREX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030HC	HC	4.02E-06	4	0.00	HOTSOAK
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030TOG	TOG	4.30E-06	4	0.00	HOTSOAK
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030ROG	ROG	4.30E-06	4	0.00	HOTSOAK
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030HC	HC	2.15E-05	19	0.00	RUNLOSS
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030TOG	TOG	2.30E-05	21	0.00	RUNLOSS
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030ROG	ROG	2.30E-05	21	0.00	RUNLOSS
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030HC	HC	2.21E-07	0	0.00	RESTLOSS
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030TOG	TOG	2.40E-07	0	0.00	RESTLOSS
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030ROG	ROG	2.40E-07	0	0.00	RESTLOSS
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030HC	HC	5.06E-07	0	0.00	DIURN
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030TOG	TOG	5.50E-07	0	0.00	DIURN
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030ROG	ROG	5.50E-07	0	0.00	DIURN
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030PM	PM	6.64E-05	60	0.01	PMTW
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030PM10	PM10	6.64E-05	60	0.01	PMTW
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030PM2_5	PM2_5	1.66E-05	15	0.00	PMTW
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030PM	PM	0.000740495	672	0.12	PMBW
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030PM10	PM10	0.000725685	658	0.12	PMBW
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030PM2_5	PM2_5	0.000311008	282	0.05	PMBW
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030HC	HC	8.42E-05	76	0.05	RUNEX
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030CO	CO	0.000132249	120	0.08	RUNEX
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030NOx	NOx	0.000965901	876	0.58	RUNEX
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030SOx	SOx	1.83E-05	17	0.01	RUNEX
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030PM	PM	7.61E-06	7	0.00	RUNEX
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030TOG	TOG	8.40E-05	76	0.05	RUNEX
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030ROG	ROG	1.18E-06	1	0.00	RUNEX
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030PM10	PM10	7.57E-06	7	0.00	RUNEX
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030PM2_5	PM2_5	7.24E-06	7	0.00	RUNEX
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030PM	PM	3.03E-05	27	0.02	PMTW
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030PM10	PM10	3.03E-05	27	0.02	PMTW
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030PM2_5	PM2_5	7.57E-06	7	0.00	PMTW
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030PM	PM	0.000191886	174	0.12	PMBW
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030PM10	PM10	0.000188048	171	0.11	PMBW
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030PM2_5	PM2_5	8.06E-05	73	0.05	PMBW
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030HC	HC	0.028097458	25490	4.18	RUNEX

2030	Annual	Merced (SJV)	UBUS	NG	NG:2030CO	CO	0.201028946	182370	29.91	RUNEX
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030NOx	NOx	0.00235908	2140	0.35	RUNEX
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030PM	PM	1.67E-05	15	0.00	RUNEX
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030TOG	TOG	0.028041263	25439	4.17	RUNEX
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030ROG	ROG	0.000392578	356	0.06	RUNEX
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030PM10	PM10	1.66E-05	15	0.00	RUNEX
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030PM2_5	PM2_5	1.58E-05	14	0.00	RUNEX
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030PM	PM	0.00012204	111	0.02	PMTW
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030PM10	PM10	0.00012204	111	0.02	PMTW
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030PM2_5	PM2_5	3.05E-05	28	0.00	PMTW
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030PM	PM	0.000773027	701	0.12	PMBW
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030PM10	PM10	0.000757566	687	0.11	PMBW
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030PM2_5	PM2_5	0.000324671	295	0.05	PMBW
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040HC	HC	0.00016516	150	0.02	RUNEX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040CO	CO	0.001952094	1771	0.27	RUNEX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040NOx	NOx	0.001262244	1145	0.18	RUNEX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040SOx	SOx	0.000103471	94	0.01	RUNEX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040PM	PM	1.88E-05	17	0.00	RUNEX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040TOG	TOG	0.000178823	162	0.02	RUNEX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040ROG	ROG	0.000122549	111	0.02	RUNEX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040PM10	PM10	1.68E-05	15	0.00	RUNEX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040PM2_5	PM2_5	1.55E-05	14	0.00	RUNEX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040HC	HC	9.88E-05	90	0.01	STREX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040CO	CO	0.001921031	1743	0.27	STREX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040NOx	NOx	0.000182793	166	0.03	STREX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040SOx	SOx	1.80E-07	0	0.00	STREX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040PM	PM	2.76E-07	0	0.00	STREX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040TOG	TOG	0.000103153	94	0.01	STREX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040ROG	ROG	9.42E-05	85	0.01	STREX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040PM10	PM10	2.47E-07	0	0.00	STREX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040PM2_5	PM2_5	2.27E-07	0	0.00	STREX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040HC	HC	4.22E-06	4	0.00	HOTSOAK
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040TOG	TOG	4.51E-06	4	0.00	HOTSOAK
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040ROG	ROG	4.51E-06	4	0.00	HOTSOAK
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040HC	HC	2.18E-05	20	0.00	RUNLOSS
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040TOG	TOG	2.33E-05	21	0.00	RUNLOSS
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040ROG	ROG	2.33E-05	21	0.00	RUNLOSS
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040HC	HC	2.36E-07	0	0.00	RESTLOSS
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040TOG	TOG	2.57E-07	0	0.00	RESTLOSS
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040ROG	ROG	2.57E-07	0	0.00	RESTLOSS
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040HC	HC	5.48E-07	0	0.00	DIURN
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040TOG	TOG	5.95E-07	1	0.00	DIURN
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040ROG	ROG	5.95E-07	1	0.00	DIURN
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040PM	PM	7.66E-05	69	0.01	PMTW
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040PM10	PM10	7.66E-05	69	0.01	PMTW
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040PM2_5	PM2_5	1.92E-05	17	0.00	PMTW
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040PM	PM	0.000854784	775	0.12	PMBW
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040PM10	PM10	0.000837688	760	0.12	PMBW
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040PM2_5	PM2_5	0.000359009	326	0.05	PMBW
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040HC	HC	9.72E-05	88	0.05	RUNEX
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040CO	CO	0.00015266	138	0.08	RUNEX
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040NOx	NOx	0.001114979	1011	0.58	RUNEX
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040SOx	SOx	2.12E-05	19	0.01	RUNEX
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040PM	PM	8.79E-06	8	0.00	RUNEX
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040TOG	TOG	9.70E-05	88	0.05	RUNEX
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040ROG	ROG	1.36E-06	1	0.00	RUNEX
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040PM10	PM10	8.73E-06	8	0.00	RUNEX
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040PM2_5	PM2_5	8.36E-06	8	0.00	RUNEX
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040PM	PM	3.50E-05	32	0.02	PMTW
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040PM10	PM10	3.50E-05	32	0.02	PMTW
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040PM2_5	PM2_5	8.74E-06	8	0.00	PMTW
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040PM	PM	0.000221502	201	0.12	PMBW
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040PM10	PM10	0.000217072	197	0.11	PMBW
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040PM2_5	PM2_5	9.30E-05	84	0.05	PMBW
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040HC	HC	0.032434041	29424	4.18	RUNEX
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040CO	CO	0.232055907	210518	29.91	RUNEX
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040NOx	NOx	0.002723182	2470	0.35	RUNEX
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040PM	PM	1.92E-05	17	0.00	RUNEX
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040TOG	TOG	0.032369173	29365	4.17	RUNEX
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040ROG	ROG	0.000453168	411	0.06	RUNEX
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040PM10	PM10	1.91E-05	17	0.00	RUNEX
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040PM2_5	PM2_5	1.83E-05	17	0.00	RUNEX

2040	Annual	Merced (SJV)	UBUS	NG	NG:2040PM	PM	0.000140876	128	0.02	PMTW
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040PM10	PM10	0.000140876	128	0.02	PMTW
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040PM2_5	PM2_5	3.52E-05	32	0.00	PMTW
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040PM	PM	0.000892336	810	0.12	PMBW
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040PM10	PM10	0.000874489	793	0.11	PMBW
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040PM2_5	PM2_5	0.000374781	340	0.05	PMBW
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019CO2	CO2	7.284839074	6608697	1793.89	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019CH4	CH4	0.000942769	855	0.23	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019Fuel	Fuel	0.649246935	588987	159.88	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2019N2O	N2O	0.001145075	1039	0.28	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019CO2	CO2	9.336910015	8470305	1683.98	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019CH4	CH4	0.027451319	24903	4.95	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019Fuel	Fuel	1.079204391	979038	194.64	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	NG	NG:2019N2O	N2O	0.00190339	1727	0.34	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019CO2	CO2	4.45640484	4042784	1995.65	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019CH4	CH4	1.37211E-05	12	0.01	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019Fuel	Fuel	0.470387803	426729	210.65	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019N2O	N2O	4.54034E-05	41	0.02	RUNEX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019CO2	CO2	0.009740513	8836	4.36	STREX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019CH4	CH4	1.10123E-05	10	0.00	STREX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019Fuel	Fuel	0.001028142	933	0.46	STREX
2019	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2019N2O	N2O	7.63573E-06	7	0.00	STREX
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019CO2	CO2	4.78998198	4345400	1484.10	RUNEX
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019CH4	CH4	0.000198534	180	0.06	RUNEX
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019Fuel	Fuel	0.42689771	387275	132.27	RUNEX
2019	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2019N2O	N2O	0.000752918	683	0.23	RUNEX
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019CO2	CO2	5.098829509	4625582	1323.60	RUNEX
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019CH4	CH4	0.016719631	15168	4.34	RUNEX
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019Fuel	Fuel	0.589346924	534647	152.99	RUNEX
2019	Annual	Merced (SJV)	UBUS	NG	NG:2019N2O	N2O	0.00103943	943	0.27	RUNEX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019CO2	CO2	9.860315341	8945130	1871.06	RUNEX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019CH4	CH4	3.09362E-05	28	0.01	RUNEX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019Fuel	Fuel	1.040787863	944187	197.50	RUNEX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019N2O	N2O	0.000102465	93	0.02	RUNEX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019CO2	CO2	0.01653632	15002	3.14	STREX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019CH4	CH4	1.84984E-05	17	0.00	STREX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019Fuel	Fuel	0.001745461	1583	0.33	STREX
2019	Annual	Merced (SJV)	UBUS	Gas	Gas:2019N2O	N2O	1.53944E-05	14	0.00	STREX
2030	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2030CO2	CO2	2.979460197	2702922	1364.10	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2030CH4	CH4	0.000142668	129	0.07	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2030Fuel	Fuel	0.265538522	240893	121.57	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2030N2O	N2O	0.00046833	425	0.21	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	NG	NG:2030CO2	CO2	15.82343312	14354781	1798.28	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	NG	NG:2030CH4	CH4	0.047361028	42965	5.38	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	NG	NG:2030Fuel	Fuel	1.828947529	1659194	207.85	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	NG	NG:2030N2O	N2O	0.00322571	2926	0.37	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030CO2	CO2	4.148982242	3763894	1624.89	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030CH4	CH4	1.5018E-05	14	0.01	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030Fuel	Fuel	0.437938363	397291	171.51	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030N2O	N2O	4.99083E-05	45	0.02	RUNEX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030CO2	CO2	0.009357579	8489	3.66	STREX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030CH4	CH4	1.25237E-05	11	0.00	STREX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030Fuel	Fuel	0.000987722	896	0.39	STREX
2030	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2030N2O	N2O	8.56579E-06	8	0.00	STREX
2040	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2040CO2	CO2	3.286506605	2981469	1364.01	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2040CH4	CH4	0.00015743	143	0.07	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2040Fuel	Fuel	0.292903428	265718	121.56	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	Dsl	Dsl:2040N2O	N2O	0.000516593	469	0.21	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040CO2	CO2	17.45420619	15834194	1798.17	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040CH4	CH4	0.052245417	47396	5.38	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040Fuel	Fuel	2.017440024	1830191	207.84	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	NG	NG:2040N2O	N2O	0.003558154	3228	0.37	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2040CO2	CO2	4.380748833	3974150	1555.27	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2040CH4	CH4	1.6439E-05	15	0.01	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2040Fuel	Fuel	0.462402069	419484	164.16	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2040N2O	N2O	5.25619E-05	48	0.02	RUNEX
2040	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2040CO2	CO2	0.009932743	9011	3.53	STREX
2040	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2040CH4	CH4	1.33351E-05	12	0.00	STREX
2040	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2040Fuel	Fuel	0.001048433	951	0.37	STREX
2040	Annual	Stanislaus (SJV)	UBUS	Gas	Gas:2040N2O	N2O	9.26669E-06	8	0.00	STREX
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030CO2	CO2	1.938559495	1758632	1162.13	RUNEX
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030CH4	CH4	8.23139E-05	75	0.05	RUNEX

2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030Fuel	Fuel	0.172770297	156735	103.57	RUNEX
2030	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2030N2O	N2O	0.000304715	276	0.18	RUNEX
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030CO2	CO2	10.30230028	9346092	1533.06	RUNEX
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030CH4	CH4	0.02747599	24926	4.09	RUNEX
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030Fuel	Fuel	1.190788781	1080266	177.20	RUNEX
2030	Annual	Merced (SJV)	UBUS	NG	NG:2030N2O	N2O	0.002100191	1905	0.31	RUNEX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030CO2	CO2	9.555293834	8668419	1530.35	RUNEX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030CH4	CH4	3.37067E-05	31	0.01	RUNEX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030Fuel	Fuel	1.008591866	914979	161.53	RUNEX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030N2O	N2O	0.000113195	103	0.02	RUNEX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030CO2	CO2	0.016548782	15013	2.65	STREX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030CH4	CH4	2.09817E-05	19	0.00	STREX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030Fuel	Fuel	0.001746777	1585	0.28	STREX
2030	Annual	Merced (SJV)	UBUS	Gas	Gas:2030N2O	N2O	1.66248E-05	15	0.00	STREX
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040CO2	CO2	2.237758241	2030061	1162.13	RUNEX
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040CH4	CH4	9.50183E-05	86	0.05	RUNEX
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040Fuel	Fuel	0.199435796	180925	103.57	RUNEX
2040	Annual	Merced (SJV)	UBUS	Dsl	Dsl:2040N2O	N2O	0.000351744	319	0.18	RUNEX
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040CO2	CO2	11.89236513	10788575	1533.06	RUNEX
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040CH4	CH4	0.031716656	28773	4.09	RUNEX
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040Fuel	Fuel	1.374576027	1246995	177.20	RUNEX
2040	Annual	Merced (SJV)	UBUS	NG	NG:2040N2O	N2O	0.002424336	2199	0.31	RUNEX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040CO2	CO2	10.4560118	9485537	1450.70	RUNEX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040CH4	CH4	3.85582E-05	35	0.01	RUNEX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040Fuel	Fuel	1.103665532	1001229	153.13	RUNEX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040N2O	N2O	0.000123637	112	0.02	RUNEX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040CO2	CO2	0.018233642	16541	2.53	STREX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040CH4	CH4	2.30822E-05	21	0.00	STREX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040Fuel	Fuel	0.001924619	1746	0.27	STREX
2040	Annual	Merced (SJV)	UBUS	Gas	Gas:2040N2O	N2O	1.84359E-05	17	0.00	STREX

calendar_year	sub_area	vehicle_class	fuel	vmt
2019	Stanislaus (SJV)	UBUS	Gas	2025.802968
2019	Stanislaus (SJV)	UBUS	Dsl	3684.007291
2019	Stanislaus (SJV)	UBUS	Elec	0.028110026
2019	Stanislaus (SJV)	UBUS	NG	5029.933196
2025	Stanislaus (SJV)	UBUS	Gas	2185.226387
2025	Stanislaus (SJV)	UBUS	Dsl	2489.779976
2025	Stanislaus (SJV)	UBUS	NG	6909.94666
2030	Stanislaus (SJV)	UBUS	Gas	2316.402306
2030	Stanislaus (SJV)	UBUS	Dsl	1981.472971
2030	Stanislaus (SJV)	UBUS	NG	7982.505398
2040	Stanislaus (SJV)	UBUS	Gas	2555.285449
2040	Stanislaus (SJV)	UBUS	Dsl	2185.815926
2040	Stanislaus (SJV)	UBUS	NG	8805.715586

Gas	2019	2025	2030	2040	31%	31%	31%	31%
HC	0.03	0.02	0.02	0.02				
CO	0.29	0.34	0.29	0.28				
NOx	0.21	0.26	0.20	0.18				
SOx	0.02	0.02	0.02	0.01				
PM	0.00	0.00	0.00	0.00				
TOG	0.03	0.03	0.03	0.03				
ROG	0.02	0.02	0.02	0.02				
PM10	0.00	0.00	0.00	0.00				
PM2_5	0.00	0.00	0.00	0.00				
CO2	1908.14	1833.61	1557.79	1480.09				
CH4	0.01	0.01	0.01	0.01				
N2O	0.02	0.02	0.02	0.02				
PM 10 tire	0.01	0.01	0.01	0.01				
PM10 brake	0.11	0.10	0.10	0.10				
PM 2.5 tire	0.00	0.01	0.01	0.01				
PM2.5 brake	0.05	0.04	0.04	0.04				
fuel	0.20	0.21	0.21	0.21				

Weighted	2019	2025	2030	2040
HC	1.95	2.12	2.73	2.71
CO	10.85	15.44	20.09	19.94
NOx	1.44	0.42	0.37	0.36
SOx	0.01	0.01	0.01	0.01
PM	0.00	0.00	0.00	0.00
TOG	1.99	2.11	2.73	2.71
ROG	0.10	0.04	0.04	0.04
PM10	0.00	0.00	0.00	0.00
PM2.5	0.00	0.00	0.00	0.00
CO2	1,687.89	1,654.84	1,588.56	1,561.99
CH4	1.88	2.06	2.67	2.65
	-	-	-	-
N2O	0.21	0.21	0.22	0.22
PM 10 tire	0.02	0.02	0.02	0.02
PM10 brake	0.10	0.10	0.10	0.10
PM 2.5 tire	0.00	0.00	0.00	0.00
PM2.5 brake	0.04	0.04	0.04	0.04
fuel	0.19	0.19	0.19	0.19

Passenger Ridership, Vehicle Miles Traveled and Station Parking Demand Data

Merced EIR Ridership Summary - 09/01/2020

	2030 No-Build	2030 peak daily no build	2030 ATW	2030 Annual Delta ATW	2030 LVG	2030 Annual Delta LVG	2030 Peak Daily - ATW	2030 Peak Daily Delta - ATW	2030 Peak Daily - LVG	2030 Peak Daily Delta - LVG	2040 No-Build	2040 peak daily no build	2040 ATW	2040 Annual Delta - ATW	2040 LVG	2040 Annual Delta - LVG	2040 Peak Daily - ATW	2040 Peak Daily Delta ATW	2040 Peak Daily - LVG	2040 Peak Daily Delta LVG
Annual Ridership	3,735,500		4,180,900	445,400	4,176,800	441,300					4,797,100		5,367,500	570,400	5,364,100	567,000				
Daily Ridership	14,765		16,525	1,760	16,509	1,744					18,961		21,215	2,254	21,202	2,241				
Annual Revenue	24,511,200		27,041,500	2,530,300	27,033,900	2,522,700					31,632,200		34,872,800	3,240,600	34,872,300	3,240,100				
Annual PMT	199,178,400		223,606,100	24,427,700	223,043,600	23,865,200					257,031,900		288,276,300	31,244,400	287,851,800	30,819,900				
Annual Total Auto VMT Avoided	162,088,300		186,463,300	24,375,000	186,054,500	23,966,200					209,644,300		240,767,100	31,122,800	240,315,300	30,671,000				
Annual Incremental Auto VMT Avoided	-		24,375,000		23,966,200						-		31,122,800		30,671,000					
Average Daily VMT Avoided			96,344		94,728								123,015		121,229					

ACE Station Ons and Offs

Station	2030 No-Build		2030 ATW		2030 LVG						2040 No-Build		2040 ATW		2040 LVG					
Merced	31,900	131	251,500	219,600	257,000	225,100	1,034	903	1,056	925	41,500	171	319,700	278,200	335,300	293,800	1,314	1,144	1,378	1,208
Atwater	17,100	70	115,300	98,200	0	-17,100	474	404	0	-70	22,000	90	149,100	127,100	0	-22,000	613	522	0	-90
Livingston	0	0	0	0	106,200	106,200	0	0	437	437	0	0	0	0	130,800	130,800	0	0	538	538
Turlock	32,400	133	177,600	145,200	177,000	144,600	730	597	728	594	41,700	171	229,700	188,000	228,700	187,000	944	773	940	769
Ceres	153,200	630	151,200	-2,000	151,300	-1,900	622	-8	622	-8	196,000	806	193,500	-2,500	193,500	-2,500	795	-10	795	-10
Modesto	340,400	1,399	401,200	60,800	401,100	60,700	1,649	250	1,649	250	436,800	1,796	515,700	78,900	514,500	77,700	2,120	324	2,115	319
Ripon	209,500	861	245,000	35,500	244,200	34,700	1,007	146	1,004	143	276,700	1,137	322,600	45,900	322,600	45,900	1,326	189	1,326	189
Downtown Manteca	136,700	562	156,300	19,600	155,800	19,100	642	81	640	79	181,200	745	206,700	25,500	206,700	25,500	850	105	850	105
Natomas	295,300	1,214	317,200	21,900	316,900	21,600	1,304	90	1,303	89	371,800	1,528	399,700	27,900	399,000	27,200	1,643	115	1,640	112
North Sacramento	235,500	968	248,300	12,800	248,100	12,600	1,021	53	1,020	52	295,600	1,215	311,800	16,200	311,300	15,700	1,282	67	1,280	65
Midtown Sacramento	460,200	1,892	483,800	23,600	483,600	23,400	1,989	97	1,988	96	575,900	2,367	605,900	30,000	604,900	29,000	2,491	123	2,487	119
Sacramento	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sutterville	261,800	1,076	271,500	9,700	271,300	9,500	1,116	40	1,115	39	329,000	1,352	341,300	12,300	340,900	11,900	1,403	51	1,401	49
Elk Grove	331,300	1,362	350,000	18,700	349,900	18,600	1,439	77	1,438	76	413,600	1,700	437,400	23,800	436,800	23,200	1,798	98	1,796	95
Lodi	141,500	582	158,500	17,000	158,400	16,900	652	70	651	69	178,400	733	200,100	21,700	199,600	21,200	823	89	820	87
Stockton (SKT)	283,100	1,164	320,000	36,900	319,200	36,100	1,315	152	1,312	148	370,600	1,523	417,900	47,300	417,900	47,300	1,718	194	1,718	194
Stockton (SKN)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Lathrop	209,700	862	209,700	0	209,700	0	862	0	862	0	282,200	1,160	282,200	0	282,200	0	1,160	0	1,160	0
Lathrop/Manteca	168,500	693	179,400	10,900	179,200	10,700	737	45	737	44	216,200	889	230,000	13,800	230,000	13,800	945	57	945	57
Tracy	664,500	2,732	693,700	29,200	693,100	28,600	2,852	120	2,849	118	886,800	3,645	924,800	38,000	924,800	38,000	3,802	156	3,802	156
River Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Downtown Tracy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Tracy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Greenville	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Isabel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dublin/Pleasanton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vasco	229,100	942	239,100	10,000	238,400	9,300	983	41	980	38	287,800	1,183	299,500	11,700	299,300	11,500	1,231	48	1,230	47
Livermore	244,100	1,003	250,500	6,400	250,200	6,100	1,030	26	1,028	25	306,000	1,258	313,700	7,700	313,400	7,400	1,290	32	1,288	30
Pleasanton	787,400	3,237	807,700	20,300	806,800	19,400	3,320	83	3,316	80	983,700	4,044	1,007,300	23,600	1,007,700	24,000	4,141	97	4,142	99
Fremont	344,400	1,416	357,300	12,900	357,600	13,200	1,469	53	1,470	54	436,800	1,796	453,200	16,400	453,400	16,600	1,863	67	1,864	68
Great America	1,406,200	5,780	1,467,600	61,400	1,468,900	62,700	6,033	252	6,038	258	1,829,500	7,520	1,909,800	80,300	1,910,800	81,300	7,851	330	7,855	334
Santa Clara	94,200	387	98,400	4,200	98,500	4,300	404	17	405	18	122,700	504	128,300	5,600	128,300	5,600	527	23	527	23
San Jose	393,000	1,615	411,000	18,000	411,300	18,300	1,689	74	1,691	75	511,700	2,103	535,300	23,600	535,600	23,900	2,200	97	2,202	98

ACE Market Summary (Bi-directional one-way trips)

Market	2030 No-Build	2030 ATW	2030 LVG	2040 No-Build	2040 ATW	2040 LVG
Within Sacramento Area	425,500	425,500	425,500	527,400	527,400	527,400
Sacramento Area to/from SJV-West	80,000	80,000	80,000	103,500	103,500	103,500
Sacramento Area to/from SJV-East	278,500	382,200	381,000	356,900	488,700	485,200
Sacramento Area to/from Tri Valley	134,400	134,400	134,400	164,000	164,000	164,000
Sacramento Area to/from Fremont	66,000	66,000	66,000	82,000	82,000	82,000
Sacramento Area to/from Silicon Valley	315,900	315,900	315,900	403,200	403,200	403,200
Within San Joaquin Valley-East	20,000	151,600	150,200	26,400	197,100	195,700
SJV-East to/from SJV-West	53,700	130,700	129,100	72,000	170,900	170,900

SJV-East to/from Tri Valley	135,800	172,400	170,500	171,200	214,300	214,200
SJV-East to/from Fremont	58,100	71,000	71,300	74,600	91,100	91,400
SJV-East to/from Silicon Valley	355,000	438,600	440,400	468,500	577,800	579,200
Within San Joaquin Valley-West	57,800	57,800	57,800	80,200	80,200	80,200
SJV-West to/from Tri Valley	279,100	279,100	279,100	357,200	357,200	357,200
SJV-West to/from Fremont	113,500	113,500	113,500	147,800	147,800	147,800
SJV-West to/from Silicon Valley	683,900	683,900	683,900	915,100	915,100	915,100
Within Tri Valley	58,400	58,400	58,400	70,400	70,400	70,400
Tri Valley to/from Fremont	81,600	81,600	81,600	99,800	99,800	99,800
Tri Valley to/from Silicon Valley	513,000	513,000	513,000	644,400	644,400	644,400
Fremont to/from Silicon Valley	25,300	25,300	25,300	32,400	32,400	32,400
Within Silicon Valley	100	100	100	200	200	200
Total	3,735,600	4,181,000	4,177,000	4,797,200	5,367,500	5,364,200
Estimated Parking Demand - Weekday						
Merced	45	358	366	59	455	477
Atwater	24	164	0	31	212	0
Livingston	0	0	151	0	0	186
Turlock	46	253	252	59	327	325
Ceres	218	215	215	279	275	275
Modesto	484	571	571	622	734	732
Ripon	298	349	347	394	459	459
Downtown Manteca	195	222	222	258	294	294
Stockton	403	455	454	527	595	595
North Lathrop	298	298	298	402	402	402
Lathrop/Manteca	240	255	255	308	327	327
Tracy	946	987	986	1262	1316	1316
River Islands	0	0	0	0	0	0
Downtown Tracy	0	0	0	0	0	0
West Tracy	0	0	0	0	0	0
Greenville	0	0	0	0	0	0
Vasco	326	340	339	410	426	426
Livermore	347	356	356	435	446	446
Pleasanton	1120	1149	1148	1400	1433	1434
Fremont	490	508	509	622	645	645

Operations – Displaced Vehicle Miles Traveled Analysis

Total Emissions **2030 Livingston**

Annual VMT Avoided: 23,966,200

	Annual VMT		Tons per Year								Metric Tons per Year			
MPH	SJVAPCD: 2030	BAAQMD: 2030	ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX	CO2	CH4	N2O	CO2e
5	20,210	7,713	0.00	0.00	0.03	0.00	0.00	0.01	0.00	0.00	15	0	0	15
10	51,682	47,060	0.00	0.00	0.09	0.00	0.00	0.06	0.02	0.00	42	0	0	42
15	370,512	66,316	0.01	0.02	0.36	0.00	0.00	0.20	0.05	0.00	159	0	0	159
20	438,512	162,581	0.01	0.02	0.45	0.00	0.00	0.32	0.08	0.00	183	0	0	183
25	543,256	488,626	0.01	0.03	0.68	0.00	0.00	0.67	0.17	0.00	268	0	0	269
30	1,193,540	2,263,283	0.02	0.10	2.09	0.00	0.00	2.62	0.67	0.01	823	0	0	827
35	1,323,410	895,963	0.01	0.06	1.27	0.00	0.00	1.35	0.35	0.00	482	0	0	485
40	1,619,212	717,641	0.01	0.06	1.24	0.00	0.00	1.29	0.33	0.01	493	0	0	496
45	1,593,776	577,451	0.01	0.05	1.08	0.00	0.00	1.14	0.30	0.00	441	0	0	443
50	1,496,100	427,345	0.01	0.05	0.90	0.00	0.00	0.96	0.25	0.00	404	0	0	406
55	1,028,084	532,028	0.01	0.04	0.67	0.00	0.00	0.89	0.23	0.00	339	0	0	341
60	1,540,416	1,523,788	0.01	0.08	1.21	0.00	0.00	2.03	0.52	0.01	713	0	0	716
65	1,931,632	1,632,228	0.02	0.09	1.33	0.00	0.00	0.79	0.22	0.01	886	0	0	890
70	1,473,834	0	0.01	0.04	0.55	0.00	0.00	0.54	0.14	0.00	344	0	0	346
75	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
Total	14,624,175	9,342,025	0.12	0.64	11.96	0.03	0.02	12.89	3.35	0.06	5,590	0	0	5,618

	Daily VMT		Pounds per Day							
MPH	SJVAPCD: 2030	BAAQMD: 2030	ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX
5	80	30	0.01	0.01	0.22	0.00	0.00	0.12	0.03	0.00
10	204	186	0.02	0.03	0.69	0.00	0.00	0.51	0.13	0.00
15	1,464	262	0.05	0.13	2.88	0.01	0.01	1.58	0.41	0.01
20	1,733	643	0.05	0.16	3.56	0.01	0.01	2.51	0.65	0.02
25	2,147	1,931	0.06	0.24	5.40	0.01	0.01	5.30	1.36	0.02
30	4,718	8,946	0.15	0.76	16.52	0.03	0.03	20.70	5.29	0.07
35	5,231	3,541	0.08	0.47	10.03	0.02	0.02	10.67	2.75	0.04
40	6,400	2,837	0.08	0.47	9.83	0.02	0.02	10.18	2.64	0.04
45	6,300	2,282	0.07	0.43	8.55	0.01	0.01	9.04	2.35	0.04
50	5,913	1,689	0.06	0.38	7.08	0.01	0.01	7.61	1.98	0.03
55	4,064	2,103	0.05	0.31	5.30	0.01	0.01	7.04	1.82	0.03
60	6,089	6,023	0.09	0.61	9.55	0.02	0.02	16.08	4.13	0.06
65	7,635	6,451	0.12	0.75	10.55	0.03	0.03	6.26	1.75	0.07
70	5,825	0	0.06	0.32	4.38	0.01	0.01	4.29	1.14	0.03
75	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	57,803	36,925	0.94	5.08	94.55	0.21	0.19	101.90	26.45	0.46

2 3 4 5 6 7 8 9 10 11 12

Emissions in SJVAPCD

	Annual VMT		Tons per Year								Metric Tons per Year			
MPH	SJVAPCD: 2030	BAAQMD: 2030	ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX	CO2	CH4	N2O	CO2e
5	20,210		0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	11	0	0	11
10	51,682		0.00	0.00	0.05	0.00	0.00	0.02	0.01	0.00	22	0	0	23
15	370,512		0.01	0.01	0.31	0.00	0.00	0.14	0.04	0.00	132	0	0	132
20	438,512		0.00	0.02	0.34	0.00	0.00	0.16	0.04	0.00	130	0	0	131
25	543,256		0.00	0.02	0.38	0.00	0.00	0.20	0.05	0.00	137	0	0	137

30	1,193,540		0.01	0.03	0.76	0.00	0.00	0.44	0.12	0.00	267	0	0	268
35	1,323,410		0.01	0.04	0.78	0.00	0.00	0.49	0.13	0.00	275	0	0	276
40	1,619,212		0.01	0.04	0.88	0.00	0.00	0.60	0.16	0.00	325	0	0	326
45	1,593,776		0.01	0.04	0.81	0.00	0.00	0.59	0.16	0.00	321	0	0	323
50	1,496,100		0.01	0.04	0.71	0.00	0.00	0.55	0.15	0.00	310	0	0	312
55	1,028,084		0.00	0.03	0.46	0.00	0.00	0.38	0.10	0.00	222	0	0	223
60	1,540,416		0.01	0.04	0.64	0.00	0.00	0.57	0.15	0.00	345	0	0	347
65	1,931,632		0.01	0.05	0.75	0.00	0.00	0.71	0.19	0.00	447	0	0	449
70	1,473,834		0.01	0.04	0.55	0.00	0.00	0.54	0.14	0.00	344	0	0	346
75	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
Total	14,624,175		0.07	0.40	7.45	0.02	0.01	5.39	1.43	0.04	3,287	0	0	3,304

	Daily VMT		Pounds per Day							
MPH	SJVAPCD: 2030	BAAQMD: 2030	ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX
5	80		0.01	0.01	0.16	0.00	0.00	0.06	0.02	0.00
10	204		0.01	0.02	0.38	0.00	0.00	0.15	0.04	0.00
15	1,464		0.04	0.12	2.47	0.01	0.01	1.08	0.29	0.01
20	1,733		0.04	0.12	2.68	0.01	0.01	1.28	0.34	0.01
25	2,147		0.03	0.13	2.97	0.01	0.01	1.58	0.42	0.01
30	4,718		0.06	0.27	6.04	0.01	0.01	3.48	0.92	0.02
35	5,231		0.05	0.29	6.19	0.01	0.01	3.85	1.03	0.02
40	6,400		0.05	0.33	6.98	0.01	0.01	4.72	1.25	0.03
45	6,300		0.05	0.33	6.44	0.01	0.01	4.64	1.23	0.03
50	5,913		0.04	0.30	5.62	0.01	0.01	4.36	1.16	0.03
55	4,064		0.03	0.21	3.60	0.01	0.01	2.99	0.80	0.02
60	6,089		0.05	0.32	5.02	0.01	0.01	4.49	1.19	0.03
65	7,635		0.07	0.41	5.94	0.02	0.01	5.63	1.50	0.04
70	5,825		0.06	0.32	4.38	0.01	0.01	4.29	1.14	0.03
75	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	57,803		0.59	3.18	58.89	0.13	0.12	42.59	11.33	0.28

Emissions in BAAQMD

	Annual VMT		Tons per Year								Metric Tons per Year			
MPH	SJVAPCD: 2030	BAAQMD: 2030	ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX	CO2	CH4	N2O	CO2e
5		7,713	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	4	0	0	4
10		47,060	0.00	0.00	0.04	0.00	0.00	0.05	0.01	0.00	19	0	0	20
15		66,316	0.00	0.00	0.05	0.00	0.00	0.06	0.02	0.00	27	0	0	27
20		162,581	0.00	0.01	0.11	0.00	0.00	0.16	0.04	0.00	53	0	0	53
25		488,626	0.00	0.01	0.31	0.00	0.00	0.47	0.12	0.00	131	0	0	132
30		2,263,283	0.01	0.06	1.33	0.00	0.00	2.18	0.55	0.01	556	0	0	559
35		895,963	0.00	0.02	0.49	0.00	0.00	0.86	0.22	0.00	207	0	0	209
40		717,641	0.00	0.02	0.36	0.00	0.00	0.69	0.18	0.00	169	0	0	169
45		577,451	0.00	0.01	0.27	0.00	0.00	0.56	0.14	0.00	119	0	0	120
50		427,345	0.00	0.01	0.18	0.00	0.00	0.41	0.10	0.00	93	0	0	94
55		532,028	0.00	0.01	0.21	0.00	0.00	0.51	0.13	0.00	117	0	0	118
60		1,523,788	0.01	0.04	0.57	0.00	0.00	1.47	0.37	0.00	368	0	0	369
65		1,632,228	0.01	0.04	0.58	0.00	0.00	0.08	0.03	0.00	439	0	0	441
70		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
75		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
Total		9,342,025	0.04	0.24	4.51	0.01	0.01	7.50	1.91	0.02	2,303	0	0	2,314

	Daily VMT		Pounds per Day							
MPH	SJVAPCD: 2030	BAAQMD: 2030	ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX
5		30	0.00	0.00	0.06	0.00	0.00	0.06	0.01	0.00
10		186	0.01	0.02	0.31	0.00	0.00	0.36	0.09	0.00
15		262	0.01	0.02	0.40	0.00	0.00	0.50	0.13	0.00
20		643	0.01	0.04	0.89	0.00	0.00	1.24	0.31	0.00
25		1,931	0.03	0.11	2.43	0.01	0.01	3.72	0.94	0.01
30		8,946	0.10	0.48	10.48	0.02	0.02	17.22	4.36	0.04
35		3,541	0.03	0.18	3.85	0.01	0.01	6.82	1.73	0.02
40		2,837	0.02	0.14	2.85	0.01	0.00	5.46	1.38	0.01
45		2,282	0.02	0.11	2.11	0.00	0.00	4.39	1.11	0.01
50		1,689	0.01	0.08	1.46	0.00	0.00	3.25	0.82	0.01
55		2,103	0.01	0.10	1.70	0.00	0.00	4.05	1.03	0.01
60		6,023	0.04	0.29	4.52	0.01	0.01	11.60	2.94	0.03
65		6,451	0.05	0.33	4.61	0.01	0.01	0.64	0.25	0.03
70		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		36,925	0.34	1.91	35.67	0.08	0.07	59.31	15.12	0.17

Total Emissions **2030 Atwater**

Annual VMT Avoided: 24,375,000

	Annual VMT		Tons per Year								Metric Tons per Year			
MPH	**SJVAPCD: 2030**	**BAAQMD: 2030**	**ROG**	**NOX**	**CO**	**PM10 Ex**	**PM2.5 Ex**	**PM10 Dust**	**PM2.5 Dust**	**SOX**	**CO2**	**CH4**	**N2O**	**CO2e**
5	20,554	7,845	0.00	0.00	0.03	0.00	0.00	0.02	0.00	0.00	15	0	0	15
10	52,563	47,863	0.00	0.00	0.09	0.00	0.00	0.07	0.02	0.00	43	0	0	43
15	376,832	67,447	0.01	0.02	0.37	0.00	0.00	0.20	0.05	0.00	161	0	0	162
20	445,991	165,354	0.01	0.02	0.46	0.00	0.00	0.32	0.08	0.00	186	0	0	187
25	552,522	496,961	0.01	0.03	0.70	0.00	0.00	0.68	0.18	0.00	273	0	0	274
30	1,213,899	2,301,889	0.02	0.10	2.13	0.00	0.00	2.66	0.68	0.01	837	0	0	841
35	1,345,984	911,246	0.01	0.06	1.29	0.00	0.00	1.37	0.35	0.01	490	0	0	493
40	1,646,832	729,882	0.01	0.06	1.26	0.00	0.00	1.31	0.34	0.01	502	0	0	504
45	1,620,961	587,301	0.01	0.06	1.10	0.00	0.00	1.16	0.30	0.00	448	0	0	450
50	1,521,619	434,635	0.01	0.05	0.91	0.00	0.00	0.98	0.26	0.00	411	0	0	412
55	1,045,620	541,103	0.01	0.04	0.68	0.00	0.00	0.91	0.23	0.00	345	0	0	347
60	1,566,692	1,549,780	0.01	0.08	1.23	0.00	0.00	2.07	0.53	0.01	725	0	0	729
65	1,964,581	1,660,070	0.02	0.10	1.36	0.00	0.00	0.81	0.23	0.01	901	0	0	905
70	1,498,973	0	0.01	0.04	0.56	0.00	0.00	0.55	0.15	0.00	350	0	0	352
75	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
Total	14,873,625	9,501,375	0.12	0.65	12.17	0.03	0.02	13.11	3.40	0.06	5,686	0	0	5,713

	Daily VMT		Pounds per Day							
MPH	**SJVAPCD: 2030**	**BAAQMD: 2030**	**ROG**	**NOX**	**CO**	**PM10 Ex**	**PM2.5 Ex**	**PM10 Dust**	**PM2.5 Dust**	**SOX**
5	81	31	0.01	0.01	0.23	0.00	0.00	0.12	0.03	0.00
10	208	189	0.02	0.03	0.70	0.00	0.00	0.52	0.13	0.00
15	1,489	267	0.05	0.14	2.92	0.01	0.01	1.61	0.42	0.01
20	1,763	654	0.05	0.17	3.63	0.01	0.01	2.56	0.66	0.02
25	2,184	1,964	0.06	0.25	5.50	0.01	0.01	5.39	1.39	0.02
30	4,798	9,098	0.16	0.77	16.80	0.03	0.03	21.05	5.38	0.07
35	5,320	3,602	0.08	0.48	10.20	0.02	0.02	10.85	2.80	0.04
40	6,509	2,885	0.08	0.48	10.00	0.02	0.02	10.35	2.68	0.04
45	6,407	2,321	0.07	0.44	8.70	0.01	0.01	9.19	2.39	0.04
50	6,014	1,718	0.06	0.39	7.20	0.01	0.01	7.74	2.02	0.03
55	4,133	2,139	0.05	0.31	5.39	0.01	0.01	7.16	1.85	0.03
60	6,192	6,126	0.09	0.62	9.71	0.02	0.02	16.36	4.20	0.06
65	7,765	6,562	0.13	0.76	10.73	0.03	0.03	6.37	1.78	0.07
70	5,925	0	0.06	0.33	4.46	0.01	0.01	4.37	1.16	0.03
75	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	58,789	37,555	0.95	5.17	96.17	0.21	0.19	103.64	26.90	0.47

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Emissions in SJVAPCD

	Annual VMT		Tons per Year								Metric Tons per Year			
MPH	**SJVAPCD: 2030**	**BAAQMD: 2030**	**ROG**	**NOX**	**CO**	**PM10 Ex**	**PM2.5 Ex**	**PM10 Dust**	**PM2.5 Dust**	**SOX**	**CO2**	**CH4**	**N2O**	**CO2e**
5	20,554		0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	11	0	0	11
10	52,563		0.00	0.00	0.05	0.00	0.00	0.02	0.01	0.00	23	0	0	23
15	376,832		0.01	0.01	0.32	0.00	0.00	0.14	0.04	0.00	134	0	0	134
20	445,991		0.00	0.02	0.34	0.00	0.00	0.16	0.04	0.00	132	0	0	133
25	552,522		0.00	0.02	0.38	0.00	0.00	0.20	0.05	0.00	139	0	0	140

30	1,213,899		0.01	0.03	0.78	0.00	0.00	0.45	0.12	0.00	272	0	0	273
35	1,345,984		0.01	0.04	0.80	0.00	0.00	0.50	0.13	0.00	279	0	0	281
40	1,646,832		0.01	0.04	0.90	0.00	0.00	0.61	0.16	0.00	330	0	0	332
45	1,620,961		0.01	0.04	0.83	0.00	0.00	0.60	0.16	0.00	327	0	0	328
50	1,521,619		0.01	0.04	0.72	0.00	0.00	0.56	0.15	0.00	316	0	0	317
55	1,045,620		0.00	0.03	0.46	0.00	0.00	0.39	0.10	0.00	226	0	0	227
60	1,566,692		0.01	0.04	0.65	0.00	0.00	0.58	0.15	0.00	351	0	0	353
65	1,964,581		0.01	0.05	0.76	0.00	0.00	0.72	0.19	0.00	454	0	0	457
70	1,498,973		0.01	0.04	0.56	0.00	0.00	0.55	0.15	0.00	350	0	0	352
75	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
Total	14,873,625		0.08	0.41	7.58	0.02	0.02	5.48	1.46	0.04	3,344	0	0	3,360

	Daily VMT		Pounds per Day							
MPH	SJVAPCD: 2030	BAAQMD: 2030	ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX
5	81		0.01	0.01	0.17	0.00	0.00	0.06	0.02	0.00
10	208		0.01	0.02	0.39	0.00	0.00	0.15	0.04	0.00
15	1,489		0.04	0.12	2.52	0.01	0.01	1.10	0.29	0.01
20	1,763		0.04	0.12	2.72	0.01	0.01	1.30	0.35	0.01
25	2,184		0.03	0.14	3.02	0.01	0.01	1.61	0.43	0.01
30	4,798		0.06	0.28	6.14	0.01	0.01	3.54	0.94	0.02
35	5,320		0.05	0.29	6.29	0.01	0.01	3.92	1.04	0.02
40	6,509		0.06	0.34	7.10	0.01	0.01	4.80	1.28	0.03
45	6,407		0.05	0.33	6.55	0.01	0.01	4.72	1.26	0.03
50	6,014		0.05	0.31	5.72	0.01	0.01	4.43	1.18	0.03
55	4,133		0.03	0.21	3.66	0.01	0.01	3.05	0.81	0.02
60	6,192		0.05	0.32	5.11	0.01	0.01	4.56	1.21	0.03
65	7,765		0.07	0.42	6.04	0.02	0.01	5.72	1.52	0.04
70	5,925		0.06	0.33	4.46	0.01	0.01	4.37	1.16	0.03
75	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	58,789		0.60	3.23	59.89	0.13	0.12	43.31	11.52	0.29

Emissions in BAAQMD

	Annual VMT		Tons per Year								Metric Tons per Year			
MPH	SJVAPCD: 2030	BAAQMD: 2030	ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX	CO2	CH4	N2O	CO2e
5		7,845	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	4	0	0	4
10		47,863	0.00	0.00	0.04	0.00	0.00	0.05	0.01	0.00	20	0	0	20
15		67,447	0.00	0.00	0.05	0.00	0.00	0.06	0.02	0.00	28	0	0	28
20		165,354	0.00	0.01	0.11	0.00	0.00	0.16	0.04	0.00	54	0	0	54
25		496,961	0.00	0.01	0.31	0.00	0.00	0.48	0.12	0.00	133	0	0	134
30		2,301,889	0.01	0.06	1.35	0.00	0.00	2.22	0.56	0.01	565	0	0	568
35		911,246	0.00	0.02	0.49	0.00	0.00	0.88	0.22	0.00	211	0	0	212
40		729,882	0.00	0.02	0.37	0.00	0.00	0.70	0.18	0.00	171	0	0	172
45		587,301	0.00	0.01	0.27	0.00	0.00	0.57	0.14	0.00	121	0	0	122
50		434,635	0.00	0.01	0.19	0.00	0.00	0.42	0.11	0.00	95	0	0	95
55		541,103	0.00	0.01	0.22	0.00	0.00	0.52	0.13	0.00	119	0	0	120
60		1,549,780	0.01	0.04	0.58	0.00	0.00	1.49	0.38	0.00	374	0	0	376
65		1,660,070	0.01	0.04	0.59	0.00	0.00	0.08	0.03	0.00	446	0	0	448
70		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
75		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
Total		9,501,375	0.04	0.25	4.59	0.01	0.01	7.63	1.95	0.02	2,342	0	0	2,354

MPH	Daily VMT SJVAPCD: 2030	BAAQMD: 2030	Pounds per Day ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX
5		31	0.00	0.00	0.06	0.00	0.00	0.06	0.02	0.00
10		189	0.01	0.02	0.32	0.00	0.00	0.36	0.09	0.00
15		267	0.01	0.02	0.41	0.00	0.00	0.51	0.13	0.00
20		654	0.01	0.04	0.90	0.00	0.00	1.26	0.32	0.00
25		1,964	0.03	0.11	2.47	0.01	0.01	3.78	0.96	0.01
30		9,098	0.10	0.49	10.66	0.02	0.02	17.52	4.44	0.04
35		3,602	0.03	0.19	3.91	0.01	0.01	6.93	1.76	0.02
40		2,885	0.02	0.14	2.90	0.01	0.00	5.55	1.41	0.01
45		2,321	0.02	0.11	2.15	0.00	0.00	4.47	1.13	0.01
50		1,718	0.01	0.08	1.48	0.00	0.00	3.31	0.84	0.01
55		2,139	0.01	0.10	1.73	0.00	0.00	4.12	1.04	0.01
60		6,126	0.04	0.30	4.60	0.01	0.01	11.79	2.99	0.03
65		6,562	0.05	0.34	4.69	0.01	0.01	0.65	0.26	0.03
70		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		37,555	0.35	1.94	36.28	0.08	0.07	60.32	15.38	0.18

Total Emissions **2040 Livingston**

Annual VMT Avoided: 30,671,000

	Annual VMT		Tons per Year								Metric Tons per Year			
MPH	**SJVAPCD: 2040**	**BAAQMD: 2040**	**ROG**	**NOX**	**CO**	**PM10 Ex**	**PM2.5 Ex**	**PM10 Dust**	**PM2.5 Dust**	**SOX**	**CO2**	**CH4**	**N2O**	**CO2e**
5	25,754	9,892	0.00	0.00	0.03	0.00	0.00	0.02	0.00	0.00	17	0	0	17
10	66,541	59,720	0.00	0.00	0.09	0.00	0.00	0.08	0.02	0.00	47	0	0	47
15	479,431	84,159	0.00	0.02	0.38	0.00	0.00	0.26	0.07	0.00	170	0	0	171
20	561,226	207,535	0.00	0.02	0.47	0.00	0.00	0.41	0.11	0.00	190	0	0	191
25	700,240	622,019	0.00	0.03	0.72	0.00	0.00	0.86	0.22	0.00	272	0	0	273
30	1,538,792	2,894,985	0.01	0.09	2.22	0.00	0.00	3.35	0.86	0.01	770	0	0	774
35	1,695,526	1,142,499	0.01	0.05	1.33	0.00	0.00	1.72	0.44	0.01	470	0	0	472
40	2,060,473	920,322	0.01	0.06	1.30	0.00	0.00	1.64	0.43	0.01	482	0	0	484
45	2,042,339	741,253	0.00	0.05	1.13	0.00	0.00	1.47	0.38	0.01	480	0	0	482
50	1,910,258	546,317	0.00	0.04	0.93	0.00	0.00	1.23	0.32	0.00	433	0	0	435
55	1,311,763	681,367	0.00	0.04	0.70	0.00	0.00	1.14	0.29	0.00	358	0	0	360
60	1,959,873	1,941,384	0.01	0.07	1.27	0.00	0.00	2.59	0.67	0.01	712	0	0	716
65	2,486,641	2,087,536	0.01	0.09	1.40	0.00	0.00	1.02	0.28	0.01	826	0	0	830
70	1,893,155	0	0.00	0.04	0.58	0.00	0.00	0.70	0.19	0.00	389	0	0	391
75	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
Total	18,732,012	11,938,988	0.07	0.59	12.56	0.02	0.02	16.49	4.28	0.07	5,615	0	0	5,642

	Daily VMT		Pounds per Day							
MPH	**SJVAPCD: 2040**	**BAAQMD: 2040**	**ROG**	**NOX**	**CO**	**PM10 Ex**	**PM2.5 Ex**	**PM10 Dust**	**PM2.5 Dust**	**SOX**
5	102	39	0.00	0.01	0.23	0.00	0.00	0.15	0.04	0.00
10	263	236	0.01	0.03	0.73	0.00	0.00	0.65	0.17	0.00
15	1,895	333	0.03	0.12	3.02	0.01	0.01	2.04	0.53	0.02
20	2,218	820	0.03	0.15	3.72	0.01	0.01	3.21	0.83	0.02
25	2,768	2,459	0.04	0.23	5.72	0.01	0.01	6.77	1.74	0.02
30	6,082	11,443	0.09	0.71	17.52	0.03	0.02	26.51	6.77	0.07
35	6,702	4,516	0.05	0.43	10.53	0.01	0.01	13.63	3.52	0.04
40	8,144	3,638	0.05	0.44	10.27	0.01	0.01	13.00	3.37	0.04
45	8,072	2,930	0.04	0.40	8.96	0.01	0.01	11.59	3.01	0.04
50	7,550	2,159	0.03	0.35	7.38	0.01	0.01	9.72	2.53	0.04
55	5,185	2,693	0.03	0.28	5.54	0.01	0.01	9.00	2.33	0.03
60	7,747	7,673	0.06	0.55	10.00	0.02	0.01	20.48	5.26	0.07
65	9,829	8,251	0.08	0.68	11.09	0.02	0.02	8.06	2.25	0.08
70	7,483	0	0.03	0.29	4.59	0.01	0.01	5.51	1.47	0.03
75	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	74,040	47,190	0.57	4.65	99.31	0.15	0.14	130.32	33.82	0.52

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Emissions in SJVAPCD

	Annual VMT		Tons per Year								Metric Tons per Year			
MPH	**SJVAPCD: 2040**	**BAAQMD: 2040**	**ROG**	**NOX**	**CO**	**PM10 Ex**	**PM2.5 Ex**	**PM10 Dust**	**PM2.5 Dust**	**SOX**	**CO2**	**CH4**	**N2O**	**CO2e**
5	25,754		0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	12	0	0	12
10	66,541		0.00	0.00	0.05	0.00	0.00	0.02	0.01	0.00	25	0	0	25
15	479,431		0.00	0.01	0.33	0.00	0.00	0.18	0.05	0.00	150	0	0	150
20	561,226		0.00	0.01	0.35	0.00	0.00	0.21	0.05	0.00	146	0	0	147
25	700,240		0.00	0.02	0.40	0.00	0.00	0.26	0.07	0.00	155	0	0	156

30	1,538,792		0.00	0.03	0.81	0.00	0.00	0.57	0.15	0.00	303	0	0	305
35	1,695,526		0.00	0.03	0.82	0.00	0.00	0.62	0.17	0.00	309	0	0	311
40	2,060,473		0.00	0.04	0.92	0.00	0.00	0.76	0.20	0.00	363	0	0	365
45	2,042,339		0.00	0.04	0.85	0.00	0.00	0.75	0.20	0.00	361	0	0	363
50	1,910,258		0.00	0.03	0.74	0.00	0.00	0.70	0.19	0.00	348	0	0	350
55	1,311,763		0.00	0.02	0.47	0.00	0.00	0.48	0.13	0.00	249	0	0	250
60	1,959,873		0.00	0.04	0.66	0.00	0.00	0.72	0.19	0.00	386	0	0	388
65	2,486,641		0.01	0.05	0.79	0.00	0.00	0.92	0.24	0.01	506	0	0	509
70	1,893,155		0.00	0.04	0.58	0.00	0.00	0.70	0.19	0.00	389	0	0	391
75	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
Total	18,732,012		0.04	0.36	7.78	0.01	0.01	6.90	1.83	0.04	3,703	0	0	3,720

	Daily VMT		Pounds per Day							
MPH	SJVAPCD: 2040	BAAQMD: 2040	ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX
5	102		0.00	0.01	0.17	0.00	0.00	0.07	0.02	0.00
10	263		0.01	0.02	0.40	0.00	0.00	0.19	0.05	0.00
15	1,895		0.03	0.10	2.60	0.01	0.01	1.40	0.37	0.01
20	2,218		0.02	0.11	2.78	0.01	0.01	1.63	0.43	0.01
25	2,768		0.02	0.12	3.13	0.01	0.00	2.04	0.54	0.01
30	6,082		0.03	0.25	6.37	0.01	0.01	4.48	1.19	0.03
35	6,702		0.03	0.26	6.48	0.01	0.01	4.94	1.31	0.03
40	8,144		0.03	0.30	7.25	0.01	0.01	6.00	1.60	0.03
45	8,072		0.03	0.29	6.70	0.01	0.01	5.95	1.58	0.03
50	7,550		0.03	0.27	5.83	0.01	0.01	5.56	1.48	0.03
55	5,185		0.02	0.19	3.73	0.00	0.00	3.82	1.02	0.02
60	7,747		0.03	0.28	5.20	0.01	0.01	5.71	1.52	0.03
65	9,829		0.04	0.37	6.23	0.01	0.01	7.24	1.93	0.04
70	7,483		0.03	0.29	4.59	0.01	0.01	5.51	1.47	0.03
75	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	74,040		0.35	2.87	61.47	0.09	0.09	54.54	14.50	0.32

Emissions in BAAQMD

	Annual VMT		Tons per Year								Metric Tons per Year			
MPH	SJVAPCD: 2040	BAAQMD: 2040	ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX	CO2	CH4	N2O	CO2e
5		9,892	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	5	0	0	5
10		59,720	0.00	0.00	0.04	0.00	0.00	0.06	0.01	0.00	21	0	0	21
15		84,159	0.00	0.00	0.05	0.00	0.00	0.08	0.02	0.00	20	0	0	20
20		207,535	0.00	0.00	0.12	0.00	0.00	0.20	0.05	0.00	44	0	0	45
25		622,019	0.00	0.01	0.33	0.00	0.00	0.60	0.15	0.00	117	0	0	118
30		2,894,985	0.01	0.06	1.41	0.00	0.00	2.79	0.71	0.01	467	0	0	469
35		1,142,499	0.00	0.02	0.51	0.00	0.00	1.10	0.28	0.00	160	0	0	161
40		920,322	0.00	0.02	0.38	0.00	0.00	0.89	0.22	0.00	119	0	0	120
45		741,253	0.00	0.01	0.29	0.00	0.00	0.71	0.18	0.00	119	0	0	119
50		546,317	0.00	0.01	0.20	0.00	0.00	0.53	0.13	0.00	85	0	0	85
55		681,367	0.00	0.01	0.23	0.00	0.00	0.66	0.17	0.00	110	0	0	110
60		1,941,384	0.00	0.03	0.61	0.00	0.00	1.87	0.47	0.00	326	0	0	328
65		2,087,536	0.00	0.04	0.61	0.00	0.00	0.10	0.04	0.00	319	0	0	321
70		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
75		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
Total		11,938,988	0.03	0.23	4.79	0.01	0.01	9.59	2.44	0.02	1,912	0	0	1,921

	Daily VMT		Pounds per Day							
MPH	SJVAPCD: 2040	BAAQMD: 2040	ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX
5		39	0.00	0.00	0.06	0.00	0.00	0.08	0.02	0.00
10		236	0.00	0.01	0.33	0.00	0.00	0.45	0.12	0.00
15		333	0.00	0.02	0.42	0.00	0.00	0.64	0.16	0.00
20		820	0.01	0.04	0.94	0.00	0.00	1.58	0.40	0.00
25		2,459	0.02	0.11	2.59	0.00	0.00	4.73	1.20	0.01
30		11,443	0.06	0.46	11.15	0.02	0.02	22.03	5.58	0.05
35		4,516	0.02	0.17	4.06	0.01	0.00	8.69	2.20	0.02
40		3,638	0.01	0.13	3.02	0.00	0.00	7.00	1.77	0.01
45		2,930	0.01	0.10	2.26	0.00	0.00	5.64	1.43	0.01
50		2,159	0.01	0.07	1.55	0.00	0.00	4.16	1.05	0.01
55		2,693	0.01	0.09	1.80	0.00	0.00	5.18	1.31	0.01
60		7,673	0.03	0.27	4.80	0.01	0.01	14.77	3.74	0.03
65		8,251	0.03	0.30	4.86	0.01	0.01	0.82	0.33	0.04
70		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		47,190	0.21	1.79	37.84	0.06	0.05	75.78	19.32	0.20

Total Emissions **2040 Atwater**

Annual VMT Avoided: 31,122,800

	Annual VMT		Tons per Year								Metric Tons per Year			
MPH	**SJVAPCD: 2040**	**BAAQMD: 2040**	**ROG**	**NOX**	**CO**	**PM10 Ex**	**PM2.5 Ex**	**PM10 Dust**	**PM2.5 Dust**	**SOX**	**CO2**	**CH4**	**N2O**	**CO2e**
5	26,134	10,037	0.00	0.00	0.03	0.00	0.00	0.02	0.01	0.00	17	0	0	17
10	67,521	60,600	0.00	0.00	0.09	0.00	0.00	0.08	0.02	0.00	47	0	0	48
15	486,493	85,399	0.00	0.02	0.39	0.00	0.00	0.26	0.07	0.00	172	0	0	173
20	569,494	210,592	0.00	0.02	0.48	0.00	0.00	0.41	0.11	0.00	193	0	0	194
25	710,555	631,182	0.00	0.03	0.73	0.00	0.00	0.87	0.22	0.00	276	0	0	278
30	1,561,459	2,937,630	0.01	0.09	2.25	0.00	0.00	3.40	0.87	0.01	781	0	0	785
35	1,720,502	1,159,328	0.01	0.06	1.35	0.00	0.00	1.75	0.45	0.01	477	0	0	479
40	2,090,825	933,879	0.01	0.06	1.32	0.00	0.00	1.67	0.43	0.01	489	0	0	491
45	2,072,423	752,172	0.01	0.05	1.15	0.00	0.00	1.49	0.39	0.01	487	0	0	489
50	1,938,397	554,365	0.00	0.04	0.95	0.00	0.00	1.25	0.33	0.00	439	0	0	441
55	1,331,086	691,404	0.00	0.04	0.71	0.00	0.00	1.16	0.30	0.00	364	0	0	365
60	1,988,743	1,969,982	0.01	0.07	1.28	0.00	0.00	2.63	0.68	0.01	723	0	0	726
65	2,523,270	2,118,286	0.01	0.09	1.42	0.00	0.00	1.03	0.29	0.01	838	0	0	842
70	1,921,042	0	0.00	0.04	0.59	0.00	0.00	0.71	0.19	0.00	395	0	0	397
75	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
Total	19,007,944	12,114,856	0.07	0.60	12.75	0.02	0.02	16.73	4.34	0.07	5,698	0	0	5,725

	Daily VMT		Pounds per Day							
MPH	**SJVAPCD: 2040**	**BAAQMD: 2040**	**ROG**	**NOX**	**CO**	**PM10 Ex**	**PM2.5 Ex**	**PM10 Dust**	**PM2.5 Dust**	**SOX**
5	103	40	0.00	0.01	0.23	0.00	0.00	0.15	0.04	0.00
10	267	240	0.01	0.03	0.74	0.00	0.00	0.66	0.17	0.00
15	1,923	338	0.03	0.12	3.07	0.01	0.01	2.07	0.54	0.02
20	2,251	832	0.03	0.15	3.77	0.01	0.01	3.26	0.85	0.02
25	2,809	2,495	0.04	0.23	5.80	0.01	0.01	6.87	1.77	0.03
30	6,172	11,611	0.10	0.72	17.77	0.03	0.02	26.90	6.87	0.07
35	6,800	4,582	0.05	0.44	10.69	0.01	0.01	13.83	3.57	0.04
40	8,264	3,691	0.05	0.44	10.43	0.01	0.01	13.19	3.42	0.05
45	8,191	2,973	0.04	0.40	9.10	0.01	0.01	11.76	3.05	0.04
50	7,662	2,191	0.03	0.35	7.49	0.01	0.01	9.86	2.57	0.04
55	5,261	2,733	0.03	0.28	5.62	0.01	0.01	9.14	2.36	0.03
60	7,861	7,786	0.06	0.56	10.15	0.02	0.01	20.78	5.34	0.07
65	9,973	8,373	0.08	0.69	11.25	0.02	0.02	8.17	2.28	0.08
70	7,593	0	0.04	0.29	4.66	0.01	0.01	5.59	1.49	0.03
75	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	75,130	47,885	0.58	4.72	100.77	0.15	0.14	132.24	34.32	0.52

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Emissions in SJVAPCD

	Annual VMT		Tons per Year								Metric Tons per Year			
MPH	**SJVAPCD: 2040**	**BAAQMD: 2040**	**ROG**	**NOX**	**CO**	**PM10 Ex**	**PM2.5 Ex**	**PM10 Dust**	**PM2.5 Dust**	**SOX**	**CO2**	**CH4**	**N2O**	**CO2e**
5	26,134		0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	12	0	0	12
10	67,521		0.00	0.00	0.05	0.00	0.00	0.02	0.01	0.00	26	0	0	26
15	486,493		0.00	0.01	0.33	0.00	0.00	0.18	0.05	0.00	152	0	0	152
20	569,494		0.00	0.01	0.36	0.00	0.00	0.21	0.06	0.00	148	0	0	149
25	710,555		0.00	0.02	0.40	0.00	0.00	0.26	0.07	0.00	157	0	0	158

30	1,561,459		0.00	0.03	0.82	0.00	0.00	0.58	0.15	0.00	307	0	0	309
35	1,720,502		0.00	0.03	0.83	0.00	0.00	0.63	0.17	0.00	314	0	0	315
40	2,090,825		0.00	0.04	0.93	0.00	0.00	0.77	0.20	0.00	368	0	0	370
45	2,072,423		0.00	0.04	0.86	0.00	0.00	0.76	0.20	0.00	367	0	0	369
50	1,938,397		0.00	0.03	0.75	0.00	0.00	0.71	0.19	0.00	353	0	0	355
55	1,331,086		0.00	0.02	0.48	0.00	0.00	0.49	0.13	0.00	252	0	0	253
60	1,988,743		0.00	0.04	0.67	0.00	0.00	0.73	0.19	0.00	392	0	0	394
65	2,523,270		0.01	0.05	0.80	0.00	0.00	0.93	0.25	0.01	514	0	0	516
70	1,921,042		0.00	0.04	0.59	0.00	0.00	0.71	0.19	0.00	395	0	0	397
75	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
Total	19,007,944		0.05	0.37	7.89	0.01	0.01	7.00	1.86	0.04	3,757	0	0	3,775

	Daily VMT		Pounds per Day							
MPH	SJVAPCD: 2040	BAAQMD: 2040	ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX
5	103		0.00	0.01	0.17	0.00	0.00	0.08	0.02	0.00
10	267		0.01	0.02	0.41	0.00	0.00	0.20	0.05	0.00
15	1,923		0.03	0.11	2.64	0.01	0.01	1.42	0.38	0.01
20	2,251		0.02	0.11	2.82	0.01	0.01	1.66	0.44	0.01
25	2,809		0.02	0.13	3.18	0.01	0.00	2.07	0.55	0.01
30	6,172		0.03	0.25	6.46	0.01	0.01	4.55	1.21	0.03
35	6,800		0.03	0.26	6.57	0.01	0.01	5.01	1.33	0.03
40	8,264		0.03	0.31	7.36	0.01	0.01	6.09	1.62	0.03
45	8,191		0.03	0.30	6.80	0.01	0.01	6.03	1.60	0.03
50	7,662		0.03	0.27	5.92	0.01	0.01	5.64	1.50	0.03
55	5,261		0.02	0.19	3.79	0.00	0.00	3.88	1.03	0.02
60	7,861		0.03	0.29	5.28	0.01	0.01	5.79	1.54	0.03
65	9,973		0.04	0.38	6.32	0.01	0.01	7.35	1.95	0.04
70	7,593		0.04	0.29	4.66	0.01	0.01	5.59	1.49	0.03
75	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	75,130		0.36	2.91	62.37	0.09	0.09	55.34	14.72	0.32

Emissions in BAAQMD

	Annual VMT		Tons per Year								Metric Tons per Year			
MPH	SJVAPCD: 2040	BAAQMD: 2040	ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX	CO2	CH4	N2O	CO2e
5		10,037	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	5	0	0	5
10		60,600	0.00	0.00	0.04	0.00	0.00	0.06	0.01	0.00	22	0	0	22
15		85,399	0.00	0.00	0.05	0.00	0.00	0.08	0.02	0.00	20	0	0	21
20		210,592	0.00	0.00	0.12	0.00	0.00	0.20	0.05	0.00	45	0	0	45
25		631,182	0.00	0.01	0.33	0.00	0.00	0.61	0.15	0.00	119	0	0	119
30		2,937,630	0.01	0.06	1.43	0.00	0.00	2.83	0.72	0.01	474	0	0	476
35		1,159,328	0.00	0.02	0.52	0.00	0.00	1.12	0.28	0.00	163	0	0	164
40		933,879	0.00	0.02	0.39	0.00	0.00	0.90	0.23	0.00	121	0	0	121
45		752,172	0.00	0.01	0.29	0.00	0.00	0.72	0.18	0.00	120	0	0	121
50		554,365	0.00	0.01	0.20	0.00	0.00	0.53	0.14	0.00	86	0	0	86
55		691,404	0.00	0.01	0.23	0.00	0.00	0.67	0.17	0.00	111	0	0	112
60		1,969,982	0.00	0.03	0.62	0.00	0.00	1.90	0.48	0.00	331	0	0	333
65		2,118,286	0.00	0.04	0.62	0.00	0.00	0.10	0.04	0.00	324	0	0	326
70		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
75		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0
Total		12,114,856	0.03	0.23	4.86	0.01	0.01	9.73	2.48	0.03	1,940	0	0	1,950

MPH	Daily VMT		Pounds per Day							
	SJVAPCD: 2040	BAAQMD: 2040	ROG	NOX	CO	PM10 Ex	PM2.5 Ex	PM10 Dust	PM2.5 Dust	SOX
5		40	0.00	0.00	0.06	0.00	0.00	0.08	0.02	0.00
10		240	0.00	0.01	0.33	0.00	0.00	0.46	0.12	0.00
15		338	0.00	0.02	0.43	0.00	0.00	0.65	0.16	0.00
20		832	0.01	0.04	0.96	0.00	0.00	1.60	0.41	0.00
25		2,495	0.02	0.11	2.62	0.00	0.00	4.80	1.22	0.01
30		11,611	0.06	0.46	11.31	0.02	0.02	22.35	5.66	0.05
35		4,582	0.02	0.17	4.12	0.01	0.01	8.82	2.24	0.02
40		3,691	0.01	0.13	3.07	0.00	0.00	7.11	1.80	0.01
45		2,973	0.01	0.10	2.29	0.00	0.00	5.72	1.45	0.01
50		2,191	0.01	0.08	1.57	0.00	0.00	4.22	1.07	0.01
55		2,733	0.01	0.09	1.83	0.00	0.00	5.26	1.33	0.01
60		7,786	0.03	0.27	4.87	0.01	0.01	14.99	3.80	0.03
65		8,373	0.03	0.31	4.93	0.01	0.01	0.83	0.33	0.04
70		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		47,885	0.22	1.81	38.40	0.06	0.05	76.89	19.60	0.20

Weighted Emission Factors by Vehicle Speed (grams per mile)

Air District: Year: Speed	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SOX	CO2	CH4	N2O	PM10 BW/TW	PM2.5 BW/TW	PM10 RD	PM2.5 RD
BAAQMD: 2019: 5	0.12	0.15	1.86	0.01	0.01	0.87	0.22	0.01	778.74	0.03	0.01	0.05	0.02	0.83	0.20
BAAQMD: 2019: 10	0.07	0.12	1.55	0.01	0.01	0.87	0.22	0.01	580.58	0.02	0.01	0.05	0.02	0.83	0.20
BAAQMD: 2019: 15	0.05	0.11	1.46	0.00	0.00	0.87	0.22	0.00	554.35	0.01	0.01	0.05	0.02	0.83	0.20
BAAQMD: 2019: 20	0.04	0.10	1.31	0.00	0.00	0.87	0.22	0.00	404.11	0.01	0.01	0.05	0.02	0.83	0.20
BAAQMD: 2019: 25	0.03	0.09	1.18	0.00	0.00	0.87	0.22	0.00	343.46	0.01	0.01	0.05	0.02	0.83	0.20
BAAQMD: 2019: 30	0.02	0.08	1.12	0.00	0.00	0.87	0.22	0.00	309.59	0.01	0.01	0.05	0.02	0.83	0.20
BAAQMD: 2019: 35	0.02	0.08	1.05	0.00	0.00	0.87	0.22	0.00	299.38	0.00	0.01	0.05	0.02	0.83	0.20
BAAQMD: 2019: 40	0.02	0.08	0.97	0.00	0.00	0.87	0.22	0.00	277.91	0.00	0.01	0.05	0.02	0.83	0.20
BAAQMD: 2019: 45	0.01	0.07	0.88	0.00	0.00	0.87	0.22	0.00	271.96	0.00	0.01	0.05	0.02	0.83	0.20
BAAQMD: 2019: 50	0.01	0.07	0.83	0.00	0.00	0.87	0.22	0.00	286.33	0.00	0.01	0.05	0.02	0.83	0.20
BAAQMD: 2019: 55	0.01	0.07	0.78	0.00	0.00	0.87	0.22	0.00	293.75	0.00	0.01	0.05	0.02	0.83	0.20
BAAQMD: 2019: 60	0.01	0.07	0.72	0.00	0.00	0.87	0.22	0.00	314.31	0.00	0.01	0.05	0.02	0.83	0.20
BAAQMD: 2019: 65	0.02	0.08	0.72	0.00	0.00	0.87	0.22	0.00	339.35	0.00	0.01	0.05	0.02	0.83	0.20
BAAQMD: 2019: 70	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.87*	*0.22*	*0.00*	*0.00*	*0.00*	*0.00*	0.045022842	0.0180009		
BAAQMD: 2019: 75	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.87*	*0.22*	*0.00*	*0.00*	*0.00*	*0.00*				
Air District: Year: Speed	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SOX	CO2	CH4	N2O	0.04	0.02	0.83	0.20
BAAQMD: 2030: 5	0.03	0.04	0.87	0.01	0.01	0.87	0.22	0.01	515.85	0.01	0.01	0.04	0.02	0.83	0.20
BAAQMD: 2030: 10	0.02	0.04	0.76	0.00	0.00	0.87	0.22	0.00	413.24	0.00	0.01	0.04	0.02	0.83	0.20
BAAQMD: 2030: 15	0.01	0.03	0.69	0.00	0.00	0.87	0.22	0.00	410.05	0.00	0.01	0.04	0.02	0.83	0.20
BAAQMD: 2030: 20	0.01	0.03	0.63	0.00	0.00	0.87	0.22	0.00	323.70	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2030: 25	0.01	0.03	0.57	0.00	0.00	0.87	0.22	0.00	268.43	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2030: 30	0.00	0.02	0.53	0.00	0.00	0.87	0.22	0.00	245.53	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2030: 35	0.00	0.02	0.49	0.00	0.00	0.87	0.22	0.00	231.58	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2030: 40	0.00	0.02	0.46	0.00	0.00	0.87	0.22	0.00	234.89	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2030: 45	0.00	0.02	0.42	0.00	0.00	0.87	0.22	0.00	206.66	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2030: 50	0.00	0.02	0.39	0.00	0.00	0.87	0.22	0.00	218.48	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2030: 55	0.00	0.02	0.37	0.00	0.00	0.87	0.22	0.00	220.68	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2030: 60	0.00	0.02	0.34	0.00	0.00	0.87	0.22	0.00	241.29	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2030: 65	0.00	0.02	0.32	0.00	0.00	0.04	0.02	0.00	268.89	0.00	0.00	0.04	0.02		
BAAQMD: 2030: 70	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.04*	*0.02*	*0.00*	*0.00*	*0.00*	*0.00*				
BAAQMD: 2030: 75	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.04*	*0.02*	*0.00*	*0.00*	*0.00*	*0.00*				
Air District: Year: Speed	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SOX	CO2	CH4	N2O	0.04	0.02	0.83	0.20
BAAQMD: 2040: 5	0.02	0.03	0.72	0.00	0.00	0.87	0.22	0.00	456.28	0.00	0.01	0.04	0.02	0.83	0.20
BAAQMD: 2040: 10	0.01	0.03	0.63	0.00	0.00	0.87	0.22	0.00	357.58	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2040: 15	0.01	0.02	0.57	0.00	0.00	0.87	0.22	0.00	239.76	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2040: 20	0.00	0.02	0.52	0.00	0.00	0.87	0.22	0.00	213.77	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2040: 25	0.00	0.02	0.48	0.00	0.00	0.87	0.22	0.00	188.23	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2040: 30	0.00	0.02	0.44	0.00	0.00	0.87	0.22	0.00	161.25	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2040: 35	0.00	0.02	0.41	0.00	0.00	0.87	0.22	0.00	140.41	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2040: 40	0.00	0.02	0.38	0.00	0.00	0.87	0.22	0.00	129.23	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2040: 45	0.00	0.02	0.35	0.00	0.00	0.87	0.22	0.00	159.90	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2040: 50	0.00	0.02	0.32	0.00	0.00	0.87	0.22	0.00	154.92	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2040: 55	0.00	0.02	0.30	0.00	0.00	0.87	0.22	0.00	161.04	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2040: 60	0.00	0.02	0.28	0.00	0.00	0.87	0.22	0.00	168.05	0.00	0.00	0.04	0.02	0.83	0.20
BAAQMD: 2040: 65	0.00	0.02	0.27	0.00	0.00	0.04	0.02	0.00	153.03	0.00	0.00	0.04	0.02		
BAAQMD: 2040: 70	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.04*	*0.02*	*0.00*	*0.00*	*0.00*	*0.00*				
BAAQMD: 2040: 75	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.04*	*0.02*	*0.00*	*0.00*	*0.00*	*0.00*				
Air District: Year: Speed	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SOX	CO2	CH4	N2O				
SJVAPCD: 2019: 5	0.15	0.18	2.22	0.01	0.01	0.33	0.09	0.01	750.51	0.03	0.01	0.05	0.02	0.29	0.07
SJVAPCD: 2019: 10	0.09	0.15	1.98	0.01	0.01	0.33	0.09	0.01	608.43	0.02	0.01	0.05	0.02	0.29	0.07
SJVAPCD: 2019: 15	0.06	0.13	1.79	0.01	0.00	0.33	0.09	0.00	497.80	0.01	0.01	0.05	0.02	0.29	0.07
SJVAPCD: 2019: 20	0.05	0.12	1.64	0.00	0.00	0.33	0.09	0.00	415.46	0.01	0.01	0.05	0.02	0.29	0.07
SJVAPCD: 2019: 25	0.03	0.11	1.44	0.00	0.00	0.33	0.09	0.00	352.59	0.01	0.01	0.05	0.02	0.29	0.07
SJVAPCD: 2019: 30	0.03	0.10	1.32	0.00	0.00	0.33	0.09	0.00	313.30	0.01	0.01	0.05	0.02	0.29	0.07
SJVAPCD: 2019: 35	0.02	0.09	1.23	0.00	0.00	0.33	0.09	0.00	290.87	0.01	0.01	0.05	0.02	0.29	0.07
SJVAPCD: 2019: 40	0.02	0.09	1.14	0.00	0.00	0.33	0.09	0.00	281.39	0.00	0.01	0.05	0.02	0.29	0.07
SJVAPCD: 2019: 45	0.02	0.09	1.08	0.00	0.00	0.33	0.09	0.00	282.73	0.00	0.01	0.05	0.02	0.29	0.07
SJVAPCD: 2019: 50	0.02	0.09	1.00	0.00	0.00	0.33	0.09	0.00	290.71	0.00	0.01	0.05	0.02	0.29	0.07
SJVAPCD: 2019: 55	0.02	0.09	0.95	0.00	0.00	0.33	0.09	0.00	302.43	0.00	0.01	0.05	0.02	0.29	0.07
SJVAPCD: 2019: 60	0.02	0.09	0.89	0.00	0.00	0.33	0.09	0.00	313.96	0.00	0.01	0.05	0.02	0.29	0.07
SJVAPCD: 2019: 65	0.02	0.09	0.84	0.00	0.00	0.33	0.09	0.00	323.19	0.00	0.01	0.05	0.02	0.29	0.07
SJVAPCD: 2019: 70	0.02	0.10	0.81	0.00	0.00	0.33	0.09	0.00	326.26	0.00	0.01	0.05	0.02	0.29	0.07
SJVAPCD: 2019: 75	*0.02*	*0.10*	*0.81*	*0.00*	*0.00*	*0.33*	*0.09*	*0.00*	*326.26*	*0.00*	*0.01*				
Air District: Year: Speed	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SOX	CO2	CH4	N2O				
SJVAPCD: 2030: 5	0.03	0.05	0.93	0.01	0.01	0.33	0.09	0.01	531.72	0.01	0.01	0.04	0.02	0.29	0.07
SJVAPCD: 2030: 10	0.02	0.04	0.85	0.00	0.00	0.33	0.09	0.00	434.02	0.01	0.01	0.04	0.02	0.29	0.07
SJVAPCD: 2030: 15	0.01	0.04	0.77	0.00	0.00	0.33	0.09	0.00	355.12	0.00	0.01	0.04	0.02	0.29	0.07
SJVAPCD: 2030: 20	0.01	0.03	0.70	0.00	0.00	0.33	0.09	0.00	296.23	0.00	0.00	0.04	0.02	0.29	0.07

SJVAPCD: 2030: 25	0.01	0.03	0.63	0.00	0.00	0.33	0.09	0.00	251.83	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2030: 30	0.01	0.03	0.58	0.00	0.00	0.33	0.09	0.00	223.72	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2030: 35	0.00	0.02	0.54	0.00	0.00	0.33	0.09	0.00	207.48	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2030: 40	0.00	0.02	0.49	0.00	0.00	0.33	0.09	0.00	200.58	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2030: 45	0.00	0.02	0.46	0.00	0.00	0.33	0.09	0.00	201.62	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2030: 50	0.00	0.02	0.43	0.00	0.00	0.33	0.09	0.00	207.38	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2030: 55	0.00	0.02	0.40	0.00	0.00	0.33	0.09	0.00	215.76	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2030: 60	0.00	0.02	0.37	0.00	0.00	0.33	0.09	0.00	224.22	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2030: 65	0.00	0.02	0.35	0.00	0.00	0.33	0.09	0.00	231.31	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2030: 70	0.00	0.02	0.34	0.00	0.00	0.33	0.09	0.00	233.42	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2030: 75	*0.00*	*0.02*	*0.34*	*0.00*	*0.00*	*0.33*	*0.09*	*0.00*	*233.42*	*0.00*	*0.00*				
Air District: Year: Speed	ROG	NOX	CO	PM10	PM2.5	PM10 D	PM2.5 D	SOX	CO2	CH4	N2O				
SJVAPCD: 2040: 5	0.02	0.03	0.76	0.00	0.00	0.33	0.09	0.00	466.55	0.00	0.01	0.04	0.02	0.29	0.07
SJVAPCD: 2040: 10	0.01	0.03	0.69	0.00	0.00	0.33	0.09	0.00	380.64	0.00	0.01	0.04	0.02	0.29	0.07
SJVAPCD: 2040: 15	0.01	0.02	0.62	0.00	0.00	0.33	0.09	0.00	312.02	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2040: 20	0.00	0.02	0.57	0.00	0.00	0.33	0.09	0.00	259.98	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2040: 25	0.00	0.02	0.51	0.00	0.00	0.33	0.09	0.00	221.45	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2040: 30	0.00	0.02	0.48	0.00	0.00	0.33	0.09	0.00	196.87	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2040: 35	0.00	0.02	0.44	0.00	0.00	0.33	0.09	0.00	182.38	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2040: 40	0.00	0.02	0.40	0.00	0.00	0.33	0.09	0.00	176.08	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2040: 45	0.00	0.02	0.38	0.00	0.00	0.33	0.09	0.00	177.00	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2040: 50	0.00	0.02	0.35	0.00	0.00	0.33	0.09	0.00	182.11	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2040: 55	0.00	0.02	0.33	0.00	0.00	0.33	0.09	0.00	189.46	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2040: 60	0.00	0.02	0.30	0.00	0.00	0.33	0.09	0.00	197.05	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2040: 65	0.00	0.02	0.29	0.00	0.00	0.33	0.09	0.00	203.68	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2040: 70	0.00	0.02	0.28	0.00	0.00	0.33	0.09	0.00	205.56	0.00	0.00	0.04	0.02	0.29	0.07
SJVAPCD: 2040: 75	*0.00*	*0.02*	*0.28*	*0.00*	*0.00*	*0.33*	*0.09*	*0.00*	*205.56*	*0.00*	*0.00*				

	% of VMT in:		
	SJVAPCD	BAAQMD	
Existing			
2025 No Project	61%	39%	
2025 Livingston	61%	39%	
2025 Atwater	61%	39%	*assumed to not be substantially different air district miles than Livingston
2030 No Project	61%	39%	
2030 Livingston	61%	39%	
2030 Atwater	61%	39%	*assumed to not be substantially different air district miles than Livingston
2040 No Project	61%	39%	
2040 Livingston	61%	39%	
2040 Atwater	61%	39%	*assumed to not be substantially different air district miles than Livingston

Carbon Monoxide Analysis Assumptions and Model Results

With Atwater in 2030

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             CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                      JUNE 1989 VERSION
                      PAGE   1

                 JOB: ACE Ceres to Merced
                 RUN: CALINE4 RUN      (WORST CASE ANGLE)
           POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

           U=   0.5 M/S             Z0= 100. CM            ALT=     0.
(M)
         BRG= WORST CASE            VD=  0.0 CM/S
        CLAS=     7 (G)             VS=  0.0 CM/S
        MIXH= 1000. M              AMB=  0.0 PPM
       SIGTH=   15. DEGREES       TEMP=  8.4 DEGREE (C)


   II.  LINK VARIABLES

        LINK      *  LINK COORDINATES (M)   *              EF     H
W
     DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)
(M)
  ----------------*-------------------------*-------------------------
-----
  A. EBA          * -1000    -7     0    -7 *  AG   2043   1.9    0.0
20.6
  B. EBD          *     0    -4  1000    -4 *  AG   2117   1.9    0.0
13.3
  C. WBA          *  1000     7     0     7 *  AG   2134   1.9    0.0
20.6
  D. WBD          *     0     4 -1000     4 *  AG   2139   1.9    0.0
13.3
  E. SBA          *    -7  1000    -7     0 *  AG   1927   1.9    0.0
20.6
  F. SBD          *    -4     0    -4 -1000 *  AG   2084   1.9    0.0
13.3
  G. NBA          *     7 -1000     7     0 *  AG   2150   1.9    0.0
20.6
  H. NBD          *     4     0     4  1000 *  AG   1914   1.9    0.0
13.3


  III.  RECEPTOR LOCATIONS

              *    COORDINATES (M)
    RECEPTOR  *    X      Y      Z
```

```
  ------------*--------------------
  1. R_001    *    -18     10   1.8
  2. R_002    *     10     18   1.8
  3. R_003    *    -10    -18   1.8
  4. R_004    *     18    -10   1.8


1
```

```
           CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                    JUNE 1989 VERSION
                    PAGE   2

               JOB: ACE Ceres to Merced
               RUN: CALINE4 RUN      (WORST CASE ANGLE)
         POLLUTANT: Carbon Monoxide


   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

              *       * PRED  *                CONC/LINK
              *  BRG  * CONC  *                  (PPM)
   RECEPTOR   * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*-------------------------------------
-
  1. R_001    *   97. *   1.2 *  0.0  0.3  0.4  0.2  0.2  0.0  0.0
0.1
  2. R_002    *  187. *   1.2 *  0.0  0.1  0.2  0.0  0.0  0.3  0.4
0.2
  3. R_003    *    8. *   1.1 *  0.2  0.0  0.0  0.1  0.3  0.2  0.0
0.3
  4. R_004    *  277. *   1.2 *  0.3  0.2  0.0  0.3  0.0  0.1  0.2
0.0


1
```

With Atwater in 2040

```
            CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                     JUNE 1989 VERSION
                     PAGE   1

                JOB: ACE Ceres to Merced
                RUN: CALINE4 RUN      (WORST CASE ANGLE)
          POLLUTANT: Carbon Monoxide
```

I. SITE VARIABLES

```
           U=   0.5 M/S             Z0= 100. CM             ALT=     0. (M)
         BRG= WORST CASE            VD=  0.0 CM/S
        CLAS=     7 (G)             VS=  0.0 CM/S
        MIXH= 1000. M              AMB=  0.0 PPM
       SIGTH=   15. DEGREES       TEMP=  8.4 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. EBA	*	-1000	-7	0	-7	*	AG	2506	1.5	0.0	20.6
B. EBD	*	0	-4	1000	-4	*	AG	2593	1.5	0.0	13.3
C. WBA	*	1000	7	0	7	*	AG	2613	1.5	0.0	20.6
D. WBD	*	0	4	-1000	4	*	AG	2619	1.5	0.0	13.3
E. SBA	*	-7	1000	-7	0	*	AG	2369	1.5	0.0	20.6
F. SBD	*	-4	0	-4	-1000	*	AG	2554	1.5	0.0	13.3
G. NBA	*	7	-1000	7	0	*	AG	2631	1.5	0.0	20.6
H. NBD	*	4	0	4	1000	*	AG	2354	1.5	0.0	13.3

(X1, Y1, X2, Y2 = LINK COORDINATES (M))

III. RECEPTOR LOCATIONS

```
             *    COORDINATES (M)
   RECEPTOR  *    X      Y      Z
```

```
   ------------*--------------------
   1. R_001    *    -18     10   1.8
   2. R_002    *     10     18   1.8
   3. R_003    *    -10    -18   1.8
   4. R_004    *     18    -10   1.8


1
```

```
              CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                       JUNE 1989 VERSION
                       PAGE   2

                  JOB: ACE Ceres to Merced
                  RUN: CALINE4 RUN      (WORST CASE ANGLE)
            POLLUTANT: Carbon Monoxide


   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

               *       * PRED  *                CONC/LINK
               *  BRG  * CONC  *                  (PPM)
   RECEPTOR    * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
  -------------*-------*-------*--------------------------------------------
-
   1. R_001    *   98. *   1.2 *  0.0  0.3  0.3  0.2  0.2  0.0  0.0
0.1
   2. R_002    *  187. *   1.2 *  0.0  0.1  0.2  0.0  0.0  0.3  0.4
0.2
   3. R_003    *    8. *   1.1 *  0.2  0.0  0.0  0.1  0.3  0.2  0.0
0.3
   4. R_004    *  278. *   1.2 *  0.3  0.2  0.0  0.3  0.0  0.1  0.2
0.0


1
```

With Livingston in 2030

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: ACE Ceres to Merced
RUN: CALINE4 RUN (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 0.5 M/S Z0= 100. CM ALT= 0. (M)
BRG= WORST CASE VD= 0.0 CM/S
CLAS= 7 (G) VS= 0.0 CM/S
MIXH= 1000. M AMB= 0.0 PPM
SIGTH= 15. DEGREES TEMP= 8.4 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. EBA	-1000	-7	0	-7	AG	2067	1.9	0.0	20.6
B. EBD	0	-4	1000	-4	AG	2141	1.9	0.0	13.3
C. WBA	1000	7	0	7	AG	2158	1.9	0.0	20.6
D. WBD	0	4	-1000	4	AG	2163	1.9	0.0	13.3
E. SBA	-7	1000	-7	0	AG	1951	1.9	0.0	20.6
F. SBD	-4	0	-4	-1000	AG	2108	1.9	0.0	13.3
G. NBA	7	-1000	7	0	AG	2174	1.9	0.0	20.6
H. NBD	4	0	4	1000	AG	1938	1.9	0.0	13.3

III. RECEPTOR LOCATIONS

* COORDINATES (M)

RECEPTOR	*	X	Y	Z
1. R_001	*	-18	10	1.8
2. R_002	*	10	18	1.8
3. R_003	*	-10	-18	1.8
4. R_004	*	18	-10	1.8

1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: ACE Ceres to Merced
RUN: CALINE4 RUN (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	*	BRG (DEG)	*	PRED CONC (PPM)	*	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. R_001	*	97.	*	1.2	*	0.0	0.3	0.4	0.2	0.2	0.0	0.0	0.1
2. R_002	*	187.	*	1.2	*	0.0	0.1	0.2	0.0	0.0	0.3	0.4	0.2
3. R_003	*	8.	*	1.1	*	0.2	0.0	0.0	0.1	0.3	0.2	0.0	0.3
4. R_004	*	278.	*	1.2	*	0.3	0.2	0.0	0.3	0.0	0.1	0.2	0.0

1

With Livingston in 2040

```
            CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                     JUNE 1989 VERSION
                     PAGE   1

                JOB: ACE Ceres to Merced
                RUN: CALINE4 RUN      (WORST CASE ANGLE)
          POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

           U=   0.5 M/S             Z0= 100. CM            ALT=     0.
(M)
         BRG= WORST CASE            VD=  0.0 CM/S
        CLAS=     7 (G)             VS=  0.0 CM/S
        MIXH= 1000. M              AMB=  0.0 PPM
       SIGTH=   15. DEGREES       TEMP=  8.4 DEGREE (C)


   II.  LINK VARIABLES

        LINK      *  LINK COORDINATES (M)   *              EF     H
W
     DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)
(M)
  ----------------*-------------------------*------------------------
-----
  A. EBA          * -1000    -7     0    -7 *  AG   2572   1.5    0.0
20.6
  B. EBD          *     0    -4  1000    -4 *  AG   2659   1.5    0.0
13.3
  C. WBA          *  1000     7     0     7 *  AG   2679   1.5    0.0
20.6
  D. WBD          *     0     4 -1000     4 *  AG   2685   1.5    0.0
13.3
  E. SBA          *    -7  1000    -7     0 *  AG   2435   1.5    0.0
20.6
  F. SBD          *    -4     0    -4 -1000 *  AG   2620   1.5    0.0
13.3
  G. NBA          *     7 -1000     7     0 *  AG   2697   1.5    0.0
20.6
  H. NBD          *     4     0     4  1000 *  AG   2420   1.5    0.0
13.3


  III.  RECEPTOR LOCATIONS

              *    COORDINATES (M)
    RECEPTOR  *    X      Y      Z
```

```
  ------------*--------------------
  1. R_001    *    -18     10   1.8
  2. R_002    *     10     18   1.8
  3. R_003    *    -10    -18   1.8
  4. R_004    *     18    -10   1.8


1
```

```
               CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
                        JUNE 1989 VERSION
                        PAGE   2

                   JOB: ACE Ceres to Merced
                   RUN: CALINE4 RUN      (WORST CASE ANGLE)
             POLLUTANT: Carbon Monoxide


   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

              *       * PRED  *                 CONC/LINK
              *  BRG  * CONC  *                   (PPM)
   RECEPTOR   * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 -------------*-------*-------*-------------------------------------------
-
  1. R_001    *   98. *   1.2 *  0.0  0.3  0.3  0.2  0.2  0.0  0.0
0.1
  2. R_002    *  187. *   1.2 *  0.0  0.1  0.2  0.0  0.0  0.3  0.4
0.2
  3. R_003    *    8. *   1.2 *  0.2  0.0  0.0  0.1  0.3  0.2  0.0
0.3
  4. R_004    *  278. *   1.2 *  0.3  0.2  0.0  0.3  0.0  0.1  0.2
0.0


1
```

Persistence Factor*	0.7
Background CO 1-hour	2.166666667
Background CO 8-hour	1.666666667

* 0.6 = rural; 0.7 = urban, 0.8 = heavily congested

2017	2018	2019
2	2.7	1.8
1.6	2.1	1.3

*Background CO concentrations (from ARB and EPA)

Run	1
Scenario	Existing NP
Analysis Year	2025

Max 1-hour (no background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1						
2						
3						
4						

Max 8-hour (no background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0

Max 1-hour (with background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	2.2	2.2	2.2	2.2	2.2	2.2
2	2.2	2.2	2.2	2.2	2.2	2.2
3	2.2	2.2	2.2	2.2	2.2	2.2
4	2.2	2.2	2.2	2.2	2.2	2.2

Max 8-hour (with background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	1.7	1.7	1.7	1.7	1.7	1.7
2	1.7	1.7	1.7	1.7	1.7	1.7
3	1.7	1.7	1.7	1.7	1.7	1.7
4	1.7	1.7	1.7	1.7	1.7	1.7

Run	2
Scenario	Existing WP
Analysis Year	2025

Max 1-hour (no background)

	Atwater	Livingston				
Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1						
2						
3						
4						

Max 8-hour (no background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0

Max 1-hour (with background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	2.2	2.2	2.2	2.2	2.2	2.2
2	2.2	2.2	2.2	2.2	2.2	2.2
3	2.2	2.2	2.2	2.2	2.2	2.2
4	2.2	2.2	2.2	2.2	2.2	2.2

Max 8-hour (with background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	1.7	1.7	1.7	1.7	1.7	1.7
2	1.7	1.7	1.7	1.7	1.7	1.7
3	1.7	1.7	1.7	1.7	1.7	1.7
4	1.7	1.7	1.7	1.7	1.7	1.7

Run	3
Scenario	Interim NP
Analysis Year	2030

Max 1-hour (no background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1						
2						
3						
4						

Max 8-hour (no background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0

Max 1-hour (with background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	2.2	2.2	2.2	2.2	2.2	2.2
2	2.2	2.2	2.2	2.2	2.2	2.2
3	2.2	2.2	2.2	2.2	2.2	2.2
4	2.2	2.2	2.2	2.2	2.2	2.2

Max 8-hour (with background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	1.7	1.7	1.7	1.7	1.7	1.7
2	1.7	1.7	1.7	1.7	1.7	1.7
3	1.7	1.7	1.7	1.7	1.7	1.7
4	1.7	1.7	1.7	1.7	1.7	1.7

Run	4
Scenario	Interim WP
Analysis Year	2030

Max 1-hour (no background)

	Atwater	Livingston				
Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	1.2	1.2				
2	1.2	1.2				
3	1.1	1.1				
4	1.2	1.2				

Max 8-hour (no background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	0.8	0.84	0	0	0	0
2	0.8	0.84	0	0	0	0
3	0.8	0.77	0	0	0	0
4	0.8	0.84	0	0	0	0

Max 1-hour (with background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	3.4	3.4	2.2	2.2	2.2	2.2
2	3.4	3.4	2.2	2.2	2.2	2.2
3	3.3	3.3	2.2	2.2	2.2	2.2
4	3.4	3.4	2.2	2.2	2.2	2.2

Max 8-hour (with background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	2.5	2.5	1.7	1.7	1.7	1.7
2	2.5	2.5	1.7	1.7	1.7	1.7
3	2.4	2.4	1.7	1.7	1.7	1.7
4	2.5	2.5	1.7	1.7	1.7	1.7

Run	5
Scenario	Design NP
Analysis Year	2040

Max 1-hour (no background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1						
2						
3						
4						

Max 8-hour (no background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0

Max 1-hour (with background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	2.2	2.2	2.2	2.2	2.2	2.2

Run	6
Scenario	Design WP
Analysis Year	2040

Max 1-hour (no background)

	Atwater	Livingston				
Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	1.2	1.2				
2	1.2	1.2				
3	1.1	1.2				
4	1.2	1.2				

Max 8-hour (no background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	0.8	0.84	0	0	0	0
2	0.8	0.84	0	0	0	0
3	0.8	0.84	0	0	0	0
4	0.8	0.84	0	0	0	0

Max 1-hour (with background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	3.4	3.4	2.2	2.2	2.2	2.2

2	2.2	2.2	2.2	2.2	2.2	2.2
3	2.2	2.2	2.2	2.2	2.2	2.2
4	2.2	2.2	2.2	2.2	2.2	2.2

Max 8-hour (with background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	1.7	1.7	1.7	1.7	1.7	1.7
2	1.7	1.7	1.7	1.7	1.7	1.7
3	1.7	1.7	1.7	1.7	1.7	1.7
4	1.7	1.7	1.7	1.7	1.7	1.7

2	3.4	3.4	2.2	2.2	2.2	2.2
3	3.3	3.4	2.2	2.2	2.2	2.2
4	3.4	3.4	2.2	2.2	2.2	2.2

Max 8-hour (with background)

Receptor	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
1	2.5	2.5	1.7	1.7	1.7	1.7
2	2.5	2.5	1.7	1.7	1.7	1.7
3	2.4	2.5	1.7	1.7	1.7	1.7
4	2.5	2.5	1.7	1.7	1.7	1.7

Run	1					
Scenario	Existing NP					
Analysis Year	2025					
EF	1.85					
Approach	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
Eastbound						
Left Turn	112					
Through	596					
Right Turn	180					
Westbound						
Left Turn	192					
Through	676					
Right Turn	104					
Southbound						
Left Turn	146					
Through	554					
Right Turn	82					
Northbound						
Left Turn	219					
Through	554					
Right Turn	214					

*The greater of the AM and PM peak are used

Combined Flowrates	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
EB - Approach	888	0	0	0	0	0
EB - Depart	956	0	0	0	0	0
WB - Approach	972	0	0	0	0	0
WB - Depart	977	0	0	0	0	0
SB - Approach	782	0	0	0	0	0
SB - Depart	926	0	0	0	0	0
NB - Approach	986	0	0	0	0	0
NB - Depart	770	0	0	0	0	0

Run	2					
Scenario	Existing WP					
Analysis Year	2025					
EF	1.85					
	Atwater	**Livingston**				
Approach	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
Eastbound						
Left Turn	470	478				
Through	954	962				
Right Turn	538	546				
Westbound						
Left Turn	550	558				
Through	1034	1042				
Right Turn	462	470				
Southbound						
Left Turn	504	512				
Through	912	920				
Right Turn	440	448				
Northbound						
Left Turn	577	585				
Through	912	920				
Right Turn	572	580				

*The greater of the AM and PM peak are used

Combined Flowrates	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
EB - Approach	1962	1986	0	0	0	0
EB - Depart	2030	2054	0	0	0	0
WB - Approach	2046	2070	0	0	0	0
WB - Depart	2051	2075	0	0	0	0
SB - Approach	1856	1880	0	0	0	0
SB - Depart	2000	2024	0	0	0	0
NB - Approach	2060	2084	0	0	0	0
NB - Depart	1844	1868	0	0	0	0

Run	3					
Scenario	Interim NP					
Analysis Year	2030					
EF	1.68					
Approach	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
Eastbound						
Left Turn	123					
Through	650					
Right Turn	196					
Westbound						
Left Turn	210					
Through	737					
Right Turn	113					
Southbound						
Left Turn	160					
Through	604					
Right Turn	90					
Northbound						
Left Turn	239					
Through	604					
Right Turn	233					

*The greater of the AM and PM peak are used

Combined Flowrates	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
EB - Approach	969	0	0	0	0	0
EB - Depart	1043	0	0	0	0	0
WB - Approach	1060	0	0	0	0	0
WB - Depart	1065	0	0	0	0	0
SB - Approach	853	0	0	0	0	0
SB - Depart	1010	0	0	0	0	0
NB - Approach	1076	0	0	0	0	0
NB - Depart	840	0	0	0	0	0

Run	4					
Scenario	Interim WP					
Analysis Year	2030					
EF	1.68					
	Atwater	**Livingston**				
Approach	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
Eastbound						
Left Turn	481	489				
Through	1008	1016				
Right Turn	554	562				
Westbound						
Left Turn	568	576				
Through	1095	1103				
Right Turn	471	479				
Southbound						
Left Turn	518	526				
Through	962	970				
Right Turn	448	456				
Northbound						
Left Turn	597	605				
Through	962	970				
Right Turn	591	599				

*The greater of the AM and PM peak are used

Combined Flowrates	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
EB - Approach	2043	2067	0	0	0	0
EB - Depart	2117	2141	0	0	0	0
WB - Approach	2134	2158	0	0	0	0
WB - Depart	2139	2163	0	0	0	0
SB - Approach	1927	1951	0	0	0	0
SB - Depart	2084	2108	0	0	0	0
NB - Approach	2150	2174	0	0	0	0
NB - Depart	1914	1938	0	0	0	0

Run	5					
Scenario	Design NP					
Analysis Year	2040					
EF	1.54					
Approach	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
Eastbound						
Left Turn	144					
Through	765					
Right Turn	231					
Westbound						
Left Turn	247					
Through	868					

Run	6					
Scenario	Design WP					
Analysis Year	2040					
EF	1.54					
	Atwater	**Livingston**				
Approach	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
Eastbound						
Left Turn	599	621				
Through	1220	1242				
Right Turn	686	708				
Westbound						
Left Turn	702	724				
Through	1323	1345				

Right Turn	133
Southbound	
Left Turn	188
Through	711
Right Turn	106
Northbound	
Left Turn	281
Through	711
Right Turn	275

*The greater of the AM and PM peak are used

Combined Flowrates	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
EB - Approach	1141	0	0	0	0	0
EB - Depart	1228	0	0	0	0	0
WB - Approach	1248	0	0	0	0	0
WB - Depart	1254	0	0	0	0	0
SB - Approach	1004	0	0	0	0	0
SB - Depart	1189	0	0	0	0	0
NB - Approach	1266	0	0	0	0	0
NB - Depart	989	0	0	0	0	0

Right Turn	588	610
Southbound		
Left Turn	643	665
Through	1166	1188
Right Turn	561	583
Northbound		
Left Turn	736	758
Through	1166	1188
Right Turn	730	752

*The greater of the AM and PM peak are used

Combined Flowrates	R Street and West 16th Street - Merced	R Street and West 16th Street - Merced	0	0	0	0
EB - Approach	2506	2572	0	0	0	0
EB - Depart	2593	2659	0	0	0	0
WB - Approach	2613	2679	0	0	0	0
WB - Depart	2619	2685	0	0	0	0
SB - Approach	2369	2435	0	0	0	0
SB - Depart	2554	2620	0	0	0	0
NB - Approach	2631	2697	0	0	0	0
NB - Depart	2354	2420	0	0	0	0

Monitor Values Report

This report displays criteria pollutant summary data for individual monitoring sites. Read more about what's in this report.

1. Pollutant
   CO
2. Year
   2019
3. Geographic Area
   Select a State ...
   -- or --
   Select a City (defined as CBSA) ...
   -- or --
   CA - Stanislaus
4. Exceptional Events
   Include exceptional events data
   Exclude exceptional events data

Geographic Area: Stanislaus County, CA
Pollutant: CO
Year: 2019
Exceptional Events: Included (if any)
About this report

EPA Air Quality Standards:
Carbon Monoxide: 35 ppm (1-hour), 9 ppm (8-hour)

The following data links are active for the next 10 minutes, after which you must resubmit your query.
Download PDF (printable page)
Download CSV (spreadsheet)

To sort a column in the table below, click on the column heading.

Obs	First Max 8hr	Second Max 8hr	Days 8hr Max >STD	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8268	1.3	1.2	0	1.8	1.7	0	None	3	060990005	814 14th St., Modesto	Modesto	Stanislaus	CA	09

AirData reports are produced from a direct query of the AQS Data Mart. The data represent the best and most recent information available to EPA from state agencies. However, some values may be absent due to incomplete reporting, and some values may change due to quality assurance activities. The AQS database is updated by state, local, and tribal organizations who own and submit the data.

Readers are cautioned not to rank order geographic areas based on AirData reports. Air pollution levels measured at a particular monitoring site are not necessarily representative of the air quality for an entire county or urban area.

This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

LAST UPDATED ON JULY 31, 2018

Monitor Values Report

This report displays criteria pollutant summary data for individual monitoring sites. Read more about what's in this report.

1. Pollutant
   CO
2. Year
   2018
3. Geographic Area
   Select a State ...
   -- or --
   Select a City (defined as CBSA) ...
   -- or --
   CA - Stanislaus
4. Exceptional Events
   Include exceptional events data
   Exclude exceptional events data

Geographic Area: Stanislaus County, CA
Pollutant: CO
Year: 2018
Exceptional Events: Included (if any)
About this report

EPA Air Quality Standards:
Carbon Monoxide: 35 ppm (1-hour), 9 ppm (8-hour)

The following data links are active for the next 10 minutes, after which you must resubmit your query.
Download PDF (printable page)
Download CSV (spreadsheet)

To sort a column in the table below, click on the column heading.

Obs	First Max 8hr	Second Max 8hr	Days 8hr Max >STD	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8162	2.1	1.9	0	2.7	2.5	0	None	3	060990005	814 14th St., Modesto	Modesto	Stanislaus	CA	09

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LAST UPDATED ON JULY 31, 2018

Monitor Values Report

This report displays criteria pollutant summary data for individual monitoring sites. Read more about what's in this report.

1. Pollutant
   CO
2. Year
   2017
3. Geographic Area
   Select a State ...
   -- or --
   Select a City (defined as CBSA) ...
   -- or --
   CA - Stanislaus
4. Exceptional Events
   Include exceptional events data
   Exclude exceptional events data

Geographic Area: Stanislaus County, CA
Pollutant: CO
Year: 2017
Exceptional Events: Included (if any)
About this report

EPA Air Quality Standards:
Carbon Monoxide: 35 ppm (1-hour), 9 ppm (8-hour)

The following data links are active for the next 10 minutes, after which you must resubmit your query.
Download PDF (printable page)
Download CSV (spreadsheet)

To sort a column in the table below, click on the column heading.

Obs	First Max 8hr	Second Max 8hr	Days 8hr Max >STD	First Max 1hr	Second Max 1hr	Days 1hr Max >STD	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8330	1.6	1.6	0	2	2	0	None	3	060990005	814 14th St., Modesto	Modesto	Stanislaus	CA	09

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LAST UPDATED ON JULY 31, 2018

Source: EMFAC2017 (v1.0.3) Emission Rates
Region Type: County
Region: Merced
Calendar Year: 2025, 2030, 2040
Season: Winter
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW, mph for Speed

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	VMT	ROG_RUNE	TOG_RUNE	CO_RUNEX	NOx_RUNE	SOx_RUNE	CO2_RUNE	PM10_RUN	PM2.5_RU	N2O_RUNE	CH4_RUNE
Merced	2025	All Other B	Aggregate	5	Diesel	80.80928	0.054804	0.06239	0.833891	7.045422	0.02187	2314.888	0.005336	0.005105	0.363868	0.002546
Merced	2025	LDA	Aggregate	5	Gasoline	10767.8	0.043354	0.063262	1.002492	0.061797	0.005718	577.7999	0.009019	0.008293	0.007782	0.011935
Merced	2025	LDA	Aggregate	5	Diesel	110.8729	0.157276	0.179048	3.25088	0.118977	0.004522	478.3225	0.013054	0.01249	0.075186	0.007305
Merced	2025	LDT1	Aggregate	5	Gasoline	836.0022	0.151671	0.221318	2.312754	0.22554	0.00683	690.1912	0.012443	0.011441	0.016533	0.034429
Merced	2025	LDT1	Aggregate	5	Diesel	0.360052	0.59387	0.676082	3.732762	0.637289	0.010143	1072.933	0.330026	0.315749	0.16865	0.027584
Merced	2025	LDT2	Aggregate	5	Gasoline	2808.944	0.10312	0.150472	1.706446	0.179672	0.007299	737.6019	0.009791	0.009003	0.013724	0.024857
Merced	2025	LDT2	Aggregate	5	Diesel	19.01902	0.263864	0.300392	2.40768	0.165532	0.005922	626.4211	0.016694	0.015972	0.098465	0.012256
Merced	2025	LHD1	Aggregate	5	Gasoline	2482.364	0.164628	0.240225	1.867956	0.384498	0.01837	1856.382	0.008272	0.007605	0.022788	0.034557
Merced	2025	LHD1	Aggregate	5	Diesel	2090.921	0.804972	0.916407	3.609565	2.235351	0.011599	1226.911	0.08323	0.079629	0.192853	0.037389
Merced	2025	LHD2	Aggregate	5	Gasoline	368.0835	0.114202	0.166644	1.145686	0.356369	0.021057	2127.881	0.007142	0.006567	0.022437	0.025515
Merced	2025	LHD2	Aggregate	5	Diesel	687.5862	0.790692	0.90015	3.588233	1.806336	0.012131	1283.231	0.072812	0.069663	0.201706	0.036726
Merced	2025	MCY	Aggregate	5	Gasoline	117.8159	13.29432	16.40905	55.42921	1.715674	0.005445	550.2306	0.011336	0.010592	0.096808	1.94572
Merced	2025	MDV	Aggregate	5	Gasoline	2405.087	0.130167	0.189917	1.896674	0.218772	0.009241	933.8375	0.009623	0.008848	0.016605	0.030948
Merced	2025	MDV	Aggregate	5	Diesel	62.55731	0.183259	0.208628	3.719693	0.135751	0.007821	827.2534	0.018274	0.017483	0.130033	0.008512
Merced	2025	MH	Aggregate	5	Gasoline	33.92286	0.293752	0.428643	3.380398	0.719557	0.038024	3842.425	0.008938	0.008218	0.044895	0.07002
Merced	2025	MH	Aggregate	5	Diesel	13.79001	1.123806	1.279379	2.52844	15.25911	0.018929	2002.269	0.336825	0.322255	0.314729	0.052199
Merced	2025	Motor Coa	Aggregate	5	Diesel	33.56425	0.116969	0.133161	1.996564	12.39115	0.033816	3579.382	0.009927	0.009497	0.562629	0.005433
Merced	2025	OBUS	Aggregate	5	Gasoline	44.41996	0.331061	0.483083	3.251062	0.837895	0.038074	3847.495	0.006321	0.005812	0.041241	0.068974
Merced	2025	SBUS	Aggregate	5	Gasoline	25.0941	0.402778	0.587733	2.435444	1.131355	0.018231	1842.257	0.008919	0.0082	0.056203	0.082466
Merced	2025	SBUS	Aggregate	5	Diesel	191.5534	0.707193	0.805085	1.288598	16.65852	0.022498	2381.345	0.120186	0.114987	0.374314	0.032847
Merced	2025	T6 Ag	Aggregate	5	Diesel	1.550647	0.068937	0.078479	1.048935	7.513868	0.026022	2754.421	0.008256	0.007899	0.432957	0.003202
Merced	2025	T6 CAIRP h	Aggregate	5	Diesel	88.96721	0.048314	0.055002	0.735143	6.211557	0.019587	2073.279	0.003978	0.003806	0.325891	0.002244
Merced	2025	T6 CAIRP s	Aggregate	5	Diesel	12.68705	0.04882	0.055578	0.742846	6.326261	0.0209	2212.273	0.004086	0.003909	0.347739	0.002268
Merced	2025	T6 instate (	Aggregate	5	Diesel	3177.023	0.090249	0.102741	0.840824	7.428376	0.022031	2331.899	0.012562	0.012018	0.366542	0.004192
Merced	2025	T6 instate (	Aggregate	5	Diesel	5584.287	0.053492	0.060897	0.796557	6.961863	0.021812	2308.801	0.004988	0.004772	0.362911	0.002485
Merced	2025	T6 instate l	Aggregate	5	Diesel	646.8589	0.056264	0.064053	0.856109	7.359367	0.022173	2346.945	0.005645	0.005401	0.368907	0.002613
Merced	2025	T6 instate s	Aggregate	5	Diesel	523.5032	0.05348	0.060883	0.81374	7.093545	0.022109	2340.201	0.005065	0.004846	0.367847	0.002484
Merced	2025	T6 OOS hea	Aggregate	5	Diesel	52.90632	0.048231	0.054908	0.733879	6.19762	0.01956	2070.367	0.003961	0.00379	0.325433	0.00224
Merced	2025	T6 OOS sm	Aggregate	5	Diesel	7.701644	0.048772	0.055523	0.742105	6.313444	0.020885	2210.618	0.004075	0.003899	0.347478	0.002265
Merced	2025	T6 Public	Aggregate	5	Diesel	147.6235	0.262928	0.299323	0.79736	9.51091	0.021746	2301.747	0.050925	0.048722	0.361803	0.012212
Merced	2025	T6 utility	Aggregate	5	Diesel	9.92996	0.042089	0.047916	0.640428	4.530187	0.021452	2270.671	0.002655	0.00254	0.356918	0.001955
Merced	2025	T6TS	Aggregate	5	Gasoline	159.9486	0.319066	0.465581	2.622895	0.733837	0.036904	3729.258	0.007971	0.007329	0.03851	0.067344
Merced	2025	T7 Ag	Aggregate	5	Diesel	2.433861	0.147163	0.167534	2.511941	13.03525	0.04022	4257.219	0.015142	0.014487	0.669176	0.006835
Merced	2025	T7 CAIRP	Aggregate	5	Diesel	2739.38	0.130096	0.148104	2.220617	14.81484	0.030032	3178.87	0.012323	0.01179	0.499674	0.006043
Merced	2025	T7 CAIRP c	Aggregate	5	Diesel	2324.141	0.12748	0.145127	2.175972	14.40449	0.030772	3257.167	0.011851	0.011338	0.511981	0.005921

Merced	2025	T7 NNOOS	Aggregate	5	Diesel	3339.362	0.116621	0.132764	1.99062	12.74307	0.027445	2904.994	0.00989	0.009462	0.456625	0.005417
Merced	2025	T7 NOOS	Aggregate	5	Diesel	1076.251	0.130336	0.148378	2.224722	14.84878	0.03008	3183.95	0.012367	0.011832	0.500473	0.006054
Merced	2025	T7 other p	Aggregate	5	Diesel	277.426	0.133833	0.152359	2.284414	14.61888	0.032441	3433.849	0.012941	0.012382	0.539753	0.006216
Merced	2025	T7 POAK	Aggregate	5	Diesel	1151.653	0.138762	0.15797	2.36854	15.07335	0.033319	3526.712	0.013811	0.013213	0.55435	0.006445
Merced	2025	T7 POLA	Aggregate	5	Diesel	1096.9	0.14004	0.159424	2.39035	15.15164	0.033548	3550.955	0.014034	0.013426	0.558161	0.006504
Merced	2025	T7 Public	Aggregate	5	Diesel	184.4724	0.605102	0.688863	1.760677	21.26411	0.033042	3497.479	0.121087	0.115849	0.549755	0.028105
Merced	2025	T7 Single	Aggregate	5	Diesel	235.4575	0.106086	0.120771	1.810798	10.3348	0.032911	3483.544	0.007946	0.007602	0.547565	0.004927
Merced	2025	T7 single c	Aggregate	5	Diesel	5765.766	0.147995	0.168481	1.802924	10.88958	0.032241	3412.602	0.016094	0.015398	0.536414	0.006874
Merced	2025	T7 SWCV	Aggregate	5	Diesel	81.97657	0.126359	0.14385	0.399905	11.50726	0.070306	7441.706	0.01917	0.01834	1.169733	0.005869
Merced	2025	T7 SWCV	Aggregate	5	Natural Ga	12.72402	2.129228	23.11708	38.12258	11.50234	0	5263.765	0.015331	0.014668	1.073053	20.60262
Merced	2025	T7 tractor	Aggregate	5	Diesel	1994.296	0.128915	0.14676	2.200458	14.20394	0.030896	3270.276	0.012081	0.011559	0.514042	0.005988
Merced	2025	T7 tractor	Aggregate	5	Diesel	4756.25	0.151032	0.171938	2.282612	14.6501	0.032562	3446.63	0.015265	0.014604	0.541762	0.007015
Merced	2025	T7 utility	Aggregate	5	Diesel	6.817823	0.089886	0.102328	1.534273	7.343802	0.036032	3813.87	0.005023	0.004806	0.599487	0.004175
Merced	2025	T7IS	Aggregate	5	Gasoline	0.432379	2.916175	4.255275	74.49434	7.783196	0.04316	4361.477	0.0105	0.009655	0.278155	0.579495
Merced	2025	UBUS	Aggregate	5	Gasoline	97.21737	0.049152	0.071722	0.37726	0.329341	0.029398	2970.721	0.00704	0.006473	0.028259	0.015356
Merced	2025	UBUS	Aggregate	5	Diesel	49.62767	0.001876	0.133966	0.281395	1.934621	0.023252	2459.586	0.005792	0.005541	0.386613	0.131265
Merced	2025	UBUS	Aggregate	5	Natural Ga	53.83572	0.0735	5.250027	30.84666	0.478946	0	1941.15	0.00424	0.004056	0.395716	5.144194
Merced	2030	All Other B	Aggregate	5	Diesel	98.6906	0.054814	0.062402	0.83405	7.343453	0.020052	2122.442	0.005346	0.005114	0.333618	0.002546
Merced	2030	LDA	Aggregate	5	Gasoline	13973.42	0.024897	0.036329	0.812499	0.044058	0.005078	513.1263	0.007043	0.006476	0.006504	0.007501
Merced	2030	LDA	Aggregate	5	Diesel	161.2569	0.120724	0.137437	3.067268	0.076705	0.004083	431.8706	0.00514	0.004918	0.067884	0.005607
Merced	2030	LDT1	Aggregate	5	Gasoline	1072.727	0.066783	0.097449	1.299406	0.104403	0.006031	609.4999	0.008403	0.007726	0.009805	0.016187
Merced	2030	LDT1	Aggregate	5	Diesel	0.245094	0.311651	0.354793	3.242967	0.334847	0.009181	971.1286	0.059048	0.056494	0.152648	0.014476
Merced	2030	LDT2	Aggregate	5	Gasoline	3493.21	0.055889	0.081554	1.189494	0.096308	0.006246	631.1638	0.007585	0.006975	0.009065	0.014421
Merced	2030	LDT2	Aggregate	5	Diesel	30.2903	0.262671	0.299033	2.638234	0.157056	0.005357	566.6235	0.009513	0.009101	0.089065	0.012201
Merced	2030	LHD1	Aggregate	5	Gasoline	2285.31	0.088367	0.128945	0.888339	0.230893	0.017031	1720.996	0.008118	0.007464	0.014611	0.02009
Merced	2030	LHD1	Aggregate	5	Diesel	1737.032	0.794317	0.904277	3.702325	1.526545	0.010819	1144.432	0.058648	0.056111	0.179889	0.036895
Merced	2030	LHD2	Aggregate	5	Gasoline	337.4875	0.058548	0.085434	0.545137	0.210606	0.019595	1980.157	0.007088	0.006517	0.014713	0.014433
Merced	2030	LHD2	Aggregate	5	Diesel	616.8262	0.788777	0.89797	3.692008	1.273734	0.011303	1195.601	0.058341	0.055817	0.187932	0.036637
Merced	2030	MCY	Aggregate	5	Gasoline	138.3179	13.05017	16.2729	50.52854	1.763749	0.005409	546.5939	0.012461	0.011625	0.099709	1.93217
Merced	2030	MDV	Aggregate	5	Gasoline	2585.583	0.075265	0.109827	1.337964	0.127248	0.007915	799.7898	0.007675	0.007057	0.011067	0.018687
Merced	2030	MDV	Aggregate	5	Diesel	81.02642	0.143338	0.163181	3.510705	0.091604	0.006922	732.2029	0.006723	0.006432	0.115092	0.006658
Merced	2030	MH	Aggregate	5	Gasoline	30.90567	0.130744	0.190781	0.800359	0.428059	0.034964	3533.215	0.007771	0.007145	0.032662	0.036909
Merced	2030	MH	Aggregate	5	Diesel	13.39872	1.022817	1.164409	2.432104	13.82651	0.017806	1883.515	0.239119	0.228775	0.296062	0.047508
Merced	2030	Motor Coa	Aggregate	5	Diesel	35.89059	0.115721	0.131739	1.975251	12.39534	0.030895	3270.127	0.009713	0.009293	0.514018	0.005375
Merced	2030	OBUS	Aggregate	5	Gasoline	40.66636	0.190491	0.277964	1.746276	0.571964	0.034843	3520.971	0.007149	0.006573	0.030942	0.042284
Merced	2030	SBUS	Aggregate	5	Gasoline	27.98491	0.053609	0.078226	0.306088	0.268042	0.017199	1738.053	0.006084	0.005594	0.025856	0.013368
Merced	2030	SBUS	Aggregate	5	Diesel	192.82	0.523766	0.596267	1.225352	12.85418	0.021577	2283.906	0.070087	0.067055	0.358998	0.024328
Merced	2030	T6 Ag	Aggregate	5	Diesel	0.79702	0.073706	0.083909	1.121504	8.185522	0.026022	2754.421	0.009252	0.008852	0.432957	0.003423
Merced	2030	T6 CAIRP h	Aggregate	5	Diesel	94.61978	0.048174	0.054842	0.733006	6.268093	0.017263	1827.237	0.003951	0.00378	0.287216	0.002238
Merced	2030	T6 CAIRP s	Aggregate	5	Diesel	13.54173	0.048924	0.055697	0.744426	6.47085	0.018999	2011.025	0.004111	0.003933	0.316105	0.002272
Merced	2030	T6 instate	Aggregate	5	Diesel	3355.877	0.072505	0.082541	0.882517	7.927875	0.021388	2263.851	0.008718	0.008341	0.355846	0.003368
Merced	2030	T6 instate	Aggregate	5	Diesel	5898.661	0.053025	0.060365	0.798996	7.178039	0.020052	2122.482	0.004929	0.004716	0.333625	0.002463
Merced	2030	T6 instate l	Aggregate	5	Diesel	564.0388	0.059262	0.067465	0.90172	8.064641	0.021155	2239.203	0.00628	0.006008	0.351971	0.002753

Merced	2030	T6 instate s	Aggregate	5	Diesel	512.4	0.053595	0.061013	0.815489	7.333208	0.02037	2156.129	0.005095	0.004875	0.338913	0.002489
Merced	2030	T6 OOS hea	Aggregate	5	Diesel	56.56327	0.048099	0.054757	0.731865	6.257529	0.017238	1824.566	0.003935	0.003765	0.286796	0.002234
Merced	2030	T6 OOS sm	Aggregate	5	Diesel	8.292294	0.048939	0.055713	0.744648	6.47574	0.019004	2011.572	0.004114	0.003936	0.316191	0.002273
Merced	2030	T6 Public	Aggregate	5	Diesel	156.9447	0.156004	0.177599	0.74411	7.176372	0.020438	2163.344	0.024829	0.023755	0.340048	0.007246
Merced	2030	T6 utility	Aggregate	5	Diesel	10.32926	0.041802	0.047588	0.636048	4.620638	0.019323	2045.345	0.002596	0.002484	0.3215	0.001942
Merced	2030	T6TS	Aggregate	5	Gasoline	173.0106	0.132311	0.193068	0.921151	0.341298	0.033923	3428.055	0.00772	0.007098	0.023856	0.031187
Merced	2030	T7 Ag	Aggregate	5	Diesel	1.367031	0.157967	0.179834	2.696359	14.26742	0.04022	4257.219	0.017053	0.016315	0.669176	0.007337
Merced	2030	T7 CAIRP	Aggregate	5	Diesel	2933.018	0.124995	0.142297	2.133553	14.19539	0.025497	2698.786	0.011414	0.01092	0.424212	0.005806
Merced	2030	T7 CAIRP c	Aggregate	5	Diesel	2454.982	0.124619	0.141869	2.127132	14.13978	0.027196	2878.657	0.011346	0.010855	0.452485	0.005788
Merced	2030	T7 NNOOS	Aggregate	5	Diesel	3575.264	0.115534	0.131527	1.972068	12.67595	0.024007	2541.054	0.009701	0.009281	0.399418	0.005366
Merced	2030	T7 NOOS	Aggregate	5	Diesel	1152.314	0.125207	0.142538	2.137164	14.22739	0.025572	2706.709	0.011452	0.010956	0.425457	0.005816
Merced	2030	T7 other po	Aggregate	5	Diesel	304.6783	0.128099	0.145831	2.186541	14.85241	0.027484	2909.106	0.011981	0.011463	0.457271	0.00595
Merced	2030	T7 POAK	Aggregate	5	Diesel	1468.691	0.129865	0.147842	2.216682	15.11732	0.028032	2967.173	0.0123	0.011767	0.466398	0.006032
Merced	2030	T7 POLA	Aggregate	5	Diesel	1269.726	0.138493	0.157663	2.363946	15.67898	0.031136	3295.658	0.013806	0.013208	0.518032	0.006433
Merced	2030	T7 Public	Aggregate	5	Diesel	192.71	0.414515	0.471894	1.687735	15.93656	0.030748	3254.655	0.069886	0.066863	0.511587	0.019253
Merced	2030	T7 Single	Aggregate	5	Diesel	235.2217	0.109894	0.125106	1.875789	11.06331	0.031244	3307.101	0.008639	0.008265	0.51983	0.005104
Merced	2030	T7 single co	Aggregate	5	Diesel	6090.358	0.126059	0.143508	1.840295	11.0763	0.03028	3205.089	0.01139	0.010897	0.503795	0.005855
Merced	2030	T7 SWCV	Aggregate	5	Diesel	94.65171	0.123743	0.140872	0.398361	6.503661	0.064963	6876.163	0.016686	0.015964	1.080837	0.005748
Merced	2030	T7 SWCV	Aggregate	5	Natural Ga	15.52611	1.127298	17.6799	41.80859	6.236393	0	4798.655	0.009926	0.009497	0.978237	16.32538
Merced	2030	T7 tractor	Aggregate	5	Diesel	2165.309	0.127814	0.145507	2.18167	14.35497	0.027809	2943.537	0.011904	0.011389	0.462683	0.005937
Merced	2030	T7 tractor c	Aggregate	5	Diesel	5024.009	0.138855	0.158075	2.260193	14.79689	0.030412	3219.023	0.013479	0.012896	0.505986	0.006449
Merced	2030	T7 utility	Aggregate	5	Diesel	7.073463	0.090439	0.102958	1.543719	7.731913	0.032596	3450.229	0.005125	0.004904	0.542328	0.004201
Merced	2030	T7IS	Aggregate	5	Gasoline	0.599021	1.981715	2.891714	49.41514	6.242251	0.039333	3974.737	0.008098	0.007445	0.257332	0.447521
Merced	2030	UBUS	Aggregate	5	Gasoline	104.8921	0.048073	0.070147	0.338853	0.252876	0.025435	2570.233	0.007802	0.007173	0.023683	0.015139
Merced	2030	UBUS	Aggregate	5	Diesel	22.19939	0.001574	0.112433	0.230404	1.711042	0.018938	2003.225	0.00523	0.005004	0.314879	0.110167
Merced	2030	UBUS	Aggregate	5	Natural Ga	89.43183	0.089015	6.358247	38.76028	0.54462	0	2148.618	0.00475	0.004544	0.43801	6.230074
Merced	2040	All Other B	Aggregate	5	Diesel	118.5569	0.055907	0.063646	0.850674	7.900747	0.018831	1993.179	0.005586	0.005344	0.3133	0.002597
Merced	2040	LDA	Aggregate	5	Gasoline	15969.87	0.012921	0.018855	0.695239	0.036862	0.004536	458.4074	0.0041	0.00377	0.006058	0.004527
Merced	2040	LDA	Aggregate	5	Diesel	197.6011	0.087913	0.100083	2.81922	0.04844	0.003725	393.9922	0.002058	0.001969	0.06193	0.004083
Merced	2040	LDT1	Aggregate	5	Gasoline	1251.165	0.016412	0.023949	0.733827	0.04212	0.005309	536.5022	0.00455	0.004183	0.006404	0.005331
Merced	2040	LDT1	Aggregate	5	Diesel	0.190889	0.274843	0.31289	3.008744	0.187895	0.007394	782.0905	0.015618	0.014942	0.122934	0.012766
Merced	2040	LDT2	Aggregate	5	Gasoline	3904.673	0.020996	0.030638	0.835879	0.042407	0.005291	534.7134	0.004323	0.003975	0.006223	0.006656
Merced	2040	LDT2	Aggregate	5	Diesel	39.53238	0.268223	0.305354	2.846394	0.157622	0.004881	516.3005	0.009696	0.009277	0.081155	0.012458
Merced	2040	LHD1	Aggregate	5	Gasoline	2344.13	0.023163	0.0338	0.221723	0.07355	0.015449	1561.143	0.007678	0.00706	0.006774	0.007137
Merced	2040	LHD1	Aggregate	5	Diesel	1468.378	0.76654	0.872654	3.604925	0.557078	0.009528	1007.863	0.024197	0.02315	0.158422	0.035604
Merced	2040	LHD2	Aggregate	5	Gasoline	331.7248	0.022889	0.0334	0.217223	0.081931	0.017747	1793.351	0.007508	0.006903	0.007738	0.007106
Merced	2040	LHD2	Aggregate	5	Diesel	574.2017	0.772523	0.879466	3.626608	0.628036	0.010095	1067.866	0.038632	0.036961	0.167854	0.035882
Merced	2040	MCY	Aggregate	5	Gasoline	147.832	12.88437	16.16245	46.68152	1.80153	0.005381	543.734	0.013683	0.012757	0.101957	1.924091
Merced	2040	MDV	Aggregate	5	Gasoline	2578.546	0.027801	0.040567	0.896985	0.057325	0.00655	661.9203	0.004506	0.004143	0.007135	0.008208
Merced	2040	MDV	Aggregate	5	Diesel	91.28744	0.100112	0.113971	3.095934	0.055821	0.006057	640.7388	0.002709	0.002592	0.100715	0.00465
Merced	2040	MH	Aggregate	5	Gasoline	31.19527	0.061652	0.089962	0.313102	0.209547	0.031699	3203.32	0.007622	0.007008	0.023567	0.021512
Merced	2040	MH	Aggregate	5	Diesel	13.2467	0.832749	0.94803	2.21042	11.62839	0.016199	1713.51	0.086515	0.082772	0.26934	0.03868
Merced	2040	Motor Coa	Aggregate	5	Diesel	40.00595	0.112008	0.127512	1.911873	12.11379	0.028119	2976.373	0.009062	0.00867	0.467844	0.005202

Merced	2040	OBUS	Aggregate	5	Gasoline	41.73423	0.095198	0.138913	0.583917	0.267316	0.031618	3195.07	0.007568	0.006959	0.021553	0.024551
Merced	2040	SBUS	Aggregate	5	Gasoline	37.38164	0.054976	0.080221	0.320474	0.253368	0.016002	1617.042	0.007034	0.006467	0.024601	0.013606
Merced	2040	SBUS	Aggregate	5	Diesel	191.4028	0.124774	0.142046	0.909646	7.466962	0.019554	2069.728	0.009023	0.008633	0.325332	0.005795
Merced	2040	T6 Ag	Aggregate	5	Diesel	0.117654	0.079562	0.090575	1.210605	9.010174	0.026022	2754.421	0.010475	0.010022	0.432957	0.003695
Merced	2040	T6 CAIRP h	Aggregate	5	Diesel	105.3538	0.048137	0.0548	0.732439	6.303916	0.01607	1700.95	0.003944	0.003774	0.267366	0.002236
Merced	2040	T6 CAIRP s	Aggregate	5	Diesel	15.09565	0.048983	0.055763	0.745313	6.516546	0.017809	1885.003	0.004124	0.003946	0.296296	0.002275
Merced	2040	T6 instate (	Aggregate	5	Diesel	4035.865	0.060911	0.069342	0.886899	8.448849	0.019834	2099.421	0.006443	0.006165	0.33	0.002829
Merced	2040	T6 instate (	Aggregate	5	Diesel	7093.882	0.051836	0.059012	0.787955	7.172019	0.018228	1929.387	0.004723	0.004519	0.303273	0.002408
Merced	2040	T6 instate l	Aggregate	5	Diesel	485.614	0.058844	0.066989	0.895356	8.382062	0.019092	2020.896	0.006203	0.005934	0.317657	0.002733
Merced	2040	T6 instate :	Aggregate	5	Diesel	540.3572	0.052126	0.059342	0.793147	7.218662	0.018333	1940.546	0.00479	0.004583	0.305027	0.002421
Merced	2040	T6 OOS hea	Aggregate	5	Diesel	63.08622	0.048077	0.054732	0.731539	6.289787	0.016057	1699.651	0.003932	0.003762	0.267161	0.002233
Merced	2040	T6 OOS sm	Aggregate	5	Diesel	9.270244	0.04912	0.055919	0.747399	6.545811	0.017838	1888.121	0.004153	0.003974	0.296786	0.002281
Merced	2040	T6 Public	Aggregate	5	Diesel	171.1309	0.067568	0.076921	0.688583	5.534156	0.018718	1981.306	0.006031	0.00577	0.311434	0.003138
Merced	2040	T6 utility	Aggregate	5	Diesel	11.06576	0.041539	0.047289	0.632057	4.649937	0.017821	1886.274	0.002543	0.002433	0.296496	0.001929
Merced	2040	T6TS	Aggregate	5	Gasoline	199.1624	0.06347	0.092615	0.36059	0.180088	0.03117	3149.779	0.00776	0.007135	0.017705	0.017974
Merced	2040	T7 Ag	Aggregate	5	Diesel	0.374639	0.169496	0.192959	2.893149	15.58224	0.04022	4257.219	0.019092	0.018266	0.669176	0.007873
Merced	2040	T7 CAIRP	Aggregate	5	Diesel	3272.69	0.123251	0.140312	2.103788	14.00432	0.022319	2362.384	0.011104	0.010624	0.371334	0.005725
Merced	2040	T7 CAIRP c	Aggregate	5	Diesel	2952.424	0.124045	0.141215	2.117327	14.12901	0.024698	2614.264	0.011248	0.010761	0.410926	0.005762
Merced	2040	T7 NNOOS	Aggregate	5	Diesel	3989.252	0.115641	0.131648	1.973881	12.74248	0.022287	2359.03	0.009723	0.009303	0.370807	0.005371
Merced	2040	T7 NOOS	Aggregate	5	Diesel	1285.756	0.123401	0.140483	2.106346	14.02828	0.022337	2364.313	0.011131	0.010649	0.371637	0.005732
Merced	2040	T7 other p	Aggregate	5	Diesel	353.6974	0.131123	0.149274	2.23815	15.40112	0.023785	2517.554	0.012533	0.011991	0.395724	0.00609
Merced	2040	T7 POAK	Aggregate	5	Diesel	2070.808	0.132106	0.150392	2.254925	15.56499	0.023838	2523.153	0.012711	0.012161	0.396605	0.006136
Merced	2040	T7 POLA	Aggregate	5	Diesel	1582.661	0.130533	0.148602	2.228087	15.17399	0.025204	2667.829	0.012417	0.01188	0.419346	0.006063
Merced	2040	T7 Public	Aggregate	5	Diesel	210.7188	0.194975	0.221964	1.594313	10.58222	0.027228	2882.083	0.02048	0.019594	0.453023	0.009056
Merced	2040	T7 Single	Aggregate	5	Diesel	241.5876	0.110724	0.126051	1.889961	11.61924	0.027676	2929.437	0.008812	0.008431	0.460467	0.005143
Merced	2040	T7 single c	Aggregate	5	Diesel	7324.422	0.111192	0.126583	1.853494	11.38684	0.026957	2853.378	0.00875	0.008372	0.448511	0.005165
Merced	2040	T7 SWCV	Aggregate	5	Diesel	114.6493	0.119068	0.13555	0.389454	2.555887	0.058197	6159.999	0.014609	0.013977	0.968266	0.00553
Merced	2040	T7 SWCV	Aggregate	5	Natural Ga	19.7589	0.535871	14.50728	44.02779	3.12574	0	4290.733	0.006878	0.00658	0.874694	13.8373
Merced	2040	T7 tractor	Aggregate	5	Diesel	2445.395	0.123887	0.141036	2.114639	14.04418	0.023423	2479.276	0.011215	0.010729	0.389708	0.005754
Merced	2040	T7 tractor (	Aggregate	5	Diesel	6042.003	0.129298	0.147196	2.194971	14.7385	0.026384	2792.747	0.012124	0.0116	0.438981	0.006006
Merced	2040	T7 utility	Aggregate	5	Diesel	7.551252	0.089802	0.102232	1.532833	8.135449	0.027317	2891.443	0.005022	0.004805	0.454495	0.004171
Merced	2040	T7IS	Aggregate	5	Gasoline	0.773653	2.008184	2.930337	52.09623	6.171379	0.036151	3653.187	0.007799	0.007171	0.26112	0.456889
Merced	2040	UBUS	Aggregate	5	Gasoline	121.0812	0.046983	0.068557	0.325133	0.230117	0.024058	2431.145	0.007802	0.007173	0.02223	0.014819
Merced	2040	UBUS	Aggregate	5	Diesel	25.62566	0.001574	0.112433	0.230404	1.711042	0.018938	2003.225	0.00523	0.005004	0.314879	0.110167
Merced	2040	UBUS	Aggregate	5	Natural Ga	103.2348	0.089015	6.358247	38.76028	0.54462	0	2148.618	0.00475	0.004544	0.43801	6.230074

Operations – Station Utilities and Waste

Total

Scenario	Metric Tons			
	CO2	CH4	N2O	CO2e
Existing (2019)	0	0	0	0
2025 No Build	0	0	0	0
2025 Project (with Livingston)	22	1	0	239
2025 Project (with Atwater)	22	1	0	236
2030 No Build	0	0	0	0
2030 Project (with Livingston)	22	1	0	194
2030 Project (with Atwater)	22	1	0	191
2040 No Build	0	0	0	0
2040 Project (with Livingston)	22	1	0	102
2040 Project (with Atwater)	22	1	0	100

Station	kWh/month			kWh/year			2030				2040				Electricity Provider
							Project (mt)				Project (mt)				
	Existing	Project	Program	Existing	Project	Program	CO2	CH4	N2O	CO2	CO2	CH4	N2O	CO2e	
Lathrop/Manteca															
North Lathrop															
Downtown Manteca															
Ripon															
Modesto															
Ceres															
Tracy															
Stockton															
Maintenance (Stockton)															
Turlock	0	2,584	0	0	31,008	0				5				2	TID
Livingston	0	2,655	0	0	31,860	0				4				1	MID
Atwater	0	2,799	0	0	33,588	0				4				1	MID
Merced	0	3,086	0	0	37,032	0				5				2	MID
Merced Layover/Maintenance Facil	0	77,218	0	0	926,616	0				124				41	MID
Fremont				0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	
Pleasanton				0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	
Livermore				0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	
Vasco				0	0	0	0	0.0	0.0	0	0	0.0	0.0	0.0	
Total - Livingston	0	85,543	0	0	1,026,516	0	0	0	0	138	0	0	0	46	
Total - Atwater	0	85,687	0	0	1,028,244	0	0	0	0	138	0	0	0	46	
Total SJVAPCD															
Total BAAQMD															
Bus Charging (SJVAPCD)	16,495	-		197,943	0					0				0	MID

Emission Factors (TID)

Year	CO2 (lb/kWh)	CH4 (lb/kWh)	N2O (lb/kWh)	CO2e
2030				0.330
2040				0.110

Emission Factors (Merced Irrigation District)

Year	CO2 (lb/kWh)	CH4 (lb/kWh)	N2O (lb/kWh)	CO2e
2030				0.294
2040				0.098

MWh/kWh	0.001	
GWh/kWh	0.000001	
metric ton_pound	0.00045359	
CH4	25	AR4
N2O	298	AR4
months_year	12	

Turlock Irrigation District EF	0.428	MT CO2e/MWh
	0.944	lbs/kWh

Station	therms/year	2030				2040			
		Project (mt)				Project (mt)			
	Project	CO2	CH4	N2O	CO2	CO2	CH4	N2O	CO2e
Lathrop/Manteca									
North Lathrop									
Downtown Manteca									
Ripon									
Modesto									
Ceres									
Tracy									
Stockton									
Maintenance (Stockton)									
Turlock	0								
Livingston	0								
Atwater	0								
Merced	0								
Merced Layover/Maintenance Facil	29,218	156	0.0	0.0	157	156	0.0	0.0	157
Fremont									
Pleasanton									
Livermore									
Vasco									
Total - Livingston	29,218	156	0	0	157	156	0	0	157
Total - Atwater	29,218	156	0	0	157	156	0	0	157

Station	Waste ton/month			Waste ton/year			2030/2040 Project (mt)			
	Existing	Project	Program	Existing	Project	Program	CO2	CH4	N2O	CO2e
Lathrop/Manteca				0	0		0.0	0.0	0.0	0.0
North Lathrop				0	0		0.0	0.0	0.0	0.0
Downtown Manteca				0	0		0.0	0.0	0.0	0.0
Ripon				0	0		0.0	0.0	0.0	0.0
Modesto				0	0		0.0	0.0	0.0	0.0
Ceres				0	0		0.0	0.0	0.0	0.0
Tracy				0	0		0.0	0.0	0.0	0.0
Stockton				0	0		0.0	0.0	0.0	0.0
Maintenance (Stockton)				0	0		0.0	0.0	0.0	0.0
Turlock	0.0	0.5	0.0	0	6		1.2	0.1	0.0	3.0
Livingston	0.0	0.5	0.0	0	6		1.2	0.1	0.0	3.0
Atwater	0.0	0.5	0.0	0	6		1.3	0.1	0.0	3.2
Merced	0.0	0.6	0.0	0	7		1.4	0.1	0.0	3.5
Merced Layover/Maintenance Facility	0.0	7.3	0.0	0	87		17.7	1.0	0.0	43.9
Fremont				0	0		0.0	0.0	0.0	0.0
Pleasanton				0	0		0.0	0.0	0.0	0.0
Livermore				0	0		0.0	0.0	0.0	0.0
Vasco				0	0		0.0	0.0	0.0	0.0
Total - Livingston	0	9	0	0	106	0	22	1	0	56.6
Total - Atwater	0	9	0	0	107	0	22	1	0	54

Emission Factors (MT/Ton)			
Year	CO2	CH4	N2O
2019/2025/2030/2040	0.20	0.01	0.00

Source: CalEEMod

Parameter	2019 lbs CO2e/MWh	2020 lbs CO2e/MWh	2021 lbs CO2e/MWh	2022 lbs CO2e/MWh	2023 lbs CO2e/MWh	2024 lbs CO2e/MWh	2025 lbs CO2e/MWh	2026 lbs CO2e/MWh	2027 lbs CO2e/MWh	2028 lbs CO2e/MWh	2029 lbs CO2e/MWh	2030 lbs CO2e/MWh
CO2 Intensity Factor per Total Energy Delivered (TID)												
% of Total Energy From RPS-Eligible Renewables (CEC)												
CO2 Intensity Factor per Total Non-RPSEligible/Non-Renewable Energy	847.073	850.064	853.326	842.171	837.057	833.055	842.066	831.452	823.841	823.769	823.476	824.644

Year	RPS*	lbs CO2e/MWh
2019	31.0%	584.48
2020	**33%**	569.54
2021	35.8%	547.84
2022	38.5%	517.94
2023	41.3%	491.35
2024	**44%**	466.51
2025	46.7%	448.82
2026	**49%**	421.55
2027	**52%**	395.44
2028	54.7%	373.17
2029	57.3%	351.62
2030	**60%**	329.86
2031	62.7%	307.87
2032	65.3%	285.88
2033	68.0%	263.89
2034	70.7%	241.90
2035	73.3%	219.90
2036	76.0%	197.91
2037	78.7%	175.92
2038	81.3%	153.93
2039	84.0%	131.94
2040	86.7%	109.95
2041	89.3%	87.96
2042	92.0%	65.97
2043	94.7%	43.98
2044	97.3%	21.99
2045	**100%**	0.00

* Per SB 100: 33% RPS by 2020, 44% RPS by 2024, 50% RPS by2026, 52% RPS by 2027, 60% RPS by 2030, and 100% carbon-free electricity for 2045
Percentages through 2030 from Table B-4
https://ww2.energy.ca.gov/business_meetings/2019_packets/2019-12-11/Item_07e_TURLOCK%20IRRIGATION%20DISTRICT.pdf

Table B-1: Energy Balance Table, All Years (GWh)

Resource	Technology	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Retail sales	**NA**	**2,129**	**2,131**	**2,134**	**2,139**	**2,147**	**2,158**	**2,165**	**2,168**	**2,175**	**2,183**	**2,192**	**2,202**
Net energyfor load	**NA**	**2,216**	**2,218**	**2,220**	**2,226**	**2,234**	**2,246**	**2,252**	**2,256**	**2,263**	**2,271**	**2,281**	**2,291**
Firm sales obligations	**NA**	**553**	**557**	**561**	**502**	**475**	**473**	**470**	**468**	**465**	**464**	**469**	**474**
Total net energy requirement	**NA**	**2,768**	**2,774**	**2,781**	**2,728**	**2,710**	**2,719**	**2,723**	**2,724**	**2,729**	**2,735**	**2,750**	**2,765**
Non-RPS resources													
Walnut Energy Center	Natural Gas	1,271	1,228	1,239	1,224	1,200	1,142	1,068	980	891	**868**	859	**851**
Walnut CT	Natural Gas	0	0	0	0	0	0	0	0	0	0	0	0
Almond 1 & 2	Natural Gas	**62**	**68**	**82**	**56**	**56**	**48**	**42**	**42**	**38**	**33**	**32**	**34**
Don Pedro	Large Hydro	326	321	319	339	356	355	320	346	362	362	362	362
WAPA contract	Large Hydro	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Spot/Short-term purchases	Un-specified	**1,109**	**1,164**	**1,157**	**1,160**	**1,196**	**1,184**	**1,263**	**1,296**	**1,364**	**1,397**	**1,419**	**1,446**
Total Energy: non-RPS resources		2,779	2,791	2,807	2,789	2,819	2,739	2,704	2,674	2,666	2,669	2,683	2,704
RPS resources													
Tuolumne Wind Project	Wind	370	370	370	370	370	370	370	370	370	370	370	370
Small Hydro	Small Hydro	**55**	**55**	**55**	**55**	**55**	**55**	**55**	**55**	**55**	**55**	**55**	**55**
Minihydros	Small Hydro	28	28	28	28	28	28	28	28	28	28	28	28
NCPA Geothermal	Geo	47	48	47	44	46	45	41	43	43	40	41	40
	thermal	0	0	0	0	0	0	0	0	0	0	0	0

	Emissions Intensity (mt CO2e/MWh)												
Walnut Energy Center	0.437	46%	44%	44%	44%	43%	42%	39%	37%	33%	33%	32%	31%
Walnut CT	0.726	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Almond 1 & 2	0.608	2%	2%	3%	2%	2%	2%	2%	2%	1%	1%	1%	1%
Don Pedro	0	12%	12%	11%	12%	13%	13%	12%	13%	14%	14%	13%	13%
WAPA contract	0	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Spot/Short-term purchases	0.428	40%	42%	41%	42%	42%	43%	47%	48%	51%	52%	53%	53%
		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Renewable Emission Factor	mt CO2e/MWh	0.384	0.386	0.387	0.382	0.380	0.378	0.382	0.377	0.374	0.374	0.374	0.374
	lbs CO2e/MWh	847.07	850.06	853.33	842.17	837.06	833.06	842.07	831.45	823.84	823.77	823.48	824.64

annual sales 2019 (GWh)	2129
RPS target (GWh)	668
	31%

Waste Emission Factor Derivation from CalEEMod

Waste EF

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2025

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - waste ef

Solid Waste - waste ef

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	0.00	1.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Waste						0.0000	0.0000		0.0000	0.0000	0.2030	0.0000	0.2030	0.0120	0.0000	0.5029

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.2030	0.0120	0.0000	0.5029
Unmitigated	0.2030	0.0120	0.0000	0.5029

8.2 Waste by Land Use

Unmitigated

Land Use	Waste Disposed	Total CO2	CH4	N2O	CO2e
	tons	MT/yr			
User Defined Industrial	1	0.2030	0.0120	0.0000	0.5029

Total		0.2030	0.0120	0.0000	0.5029

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	1	0.2030	0.0120	0.0000	0.5029
Total		**0.2030**	**0.0120**	**0.0000**	**0.5029**

Maintenance Facility Natural Gas Estimation from CalEEMod and Emergency Generator Calculations

Merced Maintenace and Layover Facility

Merced County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	140.00	1000sqft	3.21	140,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	49
Climate Zone	3			**Operational Year**	2025
Utility Company	Turlock Irrigation District				

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Energy Use - Electricity accounted for separately.

Solid Waste - Waste accounted for separately.

5.0 Energy Detail

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	2.9218e+006	0.0158	0.1432	0.1203	8.6000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	155.9184	155.9184	2.9900e-003	2.8600e-003	156.8449
Total		**0.0158**	**0.1432**	**0.1203**	**8.6000e-004**		**0.0109**	**0.0109**		**0.0109**	**0.0109**	**0.0000**	**155.9184**	**155.9184**	**2.9900e-003**	**2.8600e-003**	**156.8449**

Emergency Generator Calculation

Emergency Generator	Year of Operation	EF Year
Emergency Generator - monthly 10 minute test	2030	N/A
Emergency Generator - annual 60 minute test	2030	N/A

grams/lb
453.59

Fuel consumption rate	0.38	lbs/hph
Horsepower hours	2,306.57	hph
Lbs fuel	867.27	lbs
Diesel density	7.37	lbs/gallon
Gallons fuel	117.68	gallons
heating value of diesel	137,381	btu/gallon
BTUs - total	16,166,384.51	BTU
BTUs - monthly	9.81	BTU/month

Equipment Type	# of work days	# of Equipment	hours/day	HP	LF	ROG	NOX	CO
Emergency Generator	12	1	0.17	769	0.8	1.02	4.56	2.60
Emergency Generator	1	1	1	769	0.8	1.02	4.56	2.60

EPA https://www.epa.gov/sites/production/files/2014-01/gallonspoundsconversion.xls

Emission Factor (g/bhp-hr)												
SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	ROG	NOX	CO
0.00	0.00	0.15	0.00	0.00	0.15	0.00	1.15	0.07	0.00	0.23	1.03	0.59
0.00	0.00	0.15	0.00	0.00	0.15	0.00	1.15	0.07	0.00	1.38	6.18	3.53

Emissions (lb/day)										Tota	
SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O	CO2	CH4
0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.26	0.02	0.00	0.00	0.00
0.01	0.00	0.20	0.00	0.00	0.20	0.00	1.56	0.10	0.00	0.00	0.00

l MT	
N2O	CO2e
-	0.00
-	0.00

Operations
Emergency Generator - monthly 10 minute test
Emergency Generator - annual 60 minute test

Emissions (lb/day)												
ROG	NOX	CO	SOX	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O
0.23	1.03	0.59	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.26	0.02	0.00
1.38	6.18	3.53	0.01	0.00	0.20	0.00	0.00	0.20	0.00	1.56	0.10	0.00

Total MT			
CO2	CH4	N2O	CO2e
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00

Diesel Emergency Generator Emission Factors

Equipment Type	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10 Fugitive	PM10 Exhaust	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N20
units			g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr
Emergency Generator	0	11	1.1203673	1.0205775	5.97	5.32	0.00494	-	0.6	0.6	-	0.6	0.6	1.15	0.073	-
Emergency Generator	11	25	1.1203673	1.0205775	4.93	5.32	0.00494	-	0.6	0.6	-	0.6	0.6	1.15	0.073	-
Emergency Generator	25	50	1.1203673	1.0205775	4.1	5.32	0.00494	-	0.45	0.45	-	0.45	0.45	1.15	0.073	-
Emergency Generator	50	75	1.1203673	1.0205775	3.7	3.33	0.00494	-	0.15	0.15	-	0.15	0.15	1.15	0.073	-
Emergency Generator	75	100	1.1203673	1.0205775	3.7	3.33	0.00494	-	0.15	0.15	-	0.15	0.15	1.15	0.073	-
Emergency Generator	100	175	1.1203673	1.0205775	3.7	2.85	0.00494	-	0.15	0.15	-	0.15	0.15	1.15	0.073	-
Emergency Generator	175	300	1.1203673	1.0205775	2.6	2.85	0.00494	-	0.15	0.15	-	0.15	0.15	1.15	0.073	-
Emergency Generator	300	600	1.1203673	1.0205775	2.6	2.85	0.00494	-	0.15	0.15	-	0.15	0.15	1.15	0.073	-
Emergency Generator	600	750	1.1203673	1.0205775	2.6	2.85	0.00494	-	0.15	0.15	-	0.15	0.15	1.15	0.073	-
Emergency Generator	750	9999	1.1203673	1.0205775	2.6	4.56	0.00494	-	0.15	0.15	-	0.15	0.15	1.15	0.073	-
	Project Calculation															
Emergency Generator	769	-	1.1203673	1.0205775	2.6	4.56	0.00494		0.15			0.15		1.15	0.073	

ROG	NOX	CO	SOX	PM10 Fugiti	PM10 Exhau	PM10 Total	PM2.5 Fugitive	PM2.5 Exhaust	PM2.5 Total	CO2	CH4	N2O

	kW	hp	
1500 rpm	473	643	from spec sł https://www.enlon.cz/doc/products/es-volvo-nekapotovane/tad1641ge.pdf
1800 rpm	546	743	from spec sł https://www.enlon.cz/doc/products/es-volvo-nekapotovane/tad1641ge.pdf
1800 rpm	565	769	from photo taken at Stockton Maintenance Facility

Source:http://www.aqmd.gov/caleemod/user's-guide

Table 12.1 Diesel Emergency Generator and Fire Pump Emission Factors

Equipment Type	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
			lb/hp-hr	lb/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	lb/hp-hr	g/hp-hr
Emergency Genera	0	11	0.00247	0.00225	5.97	5.32	0.00494	0.60	0.60	1.15	0.073
Emergency Genera	11	25	0.00247	0.00225	4.93	5.32	0.00494	0.60	0.60	1.15	0.073
Emergency Genera	25	50	0.00247	0.00225	4.10	5.32	0.00494	0.45	0.45	1.15	0.073
Emergency Genera	50	75	0.00247	0.00225	3.70	3.33	0.00494	0.15	0.15	1.15	0.073
Emergency Genera	75	100	0.00247	0.00225	3.70	3.33	0.00494	0.15	0.15	1.15	0.073
Emergency Genera	100	175	0.00247	0.00225	3.70	2.85	0.00494	0.15	0.15	1.15	0.073
Emergency Genera	175	300	0.00247	0.00225	2.60	2.85	0.00494	0.15	0.15	1.15	0.073
Emergency Genera	300	600	0.00247	0.00225	2.60	2.85	0.00494	0.15	0.15	1.15	0.073
Emergency Genera	600	750	0.00247	0.00225	2.60	2.85	0.00494	0.15	0.15	1.15	0.073
Emergency Genera	750	9999	0.00247	0.00225	2.60	4.56	0.00494	0.15	0.15	1.15	0.073
Fire Pump	0	11	0.00247	0.00225	6.00	5.32	0.00494	0.30	0.30	1.15	0.073
Fire Pump	11	25	0.00247	0.00225	4.90	5.32	0.00494	0.30	0.30	1.15	0.073
Fire Pump	25	50	0.00247	0.00225	4.10	5.32	0.00494	0.22	0.22	1.15	0.073
Fire Pump	50	75	0.00247	0.00225	3.70	3.33	0.00494	0.30	0.30	1.15	0.073
Fire Pump	75	100	0.00247	0.00225	3.70	3.33	0.00494	0.30	0.30	1.15	0.073
Fire Pump	100	175	0.00247	0.00225	3.70	2.85	0.00494	0.22	0.22	1.15	0.073
Fire Pump	175	300	0.00247	0.00225	2.60	2.85	0.00494	0.15	0.15	1.15	0.073
Fire Pump	300	600	0.00247	0.00225	2.60	2.85	0.00494	0.15	0.15	1.15	0.073
Fire Pump	600	750	0.00247	0.00225	2.60	2.85	0.00494	0.15	0.15	1.15	0.073
Fire Pump	750	9999	0.00247	0.00225	2.60	4.56	0.00494	0.15	0.15	1.15	0.073

Source: CalEEMod Userguide Appendix D

10.1 Emergency Generators and Fire Pumps

Emissions for emergency generators and fire pumps are calculated as:

$$\text{Emission} = EF * HP * LF * \text{Operation Hours}$$

Where:

EF = Emission factor

HP = Horsepower

LF = Load factor

In emission calculations, a default emission factor may be adjusted for unit conversion to grams/horsepower-hour.

The following table summarizes source references and assumptions to obtain default emission factors of diesel emergency generators.

Pollutant	Emission Factor Source and Assumptions for Diesel Emergency Generators
TOG	AP42 Table 3.3-1
ROG	AP42 Table 3.3-1 and assumes ROG accounts for 91% of TOG
CO	CCR 2423 for engines < 50 hp, CARB ATCM Final Regulation for engines >= 50 hp
NOx	CCR 2423 for engines < 50 hp, CARB ATCM Final Regulation for engines >= 50 hp assumes NOx accounts for 95% of (NMHC+NOx)
SO2	Based on diesel fuel sulfur content 15 ppmw, diesel heat value 19300 BTU/lb, Brake specific fuel consumption (BSFC) of 7000 BTU/hp-hr
PM10	CCR 2423 for engines < 50 hp, CARB ATCM Final Regulation for engines >= 50 hp
PM2.5	CCR 2423 for engines < 50 hp, CARB ATCM Final Regulation for engines >= 50 hp, assumes all PM10 is PM2.5
CO2	AP42 Table 3.3-1
CH4	Based on 0.0014 kg/gallon diesel (California Climate Action Registry General Reporting Protocol), diesel density 6.943 lb/gallon, diesel heat value 19,300 BTU/lb, BSFC of 7,000 BTU/hp-hr

Source: CalEEMod Userguide Appendix A

Freight Rail Emissions Summary

Existing (2019)

	Tons per Year
Subdivision Segments	PM10
Fresno Subdivision	
Track 1	0.002112
Track 2	0.000000
Total Existing (2019)	**0.0021**

2030 No Project

	Tons per Year
Subdivision Segments	PM10
Fresno Subdivision	
Track 1	0.001207
Track 2	0.000000
Total 2030 No Project	**0.0012**

2030 With Project

	Tons per Year
Subdivision Segments	PM10
Fresno Subdivision	
Track 1	0.000603
Track 2	0.000603
Total 2030 With Project	**0.0012**

2040 No Project

	Tons per Year
Subdivision Segments	PM10
Fresno Subdivision	
Track 1	0.000614
Track 2	0.000000
Total 2040 No Project	**0.0**

2040 With Project

	Tons per Year
Subdivision Segments	PM10
Fresno Subdivision	
Track 1	0.000307
Track 2	0.000307
Total 2040 With Project	**0.0**

Subdivision Segments (west to east)	Daily Freight Miles				
	Existing	2030		2040	
		No Project	With Project	No Project	With Project
Fresno Subdivision					
Track 1	27	39	20	50	25
Track 2	0	0	20	0	25

Trains per day (existing)	22	2019
Trains per day (2040)	40	2040
Trains per day (2030)	31	2030
Distance of modeled segment	2.00	kilometers
	1.24	miles

Line Haul Emission Factors (g/gal)

Year	ROG	NOx	CO	PM10	PM2.5	SOx	CO2	CH4	N2O
2015	6.0	129.0	26.6	3.4	3.3	1.9	10217	0.8	0.3
2019	3.8	99.0	26.6	2.5	2.4	1.9	10217	0.8	0.3
2025				1.6					
2030				1.0					
2040	1.1	28.0	26.6	0.4	0.4	1.9	10217	0.8	0.3

Loco fuel efficiency (bhp-hr/gal) (EPA 2009)	20.8	"large line-haul"
PM2.5 fraction of PM10 (EPA 2009)	0.97	
ROG fraction of HC	1.053	

All emission factors except CH4 and N2O are from EPA 2009. CH4 and N2O are converted from the POLB Air Emissions Inventory (Table 5.4)

Fuel Consumption Rate

Description	Value	Unit	Reference/Notes
Diesel fuel consumption	941,750,992	gal	UPRR 2016, schedule 750, line 1 (750-1)
Total train travel	115,212,273	train-mi	UPRR 2016 (755-5)
Locomotive travel distance	352,728,786	loco. unit-mi	UPRR 2016 (755-11)
Average fuel usage rate	8.174	gal/train-mi	Derived
Average fuel usage rate	2.670	gal/mi	Dervied

UPRR 2019. Union Pacific Railroad Company. Class I Railroad Annual Report R-1 to the Surface Transportation Board for the Year Ending Dec. 31, 2015. Avc
https://www.up.com/cs/groups/public/@uprr/@investor/documents/investordocuments/pdf_up_r1_2019.pdf. Accessed: January 13, 2021.

pounds per gram	0.00220462
tons per gram	1.10E-06
metric tons per gram	1.00E-06
ch4	25
n2o	298
Days per year	365

Health Risk Assessment – HARP2 Output Files and Results Summary

Operational Analysis

HARP2 - HRACalc (dated 19044) 1/13/2021 15:10:04 - Output Log

GLCs loaded successfully

Pollutants loaded successfully

****

RISK SCENARIO SETTINGS

Receptor Type: Resident

Scenario: All

Calculation Method: Derived

****

EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25

Total Exposure Duration: 30

Exposure Duration Bin Distribution

3rd Trimester Bin: 0.25

0<2 Years Bin: 2

2<9 Years Bin: 0

2<16 Years Bin: 14

16<30 Years Bin: 14

16 to 70 Years Bin: 0

****

PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True

Soil: False

Dermal: False

Mother's milk: False

Water: False

Fish: False

Homegrown crops: False

Beef: False

Dairy: False

Pig: False

Chicken: False

Egg: False

****

INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors

Worker adjustment factors enabled: NO

Fraction at time at home

3rd Trimester to 16 years: ON

16 years to 70 years: ON

****

TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.

Tier2 - What was changed: ED or start age changed|DBRs changed|FAH changed|

Calculating cancer risk

Cancer risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\ACE_Ceres to Merced - Operational AnalysisCancerRisk.csv

Calculating chronic risk

Chronic risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\ACE_Ceres to Merced - Operational AnalysisNCChronicRisk.csv

Calculating acute risk

Acute risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\ACE_Ceres to Merced - Operational AnalysisNCAcuteRisk.csv

HRA ran successfully

Construction Analysis – Atwater Station Construction

HARP2 - HRACalc (dated 19044) 1/13/2021 15:43:03 - Output Log

GLCs loaded successfully

Pollutants loaded successfully

****

RISK SCENARIO SETTINGS

Receptor Type: Resident

Scenario: All

Calculation Method: Derived

****

EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25

Total Exposure Duration: 2

Exposure Duration Bin Distribution

3rd Trimester Bin: 0.25

0<2 Years Bin: 2

2<9 Years Bin: 0

2<16 Years Bin: 0

16<30 Years Bin: 0

16 to 70 Years Bin: 0

****

PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True

Soil: False

Dermal: False

Mother's milk: False

Water: False

Fish: False

Homegrown crops: False

Beef: False

Dairy: False

Pig: False

Chicken: False

Egg: False

****

INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors

Worker adjustment factors enabled: NO

Fraction at time at home

3rd Trimester to 16 years: ON

16 years to 70 years: ON

****

TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.

Tier2 - What was changed: ED or start age changed|DBRs changed|FAH changed|

Calculating cancer risk

Cancer risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Atwater ConstructionCancerRisk.csv

Calculating chronic risk

Chronic risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Atwater ConstructionNCChronicRisk.csv

Calculating acute risk

Acute risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Atwater ConstructionNCAcuteRisk.csv

HRA ran successfully

Construction Analysis – Alignment Construction

HARP2 - HRACalc (dated 19044) 1/13/2021 13:49:16 - Output Log

GLCs loaded successfully

Pollutants loaded successfully

****

RISK SCENARIO SETTINGS

Receptor Type: Resident

Scenario: All

Calculation Method: Derived

****

EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25

Total Exposure Duration: 1

Exposure Duration Bin Distribution

3rd Trimester Bin: 0.25

0<2 Years Bin: 1

2<9 Years Bin: 0

2<16 Years Bin: 0

16<30 Years Bin: 0

16 to 70 Years Bin: 0

****

PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True

Soil: False

Dermal: False

Mother's milk: False

Water: False

Fish: False

Homegrown crops: False

Beef: False

Dairy: False

Pig: False

Chicken: False

Egg: False

****

INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors

Worker adjustment factors enabled: NO

Fraction at time at home

3rd Trimester to 16 years: ON

16 years to 70 years: ON

****

TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.

Tier2 - What was changed: ED or start age changed|DBRs changed|FAH changed|

Calculating cancer risk

Cancer risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_AlignmentCancerRisk.csv

Calculating chronic risk

Chronic risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_AlignmentNCChronicRisk.csv

Calculating acute risk

Acute risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_AlignmentNCAcuteRisk.csv

HRA ran successfully

Construction Analysis – Maintenance Facility Construction 2023

HARP2 - HRACalc (dated 19044) 1/13/2021 13:55:00 - Output Log

GLCs loaded successfully

Pollutants loaded successfully

****

RISK SCENARIO SETTINGS

Receptor Type: Resident

Scenario: All

Calculation Method: Derived

****

EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25

Total Exposure Duration: 1

Exposure Duration Bin Distribution

3rd Trimester Bin: 0.25

0<2 Years Bin: 1

2<9 Years Bin: 0

2<16 Years Bin: 0

16<30 Years Bin: 0

16 to 70 Years Bin: 0

****

PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True

Soil: False

Dermal: False

Mother's milk: False

Water: False

Fish: False

Homegrown crops: False

Beef: False

Dairy: False

Pig: False

Chicken: False

Egg: False

****

INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors

Worker adjustment factors enabled: NO

Fraction at time at home

3rd Trimester to 16 years: ON

16 years to 70 years: ON

****

TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.

Tier2 - What was changed: ED or start age changed|DBRs changed|FAH changed|

Calculating cancer risk

Cancer risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Maintenance Facility_2023CancerRisk.csv

Calculating chronic risk

Chronic risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Maintenance Facility_2023NCChronicRisk.csv

Calculating acute risk

Acute risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Maintenance Facility_2023NCAcuteRisk.csv

HRA ran successfully

Construction Analysis – Maintenance Facility Construction 2024

HARP2 - HRACalc (dated 19044) 1/13/2021 13:55:50 - Output Log

GLCs loaded successfully

Pollutants loaded successfully

****

RISK SCENARIO SETTINGS

Receptor Type: Resident

Scenario: All

Calculation Method: Derived

****

EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 1

Total Exposure Duration: 1

Exposure Duration Bin Distribution

3rd Trimester Bin: 0

0<2 Years Bin: 1

2<9 Years Bin: 0

2<16 Years Bin: 0

16<30 Years Bin: 0

16 to 70 Years Bin: 0

****

PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True

Soil: False

Dermal: False

Mother's milk: False

Water: False

Fish: False

Homegrown crops: False

Beef: False

Dairy: False

Pig: False

Chicken: False

Egg: False

****

INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors

Worker adjustment factors enabled: NO

Fraction at time at home

3rd Trimester to 16 years: ON

16 years to 70 years: ON

****

TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.

Tier2 - What was changed: ED or start age changed|DBRs changed|FAH changed|

Calculating cancer risk

Cancer risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Maintenance Facility_2024CancerRisk.csv

Calculating chronic risk

Chronic risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Maintenance Facility_2024NCChronicRisk.csv

Calculating acute risk

Acute risk saved to: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Maintenance Facility_2024NCAcuteRisk.csv

HRA ran successfully

*HARP - HRACalc v19044 1/13/2021 13:23:55 - Cancer Risk - Input File: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\ACE_Ceres to Merced - Operational AnalysisHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBRE'	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK	SOIL_RISK	DERMAL_R	MMILK_RIS	WATER_RI	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISI	PIG_RISK	CHICKEN_F	EGG_RISK	1ST_DRIVE	2ND_DRIVI	PASTURE_(	FISH_CONC	WATER_CONC
1	Merced Station Idling		9901	DieselExhP	0.00028	1.91E-07	30YrCance	*	1.91E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
2	Alignment	Operation	9901	DieselExhP	0.00184	1.25E-06	30YrCance	*	1.25E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
3	Freight 203	No Project	9901	DieselExhP	0.0334	2.28E-05	30YrCance	*	2.28E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
4	Freight 203	Project	9901	DieselExhP	0.0347	2.37E-05	30YrCance	*	2.37E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
5	Freight 204	No Project	9901	DieselExhP	0.017	1.16E-05	30YrCance	*	1.16E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
6	Freight 204	Project	9901	DieselExhP	0.0177	1.21E-05	30YrCance	*	1.21E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
7	Maintenance Facility I		9901	DieselExhP	0.00099	6.75E-07	30YrCance	*	6.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v19044 1/13/2021 13:23:55 - Chronic Risk - Input File: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\ACE_Ceres to Merced - Operational AnalysisHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBRE'	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE'	RESP	SKIN	EYE	BONE/TEE'	ENDO	BLOOD	ODOR	GENERAL	DETAILS	INH_CONC	SOIL_DOSE	DERMAL_D	MMILK_DC	WATER_DC	FISH_DOSE	CROP_DOS	BEEF_DOSI	DAIRY_DO	PIG_DOSE	CHICKEN_D	EGG_DOSE	1ST_DRIVE	2ND_DRIVI	3RD_DRIVE	PASTURE_(	FISH_CONC	WATER_CONC
1	Merced Station Idling		9901	DieselExhP	0.00028	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.60E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	2.80E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
2	Alignment	Operation	9901	DieselExhP	0.00184	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	1.84E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
3	Freight 203	No Project	9901	DieselExhP	0.0334	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.68E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	3.34E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
4	Freight 203	Project	9901	DieselExhP	0.0347	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	3.47E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
5	Freight 204	No Project	9901	DieselExhP	0.017	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.40E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	1.70E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
6	Freight 204	Project	9901	DieselExhP	0.0177	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.54E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	1.77E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
7	Maintenance Facility I		9901	DieselExhP	0.00099	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.98E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	9.90E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v19044 1/13/2021 13:53:59 - Cancer Risk - Input File: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Atwater ConstructionHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBRE'	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK	SOIL_RISK	DERMAL_R	MMILK_RIS	WATER_RI	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISI	PIG_RISK	CHICKEN_F	EGG_RISK	1ST_DRIVE	2ND_DRIVI	PASTURE_(	FISH_CONC	WATER_CONC
1	Atwater Cc	Max Unmit	9901	DieselExhP	0.3259	4.93E-05	1YrCancerI	*	4.93E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
2	Atwater Cc	Max Mitiga	9901	DieselExhP	0.0294	4.44E-06	1YrCancerI	*	4.44E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v19044 1/13/2021 13:53:59 - Chronic Risk - Input File: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Atwater ConstructionHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBRE'	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE'	RESP	SKIN	EYE	BONE/TEE'	ENDO	BLOOD	ODOR	GENERAL	DETAILS	INH_CONC	SOIL_DOSE	DERMAL_D	MMILK_DC	WATER_DC	FISH_DOSE	CROP_DOS	BEEF_DOSI	DAIRY_DO	PIG_DOSE	CHICKEN_D	EGG_DOSE	1ST_DRIVE	2ND_DRIVI	3RD_DRIVE	PASTURE_(	FISH_CONC	WATER_CONC
1	Atwater Cc	Max Unmit	9901	DieselExhP	0.3259	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.52E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	3.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
2	Atwater Cc	Max Mitiga	9901	DieselExhP	0.0294	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	2.94E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v19044 1/13/2021 13:49:16 - Cancer Risk - Input File: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_AlignmentHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBRE'	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK	SOIL_RISK	DERMAL_R	MMILK_RIS	WATER_RI	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISI	PIG_RISK	CHICKEN_F	EGG_RISK	1ST_DRIVE	2ND_DRIVI	PASTURE_(	FISH_CONC	WATER_CONC
1	Alignment	Max Unmit	9901	DieselExhP	0.1314	1.99E-05	1YrCancerI	*	1.99E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
2	Alignment	Max Mitiga	9901	DieselExhP	0.0139	2.10E-06	1YrCancerI	*	2.10E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
3	Alignment	Max Unmit	9901	DieselExhP	0.2113	3.19E-05	1YrCancerI	*	3.19E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
4	Alignment	Max Mitiga	9901	DieselExhP	0.0147	2.22E-06	1YrCancerI	*	2.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v19044 1/13/2021 13:49:16 - Chronic Risk - Input File: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_AlignmentHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBRE'	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE'	RESP	SKIN	EYE	BONE/TEE'	ENDO	BLOOD	ODOR	GENERAL	DETAILS	INH_CONC	SOIL_DOSE	DERMAL_D	MMILK_DC	WATER_DC	FISH_DOSE	CROP_DOS	BEEF_DOSI	DAIRY_DO	PIG_DOSE	CHICKEN_D	EGG_DOSE	1ST_DRIVE	2ND_DRIVI	3RD_DRIVE	PASTURE_(	FISH_CONC	WATER_CONC
1	Alignment	Max Unmit	9901	DieselExhP	0.1314	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.63E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	1.31E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
2	Alignment	Max Mitiga	9901	DieselExhP	0.0139	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.78E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	1.39E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
3	Alignment	Max Unmit	9901	DieselExhP	0.2113	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.23E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	2.11E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
4	Alignment	Max Mitiga	9901	DieselExhP	0.0147	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	1.47E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v19044 1/13/2021 13:55:00 - Cancer Risk - Input File: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Maintenance Facility_2023HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBRE'	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK	SOIL_RISK	DERMAL_R	MMILK_RIS	WATER_RI	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISI	PIG_RISK	CHICKEN_F	EGG_RISK	1ST_DRIVE	2ND_DRIVI	PASTURE_(	FISH_CONC	WATER_CONC
1	Maintenac	Max Unmit	9901	DieselExhP	0.0541	8.18E-06	1YrCancerI	*	8.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
2	Maintenac	Max Mitiga	9901	DieselExhP	0.0044	6.65E-07	1YrCancerI	*	6.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
3	Maintenac	Max Unmit	9901	DieselExhP	0	0.00E+00	1YrCancerI	*	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			0.00E+00	0.00E+00	0.00E+00
4	Maintenac	Max Mitiga	9901	DieselExhP	0	0.00E+00	1YrCancerI	*	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v19044 1/13/2021 13:55:00 - Chronic Risk - Input File: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Maintenance Facility_2023HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBRE'	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE'	RESP	SKIN	EYE	BONE/TEE'	ENDO	BLOOD	ODOR	GENERAL	DETAILS	INH_CONC	SOIL_DOSE	DERMAL_D	MMILK_DC	WATER_DC	FISH_DOSE	CROP_DOS	BEEF_DOSI	DAIRY_DO	PIG_DOSE	CHICKEN_D	EGG_DOSE	1ST_DRIVE	2ND_DRIVI	3RD_DRIVE	PASTURE_(	FISH_CONC	WATER_CONC
1	Maintenac	Max Unmit	9901	DieselExhP	0.0541	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	5.41E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
2	Maintenac	Max Mitiga	9901	DieselExhP	0.0044	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.80E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	4.40E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
3	Maintenac	Max Unmit	9901	DieselExhP	0	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
4	Maintenac	Max Mitiga	9901	DieselExhP	0	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v19044 1/13/2021 13:55:50 - Cancer Risk - Input File: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Maintenance Facility_2024HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBRE'	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK	SOIL_RISK	DERMAL_R	MMILK_RIS	WATER_RI	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISI	PIG_RISK	CHICKEN_F	EGG_RISK	1ST_DRIVE	2ND_DRIVI	PASTURE_(	FISH_CONC	WATER_CONC
1	Maintenac	Max Unmit	9901	DieselExhP	0	0.00E+00	1YrCancerI	*	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			0.00E+00	0.00E+00	0.00E+00
2	Maintenac	Max Mitiga	9901	DieselExhP	0	0.00E+00	1YrCancerI	*	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00			0.00E+00	0.00E+00	0.00E+00
3	Maintenac	Max Unmit	9901	DieselExhP	0.023	3.21E-06	1YrCancerI	*	3.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
4	Maintenac	Max Mitiga	9901	DieselExhP	0.0038	5.31E-07	1YrCancerI	*	5.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v19044 1/13/2021 13:55:50 - Chronic Risk - Input File: C:\Users\26068\OneDrive - ICF\U Drive - Documents\ACE - Ceres to Merced\HARP Files\Ceres to Merced Construction_Maintenance Facility_2024HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBRE'	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE'	RESP	SKIN	EYE	BONE/TEE'	ENDO	BLOOD	ODOR	GENERAL	DETAILS	INH_CONC	SOIL_DOSE	DERMAL_D	MMILK_DC	WATER_DC	FISH_DOSE	CROP_DOS	BEEF_DOSI	DAIRY_DO	PIG_DOSE	CHICKEN_D	EGG_DOSE	1ST_DRIVE	2ND_DRIVI	3RD_DRIVE	PASTURE_(	FISH_CONC	WATER_CONC
1	Maintenac	Max Unmit	9901	DieselExhP	0	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
2	Maintenac	Max Mitiga	9901	DieselExhP	0	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
3	Maintenac	Max Unmit	9901	DieselExhP	0.023	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.60E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	2.30E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00
4	Maintenac	Max Mitiga	9901	DieselExhP	0.0038	NonCancer	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	3.80E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION			0.00E+00	0.00E+00	0.00E+00

Lakes AERMOD Files Available Upon Request