Appendix B: Revised Air Quality and Greenhouse Gas Emissions Data

Land Use Statistics - Hollister, San Benito County

Source: Hollister Climate Action Plan, 2024

	Existing Conditions 2019	Buildout Estimates 2040	Projected Growth (Proposed Project) 2019-2040	Growth Factor from Existing to Year 2040
City Limit				
Households	10,660	20,253	9,593	0.90
Population	38,507	68,317	29,810	0.77
Employment	14,164	25,293	11,129	0.79
Service Population	52,671	93,610	40,939	0.78
City + Sphere of Influence (SOI)				
Households	11,248	21,410	10,162	0.90
Population	40,370	71,945	31,575	0.78
Employment	14,458	25,630	11,172	0.77
Service Population	54,828	97,575	42,747	0.78
SOI (Excluding City Limit)				
Households	588	1,157	569	0.97
Population	1,863	3,628	1,765	0.95
Employment	294	338	44	0.15
Service Population	2,157	3,966	1,809	0.84

AQMP Consistency Analysis

Comparison of the Change in Population and VMT in Hollister (O-D Method)

Category	Existing	GP 2040 Update (Proposed Project)	Change from Existing	
			Change	Percent
City + SOI				
Population	40,370	71,945	31,575	78%
Employment	14,458	25,630	11,172	77%
SP	54,828	97,575	42,747	78%
VMT per Day	609,617	899,235	289,618	48%
VMT/SP	11.12	9.22	-1.90	-17%
City Limit				
Population	38,507	68,317	29,810	77%
Employment	14,164	25,293	11,129	79%
SP	52,671	93,610	40,939	78%
VMT per Day	594,095	858,026	263,931	44%
VMT/SP	11.28	9.17	-2.11	-19%
SOI Only				
Population	1,863	3,628	1,765	95%
Employment	294	338	44	15%
SP	2,157	3,966	1,809	84%
VMT per Day	15,523	41,209	25,686	165%
VMT/SP	7.20	10.39	3.19	44%

Note Origin-Destination (O-D) Methodology is not necessarily the same methodology for SB 743.

Modeling of vehicle miles traveled (VMT) is provided by Kimley Horn 2024. VMT from passenger vehicles and trucks that have an origin or destination in the City using a transportation origin-destination methodology. Accounting of VMT is based on the recommendations of CARB's Regional Targets Advisory Committee (RTAC) created under Senate Bill 375 (SB 375).

For accounting purposes, there are three types of trips:

» Vehicle trips that originated and terminated within the City (Internal-Internal, I-I). Using the accounting rules established by RTAC, 100 percent of the length of these trips, and their emissions, are attributed to the City.

» Vehicle trips that either originated or terminated (but not both) within the City (Internal-External or External-Internal, I-X and X-I). Using the accounting rules established by RTAC, 50 percent of the trip length for these trips is attributed to the City.

» Vehicle trips that neither originated nor terminated within the City. These trips are commonly called pass-through trips (External-External, X-X). Using the accounting rules established by RTAC, these trips are not counted towards the City's VMT or emissions.

Hollister Community GHG Emissions Inventory and Forecast

Category	Existing				Year 2045				Net Change from Existing	
	City	SOI	TOTAL		City	SOI	TOTAL		TOTAL	
Transportation	140,350	4,730	145,080	59%	191,450	6,650	198,100	70%	53,020	37%
Nonresidential energy	11,150	230	11,380	5%	11,280	190	11,470	4%	90	1%
Residential energy	24,240	1,330	25,570	10%	25,170	2,020	27,190	10%	1,620	6%
Off-road equipment	43,690	1,890	45,580	19%	20,700	760	21,460	8%	-24,120	-53%
Solid waste	17,930	730	18,660	8%	24,370	1,030	25,400	9%	6,740	36%
Water and wastewater	1,040	40	1,080	0%	1,780	80	1,860	1%	780	72%
Land use and sequestration	-1,640	-970	-2,610	-1%	-2,440	-480	-2,920	-1%	-310	12%
Total Community Emissions with State and Local Actions	**236,760**	**7,980**	**244,740**	100%	**272,310**	**10,250**	**282,560**	100%	**37,820**	15%
GHG Reductions from CAP Measures	**NA**	**NA**	**NA**	NA	**-242,990**	**-8,040**	**-251,060**	NA	**NA**	NA
Total Community Emissions with State and Local Actions and CAP Measures	**NA**	**NA**	**NA**	NA	**29,320**	**2,210**	**31,500**	NA	**-213,240**	-87%
Service Population (SP)	52,671	2,157	54,828	NA	93,610	3,966	97,575	NA	42,747	78%
$MTCO_2e/SP$	4.5	3.7	4.5	NA	0.3	0.6	0.3	NA	**-4.1**	-93%
Trajectory to AB 1279	NA	NA	31,500	-85%	**Does Achieve Target:**		**0**	-87%	**Decrease**	

Source: Based on the emissions inventory and forecast being conducted for the Hollister Climate Action Plan, 2024.

Notes: Total emissions may not equal the sum of individual rows due to rounding to the nearest 10. Based on GWPs in the IPCC Sixth Assessment Report (AR6).

The emissions inventory and forecast is based on activity data for the City of Hollister. This emissions inventory methodology identifies GHG emissions produced within a jurisdiction and captures direct and indirect emissions generated by land uses in a community. The activity data methodology allows a direct comparison between a community's GHG emissions and that identified by CARB in the AB 32 and SB 32 inventory and forecast prepared for the scoping plan. Unlike a "consumption-based" GHG emissions inventory, an activity-based emissions inventory does not capture lifecycle emissions associated with consumptions of goods. While a consumption-based emissions inventory approach may document GHG emissions associated with the final demand (regardless of where the were generated), a consumption-based emissions inventory excludes emissions associated with products produced within the juridiction but consumed elsewhere. For these reasons, an activity-based emissions inventory was determined to be most applicable for determining significant impacts under CEQA.

Note: Excludes GHG emissions natural gas use from Permitted Sources within the City.

City of Hollister Community Criteria Air Pollutant Emissions Inventory and Forecast: City + SOI

Notes:

[1] Source: Kimley Horn 2024; EMFAC2021 Version 1.0.2 Emissions Database (Region - San Benito)

[2] Sources: PG&E 2019. and CalEEMod User's Guide for natural gas criteria air pollutant emission rates. Excludes criteria air pollutant emissions natural gas use from Permitted Sources within the City.

[3] Source: OFFROAD 2021.

[4] Source: CalEEMod User's Guide

City + SOI

EXISTING (2019)

Phase	Existing Criteria Air Pollutant Emissions (lbs/day) - City + SOI					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	84	1,152	1,802	7	73	38
Energy[2]	9	175	97	2	13	13
Offroad Equipment[3]	147	380	2,812	1	18	16
Consumer Products[4]	469					
Total	**709**	**1,707**	**4,711**	**10**	**104**	**68**

EXISTING (2040 No Project Baseline)

Phase	Existing Criteria Air Pollutant Emissions (lbs/day) - City + SOI					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	11	273	590	5	50	19
Energy[2]	9	175	97	2	13	13
Offroad Equipment[3]	147	380	2,812	1	18	16
Consumer Products[4]	469					
Total	**636**	**828**	**3,499**	**7**	**81**	**49**

Year 2040 (Proposed Project)

Phase	Project (2040) Criteria Air Pollutant Emissions (lbs/day) - City + SOI					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	16	414	893	7	75	30
Energy[2]	13	239	133	3	18	18
Offroad Equipment[3]	244	422	4,840	1	20	18
Consumer Products[4]	1,038					
Total	**1,311**	**1,076**	**5,866**	**11**	**113**	**65**

NET CHANGE (from 2040 No Project Baseline)

Phase	Net Change (2040-2019) Criteria Air Pollutant Emissions (lbs/day) - City + SOI					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	5	140	303	2	26	10
Energy[2]	3	64	36	1	5	5
Offroad Equipment[3]	97	43	2,028	0	2	1
Consumer Products[4]	569	0	0	0	0	0
Total	**675**	**247**	**2,367**	**3**	**32**	**16**
MBARD Threshold	**137**	**137**	**550**	**150**	**82**	**55**
Exceeds Threshold	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**

City of Hollister Community Criteria Air Pollutant Emissions Inventory and Forecast: City + SOI

NET CHANGE (from Existing)

Phase	Net Change (2040-2019) Criteria Air Pollutant Emissions (lbs/day) - City + SOI					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	-67	-738	-909	0	2	-9
Energy[2]	3	64	36	1	5	5
Offroad Equipment[3]	97	43	2,028	0	2	1
Consumer Products[4]	569					
Total	**602**	**-631**	**1,155**	**1**	**9**	**-2**
MBARD Threshold	**137**	**137**	**550**	**150**	**82**	**55**
Exceeds Threshold	**Yes**	**No**	**Yes**	**No**	**No**	**No**

City of Hollister Community Criteria Air Pollutant Emissions Inventory and Forecast: City + SOI

City Only

EXISTING (2019)

Phase	Existing Criteria Air Pollutant Emissions (lbs/day) - City Only					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	81	1,123	1,756	7	71	37
Energy[2]	9	168	93	2	12	12
Offroad Equipment[3]	142	365	2,706	1	18	16
Consumer Products[4]	444					
Total	**676**	**1,655**	**4,555**	**10**	**101**	**65**

EXISTING (2040 No Project Baseline)

Phase	Existing Criteria Air Pollutant Emissions (lbs/day) - City Only					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	81	1,123	1,756	7	71	37
Energy[2]	9	168	93	2	12	12
Offroad Equipment[3]	142	365	2,706	1	18	16
Consumer Products[4]	444					
Total	**676**	**1,655**	**4,555**	**10**	**101**	**65**

Year 2040 (Proposed Project)

Phase	Project (2040) Criteria Air Pollutant Emissions (lbs/day) - City Only					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	16	395	852	7	72	28
Energy[2]	12	229	128	2	17	17
Offroad Equipment[3]	235	406	4,651	1	19	17
Consumer Products[4]	981					
Total	**1,244**	**1,030**	**5,631**	**10**	**108**	**62**

NET CHANGE (from 2040 No Project Baseline)

Phase	Net Change (2040-2019) Criteria Air Pollutant Emissions (lbs/day) - City Only					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	-66	-728	-904	0	1	-9
Energy[2]	3	62	35	1	5	5
Offroad Equipment[3]	93	41	1,945	0	2	1
Consumer Products[4]	537	0	0	0	0	0
Total	**568**	**-625**	**1,077**	**0**	**7**	**-3**

NET CHANGE (from Existing)

Phase	Net Change (2040-2019) Criteria Air Pollutant Emissions (lbs/day) - City Only					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	-66	-728	-904	0	1	-9
Energy[2]	3	62	35	1	5	5
Offroad Equipment[3]	93	41	1,945	0	2	1
Consumer Products[4]	537					
Total	**568**	**-625**	**1,077**	**0**	**7**	**-3**

City of Hollister Community Criteria Air Pollutant Emissions Inventory and Forecast: City + SOI

SOI Only

EXISTING (2019)

Phase	Existing Criteria Air Pollutant Emissions (lbs/day) - SOI Only					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	2	29	46	0	2	1
Energy[2]	0	7	4	0	1	1
Offroad Equipment[3]	6	14	106	0	1	1
Consumer Products[4]	24					
Total	**33**	**51**	**156**	**0**	**3**	**2**

EXISTING (2040 No Project Baseline)

Phase	Existing Criteria Air Pollutant Emissions (lbs/day) - SOI Only					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	0	0	0	0	0	0
Energy[2]	0	7	4	0	1	1
Offroad Equipment[3]	6	14	106	0	1	1
Consumer Products[4]	24					
Total	**31**	**22**	**110**	**0**	**1**	**1**

Year 2040 (Proposed Project)

Phase	Project (2040) Criteria Air Pollutant Emissions (lbs/day) - SOI Only					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	1	19	41	0	3	1
Energy[2]	1	9	4	0	1	1
Offroad Equipment[3]	10	17	189	0	1	1
Consumer Products[4]	56					
Total	**67**	**45**	**234**	**0**	**5**	**3**

NET CHANGE (from 2040 No Project Baseline)

Phase	Net Change (2040-2019) Criteria Air Pollutant Emissions (lbs/day) - City Only					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	0	19	41	0	3	1
Energy[2]	0	2	1	0	0	0
Offroad Equipment[3]	4	2	83	0	0	0
Consumer Products[4]	32	0	0	0	0	0
Total	**36**	**23**	**124**	**0**	**4**	**2**

NET CHANGE (from Existing)

Phase	Net Change (2040-2019) Criteria Air Pollutant Emissions (lbs/day) - SOI Only					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Transportation[1]	-1	-10	-5	0	2	0
Energy[2]	0	2	1	0	0	0
Offroad Equipment[3]	4	2	83	0	0	0
Consumer Products[4]	32					
Total	**35**	**-6**	**78**	**0**	**2**	**1**

City of Hollister Energy Use

Source: Hollister Climate Action Plan, 2024

Energy Use

City Only		
Actual Energy Use	**PG&E + CCCE MWH/YR 2019**	**PG&E Therms 2019**
Non-Residential	94,633	2,001,050
Residential	43,082	4,515,300
City Total	137,716	6,516,350

	Existing	**GP 2040 Update**
Electricity	**MWH**	
Nonresidential	94,633	118,093
Residential	43,082	54,684
Total	**137,716**	**172,777**

Electricity	**MTCO2e**	
Nonresidential	510	290
Residential	220	130
Total Electricity	**730**	**420**

Natural Gas	**Therms**	
Nonresidential	2,001,050	2,778,490
Residential	4,515,300	6,140,110
Total Natural Gas	**6,516,350**	**8,918,600**

Natural Gas	**MTCO2e**	
Nonresidential	10,640	11,810
Residential	24,020	26,320
Total Natural Gas	**34,660**	**38,130**

SOI Only		
Actual Energy Use	PG&E + CCCE MWH/YR 2019	PG&E Therms 2019
Non-Residential	1,963	41,500
Residential	2,375	248,890
SOI Total	4,337	290,390

Electricity	MWH	
Nonresidential	1,963	2,043
Residential	2,375	3,051
Total	**4,337**	**5,093**

Electricity	MTCO2e	
Nonresidential	230	10
Residential	10	10
Total Electricity	**240**	**20**

Natural Gas	Therms	
Nonresidential	41,500	44,270
Residential	248,890	342,320
Total Natural Gas	**290,390**	**386,590**

Natural Gas	MTCO2e	
Nonresidential	220	200
Residential	1,320	1,890
Total Natural Gas	**1,540**	**2,090**

City + SOI		
	PG&E + CCCE MWH/YR	PG&E Therms
Actual Energy Use	2019	2019
Non-Residential	96,596	2,042,550
Residential	45,457	4,764,190
City + SOI Total	142,053	6,806,740

Electricity	MWH	
Nonresidential	96,596	120,136
Residential	45,457	57,735
Total	**142,053**	**177,871**

Electricity	MTCO2e	
Nonresidential	740	300
Residential	230	140
Total Electricity	**970**	**440**

Natural Gas	Therms	
Nonresidential	2,042,550	2,822,760
Residential	4,764,190	6,482,430
Total Natural Gas	**6,806,740**	**9,305,190**

Natural Gas	MTCO2e	
Nonresidential	10,860	12,010
Residential	25,340	28,210
Total Natural Gas	**36,200**	**40,220**

Criteria Air Pollutants from Natural Gas

Rate	lbs/MBTU					
Natural Gas	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Residential	0.005	0.092	0.039	0.001	0.007	0.007
Non-Residential	0.005	0.098	0.082	0.001	0.007	0.007
Sources CalEEMod Version 2022.1, 2022, Appendix C. https://www.caleemod.com/documents/handbook/appendices/appendix_c.pdf						

City + SOI	Existing	Year 2040
	Therms	
Residential	4,764,190	6,482,430
Nonresidential	2,042,550	2,822,760
Total	6,806,740	9,305,190
Residential (Households)		
City Percent	95%	95%
SOI Percent	5%	5%
Non-Residential (Jobs)		
City Percent	98%	99%
SOI Percent	2%	1%

City + SOI						
Natural Gas	2019 lbs/day - City + SOI					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Residential	7	120	51	1	9	9
Nonresidential	3	55	46	1	4	4
TOTAL	9	175	97	2	13	13

Natural Gas	Year 2040 Update lbs/day - City + SOI					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Residential	9	163	69	2	12	12
Nonresidential	4	76	63	1	5	5
TOTAL	13	239	133	3	18	18

City Only						
Natural Gas	**2019 lbs/day - City Only**					
	ROG	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Residential	6	114	48	1	9	9
Nonresidential	3	54	45	1	4	4
TOTAL	9	168	93	2	12	12

Natural Gas	**Year 2040 Update lbs/day - City Only**					
	ROG	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Residential	8	155	66	2	12	12
Nonresidential	4	75	63	1	5	5
TOTAL	12	229	128	2	17	17

SOI Only						
Natural Gas	**2019 lbs/day - SOI Only**					
	ROG	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Residential	0.34	6.28	2.66	0.07	0.48	0.48
Nonresidential	0.06	1.12	0.93	0.01	0.08	0.08
TOTAL	0	7	4	0	1	1

Natural Gas	**Year 2040 Update lbs/day - SOI Only**					
	ROG	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Residential	0.45	8.35	3.54	0.09	0.64	0.64
Nonresidential	0.05	0.99	0.83	0.01	0.07	0.07
TOTAL	1	9	4	0	1	1

Area Sources - Residential Consumer Products[a]

Emissions = EF x Building Area

EF = 2.14E-05 lbs/sqft/day

Sources/Notes:

a. California Air Pollution Control Officer's Association (CAPCOA). 2022, April. California Emissions Estimator Model (CalEEMod) User's Guide Version 2022.1. https://www.caleemod.com/user-guide. Appendix D3 - Consumer Products Use.

AVERAGE HOUSING SQFT ASSUMPTIONS

Year Structure was Built	Percent of Housing Stock [a]	Average Square Feet of New Single Family Homes[b]	Average Square Feet (Weighted)
2014 or Later	1.90%	2,617	50
2010 to 2013	2.70%	2,467	67
2000 to 2009	8.30%	2,404	200
1990 to 1999	28.40%	2,116	601
1980 to 1989	22.70%	1,819	413
1970 to 1979	15.00%	1,699	255
1960 to 1969	4.70%	1,715	81
1950 to 1959	5.10%	1,715	87
1940 to 1949	3.60%	1,715	62
1939 or earlier	7.70%	1,715	132
	100%		1,947

Sources/Notes: https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/

a. United States Census Bureau, Selected Housing Characteristics, City of Hollister, 2019. Table DP04. American Community Survey 5-Year Estimates, Year https://www.census.gov/acs/www/data/data-tables-and-tools/data-profiles/2019/

b. United States Census Bureau, Characteristics of New Housing, Characteristics of New Single-Family Houses Completed, Median and Average Square Feet by Location. https://www.census.gov/construction/chars/pdf/c25ann2016.pdf

	Existing 2019			2040 GP Update		
	City Only	SOI Only	City + SOI	City Only	SOI Only	City + SOI
Households	10,660	588	11,248	20,253	1,157	21,410
Residential SQFT	20,750,431	1,144,583	21,895,014	45,852,114	2,633,466	48,485,581
lbs VOC per day	444	24	469	981	56	1,038

Notes:

[1] New housing units constructed post-2014 assumed to be 2,617 square feet (based on Source 2).

[2] Daily emissions converted to annual emissions by multiplying by 365 days/year.

Area Sources

Source: OFFROAD2021. https://arb.ca.gov/emfac/emissions-inventory/2f6c8fa1b8ec8bd9f8a4f23b3d84c74a77f77161

OFFROAD2021 Estimate based on:

Agricultural Equipment	Based on the percentage of agricultural acreage within the City compared to the County of San Benito (San Benito County 2019, Hollister CAP Update)
Construction Equipment	Based on the percentage of housing permits in Hollister compared to the San Benito County (HUD 2022)
Lawn & Garden	Based on the percentage of housing units in Hollister compared to San Benito County (US Census 2022)
Light Commercial and Industrial Equipment	Based on the percentage of employment in Hollister compared to San Benito County (US Census 2022)

Farmland Acreage

Source: Hollister CAP Update, 2024. Community Forecast

Existing Farmland	1,049	
Farmland Acreage at Buildout at 2040	0	0%
Percent Reduction	-100%	

Construction (Housing Permits)

Source: Housing and Urban Development (HUD). 2022, Accessed August 5. SOCDS Building Permits Database. https://socds.huduser.gov/permits/

Employment

Source. Hollister CAP Update, 2024. Community Forecast

2019 Existing	ROG Exhaust	NO_x Exhaust	CO Exhaust	SO_2 Exhaust	PM_{10} Exhaust	$PM_{2.5}$ Exhaust*
			lbs/year			
Agricultural	0.3	1.4	1.4	0.0	0.1	0.1
Construction Equipment	33	311	332	0	15	14
Lawn & Garden	74	10	872	0	1	1
Light Commercial/ Industrial Equipment	35	43	1,500	0	1	1
TOTAL City	142	365	2,706	1	18	16
Estimate SOI (based on Service Population)	6	14	106	0	1	1
Total City + SOI	147	380	2,812	1	18	16

Horizon Year 2040	Forecast Adjusted for:	ROG Exhaust	NO_x Exhaust	CO Exhaust	SO2 Exhaust	PM10 Exhaust	PM2.5 Exhaust*
				lbs/year			
Agricultural	Based on a reduction in Agricultural land in the City	0	0	0	0	0	0
Construction Equipment	Similar to historic	33	311	332	0	15	14
Lawn & Garden	Proportional to housing growth	140	19	1,659	0	2	1
Light Commercial/ Industrial Equipment	Proportional to employment growth	62	76	2,660	0	2	2
TOTAL City		235	406	4,651	1	19	17
Estimate SOI (Based on Service Population)		10	17	189	0	1	1
Total City + SOI		244	422	4,840	1	20	18

San Benito County OFFROAD2019

Source: https://arb.ca.gov/emfac/emissions-inventory/e681c37cb7093ea75b08ef761dfdc43659684b99
Construction includes: Over 25 horsepower, self-propelled, diesel equipment only subjected to In-Use Regulation; AND Under 25 horsepower equipment not subject to the In-Use Regulation

Model Output: OFFROAD2021 (v1.0.3) Emissions Inventory
Region Type: County
Region: San Benito
Calendar Year: 2019
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2019 Equipment Types
Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Agriculture

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd
San Benito	2019	Agricultural - Agricultural Tractors	Aggregate	Aggregate	Gasoline	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Agricultural - Agricultural Tractors	Aggregate	Aggregate	Diesel	0.044	0.273	0.203	0.000	0.016	0.015
San Benito	2019	Agricultural - ATVs	Aggregate	Aggregate	Gasoline	0.009	0.004	0.089	0.000	0.000	0.000
San Benito	2019	Agricultural - ATVs	Aggregate	Aggregate	Diesel	0.001	0.003	0.003	0.000	0.000	0.000
San Benito	2019	Agricultural - ATVs	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Agricultural - Bale Wagons (Self Propelled)	Aggregate	Aggregate	Diesel	0.000	0.001	0.001	0.000	0.000	0.000
San Benito	2019	Agricultural - Balers (Self Propelled)	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Agricultural - Combine Harvesters	Aggregate	Aggregate	Diesel	0.001	0.010	0.007	0.000	0.000	0.000
San Benito	2019	Agricultural - Construction Equipment	Aggregate	Aggregate	Diesel	0.001	0.008	0.005	0.000	0.000	0.000
San Benito	2019	Agricultural - Cotton Pickers	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Agricultural - Forage & Silage Harvesters	Aggregate	Aggregate	Diesel	0.000	0.001	0.001	0.000	0.000	0.000
San Benito	2019	Agricultural - Forklifts	Aggregate	Aggregate	Diesel	0.001	0.007	0.006	0.000	0.000	0.000
San Benito	2019	Agricultural - Hay Squeeze/Stack Retriever	Aggregate	Aggregate	Diesel	0.000	0.001	0.000	0.000	0.000	0.000
San Benito	2019	Agricultural - Nut Harvester	Aggregate	Aggregate	Diesel	0.002	0.014	0.010	0.000	0.001	0.001
San Benito	2019	Agricultural - Other Harvesters	Aggregate	Aggregate	Diesel	0.001	0.008	0.006	0.000	0.000	0.000
San Benito	2019	Agricultural - Sprayers/Spray Rigs	Aggregate	Aggregate	Diesel	0.003	0.022	0.015	0.000	0.001	0.001
San Benito	2019	Agricultural - Swathers/Windrowers/Hay Conditioners	Aggregate	Aggregate	Diesel	0.000	0.003	0.002	0.000	0.000	0.000
TOTAL AGRICULTURAL OFFROAD (tons/day)						0.063	0.355	0.346	0.000	0.021	0.019
ESTIMATED Hollister (tons/yr)						0.05	0.26	0.26	0.00	0.02	0.01
ESTIMATED Hollister (lbs/day)						0.256	1.443	1.407	0.002	0.086	0.079

AGRICULTURAL ACREAGE: https://www.cosb.us/home/showpublisheddocument/6203/637413906956070000; General Plan, 2024	**2019**
Farmland Acreage in San Benito County	516,376
Farmland Acreage in Hollister	1,049
Percent in the City	0.203%

Construction and Mining

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd
San Benito	2019	Construction and Mining - Bore/Drill Rigs	Aggregate	Aggregate	Diesel	0.000	0.001	0.001	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Cranes	Aggregate	Aggregate	Diesel	0.001	0.007	0.004	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Crawler Tractors	Aggregate	Aggregate	Diesel	0.002	0.017	0.009	0.000	0.001	0.001
San Benito	2019	Construction and Mining - Excavators	Aggregate	Aggregate	Diesel	0.002	0.016	0.013	0.000	0.001	0.001
San Benito	2019	Construction and Mining - Graders	Aggregate	Aggregate	Diesel	0.001	0.013	0.005	0.000	0.001	0.001
San Benito	2019	Construction and Mining - Misc - Asphalt Pavers	Aggregate	Aggregate	Gasoline	0.000	0.000	0.001	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Bore/Drill Rigs	Aggregate	Aggregate	Gasoline	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Bore/Drill Rigs	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Cement And Mortar Mixers	Aggregate	Aggregate	Gasoline	0.000	0.000	0.012	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Cement And Mortar Mixers	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Concrete/Industrial Saws	Aggregate	Aggregate	Gasoline	0.000	0.000	0.010	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Concrete/Industrial Saws	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Cranes	Aggregate	Aggregate	Gasoline	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Crushing/Proc. Equipment	Aggregate	Aggregate	Gasoline	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Dumpers/Tenders	Aggregate	Aggregate	Gasoline	0.000	0.000	0.001	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Dumpers/Tenders	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Excavators	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Other	Aggregate	Aggregate	Gasoline	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Other	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Pavers	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Paving Equipment	Aggregate	Aggregate	Gasoline	0.001	0.000	0.020	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Paving Equipment	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Plate Compactors	Aggregate	Aggregate	Gasoline	0.000	0.000	0.008	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Plate Compactors	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Rollers	Aggregate	Aggregate	Gasoline	0.000	0.000	0.005	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Rollers	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Rough Terrain Forklifts	Aggregate	Aggregate	Gasoline	0.000	0.000	0.001	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Rubber Tired Loaders	Aggregate	Aggregate	Gasoline	0.000	0.000	0.001	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Rubber Tired Loaders	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Signal Boards	Aggregate	Aggregate	Gasoline	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Signal Boards	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Skid Steer Loaders	Aggregate	Aggregate	Gasoline	0.000	0.000	0.008	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Skid Steer Loaders	Aggregate	Aggregate	Diesel	0.000	0.001	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Surfacing Equipment	Aggregate	Aggregate	Gasoline	0.000	0.000	0.009	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Tampers/Rammers	Aggregate	Aggregate	Gasoline	0.000	0.000	0.001	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Tractors/Loaders/Backhoes	Aggregate	Aggregate	Gasoline	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Tractors/Loaders/Backhoes	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Construction and Mining - Misc - Trenchers	Aggregate	Aggregate	Gasoline	0.000	0.000	0.010	0.000	0.000	0.000
San Benito	2020	Construction and Mining - Misc - Trenchers	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2021	Construction and Mining - Off-Highway Tractors	Aggregate	Aggregate	Diesel	0.001	0.004	0.003	0.000	0.000	0.000
San Benito	2022	Construction and Mining - Off-Highway Trucks	Aggregate	Aggregate	Diesel	0.002	0.028	0.014	0.000	0.001	0.001
San Benito	2023	Construction and Mining - Other	Aggregate	Aggregate	Diesel	0.001	0.007	0.004	0.000	0.000	0.000
San Benito	2024	Construction and Mining - Pavers	Aggregate	Aggregate	Diesel	0.000	0.002	0.001	0.000	0.000	0.000

San Benito	2025	Construction and Mining - Paving Equipment	Aggregate	Aggregate	Diesel	0.000	0.001	0.001	0.000	0.000	0.000
San Benito	2026	Construction and Mining - Rollers	Aggregate	Aggregate	Diesel	0.001	0.004	0.004	0.000	0.000	0.000
San Benito	2027	Construction and Mining - Rough Terrain Forklifts	Aggregate	Aggregate	Diesel	0.000	0.003	0.004	0.000	0.000	0.000
San Benito	2028	Construction and Mining - Rubber Tired Dozers	Aggregate	Aggregate	Diesel	0.000	0.005	0.003	0.000	0.000	0.000
San Benito	2029	Construction and Mining - Rubber Tired Loaders	Aggregate	Aggregate	Diesel	0.004	0.038	0.022	0.000	0.002	0.002
San Benito	2030	Construction and Mining - Scrapers	Aggregate	Aggregate	Diesel	0.002	0.028	0.017	0.000	0.001	0.001
San Benito	2031	Construction and Mining - Skid Steer Loaders	Aggregate	Aggregate	Diesel	0.000	0.003	0.004	0.000	0.000	0.000
San Benito	2032	Construction and Mining - Surfacing Equipment	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2033	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	Aggregate	Diesel	0.003	0.032	0.030	0.000	0.002	0.002
San Benito	2019	Construction and Mining - Trenchers	Aggregate	Aggregate	Diesel	0.000	0.002	0.001	0.000	0.000	0.000
TOTAL CONSTRUCTION OFFROAD (tons/day)						0.023	0.216	0.231	0.000	0.011	0.010
ESTIMATED Hollister (tons/yr)						6.03	56.80	60.64	0.08	2.81	2.54
ESTIMATED Hollister (lbs/day)						33	311	332	0	15	14

TOTAL UNITS: https://socds.huduser.gov/permits/		2017	2018	2019	Average
Housing Permits in San Benito County		571	553	734	619
Housing Permits in Hollister		521	371	422	438
Percent in the City		91%	67%	57%	**72%**

Industrial and Light Commercial

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd
San Benito	2019	Industrial - Aerial Lifts	Aggregate	Aggregate	Diesel	0.000	0.001	0.001	0.000	0.000	0.000
San Benito	2019	Industrial - Forklifts	Aggregate	Aggregate	Diesel	0.001	0.004	0.004	0.000	0.000	0.000
San Benito	2019	Industrial - Misc - Aerial Lifts	Aggregate	Aggregate	Gasoline	0.000	0.000	0.005	0.000	0.000	0.000
San Benito	2019	Industrial - Misc - Aerial Lifts	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Industrial - Misc - Aerial Lifts	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Industrial - Misc - Forklifts	Aggregate	Aggregate	Gasoline	0.001	0.005	0.117	0.000	0.000	0.000
San Benito	2019	Industrial - Misc - Forklifts	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Industrial - Misc - Forklifts	Aggregate	Aggregate	Nat Gas	0.000	0.007	0.065	0.000	0.000	0.000
San Benito	2019	Industrial - Misc - Other General Industrial Equipment	Aggregate	Aggregate	Gasoline	0.000	0.000	0.004	0.000	0.000	0.000
San Benito	2019	Industrial - Misc - Other General Industrial Equipment	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Industrial - Misc - Other Material Handling Equipment	Aggregate	Aggregate	Gasoline	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Industrial - Misc - Sweepers/Scrubbers	Aggregate	Aggregate	Gasoline	0.000	0.000	0.006	0.000	0.000	0.000
San Benito	2019	Industrial - Misc - Sweepers/Scrubbers	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Industrial - Other General Industrial Equipment	Aggregate	Aggregate	Diesel	0.000	0.002	0.001	0.000	0.000	0.000
San Benito	2019	Industrial - Other Material Handling Equipment	Aggregate	Aggregate	Diesel	0.000	0.001	0.001	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Air Compressors	Aggregate	Aggregate	Gasoline	0.005	0.003	0.265	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Air Compressors	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Air Compressors	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Gas Compressors	Aggregate	Aggregate	Nat Gas	0.000	0.001	0.007	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Generator Sets	Aggregate	Aggregate	Gasoline	0.014	0.005	0.387	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Generator Sets	Aggregate	Aggregate	Diesel	0.000	0.001	0.001	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Generator Sets	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Generator Sets	Aggregate	Aggregate	Nat Gas	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Pressure Washers	Aggregate	Aggregate	Gasoline	0.003	0.001	0.195	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Pressure Washers	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Pressure Washers	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Pumps	Aggregate	Aggregate	Gasoline	0.001	0.001	0.039	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Pumps	Aggregate	Aggregate	Diesel	0.000	0.001	0.001	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Pumps	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Welders	Aggregate	Aggregate	Gasoline	0.002	0.001	0.114	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Welders	Aggregate	Aggregate	Diesel	0.000	0.001	0.001	0.000	0.000	0.000
San Benito	2019	Light Commercial - Misc - Welders	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL LIGHT COMMERCIAL + INDUSTRIAL OFFROAD (tons/day)						0.028	0.035	1.214	0.000	0.001	0.001
ESTIMATED Hollister (tons/yr)						6.33	7.81	273.80	0.01	0.22	0.18
ESTIMATED Hollister (lbs/day)						35	43	1500	0	1	1

EMPLOYMENT: Hollister CAP, 2024	**2019**
Employment in San Benito County	22,927
Employment in Hollister	14,164
Percent in the City	62%

Lawn and Garden

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	NOx_tpd	CO_tpd	SOx_tpd	PM10_tpd	PM2_5_tpd
San Benito	2019	Lawn and Garden - Misc - Chainsaws	Aggregate	Aggregate	Gasoline	0.011	0.000	0.032	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Chainsaws	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Chainsaws Preempt	Aggregate	Aggregate	Gasoline	0.009	0.000	0.017	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Chainsaws Preempt	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Chippers/Stump Grinders	Aggregate	Aggregate	Gasoline	0.000	0.000	0.001	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Chippers/Stump Grinders	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Chippers/Stump Grinders	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Lawn Mowers	Aggregate	Aggregate	Gasoline	0.004	0.002	0.149	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Lawn Mowers	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	Aggregate	Gasoline	0.018	0.001	0.092	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Other	Aggregate	Aggregate	Gasoline	0.000	0.000	0.003	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Other	Aggregate	Aggregate	Diesel	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	Aggregate	Gasoline	0.007	0.003	0.336	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	Aggregate	Diesel	0.000	0.001	0.000	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Snowblowers	Aggregate	Aggregate	Gasoline	0.000	0.000	0.001	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Snowblowers	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Tillers	Aggregate	Aggregate	Gasoline	0.000	0.000	0.003	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Tillers	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	Aggregate	Gasoline	0.012	0.001	0.072	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	Aggregate	Electric	0.000	0.000	0.000	0.000	0.000	0.000
San Benito	2019	Lawn and Garden - Misc - Wood Splitters	Aggregate	Aggregate	Gasoline	0.001	0.000	0.029	0.000	0.000	0.000
TOTAL LAWN & GARDEN (tons/day)						0.06	0.01	0.73	0.00	0.00	0.00
ESTIMATED Hollister (tons/yr)						13.43	1.80	159.05	0.01	0.16	0.12
ESTIMATED Hollister (lbs/day)						74	10	872	0	1	1

HOUSING UNITS: https://data.census.gov/table?g=0400000US06_0500000US06069&tid=ACSDP5Y2019.DP04	**2019**
Housing Units in San Benito (2019)	18,970
Households in Hollister	11,248
Percent in the City	59.3%

HOLLISTER — TRANSPORTATION SECTOR (Criteria Air Pollutants)

Source: EMFAC2021 V.1.0.2., Web Database - Emission Rates. San Benito County. Based on the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) Global Warming Potentials (GWPs); Kimley Horn, 2024.

Criteria Air Pollutants	lbs/day					
	ROG	NOx	CO	SOx	PM10	PM2.5
Existing Year 2019						
City	81	1,123	1,756	7	71	37
SOI	2	29	46	0	2	1
Total	84	1,152	1,802	7	73	38
Existing with Year 2040 Emission Rates (No Project Baseline						
City	11	273	590	5	50	19
SOI	0	0	0	0	0	0
Total	11	273	590	5	50	19
Year 2040						
City	16	395	852	7	72	28
SOI	1	19	41	0	3	1
Total	16	414	893	7	75	30
Change from No Project Baseline (2040)	**5**	**140**	**303**	**2**	**26**	**10**
Change from Existing Conditions (2019-2040)	-67	-738	-909	0	2	-9

Notes:

[1] lbs to Tons 2000

[2] MTons = metric tons; CO2e = carbon dioxide-equivalent.

City of Hollister VMT

Source: Kimley Horn 2024.

Scenario	Area	Daily VMT IX	XI	II	Total Daily VMT	Total with RTAC	%	Service Population	VMT/SP	VMT/SP w RTAC
ExistingYear 2019	City	500,763	494,417	96,504	1,091,685	594,095	97.5%	52,671	20.7	11.3
	SOI	6,934	6,891	8,610	22,435	15,523	2.5%	2,157	10.4	7.2
	Total	507,697	501,308	105,115	1,114,120	609,617		54,828	20.3	11.1
Year 2040	City	707,707	698,513	154,916	1,561,136	858,026	95.4%	93,610	16.7	9.2
	SOI	13,126	13,148	28,072	54,346	41,209	4.6%	3,966	13.7	10.4
	Total	720,833	711,661	182,988	1,615,482	899,235		97,575	16.6	9.2

Notes: Total may not add to 100% due to rounding.

IX = Internal-External

XI = External- Internal

II = Internal-Internal

	Fleet Mix Percentage (based on City + SOI)			
	Existing		GP 2040	
	Number	Percent	Number	Percent
Passenger Vehicles	939,676	84%	1,367,416	85%
Trucks	174,444	16%	248,066	15%

Modeling of vehicle miles traveled (VMT) provided by Kimley Horn, 2024. VMT from passenger vehicles and trucks that have an origin or destination in the City using a transportation origin-destination methodology. Accounting of VMT is based on the recommendations of CARB's Regional Targets Advisory Committee (RTAC) created under Senate Bill 375 (SB 375). For accounting purposes, there are three types of trips:

- Vehicle trips that originated and terminated within the City (Internal-Internal, I-I). Using the accounting rules established by RTAC, 100 percent of the length of these trips, and their emissions, are attributed to the City.
- Vehicle trips that either originated or terminated (but not both) within the City (Internal-External or External-Internal, I-X and X-I). Using the accounting rules established by RTAC, 50 percent of the trip length for these trips is attributed to the City.
- Vehicle trips that neither originated nor terminated within the City. These trips are commonly called pass-through trips (External-External, X-X). Using the accounting rules established by RTAC, these trips are not counted towards the City's VMT or emissions.

Hollister General Plan - No Project

City of Hollister Auto VMT

VMT Type	Analysis Year			
	2019^	2030^	2040^	2045
Internal-Internal	94,877	109,378	122,561	129,153
Internal-External*	415,643	454,264	489,373	506,928
External-Internal*	410,156	447,924	482,259	499,426
Total	***920,676***	***1,011,566***	***1,094,193***	***1,135,507***

* Only 50% of I-E and E-I VMT is included in this summary table

^ Interpolated between 2015 and 2045

City of Hollister SOI Auto VMT

VMT Type	Analysis Year			
	2019^	2030^	2040^	2045
Internal-Internal	103,282	118,169	131,704	138,471
Internal-External*	420,954	459,708	494,938	512,554
External-Internal*	415,441	453,334	487,782	505,006
Total	***939,676***	***1,031,211***	***1,114,424***	***1,156,031***

* Only 50% of I-E and E-I VMT is included in this summary table

^ Interpolated between 2015 and 2045

City of Hollister Truck VMT

VMT Type	Analysis Year			
	2019^	2030^	2040^	2045
Internal-Internal	1,628	1,809	1,974	2,056
Internal-External*	85,120	90,696	95,764	98,299
External-Internal*	84,261	89,753	94,745	97,242
Total	***171,009***	***182,257***	***192,483***	***197,596***

* Only 50% of I-E and E-I VMT is included in this summary table

^ Interpolated between 2015 and 2045

City of Hollister SOI Truck VMT

VMT Type	Analysis Year			
	2019^	2030^	2040^	2045
Internal-Internal	1,833	2,025	2,200	2,288
Internal-External*	86,744	92,371	97,487	100,045
External-Internal*	85,867	91,413	96,455	98,976
Total	***174,444***	***185,810***	***196,142***	***201,309***

* Only 50% of I-E and E-I VMT is included in this summary table

^ Interpolated between 2015 and 2045

City of Hollister Total VMT

VMT Type	Analysis Year			
	2019^	2030^	2040^	2045
Internal-Internal	96,504	111,187	124,535	131,209
Internal-External*	500,763	544,959	585,137	605,226
External-Internal*	494,417	537,677	577,004	596,668
Total	***1,091,685***	***1,193,823***	***1,286,676***	***1,333,103***

* Only 50% of I-E and E-I VMT is included in this summary table

^ Interpolated between 2015 and 2045

City of Hollister SOI Total VMT

VMT Type	Analysis Year			
	2019^	2030^	2040^	2045
Internal-Internal	105,115	120,195	133,904	140,759
Internal-External*	507,697	552,079	592,425	612,599
External-Internal*	501,308	544,747	584,237	603,982
Total	***1,114,120***	***1,217,020***	***1,310,566***	***1,357,339***

* Only 50% of I-E and E-I VMT is included in this summary table

^ Interpolated between 2015 and 2045

City of Hollister

Socio-Economic Data	Analysis Year			
	2019^	2030^	2040^	2045
Population	39,996	44,984	49,519	51,786
Households	11,072	12,778	14,329	15,105
Jobs	14,991	16,134	17,173	17,692

^ Interpolated between 2015 and 2045

City of Hollister SOI

Socio-Economic Data	Analysis Year			
	2019^	2030^	2040^	2045
Population	41,583	46,557	51,079	53,340
Households	11,573	13,283	14,838	15,615
Jobs	15,285	16,449	17,506	18,035

^ Interpolated between 2015 and 2045

Hollister General Plan - With Project

City of Hollister Auto VMT

VMT Type	Analysis Year		
	2030^	2040^	2045
Internal-Internal	120,522	141,135	151,441
Internal-External*	495,296	557,761	588,993
External-Internal*	488,682	550,188	580,941
Total	***1,104,500***	***1,249,083***	***1,321,375***

* Only 50% of I-E and E-I VMT is included in this summary table

^ Interpolated between 2015 and 2045

City of Hollister SOI Auto VMT

VMT Type	Analysis Year		
	2030^	2040^	2045
Internal-Internal	138,310	165,271	178,752
Internal-External*	502,601	566,427	598,340
External-Internal*	495,993	558,881	590,325
Total	***1,136,904***	***1,290,579***	***1,367,416***

* Only 50% of I-E and E-I VMT is included in this summary table

^ Interpolated between 2015 and 2045

City of Hollister Truck VMT

VMT Type	Analysis Year		
	2030^	2040^	2045
Internal-Internal	2,518	3,156	3,475
Internal-External*	100,904	112,777	118,714
External-Internal*	99,918	111,688	117,573
Total	***203,340***	***227,621***	***239,761***

* Only 50% of I-E and E-I VMT is included in this summary table

^ Interpolated between 2015 and 2045

City of Hollister SOI Truck VMT

VMT Type	Analysis Year		
	2030^	2040^	2045
Internal-Internal	2,999	3,824	4,236
Internal-External*	103,595	116,194	122,493
External-Internal*	102,594	115,089	121,337
Total	***209,188***	***235,107***	***248,066***

* Only 50% of I-E and E-I VMT is included in this summary table

^ Interpolated between 2015 and 2045

City of Hollister Total VMT

VMT Type	Analysis Year		
	2030^	2040^	2045
Internal-Internal	123,041	144,291	154,916
Internal-External*	596,200	670,538	707,707
External-Internal*	588,600	661,875	698,513
Total	***1,307,840***	***1,476,704***	***1,561,136***

* Only 50% of I-E and E-I VMT is included in this summary table

^ Interpolated between 2015 and 2045

City of Hollister SOI Total VMT

VMT Type	Analysis Year		
	2030^	2040^	2045
Internal-Internal	141,309	169,095	182,988
Internal-External*	606,196	682,621	720,833
External-Internal*	598,587	673,970	711,661
Total	***1,346,092***	***1,525,685***	***1,615,482***

* Only 50% of I-E and E-I VMT is included in this summary table

^ Interpolated between 2015 and 2045

City of Hollister

Socio-Economic Data	Analysis Year		
	2030^	2040^	2045
Population	53,250	63,295	68,317
Households	15,352	18,619	20,253
Jobs	19,934	23,506	25,293

^ Interpolated between 2015 and 2045

City of Hollister SOI

Socio-Economic Data	Analysis Year		
	2030^	2040^	2045
Population	55,860	66,583	71,945
Households	16,181	19,667	21,410
Jobs	20,246	23,836	25,630

^ Interpolated between 2015 and 2045

Year 2019 Existing: Criteria Air Pollutants

Source: EMFAC2021 Version 1.0.2. PL Emission Rates. San Benito County

[1.] Based on data provided Kimley Horn, 2024.

	Trucks	Passenger Vehicles
Fleet Mix - Hollister (KH)	**16%**	**84%**
Passenger Vehicles	Trucks	EMFAC default
77.68%	22.32%	

City Daily VMT	**594,095**						**lbs/day**		
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
City of Hollister									
All Other Buses	Diesel	0.01%	0.01%	0.09	0.87	0.22	0.00	0.04	0.03
LDA	Gasoline	38.89%	42.22%	10.28	44.92	593.11	1.49	9.44	3.36
LDA	Diesel	0.25%	0.28%	0.11	1.01	1.21	0.01	0.12	0.08
LDA	Electricity	0.31%	0.33%	0.00	0.00	0.00	0.00	0.05	0.01
LDA	Plug-in Hybrid	0.63%	0.68%	0.01	0.03	2.03	0.01	0.11	0.04
LDT1	Gasoline	3.59%	3.89%	3.45	14.80	141.78	0.17	1.04	0.41
LDT1	Diesel	0.00%	0.00%	0.00	0.02	0.01	0.00	0.00	0.00
LDT1	Plug-in Hybrid	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
LDT2	Gasoline	14.68%	15.94%	4.98	32.09	278.65	0.72	3.87	1.38
LDT2	Diesel	0.06%	0.06%	0.02	0.07	0.13	0.00	0.02	0.01
LDT2	Plug-in Hybrid	0.02%	0.02%	0.00	0.00	0.06	0.00	0.00	0.00
LHD1	Gasoline	2.07%	1.45%	2.62	10.58	54.13	0.26	2.39	0.85
LHD1	Diesel	2.87%	2.02%	9.34	111.86	28.05	0.23	5.50	3.16
LHD2	Gasoline	0.21%	0.15%	0.23	1.06	4.91	0.03	0.28	0.10
LHD2	Diesel	1.13%	0.80%	2.90	28.84	7.74	0.11	2.16	1.12
MCY	Gasoline	0.51%	0.56%	9.81	4.72	107.92	0.01	0.12	0.05
MDV	Gasoline	18.22%	19.78%	8.34	51.69	383.96	1.07	4.86	1.74
MDV	Diesel	0.45%	0.49%	0.10	0.69	1.48	0.02	0.16	0.08
MDV	Plug-in Hybrid	0.07%	0.08%	0.00	0.00	0.23	0.00	0.01	0.00
MH	Gasoline	0.12%	0.08%	0.21	1.04	5.79	0.03	0.09	0.03
MH	Diesel	0.05%	0.03%	0.08	3.18	0.29	0.01	0.12	0.09
Motor Coach	Diesel	0.02%	0.02%	0.05	1.33	0.19	0.01	0.06	0.04
OBUS	Gasoline	0.05%	0.04%	0.09	0.61	2.20	0.01	0.04	0.01
PTO	Diesel	0.07%	0.05%	0.30	5.09	1.17	0.02	0.12	0.11
SBUS	Gasoline	0.06%	0.04%	0.26	0.46	4.69	0.01	0.04	0.02
SBUS	Diesel	0.05%	0.03%	0.04	2.73	0.12	0.01	0.05	0.03
SBUS	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 CAIRP Class 4	Diesel	0.00%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Diesel	0.00%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Diesel	0.00%	0.00%	0.00	0.03	0.00	0.00	0.00	0.00
T6 CAIRP Class 7	Diesel	0.01%	0.00%	0.01	0.19	0.02	0.00	0.01	0.01
T6 Instate Delivery Class 4	Diesel	0.04%	0.03%	0.30	3.75	0.79	0.01	0.15	0.13
T6 Instate Delivery Class 5	Diesel	0.04%	0.02%	0.12	1.63	0.31	0.01	0.08	0.06
T6 Instate Delivery Class 6	Diesel	0.07%	0.05%	0.41	5.65	1.07	0.01	0.22	0.17
T6 Instate Delivery Class 7	Diesel	0.01%	0.01%	0.03	0.69	0.09	0.00	0.02	0.01
T6 Instate Delivery Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Instate Other Class 4	Diesel	0.11%	0.08%	0.76	11.28	2.14	0.02	0.48	0.40
T6 Instate Other Class 5	Diesel	0.29%	0.20%	0.59	10.22	1.82	0.04	0.53	0.37
T6 Instate Other Class 6	Diesel	0.18%	0.13%	0.89	13.59	2.53	0.03	0.62	0.50
T6 Instate Other Class 7	Diesel	0.20%	0.14%	0.70	11.75	1.95	0.03	0.53	0.41
T6 Instate Other Class 7	Natural Gas	0.00%	0.00%	0.00	0.01	0.14	0.00	0.00	0.00
T6 Instate Tractor Class 7	Diesel	0.02%	0.01%	0.08	1.48	0.21	0.00	0.06	0.04
T6 Instate Tractor Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T6 OOS Class 4	Diesel	0.00%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 OOS Class 5	Diesel	0.00%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 OOS Class 6	Diesel	0.00%	0.00%	0.00	0.04	0.01	0.00	0.00	0.00
T6 OOS Class 7	Diesel	0.01%	0.01%	0.01	0.29	0.04	0.00	0.02	0.01
T6 Public Class 4	Diesel	0.00%	0.00%	0.01	0.60	0.02	0.00	0.01	0.00
T6 Public Class 5	Diesel	0.01%	0.01%	0.01	0.45	0.02	0.00	0.01	0.01
T6 Public Class 6	Diesel	0.01%	0.01%	0.02	1.29	0.04	0.00	0.01	0.01
T6 Public Class 7	Diesel	0.04%	0.03%	0.10	5.91	0.20	0.01	0.08	0.05
T6 Public Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.06	0.00	0.00	0.00
T6 Utility Class 5	Diesel	0.07%	0.05%	0.02	1.12	0.08	0.01	0.06	0.02
T6 Utility Class 6	Diesel	0.01%	0.01%	0.01	0.35	0.02	0.00	0.01	0.00
T6 Utility Class 7	Diesel	0.02%	0.01%	0.01	0.44	0.02	0.00	0.02	0.01
T6TS	Gasoline	0.22%	0.15%	1.45	5.64	33.45	0.05	0.17	0.06

Year 2019 Existing: Criteria Air Pollutants

Source: EMFAC2021 Version 1.0.2. PL Emission Rates. San Benito County

[1.] Based on data provided Kimley Horn, 2024.

	Trucks	Passenger Vehicles
Fleet Mix - Hollister (KH)	**16%**	**84%**
Passenger Vehicles	Trucks	EMFAC default
77.68%	22.32%	

City Daily VMT	**594,095**						lbs/day		
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
T7 CAIRP Class 8	Diesel	4.43%	3.11%	5.10	208.69	18.77	0.88	10.42	5.77
T7 NNOOS Class 8	Diesel	5.24%	3.68%	9.96	265.52	39.26	1.05	15.35	9.68
T7 NOOS Class 8	Diesel	1.90%	1.34%	2.57	94.12	9.38	0.38	4.67	2.66
T7 POAK Class 8	Diesel	0.18%	0.12%	0.34	11.65	1.09	0.04	0.40	0.19
T7 Public Class 8	Diesel	0.07%	0.05%	0.15	11.17	0.51	0.02	0.22	0.12
T7 Single Concrete/Transit M	Diesel	0.06%	0.04%	0.08	2.20	0.32	0.01	0.16	0.09
T7 Single Concrete/Transit M	Natural Gas	0.00%	0.00%	0.00	0.01	0.24	0.00	0.00	0.00
T7 Single Dump Class 8	Diesel	0.13%	0.09%	0.28	6.70	1.10	0.03	0.41	0.26
T7 Single Dump Class 8	Natural Gas	0.00%	0.00%	0.00	0.03	0.44	0.00	0.01	0.00
T7 Single Other Class 8	Diesel	0.13%	0.09%	0.34	8.46	1.24	0.03	0.42	0.27
T7 Single Other Class 8	Natural Gas	0.00%	0.00%	0.00	0.03	0.56	0.00	0.01	0.00
T7 SWCV Class 8	Diesel	0.04%	0.03%	0.01	1.38	0.03	0.02	0.15	0.06
T7 SWCV Class 8	Natural Gas	0.01%	0.01%	0.00	0.01	1.03	0.00	0.03	0.01
T7 Tractor Class 8	Diesel	1.90%	1.34%	3.45	115.71	12.57	0.38	5.06	2.92
T7 Tractor Class 8	Natural Gas	0.01%	0.00%	0.00	0.05	0.93	0.00	0.01	0.00
T7 Utility Class 8	Diesel	0.05%	0.04%	0.03	1.72	0.14	0.01	0.10	0.04
T7IS	Gasoline	0.00%	0.00%	0.19	0.60	2.36	0.00	0.01	0.00
UBUS	Gasoline	0.05%	0.04%	0.01	0.12	0.22	0.01	0.08	0.03
UBUS	Diesel	0.01%	0.00%	0.01	0.13	0.01	0.00	0.01	0.00
UBUS	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Natural Gas	0.02%	0.01%	0.01	0.05	0.68	0.00	0.03	0.01
		100%	**100.00%**	**81**	**1,123**	**1,756**	**7**	**71**	**37**

SOI Daily VMT	**15,523**						lbs/day		
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
All Other Buses	Diesel	0.01%	0.01%	0.00	0.02	0.01	0.00	0.00	0.00
LDA	Gasoline	38.89%	42.22%	0.27	1.17	15.50	0.04	0.25	0.09
LDA	Diesel	0.25%	0.28%	0.00	0.03	0.03	0.00	0.00	0.00
LDA	Electricity	0.31%	0.33%	0.00	0.00	0.00	0.00	0.00	0.00
LDA	Plug-in Hybrid	0.63%	0.68%	0.00	0.00	0.05	0.00	0.00	0.00
LDT1	Gasoline	3.59%	3.89%	0.09	0.39	3.70	0.00	0.03	0.01
LDT1	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
LDT1	Plug-in Hybrid	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
LDT2	Gasoline	14.68%	15.94%	0.13	0.84	7.28	0.02	0.10	0.04
LDT2	Diesel	0.06%	0.06%	0.00	0.00	0.00	0.00	0.00	0.00
LDT2	Plug-in Hybrid	0.02%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
LHD1	Gasoline	2.07%	1.45%	0.07	0.28	1.41	0.01	0.06	0.02
LHD1	Diesel	2.87%	2.02%	0.24	2.92	0.73	0.01	0.14	0.08
LHD2	Gasoline	0.21%	0.15%	0.01	0.03	0.13	0.00	0.01	0.00
LHD2	Diesel	1.13%	0.80%	0.08	0.75	0.20	0.00	0.06	0.03
MCY	Gasoline	0.51%	0.56%	0.26	0.12	2.82	0.00	0.00	0.00
MDV	Gasoline	18.22%	19.78%	0.22	1.35	10.03	0.03	0.13	0.05
MDV	Diesel	0.45%	0.49%	0.00	0.02	0.04	0.00	0.00	0.00
MDV	Plug-in Hybrid	0.07%	0.08%	0.00	0.00	0.01	0.00	0.00	0.00
MH	Gasoline	0.12%	0.08%	0.01	0.03	0.15	0.00	0.00	0.00
MH	Diesel	0.05%	0.03%	0.00	0.08	0.01	0.00	0.00	0.00
Motor Coach	Diesel	0.02%	0.02%	0.00	0.03	0.00	0.00	0.00	0.00
OBUS	Gasoline	0.05%	0.04%	0.00	0.02	0.06	0.00	0.00	0.00
PTO	Diesel	0.07%	0.05%	0.01	0.13	0.03	0.00	0.00	0.00
SBUS	Gasoline	0.06%	0.04%	0.01	0.01	0.12	0.00	0.00	0.00
SBUS	Diesel	0.05%	0.03%	0.00	0.07	0.00	0.00	0.00	0.00
SBUS	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00

Year 2019 Existing: Criteria Air Pollutants

Source: EMFAC2021 Version 1.0.2. PL Emission Rates. San Benito County

[1.] Based on data provided Kimley Horn, 2024.

	Trucks	Passenger Vehicles
Fleet Mix - Hollister (KH)	**16%**	**84%**
Passenger Vehicles	Trucks	EMFAC default
77.68%	22.32%	

City Daily VMT	**594,095**							lbs/day	
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
T6 CAIRP Class 7	Diesel	0.01%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 4	Diesel	0.04%	0.03%	0.01	0.10	0.02	0.00	0.00	0.00
T6 Instate Delivery Class 5	Diesel	0.04%	0.02%	0.00	0.04	0.01	0.00	0.00	0.00
T6 Instate Delivery Class 6	Diesel	0.07%	0.05%	0.01	0.15	0.03	0.00	0.01	0.00
T6 Instate Delivery Class 7	Diesel	0.01%	0.01%	0.00	0.02	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Other Class 4	Diesel	0.11%	0.08%	0.02	0.29	0.06	0.00	0.01	0.01
T6 Instate Other Class 5	Diesel	0.29%	0.20%	0.02	0.27	0.05	0.00	0.01	0.01
T6 Instate Other Class 6	Diesel	0.18%	0.13%	0.02	0.36	0.07	0.00	0.02	0.01
T6 Instate Other Class 7	Diesel	0.20%	0.14%	0.02	0.31	0.05	0.00	0.01	0.01
T6 Instate Other Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 7	Diesel	0.02%	0.01%	0.00	0.04	0.01	0.00	0.00	0.00
T6 Instate Tractor Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 6	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 7	Diesel	0.01%	0.01%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Public Class 4	Diesel	0.00%	0.00%	0.00	0.02	0.00	0.00	0.00	0.00
T6 Public Class 5	Diesel	0.01%	0.01%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Public Class 6	Diesel	0.01%	0.01%	0.00	0.03	0.00	0.00	0.00	0.00
T6 Public Class 7	Diesel	0.04%	0.03%	0.00	0.15	0.01	0.00	0.00	0.00
T6 Public Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 5	Diesel	0.07%	0.05%	0.00	0.03	0.00	0.00	0.00	0.00
T6 Utility Class 6	Diesel	0.01%	0.01%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Utility Class 7	Diesel	0.02%	0.01%	0.00	0.01	0.00	0.00	0.00	0.00
T6TS	Gasoline	0.22%	0.15%	0.04	0.15	0.87	0.00	0.00	0.00
T7 CAIRP Class 8	Diesel	4.43%	3.11%	0.13	5.45	0.49	0.02	0.27	0.15
T7 NNOOS Class 8	Diesel	5.24%	3.68%	0.26	6.94	1.03	0.03	0.40	0.25
T7 NOOS Class 8	Diesel	1.90%	1.34%	0.07	2.46	0.25	0.01	0.12	0.07
T7 POAK Class 8	Diesel	0.18%	0.12%	0.01	0.30	0.03	0.00	0.01	0.01
T7 Public Class 8	Diesel	0.07%	0.05%	0.00	0.29	0.01	0.00	0.01	0.00
T7 Single Concrete/Transit M	Diesel	0.06%	0.04%	0.00	0.06	0.01	0.00	0.00	0.00
T7 Single Concrete/Transit M	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T7 Single Dump Class 8	Diesel	0.13%	0.09%	0.01	0.18	0.03	0.00	0.01	0.01
T7 Single Dump Class 8	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T7 Single Other Class 8	Diesel	0.13%	0.09%	0.01	0.22	0.03	0.00	0.01	0.01
T7 Single Other Class 8	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T7 SWCV Class 8	Diesel	0.04%	0.03%	0.00	0.04	0.00	0.00	0.00	0.00
T7 SWCV Class 8	Natural Gas	0.01%	0.01%	0.00	0.00	0.03	0.00	0.00	0.00
T7 Tractor Class 8	Diesel	1.90%	1.34%	0.09	3.02	0.33	0.01	0.13	0.08
T7 Tractor Class 8	Natural Gas	0.01%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T7 Utility Class 8	Diesel	0.05%	0.04%	0.00	0.04	0.00	0.00	0.00	0.00
T7IS	Gasoline	0.00%	0.00%	0.00	0.02	0.06	0.00	0.00	0.00
UBUS	Gasoline	0.05%	0.04%	0.00	0.00	0.01	0.00	0.00	0.00
UBUS	Diesel	0.01%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Natural Gas	0.02%	0.01%	0.00	0.00	0.02	0.00	0.00	0.00
		100%	**100.00%**	**2**	**29**	**46**	**0**	**2**	**1**

Year 2040: GP 2040 Update Criteria Air Pollutants

Source: EMFAC2021 Version 1.0.2. PL Emission Rates. San Benito County

[1.] Based on data provided Kimley Horn, 2024.

	Trucks	Passenger Vehicles
Fleet Mix - Hollister (KH)	**15%**	**85%**
Passenger Vehicles	Trucks	EMFAC default
81.06%	18.94%	

City Daily VMT	**858,026**								**lbs/day**
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
All Other Buses	Diesel	0.01%	0.01%	0.02	0.23	0.06	0.00	0.02	0.01
LDA	Gasoline	38.22%	39.91%	2.57	16.54	370.57	1.61	12.43	4.02
LDA	Diesel	0.03%	0.03%	0.01	0.04	0.13	0.00	0.01	0.00
LDA	Electricity	4.66%	4.86%	0.00	0.00	0.00	0.00	1.09	0.31
LDA	Plug-in Hybrid	1.79%	1.87%	0.04	0.10	6.37	0.04	0.42	0.13
LDT1	Gasoline	2.19%	2.29%	0.19	1.16	23.70	0.11	0.79	0.26
LDT1	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
LDT1	Electricity	0.06%	0.06%	0.00	0.00	0.00	0.00	0.01	0.00
LDT1	Plug-in Hybrid	0.05%	0.05%	0.00	0.00	0.16	0.00	0.01	0.00
LDT2	Gasoline	20.18%	21.08%	1.67	9.60	222.84	1.02	7.19	2.34
LDT2	Diesel	0.08%	0.08%	0.02	0.05	0.25	0.00	0.03	0.01
LDT2	Electricity	0.50%	0.52%	0.00	0.00	0.00	0.00	0.12	0.03
LDT2	Plug-in Hybrid	0.52%	0.55%	0.01	0.03	1.84	0.01	0.12	0.04
LHD1	Gasoline	0.85%	0.69%	0.08	0.63	9.37	0.12	1.40	0.49
LHD1	Diesel	0.62%	0.50%	1.50	9.68	4.25	0.07	1.40	0.69
LHD1	Electricity	0.67%	0.54%	0.00	0.00	0.00	0.00	0.60	0.20
LHD2	Gasoline	0.08%	0.07%	0.01	0.05	0.90	0.01	0.15	0.05
LHD2	Diesel	0.30%	0.24%	0.79	5.29	2.26	0.04	0.77	0.37
LHD2	Electricity	0.15%	0.12%	0.00	0.00	0.00	0.00	0.16	0.05
MCY	Gasoline	0.25%	0.26%	4.49	2.53	55.48	0.01	0.09	0.03
MDV	Gasoline	11.62%	12.14%	1.12	6.65	135.75	0.72	4.19	1.37
MDV	Diesel	0.14%	0.15%	0.02	0.05	0.58	0.01	0.06	0.02
MDV	Electricity	0.45%	0.47%	0.00	0.00	0.00	0.00	0.11	0.03
MDV	Plug-in Hybrid	0.32%	0.33%	0.01	0.02	1.14	0.01	0.08	0.02
MH	Gasoline	0.03%	0.02%	0.01	0.07	0.10	0.01	0.03	0.01
MH	Diesel	0.02%	0.01%	0.04	1.12	0.12	0.00	0.04	0.03
Motor Coach	Diesel	0.02%	0.02%	0.00	0.39	0.01	0.01	0.05	0.02
OBUS	Gasoline	0.01%	0.01%	0.01	0.06	0.19	0.00	0.02	0.01
OBUS	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
PTO	Diesel	0.05%	0.04%	0.03	3.51	0.29	0.02	0.01	0.01
PTO	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
SBUS	Gasoline	0.03%	0.03%	0.01	0.12	0.13	0.01	0.03	0.01
SBUS	Diesel	0.03%	0.02%	0.01	0.44	0.05	0.01	0.03	0.01
SBUS	Electricity	0.02%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
SBUS	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 CAIRP Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 4	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 7	Diesel	0.01%	0.00%	0.00	0.02	0.00	0.00	0.01	0.00
T6 CAIRP Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 4	Diesel	0.02%	0.02%	0.00	0.19	0.02	0.00	0.03	0.01
T6 Instate Delivery Class 4	Electricity	0.02%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Instate Delivery Class 5	Diesel	0.02%	0.02%	0.00	0.16	0.02	0.00	0.02	0.01
T6 Instate Delivery Class 5	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Instate Delivery Class 6	Diesel	0.04%	0.03%	0.01	0.35	0.05	0.01	0.05	0.02
T6 Instate Delivery Class 6	Electricity	0.03%	0.02%	0.00	0.00	0.00	0.00	0.02	0.01
T6 Instate Delivery Class 7	Diesel	0.01%	0.01%	0.00	0.09	0.01	0.00	0.01	0.00
T6 Instate Delivery Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T6 Instate Other Class 4	Diesel	0.06%	0.05%	0.01	0.40	0.06	0.01	0.07	0.03
T6 Instate Other Class 4	Electricity	0.05%	0.04%	0.00	0.00	0.00	0.00	0.03	0.01
T6 Instate Other Class 5	Diesel	0.17%	0.14%	0.02	1.03	0.14	0.03	0.19	0.07
T6 Instate Other Class 5	Electricity	0.12%	0.10%	0.00	0.00	0.00	0.00	0.08	0.03
T6 Instate Other Class 6	Diesel	0.11%	0.09%	0.01	0.66	0.09	0.02	0.12	0.04
T6 Instate Other Class 6	Electricity	0.08%	0.06%	0.00	0.00	0.00	0.00	0.05	0.02
T6 Instate Other Class 7	Diesel	0.13%	0.11%	0.02	1.56	0.15	0.03	0.16	0.06
T6 Instate Other Class 7	Electricity	0.07%	0.05%	0.00	0.00	0.00	0.00	0.04	0.01
T6 Instate Other Class 7	Natural Gas	0.00%	0.00%	0.00	0.01	0.17	0.00	0.00	0.00

Year 2040: GP 2040 Update Criteria Air Pollutants

Source: EMFAC2021 Version 1.0.2. PL Emission Rates. San Benito County

[1.] Based on data provided Kimley Horn, 2024.

	Trucks	Passenger Vehicles
Fleet Mix - Hollister (KH)	**15%**	**85%**
Passenger Vehicles	Trucks	EMFAC default
81.06%	18.94%	

City Daily VMT	**858,026**								**lbs/day**
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
T6 Instate Tractor Class 7	Diesel	0.02%	0.01%	0.00	0.25	0.02	0.00	0.02	0.01
T6 Instate Tractor Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T6 OOS Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 6	Diesel	0.00%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 OOS Class 7	Diesel	0.01%	0.01%	0.00	0.04	0.01	0.00	0.01	0.00
T6 Public Class 4	Diesel	0.00%	0.00%	0.00	0.05	0.00	0.00	0.00	0.00
T6 Public Class 4	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Public Class 5	Diesel	0.01%	0.01%	0.00	0.11	0.01	0.00	0.01	0.00
T6 Public Class 5	Electricity	0.01%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T6 Public Class 6	Diesel	0.01%	0.01%	0.00	0.13	0.01	0.00	0.01	0.00
T6 Public Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Public Class 7	Diesel	0.03%	0.02%	0.01	0.38	0.03	0.01	0.03	0.01
T6 Public Class 7	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Public Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.08	0.00	0.00	0.00
T6 Utility Class 5	Diesel	0.03%	0.03%	0.00	0.12	0.02	0.01	0.04	0.01
T6 Utility Class 5	Electricity	0.04%	0.03%	0.00	0.00	0.00	0.00	0.02	0.01
T6 Utility Class 6	Diesel	0.01%	0.00%	0.00	0.02	0.00	0.00	0.01	0.00
T6 Utility Class 6	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 7	Diesel	0.01%	0.01%	0.00	0.03	0.01	0.00	0.01	0.00
T6 Utility Class 7	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6TS	Gasoline	0.08%	0.07%	0.02	0.16	0.42	0.02	0.09	0.03
T6TS	Electricity	0.07%	0.05%	0.00	0.00	0.00	0.00	0.04	0.01
T7 CAIRP Class 8	Diesel	3.63%	2.95%	0.80	84.98	2.70	0.84	10.18	4.59
T7 CAIRP Class 8	Electricity	0.95%	0.77%	0.00	0.00	0.00	0.00	1.38	0.42
T7 NNOOS Class 8	Diesel	5.42%	4.39%	1.15	138.29	3.91	1.19	15.11	6.78
T7 NOOS Class 8	Diesel	1.97%	1.60%	0.43	51.67	1.46	0.43	5.55	2.52
T7 POAK Class 8	Diesel	0.18%	0.15%	0.04	4.48	0.22	0.04	0.50	0.20
T7 POAK Class 8	Electricity	0.04%	0.03%	0.00	0.00	0.00	0.00	0.06	0.02
T7 Public Class 8	Diesel	0.05%	0.04%	0.03	2.24	0.13	0.01	0.14	0.05
T7 Public Class 8	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.04	0.01
T7 Public Class 8	Natural Gas	0.00%	0.00%	0.00	0.00	0.08	0.00	0.00	0.00
T7 Single Concrete/Transit Mix	Diesel	0.02%	0.02%	0.00	0.38	0.02	0.01	0.06	0.02
T7 Single Concrete/Transit Mix	Electricity	0.03%	0.02%	0.00	0.00	0.00	0.00	0.04	0.01
T7 Single Concrete/Transit Mix	Natural Gas	0.00%	0.00%	0.00	0.00	0.06	0.00	0.00	0.00
T7 Single Dump Class 8	Diesel	0.07%	0.06%	0.02	1.64	0.08	0.02	0.20	0.08
T7 Single Dump Class 8	Electricity	0.04%	0.03%	0.00	0.00	0.00	0.00	0.07	0.02
T7 Single Dump Class 8	Natural Gas	0.00%	0.00%	0.00	0.01	0.24	0.00	0.01	0.00
T7 Single Other Class 8	Diesel	0.13%	0.11%	0.06	5.84	0.35	0.04	0.37	0.17
T7 Single Other Class 8	Natural Gas	0.01%	0.00%	0.00	0.07	1.11	0.00	0.01	0.00
T7 SWCV Class 8	Diesel	0.03%	0.02%	0.01	0.22	0.03	0.02	0.13	0.05
T7 SWCV Class 8	Electricity	0.02%	0.01%	0.00	0.00	0.00	0.00	0.04	0.01
T7 SWCV Class 8	Natural Gas	0.01%	0.01%	0.00	0.02	1.77	0.00	0.05	0.02
T7 Tractor Class 8	Diesel	1.71%	1.39%	0.34	40.22	1.64	0.40	4.63	1.95
T7 Tractor Class 8	Electricity	0.26%	0.21%	0.00	0.00	0.00	0.00	0.39	0.12
T7 Tractor Class 8	Natural Gas	0.00%	0.00%	0.00	0.02	0.38	0.00	0.01	0.00
T7 Utility Class 8	Diesel	0.03%	0.03%	0.01	0.71	0.07	0.01	0.09	0.03
T7 Utility Class 8	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.03	0.01
T7IS	Gasoline	0.00%	0.00%	0.00	0.01	0.16	0.00	0.00	0.00
T7IS	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Gasoline	0.01%	0.01%	0.00	0.00	0.11	0.00	0.02	0.01
UBUS	Diesel	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
UBUS	Electricity	0.07%	0.05%	0.00	0.00	0.00	0.00	0.08	0.03
UBUS	Natural Gas	0.00%	0.00%	0.00	0.01	0.02	0.00	0.00	0.00
		100%	100.00%	16	395	852	7	72	28

Year 2040: GP 2040 Update Criteria Air Pollutants

Source: EMFAC2021 Version 1.0.2. PL Emission Rates. San Benito County

[1.] Based on data provided Kimley Horn, 2024.

	Trucks	Passenger Vehicles
Fleet Mix - Hollister (KH)	**15%**	**85%**
Passenger Vehicles	Trucks	EMFAC default
81.06%	18.94%	

City Daily VMT	**858,026**								**lbs/day**
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**

SOI Daily VMT	**41,209**								**lbs/day**
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
All Other Buses	Diesel	0.01%	0.01%	0.00	0.01	0.00	0.00	0.00	0.00
LDA	Gasoline	38.22%	39.91%	0.12	0.79	17.80	0.08	0.60	0.19
LDA	Diesel	0.03%	0.03%	0.00	0.00	0.01	0.00	0.00	0.00
LDA	Electricity	4.66%	4.86%	0.00	0.00	0.00	0.00	0.05	0.01
LDA	Plug-in Hybrid	1.79%	1.87%	0.00	0.00	0.31	0.00	0.02	0.01
LDT1	Gasoline	2.19%	2.29%	0.01	0.06	1.14	0.01	0.04	0.01
LDT1	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
LDT1	Electricity	0.06%	0.06%	0.00	0.00	0.00	0.00	0.00	0.00
LDT1	Plug-in Hybrid	0.05%	0.05%	0.00	0.00	0.01	0.00	0.00	0.00
LDT2	Gasoline	20.18%	21.08%	0.08	0.46	10.70	0.05	0.35	0.11
LDT2	Diesel	0.08%	0.08%	0.00	0.00	0.01	0.00	0.00	0.00
LDT2	Electricity	0.50%	0.52%	0.00	0.00	0.00	0.00	0.01	0.00
LDT2	Plug-in Hybrid	0.52%	0.55%	0.00	0.00	0.09	0.00	0.01	0.00
LHD1	Gasoline	0.85%	0.69%	0.00	0.03	0.45	0.01	0.07	0.02
LHD1	Diesel	0.62%	0.50%	0.07	0.46	0.20	0.00	0.07	0.03
LHD1	Electricity	0.67%	0.54%	0.00	0.00	0.00	0.00	0.03	0.01
LHD2	Gasoline	0.08%	0.07%	0.00	0.00	0.04	0.00	0.01	0.00
LHD2	Diesel	0.30%	0.24%	0.04	0.25	0.11	0.00	0.04	0.02
LHD2	Electricity	0.15%	0.12%	0.00	0.00	0.00	0.00	0.01	0.00
MCY	Gasoline	0.25%	0.26%	0.22	0.12	2.66	0.00	0.00	0.00
MDV	Gasoline	11.62%	12.14%	0.05	0.32	6.52	0.03	0.20	0.07
MDV	Diesel	0.14%	0.15%	0.00	0.00	0.03	0.00	0.00	0.00
MDV	Electricity	0.45%	0.47%	0.00	0.00	0.00	0.00	0.01	0.00
MDV	Plug-in Hybrid	0.32%	0.33%	0.00	0.00	0.05	0.00	0.00	0.00
MH	Gasoline	0.03%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
MH	Diesel	0.02%	0.01%	0.00	0.05	0.01	0.00	0.00	0.00
Motor Coach	Diesel	0.02%	0.02%	0.00	0.02	0.00	0.00	0.00	0.00
OBUS	Gasoline	0.01%	0.01%	0.00	0.00	0.01	0.00	0.00	0.00
OBUS	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
PTO	Diesel	0.05%	0.04%	0.00	0.17	0.01	0.00	0.00	0.00
PTO	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
SBUS	Gasoline	0.03%	0.03%	0.00	0.01	0.01	0.00	0.00	0.00
SBUS	Diesel	0.03%	0.02%	0.00	0.02	0.00	0.00	0.00	0.00
SBUS	Electricity	0.02%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
SBUS	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 4	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 7	Diesel	0.01%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 4	Diesel	0.02%	0.02%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 4	Electricity	0.02%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 5	Diesel	0.02%	0.02%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 5	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 6	Diesel	0.04%	0.03%	0.00	0.02	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 6	Electricity	0.03%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 7	Diesel	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Other Class 4	Diesel	0.06%	0.05%	0.00	0.02	0.00	0.00	0.00	0.00
T6 Instate Other Class 4	Electricity	0.05%	0.04%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Other Class 5	Diesel	0.17%	0.14%	0.00	0.05	0.01	0.00	0.01	0.00
T6 Instate Other Class 5	Electricity	0.12%	0.10%	0.00	0.00	0.00	0.00	0.00	0.00

Year 2040: GP 2040 Update Criteria Air Pollutants

Source: EMFAC2021 Version 1.0.2. PL Emission Rates. San Benito County

[1.] Based on data provided Kimley Horn, 2024.

	Trucks	Passenger Vehicles
Fleet Mix - Hollister (KH)	**15%**	**85%**
Passenger Vehicles	Trucks	EMFAC default
81.06%	18.94%	

City Daily VMT	**858,026**								**lbs/day**
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
T6 Instate Other Class 6	Diesel	0.11%	0.09%	0.00	0.03	0.00	0.00	0.01	0.00
T6 Instate Other Class 6	Electricity	0.08%	0.06%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Other Class 7	Diesel	0.13%	0.11%	0.00	0.07	0.01	0.00	0.01	0.00
T6 Instate Other Class 7	Electricity	0.07%	0.05%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Other Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Instate Tractor Class 7	Diesel	0.02%	0.01%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 6	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 7	Diesel	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 4	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 5	Diesel	0.01%	0.01%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Public Class 5	Electricity	0.01%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 6	Diesel	0.01%	0.01%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Public Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 7	Diesel	0.03%	0.02%	0.00	0.02	0.00	0.00	0.00	0.00
T6 Public Class 7	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 5	Diesel	0.03%	0.03%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Utility Class 5	Electricity	0.04%	0.03%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 6	Diesel	0.01%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 6	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 7	Diesel	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 7	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6TS	Gasoline	0.08%	0.07%	0.00	0.01	0.02	0.00	0.00	0.00
T6TS	Electricity	0.07%	0.05%	0.00	0.00	0.00	0.00	0.00	0.00
T7 CAIRP Class 8	Diesel	3.63%	2.95%	0.04	4.08	0.13	0.04	0.49	0.22
T7 CAIRP Class 8	Electricity	0.95%	0.77%	0.00	0.00	0.00	0.00	0.07	0.02
T7 NNOOS Class 8	Diesel	5.42%	4.39%	0.06	6.64	0.19	0.06	0.73	0.33
T7 NOOS Class 8	Diesel	1.97%	1.60%	0.02	2.48	0.07	0.02	0.27	0.12
T7 POAK Class 8	Diesel	0.18%	0.15%	0.00	0.22	0.01	0.00	0.02	0.01
T7 POAK Class 8	Electricity	0.04%	0.03%	0.00	0.00	0.00	0.00	0.00	0.00
T7 Public Class 8	Diesel	0.05%	0.04%	0.00	0.11	0.01	0.00	0.01	0.00
T7 Public Class 8	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
T7 Public Class 8	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T7 Single Concrete/Transit Mix	Diesel	0.02%	0.02%	0.00	0.02	0.00	0.00	0.00	0.00
T7 Single Concrete/Transit Mix	Electricity	0.03%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
T7 Single Concrete/Transit Mix	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T7 Single Dump Class 8	Diesel	0.07%	0.06%	0.00	0.08	0.00	0.00	0.01	0.00
T7 Single Dump Class 8	Electricity	0.04%	0.03%	0.00	0.00	0.00	0.00	0.00	0.00
T7 Single Dump Class 8	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T7 Single Other Class 8	Diesel	0.13%	0.11%	0.00	0.28	0.02	0.00	0.02	0.01
T7 Single Other Class 8	Natural Gas	0.01%	0.00%	0.00	0.00	0.05	0.00	0.00	0.00
T7 SWCV Class 8	Diesel	0.03%	0.02%	0.00	0.01	0.00	0.00	0.01	0.00
T7 SWCV Class 8	Electricity	0.02%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T7 SWCV Class 8	Natural Gas	0.01%	0.01%	0.00	0.00	0.08	0.00	0.00	0.00
T7 Tractor Class 8	Diesel	1.71%	1.39%	0.02	1.93	0.08	0.02	0.22	0.09
T7 Tractor Class 8	Electricity	0.26%	0.21%	0.00	0.00	0.00	0.00	0.02	0.01
T7 Tractor Class 8	Natural Gas	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T7 Utility Class 8	Diesel	0.03%	0.03%	0.00	0.03	0.00	0.00	0.00	0.00
T7 Utility Class 8	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
T7IS	Gasoline	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T7IS	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Gasoline	0.01%	0.01%	0.00	0.00	0.01	0.00	0.00	0.00
UBUS	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00

Year 2040: GP 2040 Update Criteria Air Pollutants

Source: EMFAC2021 Version 1.0.2. PL Emission Rates. San Benito County

[1.] Based on data provided Kimley Horn, 2024.

	Trucks	Passenger Vehicles
Fleet Mix - Hollister (KH)	**15%**	**85%**
Passenger Vehicles	Trucks	EMFAC default
81.06%	18.94%	

City Daily VMT	**858,026**									**lbs/day**
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
UBUS	Electricity	0.07%	0.05%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
		100%	100.00%	1	19	41	0	3	1

Year 2040: Existing (No Project Baseline) Criteria Air Pollutants

Source: EMFAC2021 Version 1.0.2. PL Emission Rates. San Benito County

[1.] Based on data provided Kimley Horn, 2024.

	Trucks	Passenger Vehicles
Fleet Mix - Hollister (KH)	**16%**	**84%**
Passenger Vehicles	Trucks	EMFAC default
81.06%	18.94%	

City Daily VMT	**594,095**								**lbs/day**
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
All Other Buses	Diesel	0.01%	0.01%	0.01	0.16	0.04	0.00	0.01	0.01
LDA	Gasoline	38.22%	39.76%	1.78	11.45	256.58	1.11	8.61	2.78
LDA	Diesel	0.03%	0.03%	0.00	0.03	0.09	0.00	0.01	0.00
LDA	Electricity	4.66%	4.84%	0.00	0.00	0.00	0.00	0.76	0.22
LDA	Plug-in Hybrid	1.79%	1.86%	0.03	0.07	4.41	0.03	0.29	0.09
LDT1	Gasoline	2.19%	2.28%	0.13	0.80	16.41	0.07	0.55	0.18
LDT1	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
LDT1	Electricity	0.06%	0.06%	0.00	0.00	0.00	0.00	0.01	0.00
LDT1	Plug-in Hybrid	0.05%	0.05%	0.00	0.00	0.11	0.00	0.01	0.00
LDT2	Gasoline	20.18%	21.00%	1.16	6.64	154.29	0.71	4.98	1.62
LDT2	Diesel	0.08%	0.08%	0.02	0.03	0.17	0.00	0.02	0.01
LDT2	Electricity	0.50%	0.52%	0.00	0.00	0.00	0.00	0.08	0.02
LDT2	Plug-in Hybrid	0.52%	0.54%	0.01	0.02	1.28	0.01	0.09	0.03
LHD1	Gasoline	0.85%	0.70%	0.06	0.44	6.49	0.09	0.97	0.34
LHD1	Diesel	0.62%	0.51%	1.04	6.70	2.94	0.05	0.97	0.48
LHD1	Electricity	0.67%	0.55%	0.00	0.00	0.00	0.00	0.41	0.14
LHD2	Gasoline	0.08%	0.07%	0.00	0.03	0.62	0.01	0.11	0.04
LHD2	Diesel	0.30%	0.25%	0.55	3.66	1.57	0.03	0.53	0.26
LHD2	Electricity	0.15%	0.13%	0.00	0.00	0.00	0.00	0.11	0.04
MCY	Gasoline	0.25%	0.26%	3.11	1.75	38.41	0.01	0.06	0.02
MDV	Gasoline	11.62%	12.09%	0.77	4.61	93.99	0.50	2.90	0.95
MDV	Diesel	0.14%	0.15%	0.01	0.04	0.40	0.01	0.04	0.01
MDV	Electricity	0.45%	0.47%	0.00	0.00	0.00	0.00	0.07	0.02
MDV	Plug-in Hybrid	0.32%	0.33%	0.01	0.01	0.79	0.00	0.05	0.02
MH	Gasoline	0.03%	0.02%	0.00	0.05	0.07	0.01	0.02	0.01
MH	Diesel	0.02%	0.01%	0.03	0.78	0.08	0.00	0.03	0.02
Motor Coach	Diesel	0.02%	0.02%	0.00	0.27	0.01	0.00	0.03	0.01
OBUS	Gasoline	0.01%	0.01%	0.01	0.04	0.13	0.00	0.01	0.00
OBUS	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
PTO	Diesel	0.05%	0.04%	0.02	2.43	0.20	0.01	0.00	0.00
PTO	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
SBUS	Gasoline	0.03%	0.03%	0.00	0.08	0.09	0.00	0.02	0.01
SBUS	Diesel	0.03%	0.02%	0.01	0.31	0.03	0.00	0.02	0.01
SBUS	Electricity	0.02%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
SBUS	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 4	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 7	Diesel	0.01%	0.00%	0.00	0.01	0.00	0.00	0.00	0.00
T6 CAIRP Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 4	Diesel	0.02%	0.02%	0.00	0.13	0.02	0.00	0.02	0.01
T6 Instate Delivery Class 4	Electricity	0.02%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Instate Delivery Class 5	Diesel	0.02%	0.02%	0.00	0.11	0.02	0.00	0.02	0.01
T6 Instate Delivery Class 5	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Instate Delivery Class 6	Diesel	0.04%	0.04%	0.00	0.24	0.03	0.01	0.03	0.01
T6 Instate Delivery Class 6	Electricity	0.03%	0.02%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Instate Delivery Class 7	Diesel	0.01%	0.01%	0.00	0.06	0.01	0.00	0.01	0.00
T6 Instate Delivery Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Instate Other Class 4	Diesel	0.06%	0.05%	0.01	0.27	0.04	0.01	0.05	0.02
T6 Instate Other Class 4	Electricity	0.05%	0.04%	0.00	0.00	0.00	0.00	0.02	0.01
T6 Instate Other Class 5	Diesel	0.17%	0.14%	0.01	0.71	0.10	0.02	0.13	0.05
T6 Instate Other Class 5	Electricity	0.12%	0.10%	0.00	0.00	0.00	0.00	0.06	0.02
T6 Instate Other Class 6	Diesel	0.11%	0.09%	0.01	0.46	0.06	0.01	0.08	0.03
T6 Instate Other Class 6	Electricity	0.08%	0.06%	0.00	0.00	0.00	0.00	0.04	0.01
T6 Instate Other Class 7	Diesel	0.13%	0.11%	0.02	1.08	0.11	0.02	0.11	0.04
T6 Instate Other Class 7	Electricity	0.07%	0.06%	0.00	0.00	0.00	0.00	0.03	0.01
T6 Instate Other Class 7	Natural Gas	0.00%	0.00%	0.00	0.01	0.12	0.00	0.00	0.00

Year 2040: Existing (No Project Baseline) Criteria Air Pollutants

Source: EMFAC2021 Version 1.0.2. PL Emission Rates. San Benito County

[1.] Based on data provided Kimley Horn, 2024.

	Trucks	Passenger Vehicles
Fleet Mix - Hollister (KH)	**16%**	**84%**
Passenger Vehicles	Trucks	EMFAC default
81.06%	18.94%	

City Daily VMT	**594,095**								**lbs/day**	
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
T6 Instate Tractor Class 7	Diesel	0.02%	0.02%	0.00	0.17	0.02	0.00	0.01	0.01
T6 Instate Tractor Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T6 OOS Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 6	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 7	Diesel	0.01%	0.01%	0.00	0.03	0.00	0.00	0.01	0.00
T6 Public Class 4	Diesel	0.00%	0.00%	0.00	0.04	0.00	0.00	0.00	0.00
T6 Public Class 4	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 5	Diesel	0.01%	0.01%	0.00	0.08	0.01	0.00	0.01	0.00
T6 Public Class 5	Electricity	0.01%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Public Class 6	Diesel	0.01%	0.01%	0.00	0.09	0.01	0.00	0.01	0.00
T6 Public Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T6 Public Class 7	Diesel	0.03%	0.02%	0.01	0.26	0.02	0.00	0.02	0.01
T6 Public Class 7	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.01	0.00
T6 Public Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.05	0.00	0.00	0.00
T6 Utility Class 5	Diesel	0.03%	0.03%	0.00	0.09	0.02	0.00	0.03	0.01
T6 Utility Class 5	Electricity	0.04%	0.03%	0.00	0.00	0.00	0.00	0.02	0.01
T6 Utility Class 6	Diesel	0.01%	0.01%	0.00	0.02	0.00	0.00	0.00	0.00
T6 Utility Class 6	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 7	Diesel	0.01%	0.01%	0.00	0.02	0.00	0.00	0.01	0.00
T6 Utility Class 7	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6TS	Gasoline	0.08%	0.07%	0.02	0.11	0.29	0.02	0.06	0.02
T6TS	Electricity	0.07%	0.05%	0.00	0.00	0.00	0.00	0.03	0.01
T7 CAIRP Class 8	Diesel	3.63%	3.00%	0.55	58.84	1.87	0.58	7.05	3.18
T7 CAIRP Class 8	Electricity	0.95%	0.78%	0.00	0.00	0.00	0.00	0.96	0.29
T7 NNOOS Class 8	Diesel	5.42%	4.48%	0.80	95.75	2.71	0.83	10.46	4.69
T7 NOOS Class 8	Diesel	1.97%	1.63%	0.30	35.78	1.01	0.30	3.85	1.75
T7 POAK Class 8	Diesel	0.18%	0.15%	0.02	3.10	0.15	0.03	0.35	0.14
T7 POAK Class 8	Electricity	0.04%	0.03%	0.00	0.00	0.00	0.00	0.04	0.01
T7 Public Class 8	Diesel	0.05%	0.04%	0.02	1.55	0.09	0.01	0.09	0.04
T7 Public Class 8	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.02	0.01
T7 Public Class 8	Natural Gas	0.00%	0.00%	0.00	0.00	0.06	0.00	0.00	0.00
T7 Single Concrete/Transit Mix	Diesel	0.02%	0.02%	0.00	0.26	0.01	0.00	0.04	0.02
T7 Single Concrete/Transit Mix	Electricity	0.03%	0.02%	0.00	0.00	0.00	0.00	0.03	0.01
T7 Single Concrete/Transit Mix	Natural Gas	0.00%	0.00%	0.00	0.00	0.04	0.00	0.00	0.00
T7 Single Dump Class 8	Diesel	0.07%	0.06%	0.01	1.13	0.06	0.01	0.14	0.05
T7 Single Dump Class 8	Electricity	0.04%	0.04%	0.00	0.00	0.00	0.00	0.05	0.01
T7 Single Dump Class 8	Natural Gas	0.00%	0.00%	0.00	0.01	0.17	0.00	0.00	0.00
T7 Single Other Class 8	Diesel	0.13%	0.11%	0.04	4.05	0.24	0.03	0.26	0.11
T7 Single Other Class 8	Natural Gas	0.01%	0.00%	0.00	0.05	0.77	0.00	0.01	0.00
T7 SWCV Class 8	Diesel	0.03%	0.02%	0.01	0.15	0.02	0.01	0.09	0.04
T7 SWCV Class 8	Electricity	0.02%	0.01%	0.00	0.00	0.00	0.00	0.03	0.01
T7 SWCV Class 8	Natural Gas	0.01%	0.01%	0.00	0.01	1.22	0.00	0.03	0.01
T7 Tractor Class 8	Diesel	1.71%	1.41%	0.24	27.85	1.13	0.28	3.21	1.35
T7 Tractor Class 8	Electricity	0.26%	0.21%	0.00	0.00	0.00	0.00	0.27	0.08
T7 Tractor Class 8	Natural Gas	0.00%	0.00%	0.00	0.01	0.26	0.00	0.01	0.00
T7 Utility Class 8	Diesel	0.03%	0.03%	0.01	0.49	0.05	0.01	0.06	0.02
T7 Utility Class 8	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.02	0.01
T7IS	Gasoline	0.00%	0.00%	0.00	0.01	0.11	0.00	0.00	0.00
T7IS	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Gasoline	0.01%	0.01%	0.00	0.00	0.07	0.00	0.01	0.00
UBUS	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Electricity	0.07%	0.05%	0.00	0.00	0.00	0.00	0.06	0.02
UBUS	Natural Gas	0.00%	0.00%	0.00	0.01	0.01	0.00	0.00	0.00
		100%	100.00%	11	273	590	5	50	19

Year 2040: Existing (No Project Baseline) Criteria Air Pollutants

Source: EMFAC2021 Version 1.0.2. PL Emission Rates. San Benito County

[1.] Based on data provided Kimley Horn, 2024.

	Trucks	Passenger Vehicles
Fleet Mix - Hollister (KH)	**16%**	**84%**
Passenger Vehicles	Trucks	EMFAC default
81.06%	18.94%	

City Daily VMT	**594,095**								**lbs/day**
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**

SOI Daily VMT	**15,523**								**lbs/day**
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
All Other Buses	Diesel	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
LDA	Gasoline	38.22%	39.76%	0.05	0.30	6.70	0.03	0.22	0.07
LDA	Diesel	0.03%	0.03%	0.00	0.00	0.00	0.00	0.00	0.00
LDA	Electricity	4.66%	4.84%	0.00	0.00	0.00	0.00	0.02	0.01
LDA	Plug-in Hybrid	1.79%	1.86%	0.00	0.00	0.12	0.00	0.01	0.00
LDT1	Gasoline	2.19%	2.28%	0.00	0.02	0.43	0.00	0.01	0.00
LDT1	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
LDT1	Electricity	0.06%	0.06%	0.00	0.00	0.00	0.00	0.00	0.00
LDT1	Plug-in Hybrid	0.05%	0.05%	0.00	0.00	0.00	0.00	0.00	0.00
LDT2	Gasoline	20.18%	21.00%	0.03	0.17	4.03	0.02	0.13	0.04
LDT2	Diesel	0.08%	0.08%	0.00	0.00	0.00	0.00	0.00	0.00
LDT2	Electricity	0.50%	0.52%	0.00	0.00	0.00	0.00	0.00	0.00
LDT2	Plug-in Hybrid	0.52%	0.54%	0.00	0.00	0.03	0.00	0.00	0.00
LHD1	Gasoline	0.85%	0.70%	0.00	0.01	0.17	0.00	0.03	0.01
LHD1	Diesel	0.62%	0.51%	0.03	0.18	0.08	0.00	0.03	0.01
LHD1	Electricity	0.67%	0.55%	0.00	0.00	0.00	0.00	0.01	0.00
LHD2	Gasoline	0.08%	0.07%	0.00	0.00	0.02	0.00	0.00	0.00
LHD2	Diesel	0.30%	0.25%	0.01	0.10	0.04	0.00	0.01	0.01
LHD2	Electricity	0.15%	0.13%	0.00	0.00	0.00	0.00	0.00	0.00
MCY	Gasoline	0.25%	0.26%	0.08	0.05	1.00	0.00	0.00	0.00
MDV	Gasoline	11.62%	12.09%	0.02	0.12	2.46	0.01	0.08	0.02
MDV	Diesel	0.14%	0.15%	0.00	0.00	0.01	0.00	0.00	0.00
MDV	Electricity	0.45%	0.47%	0.00	0.00	0.00	0.00	0.00	0.00
MDV	Plug-in Hybrid	0.32%	0.33%	0.00	0.00	0.02	0.00	0.00	0.00
MH	Gasoline	0.03%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
MH	Diesel	0.02%	0.01%	0.00	0.02	0.00	0.00	0.00	0.00
Motor Coach	Diesel	0.02%	0.02%	0.00	0.01	0.00	0.00	0.00	0.00
OBUS	Gasoline	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
OBUS	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
PTO	Diesel	0.05%	0.04%	0.00	0.06	0.01	0.00	0.00	0.00
PTO	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
SBUS	Gasoline	0.03%	0.03%	0.00	0.00	0.00	0.00	0.00	0.00
SBUS	Diesel	0.03%	0.02%	0.00	0.01	0.00	0.00	0.00	0.00
SBUS	Electricity	0.02%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
SBUS	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 4	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 5	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 7	Diesel	0.01%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 CAIRP Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 4	Diesel	0.02%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 4	Electricity	0.02%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 5	Diesel	0.02%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 5	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 6	Diesel	0.04%	0.04%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 6	Electricity	0.03%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 7	Diesel	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Delivery Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Other Class 4	Diesel	0.06%	0.05%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Instate Other Class 4	Electricity	0.05%	0.04%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Other Class 5	Diesel	0.17%	0.14%	0.00	0.02	0.00	0.00	0.00	0.00
T6 Instate Other Class 5	Electricity	0.12%	0.10%	0.00	0.00	0.00	0.00	0.00	0.00

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[1.] Based on data provided Kimley Horn, 2024.

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Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
T6 Instate Other Class 6	Diesel	0.11%	0.09%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Instate Other Class 6	Electricity	0.08%	0.06%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Other Class 7	Diesel	0.13%	0.11%	0.00	0.03	0.00	0.00	0.00	0.00
T6 Instate Other Class 7	Electricity	0.07%	0.06%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Other Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 7	Diesel	0.02%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 7	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Instate Tractor Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 5	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 6	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 OOS Class 7	Diesel	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 4	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 4	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 4	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 5	Diesel	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 5	Electricity	0.01%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 5	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 6	Diesel	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 6	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 6	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 7	Diesel	0.03%	0.02%	0.00	0.01	0.00	0.00	0.00	0.00
T6 Public Class 7	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Public Class 7	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 5	Diesel	0.03%	0.03%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 5	Electricity	0.04%	0.03%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 6	Diesel	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 6	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 7	Diesel	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6 Utility Class 7	Electricity	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T6TS	Gasoline	0.08%	0.07%	0.00	0.00	0.01	0.00	0.00	0.00
T6TS	Electricity	0.07%	0.05%	0.00	0.00	0.00	0.00	0.00	0.00
T7 CAIRP Class 8	Diesel	3.63%	3.00%	0.01	1.54	0.05	0.02	0.18	0.08
T7 CAIRP Class 8	Electricity	0.95%	0.78%	0.00	0.00	0.00	0.00	0.02	0.01
T7 NNOOS Class 8	Diesel	5.42%	4.48%	0.02	2.50	0.07	0.02	0.27	0.12
T7 NOOS Class 8	Diesel	1.97%	1.63%	0.01	0.93	0.03	0.01	0.10	0.05
T7 POAK Class 8	Diesel	0.18%	0.15%	0.00	0.08	0.00	0.00	0.01	0.00
T7 POAK Class 8	Electricity	0.04%	0.03%	0.00	0.00	0.00	0.00	0.00	0.00
T7 Public Class 8	Diesel	0.05%	0.04%	0.00	0.04	0.00	0.00	0.00	0.00
T7 Public Class 8	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
T7 Public Class 8	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T7 Single Concrete/Transit Mix	Diesel	0.02%	0.02%	0.00	0.01	0.00	0.00	0.00	0.00
T7 Single Concrete/Transit Mix	Electricity	0.03%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
T7 Single Concrete/Transit Mix	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T7 Single Dump Class 8	Diesel	0.07%	0.06%	0.00	0.03	0.00	0.00	0.00	0.00
T7 Single Dump Class 8	Electricity	0.04%	0.04%	0.00	0.00	0.00	0.00	0.00	0.00
T7 Single Dump Class 8	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T7 Single Other Class 8	Diesel	0.13%	0.11%	0.00	0.11	0.01	0.00	0.01	0.00
T7 Single Other Class 8	Natural Gas	0.01%	0.00%	0.00	0.00	0.02	0.00	0.00	0.00
T7 SWCV Class 8	Diesel	0.03%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
T7 SWCV Class 8	Electricity	0.02%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
T7 SWCV Class 8	Natural Gas	0.01%	0.01%	0.00	0.00	0.03	0.00	0.00	0.00
T7 Tractor Class 8	Diesel	1.71%	1.41%	0.01	0.73	0.03	0.01	0.08	0.04
T7 Tractor Class 8	Electricity	0.26%	0.21%	0.00	0.00	0.00	0.00	0.01	0.00
T7 Tractor Class 8	Natural Gas	0.00%	0.00%	0.00	0.00	0.01	0.00	0.00	0.00
T7 Utility Class 8	Diesel	0.03%	0.03%	0.00	0.01	0.00	0.00	0.00	0.00
T7 Utility Class 8	Electricity	0.02%	0.02%	0.00	0.00	0.00	0.00	0.00	0.00
T7IS	Gasoline	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
T7IS	Electricity	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Gasoline	0.01%	0.01%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Diesel	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00

Year 2040: Existing (No Project Baseline) Criteria Air Pollutants

Source: EMFAC2021 Version 1.0.2. PL Emission Rates. San Benito County

[1.] Based on data provided Kimley Horn, 2024.

	Trucks	Passenger Vehicles
Fleet Mix - Hollister (KH)	**16%**	**84%**

Passenger Vehicles	Trucks	EMFAC default
81.06%	18.94%	

City Daily VMT	**594,095**							**lbs/day**		
Vehicle Type	**Fuel Type**	**Percent of VMT**	**Adjusted Percent for Hollister**	**ROG**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
UBUS	Electricity	0.07%	0.05%	0.00	0.00	0.00	0.00	0.00	0.00
UBUS	Natural Gas	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00
		100%	100.00%	0	7	15	0	1	1

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: County
Region: San Benito
Calendar Year: 2019
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

		g/mile																2.205E-03
Vehicle Category	Fuel	ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUNEX	PM10_PMTW	PM10_PMBW	PM10_Total	PM2.5_RUNEX	PM2.5_PMTW	PM2.5_PMBW	PM2_5_Total	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX	VMT	% of VMT
All Other Buses	Diesel	0.72067211	6.97203558	1.77300337	0.01193062	0.24665882	0.012	0.0461373	3.05E-01	0.23598847	0.003	0.01614806	2.55E-01	1261.04654	0.03347335	0.19849974	211	0.0096%
LDA	Gasoline	0.02018431	0.08820412	1.16449156	0.00293293	0.00159115	0.008	0.00894686	1.85E-02	0.00146312	0.002	0.0031314	6.59E-03	296.386858	0.00472543	0.00755953	857,699	38.8878%
LDA	Diesel	0.03310238	0.30489245	0.36342038	0.00222949	0.01958295	0.008	0.00895421	3.65E-02	0.0187358	0.002	0.00313397	2.39E-02	235.50198	0.00153754	0.03707007	5,603	0.2540%
LDA	Electricity	0	0	0	0	0	0.008	0.00436148	1.24E-02	0	0.002	0.00152652	3.53E-03	0	0	0	6,770	0.3070%
LDA	Plug-in Hybrid	0.00168158	0.00387024	0.24580441	0.00155325	0.00094298	0.008	0.0041631	1.31E-02	0.00086704	0.002	0.00145708	4.32E-03	156.963922	0.00054057	0.00072529	13,912	0.6308%
LDT1	Gasoline	0.07339177	0.31504904	3.01816896	0.00351778	0.00318751	0.008	0.01099174	2.22E-02	0.00293155	0.002	0.00384711	8.78E-03	355.488575	0.01534023	0.01991785	79,106	3.5867%
LDT1	Diesel	0.32417652	1.77325558	1.35246788	0.00401893	0.27149969	0.008	0.01237974	2.92E-01	0.25975473	0.002	0.00433291	2.66E-01	424.520797	0.01505738	0.06682328	15	0.0007%
LDT1	Plug-in Hybrid	0.00168738	0.00388358	0.24675622	0.00155881	0.00110971	0.008	0.00415906	1.33E-02	0.00102034	0.002	0.00145567	4.48E-03	157.525131	0.00053914	0.00071975	1	0.0000%
LDT2	Gasoline	0.02587354	0.16688582	1.44917096	0.00376153	0.00167432	0.008	0.01044056	2.01E-02	0.00153972	0.002	0.00365419	7.19E-03	380.121407	0.00586288	0.01119863	323,804	14.6812%
LDT2	Diesel	0.02124095	0.09443844	0.16965616	0.00311305	0.00928312	0.008	0.01000611	2.73E-02	0.00888154	0.002	0.00350214	1.44E-02	328.832365	0.0009866	0.05176109	1,276	0.0578%
LDT2	Plug-in Hybrid	0.00165695	0.00381355	0.24246853	0.00153101	0.001079	0.008	0.00415316	1.32E-02	0.0009921	0.002	0.00145361	4.45E-03	154.715675	0.00053081	0.00071019	421	0.0191%
LHD1	Gasoline	0.0969228	0.39120128	2.00114243	0.0096678	0.00249798	0.008	0.07800002	8.85E-02	0.0022986	0.002	0.02730001	3.16E-02	976.978673	0.01852285	0.02124333	45,554	2.0654%
LHD1	Diesel	0.24818828	2.97203346	0.74536004	0.00605145	0.05611953	0.012	0.07800002	1.46E-01	0.05369183	0.003	0.02730001	8.40E-02	639.215837	0.01152787	0.10061816	63,381	2.8737%
LHD2	Gasoline	0.08362643	0.38780183	1.79398226	0.01072041	0.00252709	0.008	0.09100003	1.02E-01	0.00232357	0.002	0.03185001	3.62E-02	1083.3498	0.01682362	0.02101161	4,610	0.2090%
LHD2	Diesel	0.19541898	1.94113594	0.52130258	0.00744696	0.04247082	0.012	0.09100003	1.45E-01	0.04063355	0.003	0.03185001	7.55E-02	786.624024	0.00907684	0.12382149	25,019	1.1343%
MCY	Gasoline	1.45579005	0.70076424	16.013391	0.00189281	0.00197516	0.004	0.012	1.80E-02	0.00185595	0.001	0.0042	7.06E-03	191.277946	0.20737316	0.04507581	11,349	0.5145%
MDV	Gasoline	0.03494287	0.21666369	1.60927244	0.0044899	0.00172005	0.008	0.01062925	2.03E-02	0.0015821	0.002	0.00372024	7.30E-03	453.726853	0.00756645	0.01372967	401,780	18.2166%
MDV	Diesel	0.01716848	0.1170537	0.25048244	0.0040088	0.00823395	0.008	0.01001603	2.62E-02	0.00787775	0.002	0.00350561	1.34E-02	423.450573	0.00079744	0.06665482	9,961	0.4516%
MDV	Plug-in Hybrid	0.00168251	0.00387238	0.2461052	0.00155443	0.00111294	0.008	0.00415551	1.33E-02	0.00102331	0.002	0.00145443	4.48E-03	157.082356	0.00054084	0.00072565	1,593	0.0722%
MH	Gasoline	0.13845281	0.6819542	3.78765061	0.01931481	0.00240502	0.012	0.04504753	5.95E-02	0.00221647	0.003	0.01576663	2.10E-02	1951.8564	0.02767459	0.03671055	2,575	0.1167%
MH	Diesel	0.133761	5.08409841	0.46312816	0.01022583	0.13614531	0.016	0.04484178	1.97E-01	0.13025572	0.004	0.01569462	1.50E-01	1080.15663	0.00621294	0.17002609	1,055	0.0478%
Motor Coach	Diesel	0.17747673	4.35977774	0.62334635	0.01663978	0.10785399	0.012	0.07908361	1.99E-01	0.10318828	0.003	0.02767927	1.34E-01	1758.79752	0.00824333	0.27685009	513	0.0233%
OBUS	Gasoline	0.140015	0.89700999	3.24523506	0.0185586	0.00082671	0.012	0.04488659	5.77E-02	0.00076013	0.003	0.01571031	1.95E-02	1875.43794	0.02787372	0.04108033	1,141	0.0517%
PTO	Diesel	0.34601465	5.9222856	1.3573374	0.02065015	0.13810237	0	0	1.38E-01	0.13212812	0	0	1.32E-01	2182.68684	0.01607148	0.34357397	1,449	0.0657%
SBUS	Gasoline	0.32864561	0.5831015	5.99912298	0.00833953	0.00185445	0.008	0.04491714	5.48E-02	0.0017051	0.002	0.015721	1.94E-02	842.75026	0.0553471	0.02983463	1,316	0.0597%
SBUS	Diesel	0.06321522	4.19912459	0.1885915	0.01096907	0.02554919	0.012	0.04491714	8.25E-02	0.02444394	0.003	0.015721	4.32E-02	1159.41222	0.00293618	0.18250161	1,095	0.0497%
SBUS	Natural Gas	0.05396704	0.69519305	13.2509354	0	0.00367426	0.012	0.04491714	6.06E-02	0.00337835	0.003	0.015721	2.21E-02	1358.82335	3.77708134	0.27700503	1	0.0000%
T6 CAIRP Class 4	Diesel	0.08784756	2.18898152	0.31179646	0.01078547	0.0743992	0.012	0.04231382	1.29E-01	0.07118072	0.003	0.01480984	8.90E-02	1140.00653	0.00408029	0.17944698	6	0.0003%
T6 CAIRP Class 5	Diesel	0.05992535	1.64580943	0.22811691	0.01072807	0.05443978	0.012	0.04231382	1.09E-01	0.05208474	0.003	0.01480984	6.99E-02	1133.93937	0.00278338	0.17849196	9	0.0004%
T6 CAIRP Class 6	Diesel	0.08555584	2.15301072	0.31782699	0.0106028	0.07668048	0.012	0.04231382	1.31E-01	0.07336332	0.003	0.01480984	9.12E-02	1120.69876	0.00397385	0.17640777	22	0.0010%
T6 CAIRP Class 7	Diesel	0.08481135	2.29105942	0.28918725	0.00998568	0.06942336	0.012	0.04231382	1.24E-01	0.06642013	0.003	0.01480984	8.42E-02	1055.46983	0.00393927	0.16614017	140	0.0064%
T6 Instate Delivery Class 4	Diesel	0.61828388	7.64868833	1.60171986	0.01186687	0.24999504	0.012	0.04756293	3.10E-01	0.23918037	0.003	0.01664703	2.59E-01	1254.30852	0.02871768	0.19743912	827	0.0375%
T6 Instate Delivery Class 5	Diesel	0.25313177	3.5170127	0.67130842	0.01170667	0.10631005	0.012	0.04756293	1.66E-01	0.10171112	0.003	0.01664703	1.21E-01	1237.37531	0.01175732	0.19477368	779	0.0353%
T6 Instate Delivery Class 6	Diesel	0.42894995	5.98133036	1.12726374	0.01189657	0.17074109	0.012	0.04756293	2.30E-01	0.16335491	0.003	0.01664703	1.83E-01	1257.44726	0.01992361	0.19793318	1,591	0.0721%
T6 Instate Delivery Class 7	Diesel	0.23219645	4.61559621	0.59077754	0.01223023	0.05838698	0.012	0.04756293	1.18E-01	0.05586119	0.003	0.01664703	7.55E-02	1292.71547	0.01078492	0.2034847	250	0.0113%
T6 Instate Delivery Class 7	Natural Gas	0.0103841	0.30177727	3.24575461	0	0.00063872	0.012	0.04756293	6.02E-02	0.00058728	0.003	0.01664703	2.02E-02	1054.87276	0.72676944	0.21504271	6	0.0003%
T6 Instate Other Class 4	Diesel	0.53208796	7.93603306	1.5062489	0.0112518	0.27735174	0.012	0.04486375	3.34E-01	0.26535362	0.003	0.01570231	2.84E-01	1189.29658	0.02471411	0.18720567	2,394	0.1085%
T6 Instate Other Class 5	Diesel	0.15739638	2.71142618	0.48314486	0.01088872	0.08310615	0.012	0.04486375	1.40E-01	0.07951101	0.003	0.01570231	9.82E-02	1150.91979	0.00731065	0.18116483	6,346	0.2877%
T6 Instate Other Class 6	Diesel	0.36938743	5.65604068	1.0524819	0.01102281	0.19927803	0.012	0.04486375	2.56E-01	0.19065735	0.003	0.01570231	2.09E-01	1165.09281	0.01715709	0.18339578	4,047	0.1835%
T6 Instate Other Class 7	Diesel	0.2691739	4.5148357	0.74994529	0.01093116	0.14657785	0.012	0.04486375	2.03E-01	0.14023695	0.003	0.01570231	1.59E-01	1155.40517	0.01250243	0.18187087	4,382	0.1987%
T6 Instate Other Class 7	Natural Gas	0.00793434	0.23212641	2.83468909	0	0.00049328	0.012	0.04486375	5.74E-02	0.00045356	0.003	0.01570231	1.92E-02	949.887997	0.55531398	0.19364088	85	0.0038%
T6 Instate Tractor Class 7	Diesel	0.2867262	5.30387446	0.75490143	0.01028296	0.14432104	0.012	0.04486375	2.01E-01	0.13807778	0.003	0.01570231	1.57E-01	1086.89197	0.01331769	0.17108629	471	0.0213%
T6 Instate Tractor Class 7	Natural Gas	0.00793434	0.23212641	2.83468909	0	0.00049328	0.012	0.04486375	5.74E-02	0.00045356	0.003	0.01570231	1.92E-02	922.224645	0.55531398	0.18800153	11	0.0005%
T6 OOS Class 4	Diesel	0.08784755	2.18898143	0.31179644	0.01078547	0.0743992	0.012	0.04231382	1.29E-01	0.07118072	0.003	0.01480984	8.90E-02	1140.00653	0.00408029	0.17944699	8	0.0004%
T6 OOS Class 5	Diesel	0.05992534	1.64580938	0.22811691	0.01072807	0.05443978	0.012	0.04231382	1.09E-01	0.05208474	0.003	0.01480984	6.99E-02	1133.93937	0.00278338	0.17849196	11	0.0005%
T6 OOS Class 6	Diesel	0.08555584	2.15301072	0.31782699	0.0106028	0.07668048	0.012	0.04231382	1.31E-01	0.07336332	0.003	0.01480984	9.12E-02	1120.69876	0.00397385	0.17640777	28	0.0013%
T6 OOS Class 7	Diesel	0.09387198	2.40782776	0.31939947	0.00997905	0.07658002	0.012	0.04231382	1.31E-01	0.07326721	0.003	0.01480984	9.11E-02	1054.76907	0.00436011	0.16602986	203	0.0092%
T6 Public Class 4	Diesel	0.14215234	10.4879645	0.30838493	0.01229243	0.04161695	0.012	0.04616939	9.98E-02	0.03981662	0.003	0.01615929	5.90E-02	1299.28923	0.00660261	0.20451947	96	0.0043%
T6 Public Class 5	Diesel	0.03614508	2.31992106	0.11137304	0.01171413	0.01096246	0.012	0.04616939	6.91E-02	0.01048823	0.003	0.01615929	2.96E-02	1238.16376	0.00167885	0.19489779	326	0.0148%
T6 Public Class 6	Diesel	0.12979231	9.71820965	0.27507827	0.01244565	0.05097547	0.012	0.04616939	1.09E-01	0.0487703	0.003	0.01615929	6.79E-02	1315.48451	0.00602852	0.20706875	223	0.0101%
T6 Public Class 7	Diesel	0.18675379	11.3630783	0.38717119	0.01259162	0.08683342	0.012	0.04616939	1.45E-01	0.08307704	0.003	0.01615929	1.02E-01	1330.91337	0.00867423	0.20949739	875	0.0397%
T6 Public Class 7	Natural Gas	0.01262372	0.05818832	3.05785103	0	0.00179619	0.012	0.04616939	6.00E-02	0.00165153	0.003	0.01615929	2.08E-02	1076.87798	0.88351739	0.21952862	32	0.0015%
T6 Utility Class 5	Diesel	0.024264	1.2772279	0.0952923	0.01075697	0.00610779	0.012	0.0454967	6.36E-02	0.00584357	0.003	0.01592385	2.48E-02	1136.99333	0.001127	0.17897268	1,477	0.0670%
T6 Utility Class 6	Diesel	0.03680637	2.08255757	0.12345681	0.01101519	0.0106893	0.012	0.0454967	6.82E-02	0.01022688	0.003	0.01592385	2.92E-02	1164.28761	0.00170956	0.18326904	279	0.0127%
T6 Utility Class 7	Diesel	0.02754745	1.90953459	0.09974839	0.010994	0.01017149	0.012	0.0454967	6.77E-02	0.00973148	0.003	0.01592385	2.87E-02	1162.04785	0.00127951	0.18291648	388	0.0176%
T6TS	Gasoline	0.51210427	1.99892818	11.8481344	0.0190437	0.00354606	0.012	0.04504753	6.06E-02	0.0032815	0.003	0.01576663	2.20E-02	1924.45918	0.08820651	0.08002453	4,754	0.2155%
T7 CAIRP Class 8	Diesel	0.08793611	3.59505526	0.32332739	0.01514819	0.06613947	0.03600001	0.0773056	1.79E-01	0.0632783	0.009	0.02705696	9.93E-02	1601.13881	0.0040844	0.25203323	97,755	4.4322%
T7 NNOOS Class 8	Diesel	0.14512589	3.86875173	0.57207431	0.0152459	0.10942661	0.03600001	0.0781827	2.24E-01	0.10469286	0.009	0.02736394	1.41E-01	1611.46586	0.00674072	0.2536588	115,576	5.2402%
T7 NOOS Class 8	Diesel	0.10326212	3.77481388	0.37630137	0.01514634	0.07394927	0.03600001	0.07748601	1.87E-01	0.07075026	0.009	0.0271201	1.07E-01	1600.94266	0.00479626	0.25200236	41,987	1.9037%
T7 POAK Class 8	Diesel	0.14726591	4.99913723	0.46851786	0.01632151	0.04139971	0.03600001	0.09602281	1.73E-01	0.03960877	0.009	0.03360798	8.22E-02	1725.15625	0.00684012	0.27155466	3,925	0.1780%
T7 Public Class 8	Diesel	0.17298444	12.6470823	0.57761223	0.01880595	0.09410296	0.03600001	0.11937935	2.49E-01	0.09003211	0.009	0.04178277	1.41E-01	1987.75787	0.00803468	0.31289045	1,488	0.0675%
T7 Single Concrete/Transit Mix Cla	Diesel	0.11109135	3.00584234	0.43421364	0.01624486	0.09200826	0.03600001	0.08565905	2.14E-01	0.08802802	0.009	0.02998067	1.27E-01	1717.05461	0.00515991	0.27027939	1,235	0.0560%

T7 Single Concrete/Transit Mix Cla	Natural Gas	0.01503667	0.63341036	10.5179917	0	0.00120474	0.03600001	0.08035452	1.18E-01	0.00110772	0.009	0.02812408	3.82E-02	1232.26508	1.05239683	0.2512053	39	0.0017%
T7 Single Dump Class 8	Diesel	0.15899471	3.81560471	0.62843846	0.01617331	0.11211916	0.03600001	0.08589756	2.34E-01	0.10726893	0.009	0.03006415	1.46E-01	1709.49188	0.00738489	0.26908895	2,956	0.1340%
T7 Single Dump Class 8	Natural Gas	0.01504488	0.61505863	10.2643953	0	0.00124589	0.03600001	0.08209395	1.19E-01	0.00114555	0.009	0.02873288	3.89E-02	1294.0179	1.05297087	0.26379401	72	0.0033%
T7 Single Other Class 8	Diesel	0.1995061	4.90859521	0.72165096	0.01593764	0.12143872	0.03600001	0.08695755	2.44E-01	0.11618533	0.009	0.03043514	1.56E-01	1684.58196	0.00926654	0.26516791	2,904	0.1317%
T7 Single Other Class 8	Natural Gas	0.01503667	0.63341036	10.5179917	0	0.00120474	0.03600001	0.08156918	1.19E-01	0.00110772	0.009	0.02854921	3.87E-02	1324.79855	1.05239683	0.27006885	90	0.0041%
T7 SWCV Class 8	Diesel	0.02381637	2.37728007	0.05588401	0.03548887	0.02005506	0.03600001	0.21000006	2.66E-01	0.01918749	0.009	0.07350002	1.02E-01	3751.11441	0.00110621	0.59045817	976	0.0442%
T7 SWCV Class 8	Natural Gas	0.00123502	0.08928852	9.04769323	0	0.00115361	0.03600001	0.21000006	2.47E-01	0.0010607	0.009	0.07350002	8.36E-02	1466.7385	0.08643769	0.29900424	192	0.0087%
T7 Tractor Class 8	Diesel	0.13841832	4.63797386	0.50402996	0.01512822	0.08195936	0.03600001	0.08486579	2.03E-01	0.07841383	0.009	0.02970303	1.17E-01	1599.02784	0.00642917	0.25170095	42,012	1.9048%
T7 Tractor Class 8	Natural Gas	0.01419301	0.59464816	10.2465881	0	0.00116901	0.03600001	0.0783748	1.16E-01	0.00107486	0.009	0.02743118	3.75E-02	1381.261	0.99334965	0.28157909	154	0.0070%
T7 Utility Class 8	Diesel	0.04099307	2.47939806	0.19832984	0.01681248	0.01136378	0.03600001	0.09839523	1.46E-01	0.01087219	0.009	0.03443833	5.43E-02	1777.05075	0.00190402	0.27972331	1,166	0.0529%
T7IS	Gasoline	3.06407514	9.80159645	38.4268496	0.02552745	0.00216147	0.02000001	0.11790669	1.40E-01	0.00198739	0.005	0.04126734	4.83E-02	2579.67356	0.51106001	0.30059565	103	0.0047%
UBUS	Gasoline	0.01182389	0.1776497	0.31793906	0.01653487	0.00098811	0.01130747	0.10671052	1.19E-01	0.00090853	0.00282687	0.03734868	4.11E-02	1670.92999	0.00364716	0.01664769	1,161	0.0526%
UBUS	Diesel	0.08878824	1.85551077	0.12044023	0.00937646	0.00706421	0.01201915	0.10791695	1.27E-01	0.00675862	0.00300479	0.03777093	4.75E-02	990.437832	0.00412399	0.15590357	118	0.0054%
UBUS	Electricity	0	0	0	0	0	0.01115721	0.05102258	6.22E-02	0	0.0027893	0.0178579	2.06E-02	0	0	0	1	0.0001%
UBUS	Natural Gas	0.02246299	0.20210398	2.94033973	0	0.00206825	0.01204224	0.10724698	1.21E-01	0.00197878	0.00301056	0.03753644	4.25E-02	682.294819	0.34186288	0.13909026	388	0.0176%
																	2,205,573	100%

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: County
Region: San Benito
Calendar Year: 2019
Season: Annual
Vehicle Classification: EMFAC202x Categori
Units: miles/day for CVMT and EVMT, trips,

		lbs/Mile															1.0E-06
Vehicle Category	Fuel	ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUNEX	PM10_PMTW	PM10_PMBW	PM10_Total	PM2.5_RUNEX	PM2.5_PMTW	PM2.5_PMBW	PM2_5_Total	CO2(Pavley+AACC)_RUNEX	CH4_RUNEX	N2O_RUNEX	
All Other Buses	Diesel	1.589E-03	1.537E-02	3.909E-03	2.630E-05	5.438E-04	2.646E-05	1.017E-04	6.720E-04	5.203E-04	6.614E-06	3.560E-05	5.625E-04	2.780E+00	7.380E-05	4.376E-04	
LDA	Gasoline	4.450E-05	1.945E-04	2.567E-03	6.466E-06	3.508E-06	1.764E-05	1.972E-05	4.087E-05	3.226E-06	4.409E-06	6.903E-06	1.454E-05	6.534E-01	1.042E-05	1.667E-05	
LDA	Diesel	7.298E-05	6.722E-04	8.012E-04	4.915E-06	4.317E-05	1.764E-05	1.974E-05	8.055E-05	4.130E-05	4.409E-06	6.909E-06	5.262E-05	5.192E-01	3.390E-06	8.172E-05	
LDA	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.764E-05	9.615E-06	2.725E-05	0.000E+00	4.409E-06	3.365E-06	7.775E-06	0.000E+00	0.000E+00	0.000E+00	
LDA	Plug-in Hybrid	3.707E-06	8.532E-06	5.419E-04	3.424E-06	2.079E-06	1.764E-05	9.178E-06	2.889E-05	1.911E-06	4.409E-06	3.212E-06	9.533E-06	3.460E-01	1.192E-06	1.599E-06	
LDT1	Gasoline	1.618E-04	6.946E-04	6.654E-03	7.755E-06	7.027E-06	1.764E-05	2.423E-05	4.890E-05	6.463E-06	4.409E-06	8.481E-06	1.935E-05	7.837E-01	3.382E-05	4.391E-05	
LDT1	Diesel	7.147E-04	3.909E-03	2.982E-03	8.860E-06	5.985E-04	1.764E-05	2.729E-05	6.435E-04	5.727E-04	4.409E-06	9.552E-06	5.866E-04	9.359E-01	3.320E-05	1.473E-04	
LDT1	Plug-in Hybrid	3.720E-06	8.562E-06	5.440E-04	3.437E-06	2.446E-06	1.764E-05	9.169E-06	2.925E-05	2.249E-06	4.409E-06	3.209E-06	9.868E-06	3.473E-01	1.189E-06	1.587E-06	
LDT2	Gasoline	5.704E-05	3.679E-04	3.195E-03	8.293E-06	3.691E-06	1.764E-05	2.302E-05	4.435E-05	3.394E-06	4.409E-06	8.056E-06	1.586E-05	8.380E-01	1.293E-05	2.469E-05	
LDT2	Diesel	4.683E-05	2.082E-04	3.740E-04	6.863E-06	2.047E-05	1.764E-05	2.206E-05	6.016E-05	1.958E-05	4.409E-06	7.721E-06	3.171E-05	7.249E-01	2.175E-06	1.141E-04	
LDT2	Plug-in Hybrid	3.653E-06	8.407E-06	5.345E-04	3.375E-06	2.379E-06	1.764E-05	9.156E-06	2.917E-05	2.187E-06	4.409E-06	3.205E-06	9.801E-06	3.411E-01	1.170E-06	1.566E-06	
LHD1	Gasoline	2.137E-04	8.624E-04	4.412E-03	2.131E-05	5.507E-06	1.764E-05	1.720E-04	1.951E-04	5.067E-06	4.409E-06	6.019E-05	6.966E-05	2.154E+00	4.084E-05	4.683E-05	
LHD1	Diesel	5.472E-04	6.552E-03	1.643E-03	1.334E-05	1.237E-04	2.646E-05	1.720E-04	3.221E-04	1.184E-04	6.614E-06	6.019E-05	1.852E-04	1.409E+00	2.541E-05	2.218E-04	
LHD2	Gasoline	1.844E-04	8.549E-04	3.955E-03	2.363E-05	5.571E-06	1.764E-05	2.006E-04	2.238E-04	5.123E-06	4.409E-06	7.022E-05	7.975E-05	2.388E+00	3.709E-05	4.632E-05	
LHD2	Diesel	4.308E-04	4.279E-03	1.149E-03	1.642E-05	9.363E-05	2.646E-05	2.006E-04	3.207E-04	8.958E-05	6.614E-06	7.022E-05	1.664E-04	1.734E+00	2.001E-05	2.730E-04	
MCY	Gasoline	3.209E-03	1.545E-03	3.530E-02	4.173E-06	4.354E-06	8.818E-06	2.646E-05	3.963E-05	4.092E-06	2.205E-06	9.259E-06	1.556E-05	4.217E-01	4.572E-04	9.937E-05	
MDV	Gasoline	7.704E-05	4.777E-04	3.548E-03	9.898E-06	3.792E-06	1.764E-05	2.343E-05	4.486E-05	3.488E-06	4.409E-06	8.202E-06	1.610E-05	1.000E+00	1.668E-05	3.027E-05	
MDV	Diesel	3.785E-05	2.581E-04	5.522E-04	8.838E-06	1.815E-05	1.764E-05	2.208E-05	5.787E-05	1.737E-05	4.409E-06	7.728E-06	2.950E-05	9.335E-01	1.758E-06	1.469E-04	
MDV	Plug-in Hybrid	3.709E-06	8.537E-06	5.426E-04	3.427E-06	2.454E-06	1.764E-05	9.161E-06	2.925E-05	2.256E-06	4.409E-06	3.206E-06	9.872E-06	3.463E-01	1.192E-06	1.600E-06	
MH	Gasoline	3.052E-04	1.503E-03	8.350E-03	4.258E-05	5.302E-06	2.646E-05	9.931E-05	1.311E-04	4.886E-06	6.614E-06	3.476E-05	4.626E-05	4.303E+00	6.101E-05	8.093E-05	
MH	Diesel	2.949E-04	1.121E-02	1.021E-03	2.254E-05	3.001E-04	3.527E-05	9.886E-05	4.343E-04	2.872E-04	8.818E-06	3.460E-05	3.306E-04	2.381E+00	1.370E-05	3.748E-04	
Motor Coach	Diesel	3.913E-04	9.612E-03	1.374E-03	3.668E-05	2.378E-04	2.646E-05	1.743E-04	4.386E-04	2.275E-04	6.614E-06	6.102E-05	2.951E-04	3.877E+00	1.817E-05	6.103E-04	
OBUS	Gasoline	3.087E-04	1.978E-03	7.154E-03	4.091E-05	1.823E-06	2.646E-05	9.896E-05	1.272E-04	1.676E-06	6.614E-06	3.463E-05	4.292E-05	4.135E+00	6.145E-05	9.057E-05	
PTO	Diesel	7.628E-04	1.306E-02	2.992E-03	4.553E-05	3.045E-04	0.000E+00	0.000E+00	3.045E-04	2.913E-04	0.000E+00	0.000E+00	2.913E-04	4.812E+00	3.543E-05	7.574E-04	
SBUS	Gasoline	7.245E-04	1.286E-03	1.323E-02	1.839E-05	4.088E-06	1.764E-05	9.902E-05	1.207E-04	3.759E-06	4.409E-06	3.466E-05	4.283E-05	1.858E+00	1.220E-04	6.577E-05	
SBUS	Diesel	1.394E-04	9.257E-03	4.158E-04	2.418E-05	5.633E-05	2.646E-05	9.902E-05	1.818E-04	5.389E-05	6.614E-06	3.466E-05	9.516E-05	2.556E+00	6.473E-06	4.023E-04	
SBUS	Natural Gas	1.190E-04	1.533E-03	2.921E-02	0.000E+00	8.100E-06	2.646E-05	9.902E-05	1.336E-04	7.448E-06	6.614E-06	3.466E-05	4.872E-05	2.996E+00	8.327E-03	6.107E-04	
T6 CAIRP Class 4	Diesel	1.937E-04	4.826E-03	6.874E-04	2.378E-05	1.640E-04	2.646E-05	9.329E-05	2.838E-04	1.569E-04	6.614E-06	3.265E-05	1.962E-04	2.513E+00	8.995E-06	3.956E-04	
T6 CAIRP Class 5	Diesel	1.321E-04	3.628E-03	5.029E-04	2.365E-05	1.200E-04	2.646E-05	9.329E-05	2.398E-04	1.148E-04	6.614E-06	3.265E-05	1.541E-04	2.500E+00	6.136E-06	3.935E-04	
T6 CAIRP Class 6	Diesel	1.886E-04	4.747E-03	7.007E-04	2.337E-05	1.690E-04	2.646E-05	9.329E-05	2.888E-04	1.617E-04	6.614E-06	3.265E-05	2.010E-04	2.471E+00	8.761E-06	3.889E-04	
T6 CAIRP Class 7	Diesel	1.870E-04	5.051E-03	6.375E-04	2.201E-05	1.531E-04	2.646E-05	9.329E-05	2.728E-04	1.464E-04	6.614E-06	3.265E-05	1.857E-04	2.327E+00	8.685E-06	3.663E-04	
T6 Instate Delivery Class 4	Diesel	1.363E-03	1.686E-02	3.531E-03	2.616E-05	5.511E-04	2.646E-05	1.049E-04	6.825E-04	5.273E-04	6.614E-06	3.670E-05	5.706E-04	2.765E+00	6.331E-05	4.353E-04	
T6 Instate Delivery Class 5	Diesel	5.581E-04	7.754E-03	1.480E-03	2.581E-05	2.344E-04	2.646E-05	1.049E-04	3.657E-04	2.242E-04	6.614E-06	3.670E-05	2.675E-04	2.728E+00	2.592E-05	4.294E-04	
T6 Instate Delivery Class 6	Diesel	9.457E-04	1.319E-02	2.485E-03	2.623E-05	3.764E-04	2.646E-05	1.049E-04	5.077E-04	3.601E-04	6.614E-06	3.670E-05	4.034E-04	2.772E+00	4.392E-05	4.364E-04	
T6 Instate Delivery Class 7	Diesel	5.119E-04	1.018E-02	1.302E-03	2.696E-05	1.287E-04	2.646E-05	1.049E-04	2.600E-04	1.232E-04	6.614E-06	3.670E-05	1.665E-04	2.850E+00	2.378E-05	4.486E-04	
T6 Instate Delivery Class 7	Natural Gas	2.289E-05	6.653E-04	7.156E-03	0.000E+00	1.408E-06	2.646E-05	1.049E-04	1.327E-04	1.295E-06	6.614E-06	3.670E-05	4.461E-05	2.326E+00	1.602E-03	4.741E-04	
T6 Instate Other Class 4	Diesel	1.173E-03	1.750E-02	3.321E-03	2.481E-05	6.114E-04	2.646E-05	9.891E-05	7.368E-04	5.850E-04	6.614E-06	3.462E-05	6.262E-04	2.622E+00	5.448E-05	4.127E-04	
T6 Instate Other Class 5	Diesel	3.470E-04	5.978E-03	1.065E-03	2.401E-05	1.832E-04	2.646E-05	9.891E-05	3.086E-04	1.753E-04	6.614E-06	3.462E-05	2.165E-04	2.537E+00	1.612E-05	3.994E-04	
T6 Instate Other Class 6	Diesel	8.144E-04	1.247E-02	2.320E-03	2.430E-05	4.393E-04	2.646E-05	9.891E-05	5.647E-04	4.203E-04	6.614E-06	3.462E-05	4.616E-04	2.569E+00	3.782E-05	4.043E-04	
T6 Instate Other Class 7	Diesel	5.934E-04	9.953E-03	1.653E-03	2.410E-05	3.231E-04	2.646E-05	9.891E-05	4.485E-04	3.092E-04	6.614E-06	3.462E-05	3.504E-04	2.547E+00	2.756E-05	4.010E-04	
T6 Instate Other Class 7	Natural Gas	1.749E-05	5.117E-04	6.249E-03	0.000E+00	1.087E-06	2.646E-05	9.891E-05	1.264E-04	9.999E-07	6.614E-06	3.462E-05	4.223E-05	2.094E+00	1.224E-03	4.269E-04	
T6 Instate Tractor Class 7	Diesel	6.321E-04	1.169E-02	1.664E-03	2.267E-05	3.182E-04	2.646E-05	9.891E-05	4.435E-04	3.044E-04	6.614E-06	3.462E-05	3.456E-04	2.396E+00	2.936E-05	3.772E-04	
T6 Instate Tractor Class 7	Natural Gas	1.749E-05	5.117E-04	6.249E-03	0.000E+00	1.087E-06	2.646E-05	9.891E-05	1.264E-04	9.999E-07	6.614E-06	3.462E-05	4.223E-05	2.033E+00	1.224E-03	4.145E-04	
T6 OOS Class 4	Diesel	1.937E-04	4.826E-03	6.874E-04	2.378E-05	1.640E-04	2.646E-05	9.329E-05	2.838E-04	1.569E-04	6.614E-06	3.265E-05	1.962E-04	2.513E+00	8.995E-06	3.956E-04	
T6 OOS Class 5	Diesel	1.321E-04	3.628E-03	5.029E-04	2.365E-05	1.200E-04	2.646E-05	9.329E-05	2.398E-04	1.148E-04	6.614E-06	3.265E-05	1.541E-04	2.500E+00	6.136E-06	3.935E-04	
T6 OOS Class 6	Diesel	1.886E-04	4.747E-03	7.007E-04	2.337E-05	1.690E-04	2.646E-05	9.329E-05	2.888E-04	1.617E-04	6.614E-06	3.265E-05	2.010E-04	2.471E+00	8.761E-06	3.889E-04	
T6 OOS Class 7	Diesel	2.070E-04	5.308E-03	7.041E-04	2.200E-05	1.688E-04	2.646E-05	9.329E-05	2.886E-04	1.615E-04	6.614E-06	3.265E-05	2.008E-04	2.325E+00	9.612E-06	3.660E-04	
T6 Public Class 4	Diesel	3.134E-04	2.312E-02	6.799E-04	2.710E-05	9.175E-05	2.646E-05	1.018E-04	2.200E-04	8.778E-05	6.614E-06	3.562E-05	1.300E-04	2.864E+00	1.456E-05	4.509E-04	
T6 Public Class 5	Diesel	7.969E-05	5.114E-03	2.455E-04	2.582E-05	2.417E-05	2.646E-05	1.018E-04	1.524E-04	2.312E-05	6.614E-06	3.562E-05	6.536E-05	2.730E+00	3.701E-06	4.297E-04	
T6 Public Class 6	Diesel	2.861E-04	2.142E-02	6.064E-04	2.744E-05	1.124E-04	2.646E-05	1.018E-04	2.406E-04	1.075E-04	6.614E-06	3.562E-05	1.498E-04	2.900E+00	1.329E-05	4.565E-04	
T6 Public Class 7	Diesel	4.117E-04	2.505E-02	8.536E-04	2.776E-05	1.914E-04	2.646E-05	1.018E-04	3.197E-04	1.832E-04	6.614E-06	3.562E-05	2.254E-04	2.934E+00	1.912E-05	4.619E-04	
T6 Public Class 7	Natural Gas	2.783E-05	1.283E-04	6.741E-03	0.000E+00	3.960E-06	2.646E-05	1.018E-04	1.322E-04	3.641E-06	6.614E-06	3.562E-05	4.588E-05	2.374E+00	1.948E-03	4.840E-04	
T6 Utility Class 5	Diesel	5.349E-05	2.816E-03	2.101E-04	2.371E-05	1.347E-05	2.646E-05	1.003E-04	1.402E-04	1.288E-05	6.614E-06	3.511E-05	5.460E-05	2.507E+00	2.485E-06	3.946E-04	
T6 Utility Class 6	Diesel	8.114E-05	4.591E-03	2.722E-04	2.428E-05	2.357E-05	2.646E-05	1.003E-04	1.503E-04	2.255E-05	6.614E-06	3.511E-05	6.427E-05	2.567E+00	3.769E-06	4.040E-04	
T6 Utility Class 7	Diesel	6.073E-05	4.210E-03	2.199E-04	2.424E-05	2.242E-05	2.646E-05	1.003E-04	1.492E-04	2.145E-05	6.614E-06	3.511E-05	6.317E-05	2.562E+00	2.821E-06	4.033E-04	
T6TS	Gasoline	1.129E-03	4.407E-03	2.612E-02	4.198E-05	7.818E-06	2.646E-05	9.931E-05	1.336E-04	7.234E-06	6.614E-06	3.476E-05	4.861E-05	4.243E+00	1.945E-04	1.764E-04	
T7 CAIRP Class 8	Diesel	1.939E-04	7.926E-03	7.128E-04	3.340E-05	1.458E-04	7.937E-05	1.704E-04	3.956E-04	1.395E-04	1.984E-05	5.965E-05	2.190E-04	3.530E+00	9.004E-06	5.556E-04	
T7 NNOOS Class 8	Diesel	3.199E-04	8.529E-03	1.261E-03	3.361E-05	2.412E-04	7.937E-05	1.724E-04	4.930E-04	2.308E-04	1.984E-05	6.033E-05	3.110E-04	3.553E+00	1.486E-05	5.592E-04	
T7 NOOS Class 8	Diesel	2.277E-04	8.322E-03	8.296E-04	3.339E-05	1.630E-04	7.937E-05	1.708E-04	4.132E-04	1.560E-04	1.984E-05	5.979E-05	2.356E-04	3.529E+00	1.057E-05	5.556E-04	
T7 POAK Class 8	Diesel	3.247E-04	1.102E-02	1.033E-03	3.598E-05	9.127E-05	7.937E-05	2.117E-04	3.823E-04	8.732E-05	1.984E-05	7.409E-05	1.813E-04	3.803E+00	1.508E-05	5.987E-04	
T7 Public Class 8	Diesel	3.814E-04	2.788E-02	1.273E-03	4.146E-05	2.075E-04	7.937E-05	2.632E-04	5.500E-04	1.985E-04	1.984E-05	9.211E-05	3.104E-04	4.382E+00	1.771E-05	6.898E-04	
T7 Single Concrete/Transit Mix Cla	Diesel	2.449E-04	6.627E-03	9.573E-04	3.581E-05	2.028E-04	7.937E-05	1.888E-04	4.711E-04	1.941E-04	1.984E-05	6.610E-05	2.800E-04	3.785E+00	1.138E-05	5.959E-04	

T7 Single Concrete/Transit Mix Cla	Natural Gas	3.315E-05	1.396E-03	2.319E-02	0.000E+00	2.656E-06	7.937E-05	1.771E-04	2.592E-04	2.442E-06	1.984E-05	6.200E-05	8.429E-05	2.717E+00	2.320E-03	5.538E-04	
T7 Single Dump Class 8	Diesel	3.505E-04	8.412E-03	1.385E-03	3.566E-05	2.472E-04	7.937E-05	1.894E-04	5.159E-04	2.365E-04	1.984E-05	6.628E-05	3.226E-04	3.769E+00	1.628E-05	5.932E-04	
T7 Single Dump Class 8	Natural Gas	3.317E-05	1.356E-03	2.263E-02	0.000E+00	2.747E-06	7.937E-05	1.810E-04	2.631E-04	2.525E-06	1.984E-05	6.334E-05	8.571E-05	2.853E+00	2.321E-03	5.816E-04	
T7 Single Other Class 8	Diesel	4.398E-04	1.082E-02	1.591E-03	3.514E-05	2.677E-04	7.937E-05	1.917E-04	5.388E-04	2.561E-04	1.984E-05	6.710E-05	3.431E-04	3.714E+00	2.043E-05	5.846E-04	
T7 Single Other Class 8	Natural Gas	3.315E-05	1.396E-03	2.319E-02	0.000E+00	2.656E-06	7.937E-05	1.798E-04	2.618E-04	2.442E-06	1.984E-05	6.294E-05	8.522E-05	2.921E+00	2.320E-03	5.954E-04	
T7 SWCV Class 8	Diesel	5.251E-05	5.241E-03	1.232E-04	7.824E-05	4.421E-05	7.937E-05	4.630E-04	5.865E-04	4.230E-05	1.984E-05	1.620E-04	2.242E-04	8.270E+00	2.439E-06	1.302E-03	
T7 SWCV Class 8	Natural Gas	2.723E-06	1.968E-04	1.995E-02	0.000E+00	2.543E-06	7.937E-05	4.630E-04	5.449E-04	2.338E-06	1.984E-05	1.620E-04	1.842E-04	3.234E+00	1.906E-04	6.592E-04	
T7 Tractor Class 8	Diesel	3.052E-04	1.022E-02	1.111E-03	3.335E-05	1.807E-04	7.937E-05	1.871E-04	4.471E-04	1.729E-04	1.984E-05	6.548E-05	2.582E-04	3.525E+00	1.417E-05	5.549E-04	
T7 Tractor Class 8	Natural Gas	3.129E-05	1.311E-03	2.259E-02	0.000E+00	2.577E-06	7.937E-05	1.728E-04	2.547E-04	2.370E-06	1.984E-05	6.047E-05	8.269E-05	3.045E+00	2.190E-03	6.208E-04	
T7 Utility Class 8	Diesel	9.037E-05	5.466E-03	4.372E-04	3.706E-05	2.505E-05	7.937E-05	2.169E-04	3.213E-04	2.397E-05	1.984E-05	7.592E-05	1.197E-04	3.918E+00	4.198E-06	6.167E-04	
T7IS	Gasoline	6.755E-03	2.161E-02	8.472E-02	5.628E-05	4.765E-06	4.409E-05	2.599E-04	3.088E-04	4.381E-06	1.102E-05	9.098E-05	1.064E-04	5.687E+00	1.127E-03	6.627E-04	
UBUS	Gasoline	2.607E-05	3.916E-04	7.009E-04	3.645E-05	2.178E-06	2.493E-05	2.353E-04	2.624E-04	2.003E-06	6.232E-06	8.234E-05	9.057E-05	3.684E+00	8.041E-06	3.670E-05	
UBUS	Diesel	1.957E-04	4.091E-03	2.655E-04	2.067E-05	1.557E-05	2.650E-05	2.379E-04	2.800E-04	1.490E-05	6.624E-06	8.327E-05	1.048E-04	2.184E+00	9.092E-06	3.437E-04	
UBUS	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.460E-05	1.125E-04	1.371E-04	0.000E+00	6.149E-06	3.937E-05	4.552E-05	0.000E+00	0.000E+00	0.000E+00	
UBUS	Natural Gas	4.952E-05	4.456E-04	6.482E-03	0.000E+00	4.560E-06	2.655E-05	2.364E-04	2.675E-04	4.362E-06	6.637E-06	8.275E-05	9.375E-05	1.504E+00	7.537E-04	3.066E-04	

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: County
Region: San Benito
Calendar Year: 2019
Season: Annual
Vehicle Classification: EMFAC202x Categori
Units: miles/day for CVMT and EVMT, trips,

		MTons/Mile														
Vehicle Category	Fuel	ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUNEX	PM10_PMTW	PM10_PMBW	PM10_Total	PM2.5_RUNEX	PM2.5_PMTW	PM2.5_PMBW	PM2_5_Total	CO2(Pavley+AACC)_RUNEX	CH4_RUNEX	N2O_RUNEX
All Other Buses	Diesel	7.207E-07	6.972E-06	1.773E-06	1.193E-08	2.467E-07	1.200E-08	4.614E-08	3.048E-07	2.360E-07	3.000E-09	1.615E-08	2.551E-07	1.261E-03	3.347E-08	1.985E-07
LDA	Gasoline	2.018E-08	8.820E-08	1.164E-06	2.933E-09	1.591E-09	8.000E-09	8.947E-09	1.854E-08	1.463E-09	2.000E-09	3.131E-09	6.595E-09	2.964E-04	4.725E-09	7.560E-09
LDA	Diesel	3.310E-08	3.049E-07	3.634E-07	2.229E-09	1.958E-08	8.000E-09	8.954E-09	3.654E-08	1.874E-08	2.000E-09	3.134E-09	2.387E-08	2.355E-04	1.538E-09	3.707E-08
LDA	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.000E-09	4.361E-09	1.236E-08	0.000E+00	2.000E-09	1.527E-09	3.527E-09	0.000E+00	0.000E+00	0.000E+00
LDA	Plug-in Hybrid	1.682E-09	3.870E-09	2.458E-07	1.553E-09	9.430E-10	8.000E-09	4.163E-09	1.311E-08	8.670E-10	2.000E-09	1.457E-09	4.324E-09	1.570E-04	5.406E-10	7.253E-10
LDT1	Gasoline	7.339E-08	3.150E-07	3.018E-06	3.518E-09	3.188E-09	8.000E-09	1.099E-08	2.218E-08	2.932E-09	2.000E-09	3.847E-09	8.779E-09	3.555E-04	1.534E-08	1.992E-08
LDT1	Diesel	3.242E-07	1.773E-06	1.352E-06	4.019E-09	2.715E-07	8.000E-09	1.238E-08	2.919E-07	2.598E-07	2.000E-09	4.333E-09	2.661E-07	4.245E-04	1.506E-08	6.682E-08
LDT1	Plug-in Hybrid	1.687E-09	3.884E-09	2.468E-07	1.559E-09	1.110E-09	8.000E-09	4.159E-09	1.327E-08	1.020E-09	2.000E-09	1.456E-09	4.476E-09	1.575E-04	5.391E-10	7.198E-10
LDT2	Gasoline	2.587E-08	1.669E-07	1.449E-06	3.762E-09	1.674E-09	8.000E-09	1.044E-08	2.011E-08	1.540E-09	2.000E-09	3.654E-09	7.194E-09	3.801E-04	5.863E-09	1.120E-08
LDT2	Diesel	2.124E-08	9.444E-08	1.697E-07	3.113E-09	9.283E-09	8.000E-09	1.001E-08	2.729E-08	8.882E-09	2.000E-09	3.502E-09	1.438E-08	3.288E-04	9.866E-10	5.176E-08
LDT2	Plug-in Hybrid	1.657E-09	3.814E-09	2.425E-07	1.531E-09	1.079E-09	8.000E-09	4.153E-09	1.323E-08	9.921E-10	2.000E-09	1.454E-09	4.446E-09	1.547E-04	5.308E-10	7.102E-10
LHD1	Gasoline	9.692E-08	3.912E-07	2.001E-06	9.668E-09	2.498E-09	8.000E-09	7.800E-08	8.850E-08	2.299E-09	2.000E-09	2.730E-08	3.160E-08	9.770E-04	1.852E-08	2.124E-08
LHD1	Diesel	2.482E-07	2.972E-06	7.454E-07	6.051E-09	5.612E-08	1.200E-08	7.800E-08	1.461E-07	5.369E-08	3.000E-09	2.730E-08	8.399E-08	6.392E-04	1.153E-08	1.006E-07
LHD2	Gasoline	8.363E-08	3.878E-07	1.794E-06	1.072E-08	2.527E-09	8.000E-09	9.100E-08	1.015E-07	2.324E-09	2.000E-09	3.185E-08	3.617E-08	1.083E-03	1.682E-08	2.101E-08
LHD2	Diesel	1.954E-07	1.941E-06	5.213E-07	7.447E-09	4.247E-08	1.200E-08	9.100E-08	1.455E-07	4.063E-08	3.000E-09	3.185E-08	7.548E-08	7.866E-04	9.077E-09	1.238E-07
MCY	Gasoline	1.456E-06	7.008E-07	1.601E-05	1.893E-09	1.975E-09	4.000E-09	1.200E-08	1.798E-08	1.856E-09	1.000E-09	4.200E-09	7.056E-09	1.913E-04	2.074E-07	4.508E-08
MDV	Gasoline	3.494E-08	2.167E-07	1.609E-06	4.490E-09	1.720E-09	8.000E-09	1.063E-08	2.035E-08	1.582E-09	2.000E-09	3.720E-09	7.302E-09	4.537E-04	7.566E-09	1.373E-08
MDV	Diesel	1.717E-08	1.171E-07	2.505E-07	4.009E-09	8.234E-09	8.000E-09	1.002E-08	2.625E-08	7.878E-09	2.000E-09	3.506E-09	1.338E-08	4.235E-04	7.974E-10	6.665E-08
MDV	Plug-in Hybrid	1.683E-09	3.872E-09	2.461E-07	1.554E-09	1.113E-09	8.000E-09	4.156E-09	1.327E-08	1.023E-09	2.000E-09	1.454E-09	4.478E-09	1.571E-04	5.408E-10	7.256E-10
MH	Gasoline	1.385E-07	6.820E-07	3.788E-06	1.931E-08	2.405E-09	1.200E-08	4.505E-08	5.945E-08	2.216E-09	3.000E-09	1.577E-08	2.098E-08	1.952E-03	2.767E-08	3.671E-08
MH	Diesel	1.338E-07	5.084E-06	4.631E-07	1.023E-08	1.361E-07	1.600E-08	4.484E-08	1.970E-07	1.303E-07	4.000E-09	1.569E-08	1.500E-07	1.080E-03	6.213E-09	1.700E-07
Motor Coach	Diesel	1.775E-07	4.360E-06	6.233E-07	1.664E-08	1.079E-07	1.200E-08	7.908E-08	1.989E-07	1.032E-07	3.000E-09	2.768E-08	1.339E-07	1.759E-03	8.243E-09	2.769E-07
OBUS	Gasoline	1.400E-07	8.970E-07	3.245E-06	1.856E-08	8.267E-10	1.200E-08	4.489E-08	5.771E-08	7.601E-10	3.000E-09	1.571E-08	1.947E-08	1.875E-03	2.787E-08	4.108E-08
PTO	Diesel	3.460E-07	5.922E-06	1.357E-06	2.065E-08	1.381E-07	0.000E+00	0.000E+00	1.381E-07	1.321E-07	0.000E+00	0.000E+00	1.321E-07	2.183E-03	1.607E-08	3.436E-07
SBUS	Gasoline	3.286E-07	5.831E-07	5.999E-06	8.340E-09	1.854E-09	8.000E-09	4.492E-08	5.477E-08	1.705E-09	2.000E-09	1.572E-08	1.943E-08	8.428E-04	5.535E-08	2.983E-08
SBUS	Diesel	6.322E-08	4.199E-06	1.886E-07	1.097E-08	2.555E-08	1.200E-08	4.492E-08	8.247E-08	2.444E-08	3.000E-09	1.572E-08	4.316E-08	1.159E-03	2.936E-09	1.825E-07
SBUS	Natural Gas	5.397E-08	6.952E-07	1.325E-05	0.000E+00	3.674E-09	1.200E-08	4.492E-08	6.059E-08	3.378E-09	3.000E-09	1.572E-08	2.210E-08	1.359E-03	3.777E-06	2.770E-07
T6 CAIRP Class 4	Diesel	8.785E-08	2.189E-06	3.118E-07	1.079E-08	7.440E-08	1.200E-08	4.231E-08	1.287E-07	7.118E-08	3.000E-09	1.481E-08	8.899E-08	1.140E-03	4.080E-09	1.794E-07
T6 CAIRP Class 5	Diesel	5.993E-08	1.646E-06	2.281E-07	1.073E-08	5.444E-08	1.200E-08	4.231E-08	1.088E-07	5.208E-08	3.000E-09	1.481E-08	6.989E-08	1.134E-03	2.783E-09	1.785E-07
T6 CAIRP Class 6	Diesel	8.556E-08	2.153E-06	3.178E-07	1.060E-08	7.668E-08	1.200E-08	4.231E-08	1.310E-07	7.336E-08	3.000E-09	1.481E-08	9.117E-08	1.121E-03	3.974E-09	1.764E-07
T6 CAIRP Class 7	Diesel	8.481E-08	2.291E-06	2.892E-07	9.986E-09	6.942E-08	1.200E-08	4.231E-08	1.237E-07	6.642E-08	3.000E-09	1.481E-08	8.423E-08	1.055E-03	3.939E-09	1.661E-07
T6 Instate Delivery Class 4	Diesel	6.183E-07	7.649E-06	1.602E-06	1.187E-08	2.500E-07	1.200E-08	4.756E-08	3.096E-07	2.392E-07	3.000E-09	1.665E-08	2.588E-07	1.254E-03	2.872E-08	1.974E-07
T6 Instate Delivery Class 5	Diesel	2.531E-07	3.517E-06	6.713E-07	1.171E-08	1.063E-07	1.200E-08	4.756E-08	1.659E-07	1.017E-07	3.000E-09	1.665E-08	1.214E-07	1.237E-03	1.176E-08	1.948E-07
T6 Instate Delivery Class 6	Diesel	4.289E-07	5.981E-06	1.127E-06	1.190E-08	1.707E-07	1.200E-08	4.756E-08	2.303E-07	1.634E-07	3.000E-09	1.665E-08	1.830E-07	1.257E-03	1.992E-08	1.979E-07
T6 Instate Delivery Class 7	Diesel	2.322E-07	4.616E-06	5.908E-07	1.223E-08	5.839E-08	1.200E-08	4.756E-08	1.179E-07	5.586E-08	3.000E-09	1.665E-08	7.551E-08	1.293E-03	1.078E-08	2.035E-07
T6 Instate Delivery Class 7	Natural Gas	1.038E-08	3.018E-07	3.246E-06	0.000E+00	6.387E-10	1.200E-08	4.756E-08	6.020E-08	5.873E-10	3.000E-09	1.665E-08	2.023E-08	1.055E-03	7.268E-07	2.150E-07
T6 Instate Other Class 4	Diesel	5.321E-07	7.936E-06	1.506E-06	1.125E-08	2.774E-07	1.200E-08	4.486E-08	3.342E-07	2.654E-07	3.000E-09	1.570E-08	2.841E-07	1.189E-03	2.471E-08	1.872E-07
T6 Instate Other Class 5	Diesel	1.574E-07	2.711E-06	4.831E-07	1.089E-08	8.311E-08	1.200E-08	4.486E-08	1.400E-07	7.951E-08	3.000E-09	1.570E-08	9.821E-08	1.151E-03	7.311E-09	1.812E-07
T6 Instate Other Class 6	Diesel	3.694E-07	5.656E-06	1.052E-06	1.102E-08	1.993E-07	1.200E-08	4.486E-08	2.561E-07	1.907E-07	3.000E-09	1.570E-08	2.094E-07	1.165E-03	1.716E-08	1.834E-07
T6 Instate Other Class 7	Diesel	2.692E-07	4.515E-06	7.499E-07	1.093E-08	1.466E-07	1.200E-08	4.486E-08	2.034E-07	1.402E-07	3.000E-09	1.570E-08	1.589E-07	1.155E-03	1.250E-08	1.819E-07
T6 Instate Other Class 7	Natural Gas	7.934E-09	2.321E-07	2.835E-06	0.000E+00	4.933E-10	1.200E-08	4.486E-08	5.736E-08	4.536E-10	3.000E-09	1.570E-08	1.916E-08	9.499E-04	5.553E-07	1.936E-07
T6 Instate Tractor Class 7	Diesel	2.867E-07	5.304E-06	7.549E-07	1.028E-08	1.443E-07	1.200E-08	4.486E-08	2.012E-07	1.381E-07	3.000E-09	1.570E-08	1.568E-07	1.087E-03	1.332E-08	1.711E-07
T6 Instate Tractor Class 7	Natural Gas	7.934E-09	2.321E-07	2.835E-06	0.000E+00	4.933E-10	1.200E-08	4.486E-08	5.736E-08	4.536E-10	3.000E-09	1.570E-08	1.916E-08	9.222E-04	5.553E-07	1.880E-07
T6 OOS Class 4	Diesel	8.785E-08	2.189E-06	3.118E-07	1.079E-08	7.440E-08	1.200E-08	4.231E-08	1.287E-07	7.118E-08	3.000E-09	1.481E-08	8.899E-08	1.140E-03	4.080E-09	1.794E-07
T6 OOS Class 5	Diesel	5.993E-08	1.646E-06	2.281E-07	1.073E-08	5.444E-08	1.200E-08	4.231E-08	1.088E-07	5.208E-08	3.000E-09	1.481E-08	6.989E-08	1.134E-03	2.783E-09	1.785E-07
T6 OOS Class 6	Diesel	8.556E-08	2.153E-06	3.178E-07	1.060E-08	7.668E-08	1.200E-08	4.231E-08	1.310E-07	7.336E-08	3.000E-09	1.481E-08	9.117E-08	1.121E-03	3.974E-09	1.764E-07
T6 OOS Class 7	Diesel	9.387E-08	2.408E-06	3.194E-07	9.979E-09	7.658E-08	1.200E-08	4.231E-08	1.309E-07	7.327E-08	3.000E-09	1.481E-08	9.108E-08	1.055E-03	4.360E-09	1.660E-07
T6 Public Class 4	Diesel	1.422E-07	1.049E-05	3.084E-07	1.229E-08	4.162E-08	1.200E-08	4.617E-08	9.979E-08	3.982E-08	3.000E-09	1.616E-08	5.898E-08	1.299E-03	6.603E-09	2.045E-07
T6 Public Class 5	Diesel	3.615E-08	2.320E-06	1.114E-07	1.171E-08	1.096E-08	1.200E-08	4.617E-08	6.913E-08	1.049E-08	3.000E-09	1.616E-08	2.965E-08	1.238E-03	1.679E-09	1.949E-07
T6 Public Class 6	Diesel	1.298E-07	9.718E-06	2.751E-07	1.245E-08	5.098E-08	1.200E-08	4.617E-08	1.091E-07	4.877E-08	3.000E-09	1.616E-08	6.793E-08	1.315E-03	6.029E-09	2.071E-07
T6 Public Class 7	Diesel	1.868E-07	1.136E-05	3.872E-07	1.259E-08	8.683E-08	1.200E-08	4.617E-08	1.450E-07	8.308E-08	3.000E-09	1.616E-08	1.022E-07	1.331E-03	8.674E-09	2.095E-07
T6 Public Class 7	Natural Gas	1.262E-08	5.819E-08	3.058E-06	0.000E+00	1.796E-09	1.200E-08	4.617E-08	5.997E-08	1.652E-09	3.000E-09	1.616E-08	2.081E-08	1.077E-03	8.835E-07	2.195E-07
T6 Utility Class 5	Diesel	2.426E-08	1.277E-06	9.529E-08	1.076E-08	6.108E-09	1.200E-08	4.550E-08	6.360E-08	5.844E-09	3.000E-09	1.592E-08	2.477E-08	1.137E-03	1.127E-09	1.790E-07
T6 Utility Class 6	Diesel	3.681E-08	2.083E-06	1.235E-07	1.102E-08	1.069E-08	1.200E-08	4.550E-08	6.819E-08	1.023E-08	3.000E-09	1.592E-08	2.915E-08	1.164E-03	1.710E-09	1.833E-07
T6 Utility Class 7	Diesel	2.755E-08	1.910E-06	9.975E-08	1.099E-08	1.017E-08	1.200E-08	4.550E-08	6.767E-08	9.731E-09	3.000E-09	1.592E-08	2.866E-08	1.162E-03	1.280E-09	1.829E-07
T6TS	Gasoline	5.121E-07	1.999E-06	1.185E-05	1.904E-08	3.546E-09	1.200E-08	4.505E-08	6.059E-08	3.281E-09	3.000E-09	1.577E-08	2.205E-08	1.924E-03	8.821E-08	8.002E-08
T7 CAIRP Class 8	Diesel	8.794E-08	3.595E-06	3.233E-07	1.515E-08	6.614E-08	3.600E-08	7.731E-08	1.794E-07	6.328E-08	9.000E-09	2.706E-08	9.934E-08	1.601E-03	4.084E-09	2.520E-07
T7 NNOOS Class 8	Diesel	1.451E-07	3.869E-06	5.721E-07	1.525E-08	1.094E-07	3.600E-08	7.818E-08	2.236E-07	1.047E-07	9.000E-09	2.736E-08	1.411E-07	1.611E-03	6.741E-09	2.537E-07
T7 NOOS Class 8	Diesel	1.033E-07	3.775E-06	3.763E-07	1.515E-08	7.395E-08	3.600E-08	7.749E-08	1.874E-07	7.075E-08	9.000E-09	2.712E-08	1.069E-07	1.601E-03	4.796E-09	2.520E-07
T7 POAK Class 8	Diesel	1.473E-07	4.999E-06	4.685E-07	1.632E-08	4.140E-08	3.600E-08	9.602E-08	1.734E-07	3.961E-08	9.000E-09	3.361E-08	8.222E-08	1.725E-03	6.840E-09	2.716E-07
T7 Public Class 8	Diesel	1.730E-07	1.265E-05	5.776E-07	1.881E-08	9.410E-08	3.600E-08	1.194E-07	2.495E-07	9.003E-08	9.000E-09	4.178E-08	1.408E-07	1.988E-03	8.035E-09	3.129E-07
T7 Single Concrete/Transit Mix Cla	Diesel	1.111E-07	3.006E-06	4.342E-07	1.624E-08	9.201E-08	3.600E-08	8.566E-08	2.137E-07	8.803E-08	9.000E-09	2.998E-08	1.270E-07	1.717E-03	5.160E-09	2.703E-07

T7 Single Concrete/Transit Mix Cla	Natural Gas	1.504E-08	6.334E-07	1.052E-05	0.000E+00	1.205E-09	3.600E-08	8.035E-08	1.176E-07	1.108E-09	9.000E-09	2.812E-08	3.823E-08	1.232E-03	1.052E-06	2.512E-07
T7 Single Dump Class 8	Diesel	1.590E-07	3.816E-06	6.284E-07	1.617E-08	1.121E-07	3.600E-08	8.590E-08	2.340E-07	1.073E-07	9.000E-09	3.006E-08	1.463E-07	1.709E-03	7.385E-09	2.691E-07
T7 Single Dump Class 8	Natural Gas	1.504E-08	6.151E-07	1.026E-05	0.000E+00	1.246E-09	3.600E-08	8.209E-08	1.193E-07	1.146E-09	9.000E-09	2.873E-08	3.888E-08	1.294E-03	1.053E-06	2.638E-07
T7 Single Other Class 8	Diesel	1.995E-07	4.909E-06	7.217E-07	1.594E-08	1.214E-07	3.600E-08	8.696E-08	2.444E-07	1.162E-07	9.000E-09	3.044E-08	1.556E-07	1.685E-03	9.267E-09	2.652E-07
T7 Single Other Class 8	Natural Gas	1.504E-08	6.334E-07	1.052E-05	0.000E+00	1.205E-09	3.600E-08	8.157E-08	1.188E-07	1.108E-09	9.000E-09	2.855E-08	3.866E-08	1.325E-03	1.052E-06	2.701E-07
T7 SWCV Class 8	Diesel	2.382E-08	2.377E-06	5.588E-08	3.549E-08	2.006E-08	3.600E-08	2.100E-07	2.661E-07	1.919E-08	9.000E-09	7.350E-08	1.017E-07	3.751E-03	1.106E-09	5.905E-07
T7 SWCV Class 8	Natural Gas	1.235E-09	8.929E-08	9.048E-06	0.000E+00	1.154E-09	3.600E-08	2.100E-07	2.472E-07	1.061E-09	9.000E-09	7.350E-08	8.356E-08	1.467E-03	8.644E-08	2.990E-07
T7 Tractor Class 8	Diesel	1.384E-07	4.638E-06	5.040E-07	1.513E-08	8.196E-08	3.600E-08	8.487E-08	2.028E-07	7.841E-08	9.000E-09	2.970E-08	1.171E-07	1.599E-03	6.429E-09	2.517E-07
T7 Tractor Class 8	Natural Gas	1.419E-08	5.946E-07	1.025E-05	0.000E+00	1.169E-09	3.600E-08	7.837E-08	1.155E-07	1.075E-09	9.000E-09	2.743E-08	3.751E-08	1.381E-03	9.933E-07	2.816E-07
T7 Utility Class 8	Diesel	4.099E-08	2.479E-06	1.983E-07	1.681E-08	1.136E-08	3.600E-08	9.840E-08	1.458E-07	1.087E-08	9.000E-09	3.444E-08	5.431E-08	1.777E-03	1.904E-09	2.797E-07
T7IS	Gasoline	3.064E-06	9.802E-06	3.843E-05	2.553E-08	2.161E-09	2.000E-08	1.179E-07	1.401E-07	1.987E-09	5.000E-09	4.127E-08	4.825E-08	2.580E-03	5.111E-07	3.006E-07
UBUS	Gasoline	1.182E-08	1.776E-07	3.179E-07	1.653E-08	9.881E-10	1.131E-08	1.067E-07	1.190E-07	9.085E-10	2.827E-09	3.735E-08	4.108E-08	1.671E-03	3.647E-09	1.665E-08
UBUS	Diesel	8.879E-08	1.856E-06	1.204E-07	9.376E-09	7.064E-09	1.202E-08	1.079E-07	1.270E-07	6.759E-09	3.005E-09	3.777E-08	4.753E-08	9.904E-04	4.124E-09	1.559E-07
UBUS	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.116E-08	5.102E-08	6.218E-08	0.000E+00	2.789E-09	1.786E-08	2.065E-08	0.000E+00	0.000E+00	0.000E+00
UBUS	Natural Gas	2.246E-08	2.021E-07	2.940E-06	0.000E+00	2.068E-09	1.204E-08	1.072E-07	1.214E-07	1.979E-09	3.011E-09	3.754E-08	4.253E-08	6.823E-04	3.419E-07	1.391E-07

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: County
Region: San Benito
Calendar Year: 2040
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

		g/mile																2.205E-03
Vehicle Category	Fuel	ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUNEX	PM10_PMTW	PM10_PMBW	PM10_Total	PM2.5_RUNEX	PM2.5_PMTW	PM2.5_PMBW	PM2_5_Total	CO2_RUNEX	CH4_RUNEX	N2O_RUNEX	VMT	% of VMT
All Other Buses	Diesel	0.109869	1.24670349	0.31610409	0.0101941	0.03389792	0.012	0.0461373	9.20E-02	0.03243152	0.003	0.01614806	5.16E-02	1076.53067	0.00510313	0.16960785	271	0.0097%
LDA	Gasoline	0.00356029	0.02288268	0.51261404	0.00222585	0.00060066	0.008	0.00859428	1.72E-02	0.00055229	0.002	0.003008	5.56E-03	225.151749	0.00113835	0.00344807	1,069,400	38.2160%
LDA	Diesel	0.01061243	0.07229758	0.23710348	0.0018198	0.0038371	0.008	0.00873308	2.06E-02	0.00367111	0.002	0.00305658	8.73E-03	192.052761	0.00049293	0.03025799	815	0.0291%
LDA	Electricity	0	0	0	0	0	0.008	0.00439349	1.24E-02	0	0.002	0.00153772	3.54E-03	0	0	0	130,279	4.6556%
LDA	Plug-in Hybrid	0.00129375	0.00296084	0.1879588	0.00118732	0.00024875	0.008	0.0041966	1.24E-02	0.00022872	0.002	0.00146881	3.70E-03	120.101189	0.00038919	0.00048943	50,109	1.7907%
LDT1	Gasoline	0.00454404	0.02784785	0.57127831	0.00260482	0.00068661	0.008	0.01030043	1.90E-02	0.00063131	0.002	0.00360515	6.24E-03	263.485212	0.00133898	0.00372831	61,370	2.1931%
LDT1	Diesel	0.01554135	0.02995937	0.16367792	0.0031613	0.00433294	0.008	0.01011515	2.24E-02	0.00414549	0.002	0.0035403	9.69E-03	333.628325	0.00072187	0.05256328	1	0.0000%
LDT1	Electricity	0	0	0	0	0	0.008	0.00439032	1.24E-02	0	0.002	0.00153661	3.54E-03	0	0	0	1,574	0.0562%
LDT1	Plug-in Hybrid	0.00127632	0.00292094	0.18545575	0.00117138	0.00021532	0.008	0.00419675	1.24E-02	0.00019798	0.002	0.00146886	3.67E-03	118.488625	0.00038337	0.00048141	1,265	0.0452%
LDT2	Gasoline	0.00438354	0.02513389	0.58367921	0.00267979	0.00062149	0.008	0.01020198	1.88E-02	0.00057144	0.002	0.00357069	6.14E-03	271.069118	0.00139259	0.0036034	564,790	20.1833%
LDT2	Diesel	0.01569693	0.03091415	0.16856378	0.00237084	0.00444669	0.008	0.01020698	2.27E-02	0.00425432	0.002	0.00357244	9.83E-03	250.207384	0.00072909	0.03942028	2,170	0.0776%
LDT2	Electricity	0	0	0	0	0	0.008	0.0043936	1.24E-02	0	0.002	0.00153776	3.54E-03	0	0	0	13,951	0.4986%
LDT2	Plug-in Hybrid	0.00128505	0.00294094	0.18669357	0.00117934	0.00023195	0.008	0.00419954	1.24E-02	0.00021327	0.002	0.00146984	3.68E-03	119.29369	0.00038408	0.00048	14,611	0.5221%
LHD1	Gasoline	0.00528914	0.03951475	0.58411699	0.00765781	0.00130109	0.008	0.07800002	8.73E-02	0.0011963	0.002	0.02730001	3.05E-02	774.609798	0.00145407	0.00276774	23,732	0.8481%
LHD1	Diesel	0.12764991	0.82407229	0.36184799	0.00586912	0.02960632	0.012	0.07800002	1.20E-01	0.02832556	0.003	0.02730001	5.86E-02	619.399284	0.00592909	0.09758661	17,370	0.6207%
LHD1	Electricity	0	0	0	0	0	0.008	0.03900001	4.70E-02	0	0.002	0.01365	1.57E-02	0	0	0	18,752	0.6701%
LHD2	Gasoline	0.00434767	0.03270726	0.59137476	0.00852165	0.00123729	0.008	0.09100003	1.00E-01	0.00113764	0.002	0.03185001	3.50E-02	861.990365	0.00125035	0.00272008	2,245	0.0802%
LHD2	Diesel	0.13936463	0.92911076	0.39758725	0.00692742	0.03209393	0.012	0.09100003	1.35E-01	0.03070556	0.003	0.03185001	6.56E-02	731.086616	0.00647322	0.11518299	8,420	0.3009%
LHD2	Electricity	0	0	0	0	0	0.008	0.04550001	5.35E-02	0	0.002	0.015925	1.79E-02	0	0	0	4,297	0.1535%
MCY	Gasoline	0.94072044	0.53042569	11.6298938	0.00185439	0.00215608	0.004	0.012	1.82E-02	0.0020116	0.001	0.0042	7.21E-03	187.576871	0.1489456	0.03790772	7,057	0.2522%
MDV	Gasoline	0.00508942	0.0302635	0.61740517	0.00328579	0.00066547	0.008	0.01036908	1.90E-02	0.00061187	0.002	0.00362918	6.24E-03	332.367578	0.0015279	0.00385307	325,252	11.6232%
MDV	Diesel	0.00788622	0.0189233	0.21370332	0.00320484	0.00207167	0.008	0.01059615	2.07E-02	0.00198205	0.002	0.00370865	7.69E-03	338.223342	0.0003663	0.05328723	4,005	0.1431%
MDV	Electricity	0	0	0	0	0	0.008	0.00439847	1.24E-02	0	0.002	0.00153947	3.54E-03	0	0	0	12,654	0.4522%
MDV	Plug-in Hybrid	0.00128813	0.00294798	0.18715089	0.00118218	0.00024232	0.008	0.00420204	1.24E-02	0.0002228	0.002	0.00147071	3.69E-03	119.581272	0.00038467	0.00048035	8,972	0.3206%
MH	Gasoline	0.01288224	0.13044938	0.1934347	0.0192533	0.00142112	0.012	0.04504753	5.85E-02	0.00130667	0.003	0.01576663	2.01E-02	1947.52819	0.00434463	0.01385928	763	0.0272%
MH	Diesel	0.10902313	3.27659586	0.34783773	0.01029308	0.06526197	0.016	0.04484178	1.26E-01	0.06243876	0.004	0.01569462	8.21E-02	1086.28242	0.00506392	0.17114424	506	0.0181%
Motor Coach	Diesel	0.01065966	0.99891171	0.03802355	0.01473053	0.02441209	0.012	0.08072468	1.17E-01	0.02335603	0.003	0.02825364	5.46E-02	1555.59235	0.00049511	0.24508421	571	0.0204%
OBUS	Gasoline	0.032701	0.23360245	0.71170232	0.01544568	0.00127094	0.012	0.04488659	5.82E-02	0.00116859	0.003	0.01571031	1.99E-02	1562.37649	0.00706881	0.0129316	396	0.0142%
OBUS	Electricity	0	0	0	0	0	0.012	0.0224433	3.44E-02	0	0.003	0.00785515	1.09E-02	0	0	0	338	0.0121%
PTO	Diesel	0.03162898	3.87331435	0.31657589	0.01896739	0.00640776	0	0	6.41E-03	0.00613056	0	0	6.13E-03	2003.0192	0.00146908	0.31557649	1,340	0.0479%
PTO	Electricity	0	0	0	0	0	0	0	0.00E+00	0	0	0	0.00E+00	0	0	0	380	0.0136%
SBUS	Gasoline	0.00869404	0.19103236	0.20356765	0.00785623	0.00090131	0.008	0.04491714	5.38E-02	0.00082872	0.002	0.015721	1.85E-02	794.68099	0.00210124	0.01700356	947	0.0339%
SBUS	Diesel	0.01891876	0.8258872	0.08519443	0.01019445	0.0057566	0.012	0.04491714	6.27E-02	0.00550757	0.003	0.015721	2.42E-02	1076.56754	0.00087873	0.16961366	791	0.0283%
SBUS	Electricity	0	0	0	0	0	0.01079896	0.02245857	3.33E-02	0	0.00269974	0.0078605	1.06E-02	0	0	0	434	0.0155%
SBUS	Natural Gas	0.03557113	0.22495954	7.19207565	0	0.00367426	0.012	0.04491714	6.06E-02	0.00337835	0.003	0.015721	2.21E-02	1100.2251	2.48957608	0.22428808	1	0.0001%
T6 CAIRP Class 4	Diesel	0.00566417	0.1949476	0.02862903	0.00973573	0.00566374	0.012	0.04231382	6.00E-02	0.00541873	0.003	0.01480984	2.32E-02	1028.12513	0.00026309	0.16198153	4	0.0001%
T6 CAIRP Class 4	Electricity	0	0	0	0	0	0.012	0.02115691	3.32E-02	0	0.003	0.00740492	1.04E-02	0	0	0	4	0.0001%
T6 CAIRP Class 5	Diesel	0.00560199	0.19665663	0.02851978	0.00974656	0.00564699	0.012	0.04231382	6.00E-02	0.0054027	0.003	0.01480984	2.32E-02	1029.26862	0.0002602	0.16216169	5	0.0002%
T6 CAIRP Class 5	Electricity	0	0	0	0	0	0.012	0.02115691	3.32E-02	0	0.003	0.00740492	1.04E-02	0	0	0	6	0.0002%
T6 CAIRP Class 6	Diesel	0.00555462	0.18977939	0.02827899	0.00970577	0.00559093	0.012	0.04231382	5.99E-02	0.00534907	0.003	0.01480984	2.32E-02	1024.96149	0.000258	0.1614831	14	0.0005%
T6 CAIRP Class 6	Electricity	0	0	0	0	0	0.012	0.02115691	3.32E-02	0	0.003	0.00740492	1.04E-02	0	0	0	15	0.0005%
T6 CAIRP Class 7	Diesel	0.00583812	0.20546	0.02993417	0.00856537	0.00585627	0.012	0.04231382	6.02E-02	0.00560293	0.003	0.01480984	2.34E-02	904.531694	0.00027117	0.14250934	140	0.0050%
T6 CAIRP Class 7	Electricity	0	0	0	0	0	0.012	0.02115691	3.32E-02	0	0.003	0.00740492	1.04E-02	0	0	0	39	0.0014%
T6 Instate Delivery Class 4	Diesel	0.00704636	0.44761716	0.05877433	0.01018198	0.00232994	0.012	0.04756293	6.19E-02	0.00222914	0.003	0.01664703	2.19E-02	1075.25098	0.00032729	0.16940623	621	0.0222%
T6 Instate Delivery Class 4	Electricity	0	0	0	0	0	0.012	0.02378147	3.58E-02	0	0.003	0.00832351	1.13E-02	0	0	0	438	0.0156%
T6 Instate Delivery Class 5	Diesel	0.00629368	0.40770576	0.0555302	0.0102078	0.00201998	0.012	0.04756293	6.16E-02	0.0019326	0.003	0.01664703	2.16E-02	1077.97698	0.00029233	0.16983571	590	0.0211%
T6 Instate Delivery Class 5	Electricity	0	0	0	0	0	0.012	0.02378147	3.58E-02	0	0.003	0.00832351	1.13E-02	0	0	0	408	0.0146%
T6 Instate Delivery Class 6	Diesel	0.0069561	0.43280457	0.05793663	0.01018127	0.00224958	0.012	0.04756293	6.18E-02	0.00215227	0.003	0.01664703	2.18E-02	1075.17529	0.00032309	0.1693943	1,203	0.0430%
T6 Instate Delivery Class 6	Electricity	0	0	0	0	0	0.012	0.02378147	3.58E-02	0	0.003	0.00832351	1.13E-02	0	0	0	835	0.0298%
T6 Instate Delivery Class 7	Diesel	0.0083168	0.52327451	0.06644426	0.010903	0.00248296	0.012	0.04756293	6.20E-02	0.00237555	0.003	0.01664703	2.20E-02	1151.3922	0.00038629	0.18140231	241	0.0086%
T6 Instate Delivery Class 7	Electricity	0	0	0	0	0	0.012	0.02378147	3.58E-02	0	0.003	0.00832351	1.13E-02	0	0	0	80	0.0028%
T6 Instate Delivery Class 7	Natural Gas	0.01079921	0.25379021	3.35945693	0	0.00091244	0.012	0.04756293	6.05E-02	0.00083895	0.003	0.01664703	2.05E-02	1046.37038	0.75582268	0.21330945	8	0.0003%
T6 Instate Other Class 4	Diesel	0.00636815	0.33316436	0.04628352	0.00979848	0.0036061	0.012	0.04486375	6.05E-02	0.0034501	0.003	0.01570231	2.22E-02	1034.75198	0.00029578	0.1630256	1,761	0.0629%
T6 Instate Other Class 4	Electricity	0	0	0	0	0	0.012	0.02243187	3.44E-02	0	0.003	0.00785116	1.09E-02	0	0	0	1,305	0.0466%
T6 Instate Other Class 5	Diesel	0.00616296	0.32464858	0.04539036	0.00980454	0.00347271	0.012	0.04486375	6.03E-02	0.00332248	0.003	0.01570231	2.20E-02	1035.39166	0.00028625	0.16312638	4,681	0.1673%
T6 Instate Other Class 5	Electricity	0	0	0	0	0	0.012	0.02243187	3.44E-02	0	0.003	0.00785116	1.09E-02	0	0	0	3,447	0.1232%
T6 Instate Other Class 6	Diesel	0.00648605	0.32704612	0.04618034	0.00980687	0.00360041	0.012	0.04486375	6.05E-02	0.00344466	0.003	0.01570231	2.21E-02	1035.63769	0.00030126	0.16316514	2,983	0.1066%
T6 Instate Other Class 6	Electricity	0	0	0	0	0	0.012	0.02243187	3.44E-02	0	0.003	0.00785116	1.09E-02	0	0	0	2,200	0.0786%
T6 Instate Other Class 7	Diesel	0.00878802	0.61457146	0.06034971	0.00993726	0.00473938	0.012	0.04486375	6.16E-02	0.00453436	0.003	0.01570231	2.32E-02	1049.40729	0.00040818	0.16533455	3,754	0.1342%
T6 Instate Other Class 7	Electricity	0	0	0	0	0	0.012	0.02243187	3.44E-02	0	0.003	0.00785116	1.09E-02	0	0	0	1,877	0.0671%
T6 Instate Other Class 7	Natural Gas	0.00884092	0.15180561	2.76185479	0	0.00096847	0.012	0.04486375	5.78E-02	0.00089047	0.003	0.01570231	1.96E-02	917.145355	0.61876447	0.18696608	90	0.0032%
T6 Instate Tractor Class 7	Diesel	0.01080942	0.7156607	0.06548931	0.00910236	0.00528866	0.012	0.04486375	6.22E-02	0.00505987	0.003	0.01570231	2.38E-02	961.238905	0.00050207	0.15144358	514	0.0184%
T6 Instate Tractor Class 7	Electricity	0	0	0	0	0	0.012	0.02243187	3.44E-02	0	0.003	0.00785116	1.09E-02	0	0	0	90	0.0032%

T6 Instate Tractor Class 7	Natural Gas	0.00881445	0.15415107	2.76398163	0	0.00095459	0.012	0.04486375	5.78E-02	0.00087771	0.003	0.01570231	1.96E-02	902.516757	0.61691165	0.18398395	13	0.0005%
T6 OOS Class 4	Diesel	0.00605035	0.24645819	0.02895171	0.00908765	0.0060004	0.012	0.04231382	6.03E-02	0.00574083	0.003	0.01480984	2.36E-02	959.685638	0.00028102	0.15119886	10	0.0004%
T6 OOS Class 5	Diesel	0.00559885	0.23913704	0.02783862	0.00910015	0.00578092	0.012	0.04231382	6.01E-02	0.00553084	0.003	0.01480984	2.33E-02	961.005266	0.00026005	0.15140677	14	0.0005%
T6 OOS Class 6	Diesel	0.0056439	0.23274556	0.0278664	0.00905039	0.00577582	0.012	0.04231382	6.01E-02	0.00552596	0.003	0.01480984	2.33E-02	955.751349	0.00026214	0.15057901	36	0.0013%
T6 OOS Class 7	Diesel	0.005689	0.2382046	0.02917732	0.00820309	0.00593896	0.012	0.04231382	6.03E-02	0.00568204	0.003	0.01480984	2.35E-02	866.273067	0.00026424	0.13648167	260	0.0093%
T6 Public Class 4	Diesel	0.02315789	1.06122689	0.07832225	0.01051887	0.00589378	0.012	0.04616939	6.41E-02	0.00563882	0.003	0.01615929	2.48E-02	1110.82746	0.00107562	0.17501132	75	0.0027%
T6 Public Class 4	Electricity	0	0	0	0	0	0.012	0.0230847	3.51E-02	0	0.003	0.00807964	1.11E-02	0	0	0	45	0.0016%
T6 Public Class 4	Natural Gas	0.01262372	0.05818832	3.05785103	0	0.00179619	0.012	0.04616939	6.00E-02	0.00165153	0.003	0.01615929	2.08E-02	979.629114	0.88351739	0.1997038	3	0.0001%
T6 Public Class 5	Diesel	0.01291805	0.62078002	0.06017117	0.01061475	0.00405665	0.012	0.04616939	6.22E-02	0.00388116	0.003	0.01615929	2.30E-02	1120.95256	0.00060001	0.17660653	260	0.0093%
T6 Public Class 5	Electricity	0	0	0	0	0	0.012	0.0230847	3.51E-02	0	0.003	0.00807964	1.11E-02	0	0	0	151	0.0054%
T6 Public Class 5	Natural Gas	0.01262372	0.05818832	3.05785103	0	0.00179619	0.012	0.04616939	6.00E-02	0.00165153	0.003	0.01615929	2.08E-02	976.703067	0.88351739	0.19910731	8	0.0003%
T6 Public Class 6	Diesel	0.02006699	1.11927287	0.07037903	0.01057477	0.00601626	0.012	0.04616939	6.42E-02	0.005756	0.003	0.01615929	2.49E-02	1116.73085	0.00093206	0.1759414	178	0.0064%
T6 Public Class 6	Electricity	0	0	0	0	0	0.012	0.0230847	3.51E-02	0	0.003	0.00807964	1.11E-02	0	0	0	103	0.0037%
T6 Public Class 6	Natural Gas	0.01262372	0.05818832	3.05785103	0	0.00179619	0.012	0.04616939	6.00E-02	0.00165153	0.003	0.01615929	2.08E-02	978.374078	0.88351739	0.19944796	7	0.0002%
T6 Public Class 7	Diesel	0.01589023	0.76400636	0.06334285	0.01037937	0.00471395	0.012	0.04616939	6.29E-02	0.00451003	0.003	0.01615929	2.37E-02	1096.09512	0.00073806	0.17269023	740	0.0264%
T6 Public Class 7	Electricity	0	0	0	0	0	0.012	0.0230847	3.51E-02	0	0.003	0.00807964	1.11E-02	0	0	0	391	0.0140%
T6 Public Class 7	Natural Gas	0.01262372	0.05818832	3.05785103	0	0.00179619	0.012	0.04616939	6.00E-02	0.00165153	0.003	0.01615929	2.08E-02	1003.09687	0.88351739	0.20448786	38	0.0014%
T6 Utility Class 5	Diesel	0.00514981	0.20159573	0.03596338	0.00972821	0.00234828	0.012	0.0454967	5.98E-02	0.0022467	0.003	0.01592385	2.12E-02	1027.33054	0.0002392	0.16185634	910	0.0325%
T6 Utility Class 5	Electricity	0	0	0	0	0	0.012	0.02274835	3.47E-02	0	0.003	0.00796192	1.10E-02	0	0	0	991	0.0354%
T6 Utility Class 6	Diesel	0.00514913	0.19541381	0.0359586	0.00972544	0.0023199	0.012	0.0454967	5.98E-02	0.00221954	0.003	0.01592385	2.11E-02	1027.03806	0.00023916	0.16181026	172	0.0061%
T6 Utility Class 6	Electricity	0	0	0	0	0	0.012	0.02274835	3.47E-02	0	0.003	0.00796192	1.10E-02	0	0	0	187	0.0067%
T6 Utility Class 7	Diesel	0.00509296	0.19016874	0.03556637	0.00972236	0.00230531	0.012	0.0454967	5.98E-02	0.00220558	0.003	0.01592385	2.11E-02	1026.71344	0.00023655	0.16175912	231	0.0082%
T6 Utility Class 7	Electricity	0	0	0	0	0	0.012	0.02274835	3.47E-02	0	0.003	0.00796192	1.10E-02	0	0	0	269	0.0096%
T6TS	Gasoline	0.01612829	0.10814572	0.27893721	0.01553796	0.00148587	0.012	0.04504753	5.85E-02	0.0013662	0.003	0.01576663	2.01E-02	1571.71098	0.0040079	0.00886117	2,246	0.0802%
T6TS	Electricity	0	0	0	0	0	0.012	0.02252376	3.45E-02	0	0.003	0.00788332	1.09E-02	0	0	0	1,837	0.0657%
T7 CAIRP Class 8	Diesel	0.01157006	1.23649608	0.03925862	0.01215721	0.03051877	0.03600001	0.08157143	1.48E-01	0.02919855	0.009	0.02855	6.67E-02	1283.84096	0.0005374	0.20226967	101,666	3.6331%
T7 CAIRP Class 8	Electricity	0	0	0	0	0	0.03600001	0.04094346	7.69E-02	0	0.009	0.01433021	2.33E-02	0	0	0	26,519	0.9477%
T7 NNOOS Class 8	Diesel	0.01124257	1.34990035	0.03820632	0.01165968	0.02987359	0.03600001	0.08159364	1.47E-01	0.02858128	0.009	0.02855777	6.61E-02	1231.30058	0.00052219	0.19399191	151,555	5.4159%
T7 NOOS Class 8	Diesel	0.01159549	1.38836369	0.03932444	0.01164913	0.03164204	0.03600001	0.08160455	1.49E-01	0.03027322	0.009	0.02856159	6.78E-02	1230.18681	0.00053858	0.19381643	55,057	1.9675%
T7 POAK Class 8	Diesel	0.01027916	1.30789066	0.06503724	0.01299457	0.01746498	0.03600001	0.09380231	1.47E-01	0.01670945	0.009	0.03283081	5.85E-02	1372.26951	0.00047744	0.21620162	5,069	0.1812%
T7 POAK Class 8	Electricity	0	0	0	0	0	0.03600001	0.04706132	8.31E-02	0	0.009	0.01647146	2.55E-02	0	0	0	993	0.0355%
T7 Public Class 8	Diesel	0.03133345	2.53058003	0.14997273	0.01573923	0.01218213	0.03600001	0.10608883	1.54E-01	0.01165514	0.009	0.03713109	5.78E-02	1662.11396	0.00145536	0.26186673	1,309	0.0468%
T7 Public Class 8	Electricity	0	0	0	0	0	0.03600001	0.05425415	9.03E-02	0	0.009	0.01898895	2.80E-02	0	0	0	589	0.0211%
T7 Public Class 8	Natural Gas	0.0241717	0.21154067	7.7745015	0	0.00338755	0.03600001	0.1049671	1.44E-01	0.00311473	0.009	0.03673848	4.89E-02	1447.2891	1.69174538	0.29503935	16	0.0006%
T7 Single Concrete/Transit Mix Class 8	Diesel	0.00872595	0.83689267	0.04443451	0.01386607	0.01414831	0.03600001	0.08813851	1.38E-01	0.01353626	0.009	0.03084848	5.34E-02	1464.30215	0.0004053	0.2307014	665	0.0238%
T7 Single Concrete/Transit Mix Class 8	Electricity	0	0	0	0	0	0.03600001	0.04437948	8.04E-02	0	0.009	0.01553282	2.45E-02	0	0	0	713	0.0255%
T7 Single Concrete/Transit Mix Class 8	Natural Gas	0.01524278	0.17225081	4.14538165	0	0.00223872	0.03600001	0.08812125	1.26E-01	0.00205842	0.009	0.03084244	4.19E-02	1126.99889	1.06682199	0.2297461	23	0.0008%
T7 Single Dump Class 8	Diesel	0.01103714	1.17191561	0.06011273	0.01448138	0.01824343	0.03600001	0.08593247	1.40E-01	0.01745423	0.009	0.03007636	5.65E-02	1529.281	0.00051265	0.24093884	2,067	0.0739%
T7 Single Dump Class 8	Electricity	0	0	0	0	0	0.03600001	0.04434646	8.03E-02	0	0.009	0.01552126	2.45E-02	0	0	0	1,199	0.0429%
T7 Single Dump Class 8	Natural Gas	0.01520162	0.26434889	5.41805438	0	0.00203223	0.03600001	0.08634583	1.24E-01	0.00186856	0.009	0.03022104	4.11E-02	1159.02955	1.06394114	0.23627576	66	0.0023%
T7 Single Other Class 8	Diesel	0.02481543	2.293272	0.13549617	0.01583157	0.02898705	0.03600001	0.08040277	1.45E-01	0.02773308	0.009	0.02814097	6.49E-02	1671.86629	0.00115261	0.26340322	3,770	0.1347%
T7 Single Other Class 8	Natural Gas	0.01503667	0.63341036	10.5179917	0	0.00120474	0.03600001	0.08036384	1.18E-01	0.00110772	0.009	0.02812734	3.82E-02	1301.64391	1.05239683	0.26534863	157	0.0056%
T7 SWCV Class 8	Diesel	0.02405881	0.44020069	0.05277544	0.03282805	0.0193675	0.03600001	0.21000006	2.65E-01	0.01852967	0.009	0.07350002	1.01E-01	3466.7496	0.00111747	0.54618781	745	0.0266%
T7 SWCV Class 8	Electricity	0	0	0	0	0	0.03600001	0.10500003	1.41E-01	0	0.009	0.03675001	4.58E-02	0	0	0	469	0.0168%
T7 SWCV Class 8	Natural Gas	0.00123502	0.08928852	9.04769323	0	0.00115361	0.03600001	0.21000006	2.47E-01	0.0010607	0.009	0.07350002	8.36E-02	1359.38394	0.08643769	0.27711931	289	0.0103%
T7 Tractor Class 8	Diesel	0.01058746	1.2423973	0.05058916	0.01244956	0.02254737	0.03600001	0.08448976	1.43E-01	0.02157198	0.009	0.02957142	6.01E-02	1314.71453	0.00049176	0.20713381	47,886	1.7113%
T7 Tractor Class 8	Electricity	0	0	0	0	0	0.03600001	0.04325918	7.93E-02	0	0.009	0.01514071	2.41E-02	0	0	0	7,268	0.2597%
T7 Tractor Class 8	Natural Gas	0.01456534	0.18761376	4.06114056	0	0.00210465	0.03600001	0.08462211	1.23E-01	0.00193515	0.009	0.02961774	4.06E-02	1094.77502	1.01940849	0.22317705	137	0.0049%
T7 Utility Class 8	Diesel	0.01117929	1.08231654	0.10330677	0.01489771	0.00720968	0.03600001	0.09997992	1.43E-01	0.00689779	0.009	0.03499297	5.09E-02	1573.24693	0.00051925	0.24786569	965	0.0345%
T7 Utility Class 8	Electricity	0	0	0	0	0	0.03600001	0.05191228	8.79E-02	0	0.009	0.0181693	2.72E-02	0	0	0	536	0.0192%
T7IS	Gasoline	0.57598078	2.71586631	30.6390432	0.01848034	0.00158586	0.02000001	0.09649707	1.18E-01	0.00145814	0.005	0.03377397	4.02E-02	1869.34112	0.11676633	0.11846608	8	0.0003%
T7IS	Electricity	0	0	0	0	0	0.02000001	0.04842736	6.84E-02	0	0.005	0.01694958	2.19E-02	0	0	0	6	0.0002%
UBUS	Gasoline	0.00330205	0.01710032	0.58440945	0.00831619	0.00129101	0.0080008	0.09100381	1.00E-01	0.00118704	0.0020002	0.03185133	3.50E-02	841.207296	0.00125661	0.0029937	266	0.0095%
UBUS	Diesel	0.10023776	0.21425071	0.23493995	0.00627276	0.01806522	0.012	0.0911658	1.21E-01	0.01728373	0.003	0.03190803	5.22E-02	661.997293	0.00465585	0.10429794	34	0.0012%
UBUS	Electricity	0	0	0	0	0	0.01205524	0.05500002	6.71E-02	0	0.00301381	0.01925001	2.23E-02	0	0	0	1,849	0.0661%
UBUS	Natural Gas	0.10028945	0.21348369	0.40257228	0	0.01804918	0.012	0.0911658	1.21E-01	0.01726838	0.003	0.03190803	5.22E-02	798.830886	0.02679604	0.1628469	59	0.0021%
																	2,798,304	100.00%

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: County
Region: San Benito
Calendar Year: 2040
Season: Annual
Vehicle Classification: EMFAC202x Categori
Units: miles/day for CVMT and EVMT, trips/

		lbs/Mile															1.0E-06
Vehicle Category	Fuel	ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUNEX	PM10_PMTW	PM10_PMBW	PM10_Total	PM2.5_RUNEX	PM2.5_PMTW	PM2.5_PMBW	PM2_5_Total	CO2(Pavley+AACC)_RUNEX	CH4_RUNEX	N2O_RUNEX	
All Other Buses	Diesel	2.422E-04	2.748E-03	6.969E-04	2.247E-05	7.473E-05	2.646E-05	1.017E-04	2.029E-04	7.150E-05	6.614E-06	3.560E-05	1.137E-04	2.373E+00	1.125E-05	3.739E-04	
LDA	Gasoline	7.849E-06	5.045E-05	1.130E-03	4.907E-06	1.324E-06	1.764E-05	1.895E-05	3.791E-05	1.218E-06	4.409E-06	6.631E-06	1.226E-05	4.964E-01	2.510E-06	7.602E-06	
LDA	Diesel	2.340E-05	1.594E-04	5.227E-04	4.012E-06	8.459E-06	1.764E-05	1.925E-05	4.535E-05	8.093E-06	4.409E-06	6.739E-06	1.924E-05	4.234E-01	1.087E-06	6.671E-05	
LDA	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.764E-05	9.686E-06	2.732E-05	0.000E+00	4.409E-06	3.390E-06	7.799E-06	0.000E+00	0.000E+00	0.000E+00	
LDA	Plug-in Hybrid	2.852E-06	6.527E-06	4.144E-04	2.618E-06	5.484E-07	1.764E-05	9.252E-06	2.744E-05	5.042E-07	4.409E-06	3.238E-06	8.152E-06	2.648E-01	8.580E-07	1.079E-06	
LDT1	Gasoline	1.002E-05	6.139E-05	1.259E-03	5.743E-06	1.514E-06	1.764E-05	2.271E-05	4.186E-05	1.392E-06	4.409E-06	7.948E-06	1.375E-05	5.809E-01	2.952E-06	8.219E-06	
LDT1	Diesel	3.426E-05	6.605E-05	3.608E-04	6.969E-06	9.552E-06	1.764E-05	2.230E-05	4.949E-05	9.139E-06	4.409E-06	7.805E-06	2.135E-05	7.355E-01	1.591E-06	1.159E-04	
LDT1	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.764E-05	9.679E-06	2.732E-05	0.000E+00	4.409E-06	3.388E-06	7.797E-06	0.000E+00	0.000E+00	0.000E+00	
LDT1	Plug-in Hybrid	2.814E-06	6.440E-06	4.089E-04	2.582E-06	4.747E-07	1.764E-05	9.252E-06	2.736E-05	4.365E-07	4.409E-06	3.238E-06	8.084E-06	2.612E-01	8.452E-07	1.061E-06	
LDT2	Gasoline	9.664E-06	5.541E-05	1.287E-03	5.908E-06	1.370E-06	1.764E-05	2.249E-05	4.150E-05	1.260E-06	4.409E-06	7.872E-06	1.354E-05	5.976E-01	3.070E-06	7.944E-06	
LDT2	Diesel	3.461E-05	6.815E-05	3.716E-04	5.227E-06	9.803E-06	1.764E-05	2.250E-05	4.994E-05	9.379E-06	4.409E-06	7.876E-06	2.166E-05	5.516E-01	1.607E-06	8.691E-05	
LDT2	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.764E-05	9.686E-06	2.732E-05	0.000E+00	4.409E-06	3.390E-06	7.799E-06	0.000E+00	0.000E+00	0.000E+00	
LDT2	Plug-in Hybrid	2.833E-06	6.484E-06	4.116E-04	2.600E-06	5.114E-07	1.764E-05	9.258E-06	2.741E-05	4.702E-07	4.409E-06	3.240E-06	8.120E-06	2.630E-01	8.468E-07	1.058E-06	
LHD1	Gasoline	1.166E-05	8.711E-05	1.288E-03	1.688E-05	2.868E-06	1.764E-05	1.720E-04	1.925E-04	2.637E-06	4.409E-06	6.019E-05	6.723E-05	1.708E+00	3.206E-06	6.102E-06	
LHD1	Diesel	2.814E-04	1.817E-03	7.977E-04	1.294E-05	6.527E-05	2.646E-05	1.720E-04	2.637E-04	6.245E-05	6.614E-06	6.019E-05	1.292E-04	1.366E+00	1.307E-05	2.151E-04	
LHD1	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.764E-05	8.598E-05	1.036E-04	0.000E+00	4.409E-06	3.009E-05	3.450E-05	0.000E+00	0.000E+00	0.000E+00	
LHD2	Gasoline	9.585E-06	7.211E-05	1.304E-03	1.879E-05	2.728E-06	1.764E-05	2.006E-04	2.210E-04	2.508E-06	4.409E-06	7.022E-05	7.713E-05	1.900E+00	2.757E-06	5.997E-06	
LHD2	Diesel	3.072E-04	2.048E-03	8.765E-04	1.527E-05	7.075E-05	2.646E-05	2.006E-04	2.978E-04	6.769E-05	6.614E-06	7.022E-05	1.445E-04	1.612E+00	1.427E-05	2.539E-04	
LHD2	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.764E-05	1.003E-04	1.179E-04	0.000E+00	4.409E-06	3.511E-05	3.952E-05	0.000E+00	0.000E+00	0.000E+00	
MCY	Gasoline	2.074E-03	1.169E-03	2.564E-02	4.088E-06	4.753E-06	8.818E-06	2.646E-05	4.003E-05	4.435E-06	2.205E-06	9.259E-06	1.590E-05	4.135E-01	3.284E-04	8.357E-05	
MDV	Gasoline	1.122E-05	6.672E-05	1.361E-03	7.244E-06	1.467E-06	1.764E-05	2.286E-05	4.196E-05	1.349E-06	4.409E-06	8.001E-06	1.376E-05	7.327E-01	3.368E-06	8.494E-06	
MDV	Diesel	1.739E-05	4.172E-05	4.711E-04	7.065E-06	4.567E-06	1.764E-05	2.336E-05	4.556E-05	4.370E-06	4.409E-06	8.176E-06	1.695E-05	7.456E-01	8.075E-07	1.175E-04	
MDV	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.764E-05	9.697E-06	2.733E-05	0.000E+00	4.409E-06	3.394E-06	7.803E-06	0.000E+00	0.000E+00	0.000E+00	
MDV	Plug-in Hybrid	2.840E-06	6.499E-06	4.126E-04	2.606E-06	5.342E-07	1.764E-05	9.264E-06	2.743E-05	4.912E-07	4.409E-06	3.242E-06	8.143E-06	2.636E-01	8.481E-07	1.059E-06	
MH	Gasoline	2.840E-05	2.876E-04	4.264E-04	4.245E-05	3.133E-06	2.646E-05	9.931E-05	1.289E-04	2.881E-06	6.614E-06	3.476E-05	4.425E-05	4.294E+00	9.578E-06	3.055E-05	
MH	Diesel	2.404E-04	7.224E-03	7.668E-04	2.269E-05	1.439E-04	3.527E-05	9.886E-05	2.780E-04	1.377E-04	8.818E-06	3.460E-05	1.811E-04	2.395E+00	1.116E-05	3.773E-04	
Motor Coach	Diesel	2.350E-05	2.202E-03	8.383E-05	3.247E-05	5.382E-05	2.646E-05	1.780E-04	2.582E-04	5.149E-05	6.614E-06	6.229E-05	1.204E-04	3.429E+00	1.092E-06	5.403E-04	
OBUS	Gasoline	7.209E-05	5.150E-04	1.569E-03	3.405E-05	2.802E-06	2.646E-05	9.896E-05	1.282E-04	2.576E-06	6.614E-06	3.463E-05	4.383E-05	3.444E+00	1.558E-05	2.851E-05	
OBUS	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	4.948E-05	7.593E-05	0.000E+00	6.614E-06	1.732E-05	2.393E-05	0.000E+00	0.000E+00	0.000E+00	
PTO	Diesel	6.973E-05	8.539E-03	6.979E-04	4.182E-05	1.413E-05	0.000E+00	0.000E+00	1.413E-05	1.352E-05	0.000E+00	0.000E+00	1.352E-05	4.416E+00	3.239E-06	6.957E-04	
PTO	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
SBUS	Gasoline	1.917E-05	4.211E-04	4.488E-04	1.732E-05	1.987E-06	1.764E-05	9.902E-05	1.186E-04	1.827E-06	4.409E-06	3.466E-05	4.089E-05	1.752E+00	4.632E-06	3.749E-05	
SBUS	Diesel	4.171E-05	1.821E-03	1.878E-04	2.247E-05	1.269E-05	2.646E-05	9.902E-05	1.382E-04	1.214E-05	6.614E-06	3.466E-05	5.341E-05	2.373E+00	1.937E-06	3.739E-04	
SBUS	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.381E-05	4.951E-05	7.332E-05	0.000E+00	5.952E-06	1.733E-05	2.328E-05	0.000E+00	0.000E+00	0.000E+00	
SBUS	Natural Gas	7.842E-05	4.959E-04	1.586E-02	0.000E+00	8.100E-06	2.646E-05	9.902E-05	1.336E-04	7.448E-06	6.614E-06	3.466E-05	4.872E-05	2.426E+00	5.489E-03	4.945E-04	
T6 CAIRP Class 4	Diesel	1.249E-05	4.298E-04	6.312E-05	2.146E-05	1.249E-05	2.646E-05	9.329E-05	1.322E-04	1.195E-05	6.614E-06	3.265E-05	5.121E-05	2.267E+00	5.800E-07	3.571E-04	
T6 CAIRP Class 4	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	4.664E-05	7.310E-05	0.000E+00	6.614E-06	1.632E-05	2.294E-05	0.000E+00	0.000E+00	0.000E+00	
T6 CAIRP Class 5	Diesel	1.235E-05	4.335E-04	6.287E-05	2.149E-05	1.245E-05	2.646E-05	9.329E-05	1.322E-04	1.191E-05	6.614E-06	3.265E-05	5.117E-05	2.269E+00	5.736E-07	3.575E-04	
T6 CAIRP Class 5	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	4.664E-05	7.310E-05	0.000E+00	6.614E-06	1.632E-05	2.294E-05	0.000E+00	0.000E+00	0.000E+00	
T6 CAIRP Class 6	Diesel	1.225E-05	4.184E-04	6.234E-05	2.140E-05	1.233E-05	2.646E-05	9.329E-05	1.321E-04	1.179E-05	6.614E-06	3.265E-05	5.106E-05	2.260E+00	5.688E-07	3.560E-04	
T6 CAIRP Class 6	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	4.664E-05	7.310E-05	0.000E+00	6.614E-06	1.632E-05	2.294E-05	0.000E+00	0.000E+00	0.000E+00	
T6 CAIRP Class 7	Diesel	1.287E-05	4.530E-04	6.599E-05	1.888E-05	1.291E-05	2.646E-05	9.329E-05	1.327E-04	1.235E-05	6.614E-06	3.265E-05	5.162E-05	1.994E+00	5.978E-07	3.142E-04	
T6 CAIRP Class 7	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	4.664E-05	7.310E-05	0.000E+00	6.614E-06	1.632E-05	2.294E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Instate Delivery Class 4	Diesel	1.553E-05	9.868E-04	1.296E-04	2.245E-05	5.137E-06	2.646E-05	1.049E-04	1.364E-04	4.914E-06	6.614E-06	3.670E-05	4.823E-05	2.370E+00	7.215E-07	3.735E-04	
T6 Instate Delivery Class 4	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	5.243E-05	7.888E-05	0.000E+00	6.614E-06	1.835E-05	2.496E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Instate Delivery Class 5	Diesel	1.388E-05	8.988E-04	1.224E-04	2.250E-05	4.453E-06	2.646E-05	1.049E-04	1.358E-04	4.261E-06	6.614E-06	3.670E-05	4.757E-05	2.377E+00	6.445E-07	3.744E-04	
T6 Instate Delivery Class 5	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	5.243E-05	7.888E-05	0.000E+00	6.614E-06	1.835E-05	2.496E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Instate Delivery Class 6	Diesel	1.534E-05	9.542E-04	1.277E-04	2.245E-05	4.959E-06	2.646E-05	1.049E-04	1.363E-04	4.745E-06	6.614E-06	3.670E-05	4.806E-05	2.370E+00	7.123E-07	3.734E-04	
T6 Instate Delivery Class 6	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	5.243E-05	7.888E-05	0.000E+00	6.614E-06	1.835E-05	2.496E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Instate Delivery Class 7	Diesel	1.834E-05	1.154E-03	1.465E-04	2.404E-05	5.474E-06	2.646E-05	1.049E-04	1.368E-04	5.237E-06	6.614E-06	3.670E-05	4.855E-05	2.538E+00	8.516E-07	3.999E-04	
T6 Instate Delivery Class 7	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	5.243E-05	7.888E-05	0.000E+00	6.614E-06	1.835E-05	2.496E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Instate Delivery Class 7	Natural Gas	2.381E-05	5.595E-04	7.406E-03	0.000E+00	2.012E-06	2.646E-05	1.049E-04	1.333E-04	1.850E-06	6.614E-06	3.670E-05	4.516E-05	2.307E+00	1.666E-03	4.703E-04	
T6 Instate Other Class 4	Diesel	1.404E-05	7.345E-04	1.020E-04	2.160E-05	7.950E-06	2.646E-05	9.891E-05	1.333E-04	7.606E-06	6.614E-06	3.462E-05	4.884E-05	2.281E+00	6.521E-07	3.594E-04	
T6 Instate Other Class 4	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	4.945E-05	7.591E-05	0.000E+00	6.614E-06	1.731E-05	2.392E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Instate Other Class 5	Diesel	1.359E-05	7.157E-04	1.001E-04	2.162E-05	7.656E-06	2.646E-05	9.891E-05	1.330E-04	7.325E-06	6.614E-06	3.462E-05	4.856E-05	2.283E+00	6.311E-07	3.596E-04	
T6 Instate Other Class 5	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	4.945E-05	7.591E-05	0.000E+00	6.614E-06	1.731E-05	2.392E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Instate Other Class 6	Diesel	1.430E-05	7.210E-04	1.018E-04	2.162E-05	7.937E-06	2.646E-05	9.891E-05	1.333E-04	7.594E-06	6.614E-06	3.462E-05	4.883E-05	2.283E+00	6.642E-07	3.597E-04	
T6 Instate Other Class 6	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	4.945E-05	7.591E-05	0.000E+00	6.614E-06	1.731E-05	2.392E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Instate Other Class 7	Diesel	1.937E-05	1.355E-03	1.330E-04	2.191E-05	1.045E-05	2.646E-05	9.891E-05	1.358E-04	9.996E-06	6.614E-06	3.462E-05	5.123E-05	2.314E+00	8.999E-07	3.645E-04	
T6 Instate Other Class 7	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	4.945E-05	7.591E-05	0.000E+00	6.614E-06	1.731E-05	2.392E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Instate Other Class 7	Natural Gas	1.949E-05	3.347E-04	6.089E-03	0.000E+00	2.135E-06	2.646E-05	9.891E-05	1.275E-04	1.963E-06	6.614E-06	3.462E-05	4.319E-05	2.022E+00	1.364E-03	4.122E-04	
T6 Instate Tractor Class 7	Diesel	2.383E-05	1.578E-03	1.444E-04	2.007E-05	1.166E-05	2.646E-05	9.891E-05	1.370E-04	1.115E-05	6.614E-06	3.462E-05	5.239E-05	2.119E+00	1.107E-06	3.339E-04	
T6 Instate Tractor Class 7	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	4.945E-05	7.591E-05	0.000E+00	6.614E-06	1.731E-05	2.392E-05	0.000E+00	0.000E+00	0.000E+00	

T6 Instate Tractor Class 7	Natural Gas	1.943E-05	3.398E-04	6.093E-03	0.000E+00	2.104E-06	2.646E-05	9.891E-05	1.275E-04	1.935E-06	6.614E-06	3.462E-05	4.317E-05	1.990E+00	1.360E-03	4.056E-04	
T6 OOS Class 4	Diesel	1.334E-05	5.433E-04	6.383E-05	2.003E-05	1.323E-05	2.646E-05	9.329E-05	1.330E-04	1.266E-05	6.614E-06	3.265E-05	5.192E-05	2.116E+00	6.195E-07	3.333E-04	
T6 OOS Class 5	Diesel	1.234E-05	5.272E-04	6.137E-05	2.006E-05	1.274E-05	2.646E-05	9.329E-05	1.325E-04	1.219E-05	6.614E-06	3.265E-05	5.146E-05	2.119E+00	5.733E-07	3.338E-04	
T6 OOS Class 6	Diesel	1.244E-05	5.131E-04	6.143E-05	1.995E-05	1.273E-05	2.646E-05	9.329E-05	1.325E-04	1.218E-05	6.614E-06	3.265E-05	5.145E-05	2.107E+00	5.779E-07	3.320E-04	
T6 OOS Class 7	Diesel	1.254E-05	5.251E-04	6.432E-05	1.808E-05	1.309E-05	2.646E-05	9.329E-05	1.328E-04	1.253E-05	6.614E-06	3.265E-05	5.179E-05	1.910E+00	5.825E-07	3.009E-04	
T6 Public Class 4	Diesel	5.105E-05	2.340E-03	1.727E-04	2.319E-05	1.299E-05	2.646E-05	1.018E-04	1.412E-04	1.243E-05	6.614E-06	3.562E-05	5.467E-05	2.449E+00	2.371E-06	3.858E-04	
T6 Public Class 4	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	5.089E-05	7.735E-05	0.000E+00	6.614E-06	1.781E-05	2.443E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Public Class 4	Natural Gas	2.783E-05	1.283E-04	6.741E-03	0.000E+00	3.960E-06	2.646E-05	1.018E-04	1.322E-04	3.641E-06	6.614E-06	3.562E-05	4.588E-05	2.160E+00	1.948E-03	4.403E-04	
T6 Public Class 5	Diesel	2.848E-05	1.369E-03	1.327E-04	2.340E-05	8.943E-06	2.646E-05	1.018E-04	1.372E-04	8.556E-06	6.614E-06	3.562E-05	5.079E-05	2.471E+00	1.323E-06	3.893E-04	
T6 Public Class 5	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	5.089E-05	7.735E-05	0.000E+00	6.614E-06	1.781E-05	2.443E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Public Class 5	Natural Gas	2.783E-05	1.283E-04	6.741E-03	0.000E+00	3.960E-06	2.646E-05	1.018E-04	1.322E-04	3.641E-06	6.614E-06	3.562E-05	4.588E-05	2.153E+00	1.948E-03	4.390E-04	
T6 Public Class 6	Diesel	4.424E-05	2.468E-03	1.552E-04	2.331E-05	1.326E-05	2.646E-05	1.018E-04	1.415E-04	1.269E-05	6.614E-06	3.562E-05	5.493E-05	2.462E+00	2.055E-06	3.879E-04	
T6 Public Class 6	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	5.089E-05	7.735E-05	0.000E+00	6.614E-06	1.781E-05	2.443E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Public Class 6	Natural Gas	2.783E-05	1.283E-04	6.741E-03	0.000E+00	3.960E-06	2.646E-05	1.018E-04	1.322E-04	3.641E-06	6.614E-06	3.562E-05	4.588E-05	2.157E+00	1.948E-03	4.397E-04	
T6 Public Class 7	Diesel	3.503E-05	1.684E-03	1.396E-04	2.288E-05	1.039E-05	2.646E-05	1.018E-04	1.386E-04	9.943E-06	6.614E-06	3.562E-05	5.218E-05	2.416E+00	1.627E-06	3.807E-04	
T6 Public Class 7	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	5.089E-05	7.735E-05	0.000E+00	6.614E-06	1.781E-05	2.443E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Public Class 7	Natural Gas	2.783E-05	1.283E-04	6.741E-03	0.000E+00	3.960E-06	2.646E-05	1.018E-04	1.322E-04	3.641E-06	6.614E-06	3.562E-05	4.588E-05	2.211E+00	1.948E-03	4.508E-04	
T6 Utility Class 5	Diesel	1.135E-05	4.444E-04	7.928E-05	2.145E-05	5.177E-06	2.646E-05	1.003E-04	1.319E-04	4.953E-06	6.614E-06	3.511E-05	4.667E-05	2.265E+00	5.273E-07	3.568E-04	
T6 Utility Class 5	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	5.015E-05	7.661E-05	0.000E+00	6.614E-06	1.755E-05	2.417E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Utility Class 6	Diesel	1.135E-05	4.308E-04	7.927E-05	2.144E-05	5.114E-06	2.646E-05	1.003E-04	1.319E-04	4.893E-06	6.614E-06	3.511E-05	4.661E-05	2.264E+00	5.273E-07	3.567E-04	
T6 Utility Class 6	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	5.015E-05	7.661E-05	0.000E+00	6.614E-06	1.755E-05	2.417E-05	0.000E+00	0.000E+00	0.000E+00	
T6 Utility Class 7	Diesel	1.123E-05	4.192E-04	7.841E-05	2.143E-05	5.082E-06	2.646E-05	1.003E-04	1.318E-04	4.862E-06	6.614E-06	3.511E-05	4.658E-05	2.263E+00	5.215E-07	3.566E-04	
T6 Utility Class 7	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	5.015E-05	7.661E-05	0.000E+00	6.614E-06	1.755E-05	2.417E-05	0.000E+00	0.000E+00	0.000E+00	
T6TS	Gasoline	3.556E-05	2.384E-04	6.149E-04	3.425E-05	3.276E-06	2.646E-05	9.931E-05	1.290E-04	3.012E-06	6.614E-06	3.476E-05	4.438E-05	3.465E+00	8.836E-06	1.954E-05	
T6TS	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.646E-05	4.966E-05	7.611E-05	0.000E+00	6.614E-06	1.738E-05	2.399E-05	0.000E+00	0.000E+00	0.000E+00	
T7 CAIRP Class 8	Diesel	2.551E-05	2.726E-03	8.655E-05	2.680E-05	6.728E-05	7.937E-05	1.798E-04	3.265E-04	6.437E-05	1.984E-05	6.294E-05	1.472E-04	2.830E+00	1.185E-06	4.459E-04	
T7 CAIRP Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.937E-05	9.026E-05	1.696E-04	0.000E+00	1.984E-05	3.159E-05	5.143E-05	0.000E+00	0.000E+00	0.000E+00	
T7 NNOOS Class 8	Diesel	2.479E-05	2.976E-03	8.423E-05	2.570E-05	6.586E-05	7.937E-05	1.799E-04	3.251E-04	6.301E-05	1.984E-05	6.296E-05	1.458E-04	2.715E+00	1.151E-06	4.277E-04	
T7 NOOS Class 8	Diesel	2.556E-05	3.061E-03	8.669E-05	2.568E-05	6.976E-05	7.937E-05	1.799E-04	3.290E-04	6.674E-05	1.984E-05	6.297E-05	1.495E-04	2.712E+00	1.187E-06	4.273E-04	
T7 POAK Class 8	Diesel	2.266E-05	2.883E-03	1.434E-04	2.865E-05	3.850E-05	7.937E-05	2.068E-04	3.247E-04	3.684E-05	1.984E-05	7.238E-05	1.291E-04	3.025E+00	1.053E-06	4.766E-04	
T7 POAK Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.937E-05	1.038E-04	1.831E-04	0.000E+00	1.984E-05	3.631E-05	5.615E-05	0.000E+00	0.000E+00	0.000E+00	
T7 Public Class 8	Diesel	6.908E-05	5.579E-03	3.306E-04	3.470E-05	2.686E-05	7.937E-05	2.339E-04	3.401E-04	2.569E-05	1.984E-05	8.186E-05	1.274E-04	3.664E+00	3.208E-06	5.773E-04	
T7 Public Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.937E-05	1.196E-04	1.990E-04	0.000E+00	1.984E-05	4.186E-05	6.170E-05	0.000E+00	0.000E+00	0.000E+00	
T7 Public Class 8	Natural Gas	5.329E-05	4.664E-04	1.714E-02	0.000E+00	7.468E-06	7.937E-05	2.314E-04	3.182E-04	6.867E-06	1.984E-05	8.099E-05	1.077E-04	3.191E+00	3.730E-03	6.504E-04	
T7 Single Concrete/Transit Mix Class 8	Diesel	1.924E-05	1.845E-03	9.796E-05	3.057E-05	3.119E-05	7.937E-05	1.943E-04	3.049E-04	2.984E-05	1.984E-05	6.801E-05	1.177E-04	3.228E+00	8.935E-07	5.086E-04	
T7 Single Concrete/Transit Mix Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.937E-05	9.784E-05	1.772E-04	0.000E+00	1.984E-05	3.424E-05	5.409E-05	0.000E+00	0.000E+00	0.000E+00	
T7 Single Concrete/Transit Mix Class 8	Natural Gas	3.360E-05	3.797E-04	9.139E-03	0.000E+00	4.935E-06	7.937E-05	1.943E-04	2.786E-04	4.538E-06	1.984E-05	6.800E-05	9.237E-05	2.485E+00	2.352E-03	5.065E-04	
T7 Single Dump Class 8	Diesel	2.433E-05	2.584E-03	1.325E-04	3.193E-05	4.022E-05	7.937E-05	1.894E-04	3.090E-04	3.848E-05	1.984E-05	6.631E-05	1.246E-04	3.371E+00	1.130E-06	5.312E-04	
T7 Single Dump Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.937E-05	9.777E-05	1.771E-04	0.000E+00	1.984E-05	3.422E-05	5.406E-05	0.000E+00	0.000E+00	0.000E+00	
T7 Single Dump Class 8	Natural Gas	3.351E-05	5.828E-04	1.194E-02	0.000E+00	4.480E-06	7.937E-05	1.904E-04	2.742E-04	4.119E-06	1.984E-05	6.663E-05	9.059E-05	2.555E+00	2.346E-03	5.209E-04	
T7 Single Other Class 8	Diesel	5.471E-05	5.056E-03	2.987E-04	3.490E-05	6.390E-05	7.937E-05	1.773E-04	3.205E-04	6.114E-05	1.984E-05	6.204E-05	1.430E-04	3.686E+00	2.541E-06	5.807E-04	
T7 Single Other Class 8	Natural Gas	3.315E-05	1.396E-03	2.319E-02	0.000E+00	2.656E-06	7.937E-05	1.772E-04	2.592E-04	2.442E-06	1.984E-05	6.201E-05	8.429E-05	2.870E+00	2.320E-03	5.850E-04	
T7 SWCV Class 8	Diesel	5.304E-05	9.705E-04	1.163E-04	7.237E-05	4.270E-05	7.937E-05	4.630E-04	5.850E-04	4.085E-05	1.984E-05	1.620E-04	2.227E-04	7.643E+00	2.464E-06	1.204E-03	
T7 SWCV Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.937E-05	2.315E-04	3.108E-04	0.000E+00	1.984E-05	8.102E-05	1.009E-04	0.000E+00	0.000E+00	0.000E+00	
T7 SWCV Class 8	Natural Gas	2.723E-06	1.968E-04	1.995E-02	0.000E+00	2.543E-06	7.937E-05	4.630E-04	5.449E-04	2.338E-06	1.984E-05	1.620E-04	1.842E-04	2.997E+00	1.906E-04	6.109E-04	
T7 Tractor Class 8	Diesel	2.334E-05	2.739E-03	1.115E-04	2.745E-05	4.971E-05	7.937E-05	1.863E-04	3.153E-04	4.756E-05	1.984E-05	6.519E-05	1.326E-04	2.898E+00	1.084E-06	4.566E-04	
T7 Tractor Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.937E-05	9.537E-05	1.747E-04	0.000E+00	1.984E-05	3.338E-05	5.322E-05	0.000E+00	0.000E+00	0.000E+00	
T7 Tractor Class 8	Natural Gas	3.211E-05	4.136E-04	8.953E-03	0.000E+00	4.640E-06	7.937E-05	1.866E-04	2.706E-04	4.266E-06	1.984E-05	6.530E-05	8.940E-05	2.414E+00	2.247E-03	4.920E-04	
T7 Utility Class 8	Diesel	2.465E-05	2.386E-03	2.278E-04	3.284E-05	1.589E-05	7.937E-05	2.204E-04	3.157E-04	1.521E-05	1.984E-05	7.715E-05	1.122E-04	3.468E+00	1.145E-06	5.464E-04	
T7 Utility Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.937E-05	1.144E-04	1.938E-04	0.000E+00	1.984E-05	4.006E-05	5.990E-05	0.000E+00	0.000E+00	0.000E+00	
T7IS	Gasoline	1.270E-03	5.987E-03	6.755E-02	4.074E-05	3.496E-06	4.409E-05	2.127E-04	2.603E-04	3.215E-06	1.102E-05	7.446E-05	8.870E-05	4.121E+00	2.574E-04	2.612E-04	
T7IS	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.409E-05	1.068E-04	1.509E-04	0.000E+00	1.102E-05	3.737E-05	4.839E-05	0.000E+00	0.000E+00	0.000E+00	
UBUS	Gasoline	7.280E-06	3.770E-05	1.288E-03	1.833E-05	2.846E-06	1.764E-05	2.006E-04	2.211E-04	2.617E-06	4.410E-06	7.022E-05	7.725E-05	1.855E+00	2.770E-06	6.600E-06	
UBUS	Diesel	2.210E-04	4.723E-04	5.179E-04	1.383E-05	3.983E-05	2.646E-05	2.010E-04	2.673E-04	3.810E-05	6.614E-06	7.034E-05	1.151E-04	1.459E+00	1.026E-05	2.299E-04	
UBUS	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.658E-05	1.213E-04	1.478E-04	0.000E+00	6.644E-06	4.244E-05	4.908E-05	0.000E+00	0.000E+00	0.000E+00	
UBUS	Natural Gas	2.211E-04	4.706E-04	8.875E-04	0.000E+00	3.979E-05	2.646E-05	2.010E-04	2.672E-04	3.807E-05	6.614E-06	7.034E-05	1.150E-04	1.761E+00	5.907E-05	3.590E-04	

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: County
Region: San Benito
Calendar Year: 2040
Season: Annual
Vehicle Classification: EMFAC202x Categori
Units: miles/day for CVMT and EVMT, trips/

		MTons/Mile														
Vehicle Category	Fuel	ROG_RUNEX	NOx_RUNEX	CO_RUNEX	SOx_RUNEX	PM10_RUNEX	PM10_PMTW	PM10_PMBW	PM10_Total	PM2.5_RUNEX	PM2.5_PMTW	PM2.5_PMBW	PM2_5_Total	CO2(Pavley+AACC)_RUNEX	CH4_RUNEX	N2O_RUNEX
All Other Buses	Diesel	1.099E-07	1.247E-06	3.161E-07	1.019E-08	3.390E-08	1.200E-08	4.614E-08	9.204E-08	3.243E-08	3.000E-09	1.615E-08	5.158E-08	1.077E-03	5.103E-09	1.696E-07
LDA	Gasoline	3.560E-09	2.288E-08	5.126E-07	2.226E-09	6.007E-10	8.000E-09	8.594E-09	1.719E-08	5.523E-10	2.000E-09	3.008E-09	5.560E-09	2.252E-04	1.138E-09	3.448E-09
LDA	Diesel	1.061E-08	7.230E-08	2.371E-07	1.820E-09	3.837E-09	8.000E-09	8.733E-09	2.057E-08	3.671E-09	2.000E-09	3.057E-09	8.728E-09	1.921E-04	4.929E-10	3.026E-08
LDA	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.000E-09	4.393E-09	1.239E-08	0.000E+00	2.000E-09	1.538E-09	3.538E-09	0.000E+00	0.000E+00	0.000E+00
LDA	Plug-in Hybrid	1.294E-09	2.961E-09	1.880E-07	1.187E-09	2.488E-10	8.000E-09	4.197E-09	1.245E-08	2.287E-10	2.000E-09	1.469E-09	3.698E-09	1.201E-04	3.892E-10	4.894E-10
LDT1	Gasoline	4.544E-09	2.785E-08	5.713E-07	2.605E-09	6.866E-10	8.000E-09	1.030E-08	1.899E-08	6.313E-10	2.000E-09	3.605E-09	6.236E-09	2.635E-04	1.339E-09	3.728E-09
LDT1	Diesel	1.554E-08	2.996E-08	1.637E-07	3.161E-09	4.333E-09	8.000E-09	1.012E-08	2.245E-08	4.145E-09	2.000E-09	3.540E-09	9.686E-09	3.336E-04	7.219E-10	5.256E-08
LDT1	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.000E-09	4.390E-09	1.239E-08	0.000E+00	2.000E-09	1.537E-09	3.537E-09	0.000E+00	0.000E+00	0.000E+00
LDT1	Plug-in Hybrid	1.276E-09	2.921E-09	1.855E-07	1.171E-09	2.153E-10	8.000E-09	4.197E-09	1.241E-08	1.980E-10	2.000E-09	1.469E-09	3.667E-09	1.185E-04	3.834E-10	4.814E-10
LDT2	Gasoline	4.384E-09	2.513E-08	5.837E-07	2.680E-09	6.215E-10	8.000E-09	1.020E-08	1.882E-08	5.714E-10	2.000E-09	3.571E-09	6.142E-09	2.711E-04	1.393E-09	3.603E-09
LDT2	Diesel	1.570E-08	3.091E-08	1.686E-07	2.371E-09	4.447E-09	8.000E-09	1.021E-08	2.265E-08	4.254E-09	2.000E-09	3.572E-09	9.827E-09	2.502E-04	7.291E-10	3.942E-08
LDT2	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.000E-09	4.394E-09	1.239E-08	0.000E+00	2.000E-09	1.538E-09	3.538E-09	0.000E+00	0.000E+00	0.000E+00
LDT2	Plug-in Hybrid	1.285E-09	2.941E-09	1.867E-07	1.179E-09	2.319E-10	8.000E-09	4.200E-09	1.243E-08	2.133E-10	2.000E-09	1.470E-09	3.683E-09	1.193E-04	3.841E-10	4.800E-10
LHD1	Gasoline	5.289E-09	3.951E-08	5.841E-07	7.658E-09	1.301E-09	8.000E-09	7.800E-08	8.730E-08	1.196E-09	2.000E-09	2.730E-08	3.050E-08	7.746E-04	1.454E-09	2.768E-09
LHD1	Diesel	1.276E-07	8.241E-07	3.618E-07	5.869E-09	2.961E-08	1.200E-08	7.800E-08	1.196E-07	2.833E-08	3.000E-09	2.730E-08	5.863E-08	6.194E-04	5.929E-09	9.759E-08
LHD1	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.000E-09	3.900E-08	4.700E-08	0.000E+00	2.000E-09	1.365E-08	1.565E-08	0.000E+00	0.000E+00	0.000E+00
LHD2	Gasoline	4.348E-09	3.271E-08	5.914E-07	8.522E-09	1.237E-09	8.000E-09	9.100E-08	1.002E-07	1.138E-09	2.000E-09	3.185E-08	3.499E-08	8.620E-04	1.250E-09	2.720E-09
LHD2	Diesel	1.394E-07	9.291E-07	3.976E-07	6.927E-09	3.209E-08	1.200E-08	9.100E-08	1.351E-07	3.071E-08	3.000E-09	3.185E-08	6.556E-08	7.311E-04	6.473E-09	1.152E-07
LHD2	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.000E-09	4.550E-08	5.350E-08	0.000E+00	2.000E-09	1.593E-08	1.793E-08	0.000E+00	0.000E+00	0.000E+00
MCY	Gasoline	9.407E-07	5.304E-07	1.163E-05	1.854E-09	2.156E-09	4.000E-09	1.200E-08	1.816E-08	2.012E-09	1.000E-09	4.200E-09	7.212E-09	1.876E-04	1.489E-07	3.791E-08
MDV	Gasoline	5.089E-09	3.026E-08	6.174E-07	3.286E-09	6.655E-10	8.000E-09	1.037E-08	1.903E-08	6.119E-10	2.000E-09	3.629E-09	6.241E-09	3.324E-04	1.528E-09	3.853E-09
MDV	Diesel	7.886E-09	1.892E-08	2.137E-07	3.205E-09	2.072E-09	8.000E-09	1.060E-08	2.067E-08	1.982E-09	2.000E-09	3.709E-09	7.691E-09	3.382E-04	3.663E-10	5.329E-08
MDV	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.000E-09	4.398E-09	1.240E-08	0.000E+00	2.000E-09	1.539E-09	3.539E-09	0.000E+00	0.000E+00	0.000E+00
MDV	Plug-in Hybrid	1.288E-09	2.948E-09	1.872E-07	1.182E-09	2.423E-10	8.000E-09	4.202E-09	1.244E-08	2.228E-10	2.000E-09	1.471E-09	3.694E-09	1.196E-04	3.847E-10	4.804E-10
MH	Gasoline	1.288E-08	1.304E-07	1.934E-07	1.925E-08	1.421E-09	1.200E-08	4.505E-08	5.847E-08	1.307E-09	3.000E-09	1.577E-08	2.007E-08	1.948E-03	4.345E-09	1.386E-08
MH	Diesel	1.090E-07	3.277E-06	3.478E-07	1.029E-08	6.526E-08	1.600E-08	4.484E-08	1.261E-07	6.244E-08	4.000E-09	1.569E-08	8.213E-08	1.086E-03	5.064E-09	1.711E-07
Motor Coach	Diesel	1.066E-08	9.989E-07	3.802E-08	1.473E-08	2.441E-08	1.200E-08	8.072E-08	1.171E-07	2.336E-08	3.000E-09	2.825E-08	5.461E-08	1.556E-03	4.951E-10	2.451E-07
OBUS	Gasoline	3.270E-08	2.336E-07	7.117E-07	1.545E-08	1.271E-09	1.200E-08	4.489E-08	5.816E-08	1.169E-09	3.000E-09	1.571E-08	1.988E-08	1.562E-03	7.069E-09	1.293E-08
OBUS	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.244E-08	3.444E-08	0.000E+00	3.000E-09	7.855E-09	1.086E-08	0.000E+00	0.000E+00	0.000E+00
PTO	Diesel	3.163E-08	3.873E-06	3.166E-07	1.897E-08	6.408E-09	0.000E+00	0.000E+00	6.408E-09	6.131E-09	0.000E+00	0.000E+00	6.131E-09	2.003E-03	1.469E-09	3.156E-07
PTO	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SBUS	Gasoline	8.694E-09	1.910E-07	2.036E-07	7.856E-09	9.013E-10	8.000E-09	4.492E-08	5.382E-08	8.287E-10	2.000E-09	1.572E-08	1.855E-08	7.947E-04	2.101E-09	1.700E-08
SBUS	Diesel	1.892E-08	8.259E-07	8.519E-08	1.019E-08	5.757E-09	1.200E-08	4.492E-08	6.267E-08	5.508E-09	3.000E-09	1.572E-08	2.423E-08	1.077E-03	8.787E-10	1.696E-07
SBUS	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.080E-08	2.246E-08	3.326E-08	0.000E+00	2.700E-09	7.860E-09	1.056E-08	0.000E+00	0.000E+00	0.000E+00
SBUS	Natural Gas	3.557E-08	2.250E-07	7.192E-06	0.000E+00	3.674E-09	1.200E-08	4.492E-08	6.059E-08	3.378E-09	3.000E-09	1.572E-08	2.210E-08	1.100E-03	2.490E-06	2.243E-07
T6 CAIRP Class 4	Diesel	5.664E-09	1.949E-07	2.863E-08	9.736E-09	5.664E-09	1.200E-08	4.231E-08	5.998E-08	5.419E-09	3.000E-09	1.481E-08	2.323E-08	1.028E-03	2.631E-10	1.620E-07
T6 CAIRP Class 4	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.116E-08	3.316E-08	0.000E+00	3.000E-09	7.405E-09	1.040E-08	0.000E+00	0.000E+00	0.000E+00
T6 CAIRP Class 5	Diesel	5.602E-09	1.967E-07	2.852E-08	9.747E-09	5.647E-09	1.200E-08	4.231E-08	5.996E-08	5.403E-09	3.000E-09	1.481E-08	2.321E-08	1.029E-03	2.602E-10	1.622E-07
T6 CAIRP Class 5	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.116E-08	3.316E-08	0.000E+00	3.000E-09	7.405E-09	1.040E-08	0.000E+00	0.000E+00	0.000E+00
T6 CAIRP Class 6	Diesel	5.555E-09	1.898E-07	2.828E-08	9.706E-09	5.591E-09	1.200E-08	4.231E-08	5.990E-08	5.349E-09	3.000E-09	1.481E-08	2.316E-08	1.025E-03	2.580E-10	1.615E-07
T6 CAIRP Class 6	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.116E-08	3.316E-08	0.000E+00	3.000E-09	7.405E-09	1.040E-08	0.000E+00	0.000E+00	0.000E+00
T6 CAIRP Class 7	Diesel	5.838E-09	2.055E-07	2.993E-08	8.565E-09	5.856E-09	1.200E-08	4.231E-08	6.017E-08	5.603E-09	3.000E-09	1.481E-08	2.341E-08	9.045E-04	2.712E-10	1.425E-07
T6 CAIRP Class 7	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.116E-08	3.316E-08	0.000E+00	3.000E-09	7.405E-09	1.040E-08	0.000E+00	0.000E+00	0.000E+00
T6 Instate Delivery Class 4	Diesel	7.046E-09	4.476E-07	5.877E-08	1.018E-08	2.330E-09	1.200E-08	4.756E-08	6.189E-08	2.229E-09	3.000E-09	1.665E-08	2.188E-08	1.075E-03	3.273E-10	1.694E-07
T6 Instate Delivery Class 4	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.378E-08	3.578E-08	0.000E+00	3.000E-09	8.324E-09	1.132E-08	0.000E+00	0.000E+00	0.000E+00
T6 Instate Delivery Class 5	Diesel	6.294E-09	4.077E-07	5.553E-08	1.021E-08	2.020E-09	1.200E-08	4.756E-08	6.158E-08	1.933E-09	3.000E-09	1.665E-08	2.158E-08	1.078E-03	2.923E-10	1.698E-07
T6 Instate Delivery Class 5	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.378E-08	3.578E-08	0.000E+00	3.000E-09	8.324E-09	1.132E-08	0.000E+00	0.000E+00	0.000E+00
T6 Instate Delivery Class 6	Diesel	6.956E-09	4.328E-07	5.794E-08	1.018E-08	2.250E-09	1.200E-08	4.756E-08	6.181E-08	2.152E-09	3.000E-09	1.665E-08	2.180E-08	1.075E-03	3.231E-10	1.694E-07
T6 Instate Delivery Class 6	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.378E-08	3.578E-08	0.000E+00	3.000E-09	8.324E-09	1.132E-08	0.000E+00	0.000E+00	0.000E+00
T6 Instate Delivery Class 7	Diesel	8.317E-09	5.233E-07	6.644E-08	1.090E-08	2.483E-09	1.200E-08	4.756E-08	6.205E-08	2.376E-09	3.000E-09	1.665E-08	2.202E-08	1.151E-03	3.863E-10	1.814E-07
T6 Instate Delivery Class 7	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.378E-08	3.578E-08	0.000E+00	3.000E-09	8.324E-09	1.132E-08	0.000E+00	0.000E+00	0.000E+00
T6 Instate Delivery Class 7	Natural Gas	1.080E-08	2.538E-07	3.359E-06	0.000E+00	9.124E-10	1.200E-08	4.756E-08	6.048E-08	8.390E-10	3.000E-09	1.665E-08	2.049E-08	1.046E-03	7.558E-07	2.133E-07
T6 Instate Other Class 4	Diesel	6.368E-09	3.332E-07	4.628E-08	9.798E-09	3.606E-09	1.200E-08	4.486E-08	6.047E-08	3.450E-09	3.000E-09	1.570E-08	2.215E-08	1.035E-03	2.958E-10	1.630E-07
T6 Instate Other Class 4	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.243E-08	3.443E-08	0.000E+00	3.000E-09	7.851E-09	1.085E-08	0.000E+00	0.000E+00	0.000E+00
T6 Instate Other Class 5	Diesel	6.163E-09	3.246E-07	4.539E-08	9.805E-09	3.473E-09	1.200E-08	4.486E-08	6.034E-08	3.322E-09	3.000E-09	1.570E-08	2.202E-08	1.035E-03	2.863E-10	1.631E-07
T6 Instate Other Class 5	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.243E-08	3.443E-08	0.000E+00	3.000E-09	7.851E-09	1.085E-08	0.000E+00	0.000E+00	0.000E+00
T6 Instate Other Class 6	Diesel	6.486E-09	3.270E-07	4.618E-08	9.807E-09	3.600E-09	1.200E-08	4.486E-08	6.046E-08	3.445E-09	3.000E-09	1.570E-08	2.215E-08	1.036E-03	3.013E-10	1.632E-07
T6 Instate Other Class 6	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.243E-08	3.443E-08	0.000E+00	3.000E-09	7.851E-09	1.085E-08	0.000E+00	0.000E+00	0.000E+00
T6 Instate Other Class 7	Diesel	8.788E-09	6.146E-07	6.035E-08	9.937E-09	4.739E-09	1.200E-08	4.486E-08	6.160E-08	4.534E-09	3.000E-09	1.570E-08	2.324E-08	1.049E-03	4.082E-10	1.653E-07
T6 Instate Other Class 7	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.243E-08	3.443E-08	0.000E+00	3.000E-09	7.851E-09	1.085E-08	0.000E+00	0.000E+00	0.000E+00
T6 Instate Other Class 7	Natural Gas	8.841E-09	1.518E-07	2.762E-06	0.000E+00	9.685E-10	1.200E-08	4.486E-08	5.783E-08	8.905E-10	3.000E-09	1.570E-08	1.959E-08	9.171E-04	6.188E-07	1.870E-07
T6 Instate Tractor Class 7	Diesel	1.081E-08	7.157E-07	6.549E-08	9.102E-09	5.289E-09	1.200E-08	4.486E-08	6.215E-08	5.060E-09	3.000E-09	1.570E-08	2.376E-08	9.612E-04	5.021E-10	1.514E-07
T6 Instate Tractor Class 7	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.243E-08	3.443E-08	0.000E+00	3.000E-09	7.851E-09	1.085E-08	0.000E+00	0.000E+00	0.000E+00

T6 Instate Tractor Class 7	Natural Gas	8.814E-09	1.542E-07	2.764E-06	0.000E+00	9.546E-10	1.200E-08	4.486E-08	5.782E-08	8.777E-10	3.000E-09	1.570E-08	1.958E-08	9.025E-04	6.169E-07	1.840E-07
T6 OOS Class 4	Diesel	6.050E-09	2.465E-07	2.895E-08	9.088E-09	6.000E-09	1.200E-08	4.231E-08	6.031E-08	5.741E-09	3.000E-09	1.481E-08	2.355E-08	9.597E-04	2.810E-10	1.512E-07
T6 OOS Class 5	Diesel	5.599E-09	2.391E-07	2.784E-08	9.100E-09	5.781E-09	1.200E-08	4.231E-08	6.009E-08	5.531E-09	3.000E-09	1.481E-08	2.334E-08	9.610E-04	2.601E-10	1.514E-07
T6 OOS Class 6	Diesel	5.644E-09	2.327E-07	2.787E-08	9.050E-09	5.776E-09	1.200E-08	4.231E-08	6.009E-08	5.526E-09	3.000E-09	1.481E-08	2.334E-08	9.558E-04	2.621E-10	1.506E-07
T6 OOS Class 7	Diesel	5.689E-09	2.382E-07	2.918E-08	8.203E-09	5.939E-09	1.200E-08	4.231E-08	6.025E-08	5.682E-09	3.000E-09	1.481E-08	2.349E-08	8.663E-04	2.642E-10	1.365E-07
T6 Public Class 4	Diesel	2.316E-08	1.061E-06	7.832E-08	1.052E-08	5.894E-09	1.200E-08	4.617E-08	6.406E-08	5.639E-09	3.000E-09	1.616E-08	2.480E-08	1.111E-03	1.076E-09	1.750E-07
T6 Public Class 4	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.308E-08	3.508E-08	0.000E+00	3.000E-09	8.080E-09	1.108E-08	0.000E+00	0.000E+00	0.000E+00
T6 Public Class 4	Natural Gas	1.262E-08	5.819E-08	3.058E-06	0.000E+00	1.796E-09	1.200E-08	4.617E-08	5.997E-08	1.652E-09	3.000E-09	1.616E-08	2.081E-08	9.796E-04	8.835E-07	1.997E-07
T6 Public Class 5	Diesel	1.292E-08	6.208E-07	6.017E-08	1.061E-08	4.057E-09	1.200E-08	4.617E-08	6.223E-08	3.881E-09	3.000E-09	1.616E-08	2.304E-08	1.121E-03	6.000E-10	1.766E-07
T6 Public Class 5	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.308E-08	3.508E-08	0.000E+00	3.000E-09	8.080E-09	1.108E-08	0.000E+00	0.000E+00	0.000E+00
T6 Public Class 5	Natural Gas	1.262E-08	5.819E-08	3.058E-06	0.000E+00	1.796E-09	1.200E-08	4.617E-08	5.997E-08	1.652E-09	3.000E-09	1.616E-08	2.081E-08	9.767E-04	8.835E-07	1.991E-07
T6 Public Class 6	Diesel	2.007E-08	1.119E-06	7.038E-08	1.057E-08	6.016E-09	1.200E-08	4.617E-08	6.419E-08	5.756E-09	3.000E-09	1.616E-08	2.492E-08	1.117E-03	9.321E-10	1.759E-07
T6 Public Class 6	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.308E-08	3.508E-08	0.000E+00	3.000E-09	8.080E-09	1.108E-08	0.000E+00	0.000E+00	0.000E+00
T6 Public Class 6	Natural Gas	1.262E-08	5.819E-08	3.058E-06	0.000E+00	1.796E-09	1.200E-08	4.617E-08	5.997E-08	1.652E-09	3.000E-09	1.616E-08	2.081E-08	9.784E-04	8.835E-07	1.994E-07
T6 Public Class 7	Diesel	1.589E-08	7.640E-07	6.334E-08	1.038E-08	4.714E-09	1.200E-08	4.617E-08	6.288E-08	4.510E-09	3.000E-09	1.616E-08	2.367E-08	1.096E-03	7.381E-10	1.727E-07
T6 Public Class 7	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.308E-08	3.508E-08	0.000E+00	3.000E-09	8.080E-09	1.108E-08	0.000E+00	0.000E+00	0.000E+00
T6 Public Class 7	Natural Gas	1.262E-08	5.819E-08	3.058E-06	0.000E+00	1.796E-09	1.200E-08	4.617E-08	5.997E-08	1.652E-09	3.000E-09	1.616E-08	2.081E-08	1.003E-03	8.835E-07	2.045E-07
T6 Utility Class 5	Diesel	5.150E-09	2.016E-07	3.596E-08	9.728E-09	2.348E-09	1.200E-08	4.550E-08	5.984E-08	2.247E-09	3.000E-09	1.592E-08	2.117E-08	1.027E-03	2.392E-10	1.619E-07
T6 Utility Class 5	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.275E-08	3.475E-08	0.000E+00	3.000E-09	7.962E-09	1.096E-08	0.000E+00	0.000E+00	0.000E+00
T6 Utility Class 6	Diesel	5.149E-09	1.954E-07	3.596E-08	9.725E-09	2.320E-09	1.200E-08	4.550E-08	5.982E-08	2.220E-09	3.000E-09	1.592E-08	2.114E-08	1.027E-03	2.392E-10	1.618E-07
T6 Utility Class 6	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.275E-08	3.475E-08	0.000E+00	3.000E-09	7.962E-09	1.096E-08	0.000E+00	0.000E+00	0.000E+00
T6 Utility Class 7	Diesel	5.093E-09	1.902E-07	3.557E-08	9.722E-09	2.305E-09	1.200E-08	4.550E-08	5.980E-08	2.206E-09	3.000E-09	1.592E-08	2.113E-08	1.027E-03	2.366E-10	1.618E-07
T6 Utility Class 7	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.275E-08	3.475E-08	0.000E+00	3.000E-09	7.962E-09	1.096E-08	0.000E+00	0.000E+00	0.000E+00
T6TS	Gasoline	1.613E-08	1.081E-07	2.789E-07	1.554E-08	1.486E-09	1.200E-08	4.505E-08	5.853E-08	1.366E-09	3.000E-09	1.577E-08	2.013E-08	1.572E-03	4.008E-09	8.861E-09
T6TS	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-08	2.252E-08	3.452E-08	0.000E+00	3.000E-09	7.883E-09	1.088E-08	0.000E+00	0.000E+00	0.000E+00
T7 CAIRP Class 8	Diesel	1.157E-08	1.236E-06	3.926E-08	1.216E-08	3.052E-08	3.600E-08	8.157E-08	1.481E-07	2.920E-08	9.000E-09	2.855E-08	6.675E-08	1.284E-03	5.374E-10	2.023E-07
T7 CAIRP Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.600E-08	4.094E-08	7.694E-08	0.000E+00	9.000E-09	1.433E-08	2.333E-08	0.000E+00	0.000E+00	0.000E+00
T7 NNOOS Class 8	Diesel	1.124E-08	1.350E-06	3.821E-08	1.166E-08	2.987E-08	3.600E-08	8.159E-08	1.475E-07	2.858E-08	9.000E-09	2.856E-08	6.614E-08	1.231E-03	5.222E-10	1.940E-07
T7 NOOS Class 8	Diesel	1.160E-08	1.388E-06	3.932E-08	1.165E-08	3.164E-08	3.600E-08	8.160E-08	1.492E-07	3.027E-08	9.000E-09	2.856E-08	6.783E-08	1.230E-03	5.386E-10	1.938E-07
T7 POAK Class 8	Diesel	1.028E-08	1.308E-06	6.504E-08	1.299E-08	1.746E-08	3.600E-08	9.380E-08	1.473E-07	1.671E-08	9.000E-09	3.283E-08	5.854E-08	1.372E-03	4.774E-10	2.162E-07
T7 POAK Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.600E-08	4.706E-08	8.306E-08	0.000E+00	9.000E-09	1.647E-08	2.547E-08	0.000E+00	0.000E+00	0.000E+00
T7 Public Class 8	Diesel	3.133E-08	2.531E-06	1.500E-07	1.574E-08	1.218E-08	3.600E-08	1.061E-07	1.543E-07	1.166E-08	9.000E-09	3.713E-08	5.779E-08	1.662E-03	1.455E-09	2.619E-07
T7 Public Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.600E-08	5.425E-08	9.025E-08	0.000E+00	9.000E-09	1.899E-08	2.799E-08	0.000E+00	0.000E+00	0.000E+00
T7 Public Class 8	Natural Gas	2.417E-08	2.115E-07	7.775E-06	0.000E+00	3.388E-09	3.600E-08	1.050E-07	1.444E-07	3.115E-09	9.000E-09	3.674E-08	4.885E-08	1.447E-03	1.692E-06	2.950E-07
T7 Single Concrete/Transit Mix Class 8	Diesel	8.726E-09	8.369E-07	4.443E-08	1.387E-08	1.415E-08	3.600E-08	8.814E-08	1.383E-07	1.354E-08	9.000E-09	3.085E-08	5.338E-08	1.464E-03	4.053E-10	2.307E-07
T7 Single Concrete/Transit Mix Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.600E-08	4.438E-08	8.038E-08	0.000E+00	9.000E-09	1.553E-08	2.453E-08	0.000E+00	0.000E+00	0.000E+00
T7 Single Concrete/Transit Mix Class 8	Natural Gas	1.524E-08	1.723E-07	4.145E-06	0.000E+00	2.239E-09	3.600E-08	8.812E-08	1.264E-07	2.058E-09	9.000E-09	3.084E-08	4.190E-08	1.127E-03	1.067E-06	2.297E-07
T7 Single Dump Class 8	Diesel	1.104E-08	1.172E-06	6.011E-08	1.448E-08	1.824E-08	3.600E-08	8.593E-08	1.402E-07	1.745E-08	9.000E-09	3.008E-08	5.653E-08	1.529E-03	5.126E-10	2.409E-07
T7 Single Dump Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.600E-08	4.435E-08	8.035E-08	0.000E+00	9.000E-09	1.552E-08	2.452E-08	0.000E+00	0.000E+00	0.000E+00
T7 Single Dump Class 8	Natural Gas	1.520E-08	2.643E-07	5.418E-06	0.000E+00	2.032E-09	3.600E-08	8.635E-08	1.244E-07	1.869E-09	9.000E-09	3.022E-08	4.109E-08	1.159E-03	1.064E-06	2.363E-07
T7 Single Other Class 8	Diesel	2.482E-08	2.293E-06	1.355E-07	1.583E-08	2.899E-08	3.600E-08	8.040E-08	1.454E-07	2.773E-08	9.000E-09	2.814E-08	6.487E-08	1.672E-03	1.153E-09	2.634E-07
T7 Single Other Class 8	Natural Gas	1.504E-08	6.334E-07	1.052E-05	0.000E+00	1.205E-09	3.600E-08	8.036E-08	1.176E-07	1.108E-09	9.000E-09	2.813E-08	3.824E-08	1.302E-03	1.052E-06	2.653E-07
T7 SWCV Class 8	Diesel	2.406E-08	4.402E-07	5.278E-08	3.283E-08	1.937E-08	3.600E-08	2.100E-07	2.654E-07	1.853E-08	9.000E-09	7.350E-08	1.010E-07	3.467E-03	1.117E-09	5.462E-07
T7 SWCV Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.600E-08	1.050E-07	1.410E-07	0.000E+00	9.000E-09	3.675E-08	4.575E-08	0.000E+00	0.000E+00	0.000E+00
T7 SWCV Class 8	Natural Gas	1.235E-09	8.929E-08	9.048E-06	0.000E+00	1.154E-09	3.600E-08	2.100E-07	2.472E-07	1.061E-09	9.000E-09	7.350E-08	8.356E-08	1.359E-03	8.644E-08	2.771E-07
T7 Tractor Class 8	Diesel	1.059E-08	1.242E-06	5.059E-08	1.245E-08	2.255E-08	3.600E-08	8.449E-08	1.430E-07	2.157E-08	9.000E-09	2.957E-08	6.014E-08	1.315E-03	4.918E-10	2.071E-07
T7 Tractor Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.600E-08	4.326E-08	7.926E-08	0.000E+00	9.000E-09	1.514E-08	2.414E-08	0.000E+00	0.000E+00	0.000E+00
T7 Tractor Class 8	Natural Gas	1.457E-08	1.876E-07	4.061E-06	0.000E+00	2.105E-09	3.600E-08	8.462E-08	1.227E-07	1.935E-09	9.000E-09	2.962E-08	4.055E-08	1.095E-03	1.019E-06	2.232E-07
T7 Utility Class 8	Diesel	1.118E-08	1.082E-06	1.033E-07	1.490E-08	7.210E-09	3.600E-08	9.998E-08	1.432E-07	6.898E-09	9.000E-09	3.499E-08	5.089E-08	1.573E-03	5.192E-10	2.479E-07
T7 Utility Class 8	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.600E-08	5.191E-08	8.791E-08	0.000E+00	9.000E-09	1.817E-08	2.717E-08	0.000E+00	0.000E+00	0.000E+00
T7IS	Gasoline	5.760E-07	2.716E-06	3.064E-05	1.848E-08	1.586E-09	2.000E-08	9.650E-08	1.181E-07	1.458E-09	5.000E-09	3.377E-08	4.023E-08	1.869E-03	1.168E-07	1.185E-07
T7IS	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.000E-08	4.843E-08	6.843E-08	0.000E+00	5.000E-09	1.695E-08	2.195E-08	0.000E+00	0.000E+00	0.000E+00
UBUS	Gasoline	3.302E-09	1.710E-08	5.844E-07	8.316E-09	1.291E-09	8.001E-09	9.100E-08	1.003E-07	1.187E-09	2.000E-09	3.185E-08	3.504E-08	8.412E-04	1.257E-09	2.994E-09
UBUS	Diesel	1.002E-07	2.143E-07	2.349E-07	6.273E-09	1.807E-08	1.200E-08	9.117E-08	1.212E-07	1.728E-08	3.000E-09	3.191E-08	5.219E-08	6.620E-04	4.656E-09	1.043E-07
UBUS	Electricity	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.206E-08	5.500E-08	6.706E-08	0.000E+00	3.014E-09	1.925E-08	2.226E-08	0.000E+00	0.000E+00	0.000E+00
UBUS	Natural Gas	1.003E-07	2.135E-07	4.026E-07	0.000E+00	1.805E-08	1.200E-08	9.117E-08	1.212E-07	1.727E-08	3.000E-09	3.191E-08	5.218E-08	7.988E-04	2.680E-08	1.628E-07

4.8 GREENHOUSE GAS EMISSIONS

4.8.1.3 REGULATORY FRAMEWORK

State Regulations

- Transportation Sector Regulations – AB 1493. California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the US EPA. In 2012, the US EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles.

  In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of ZE vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025 new automobiles will emit 34 percent less GHG emissions and 75 percent less smog-forming emissions.

- Transportation Sector Regulations – Executive Order S-01-07. On January 18, 2007, the state set a new LCFS for transportation fuels sold in the state. Executive Order S-01-07 sets a declining standard for GHG emissions measured in CO_2e gram per unit of fuel energy sold in California. The LCFS required a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and uses market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

- Transportation Sector Regulations – Executive Order B-16-2012. On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directed the number of ZE vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions to 80 percent below 1990 levels.

- Transportation Sector Regulations – Executive Order N-79-20. On September 23, 2020, Governor Newsom signed Executive Order N-79-20, whose goal is that 100 percent of in-state sales of new passenger cars and trucks will be ZE by 2035. Additionally, the fleet goals for trucks are that 100 percent of drayage trucks are ZE by 2035, and 100 percent of medium- and heavy-duty vehicles in the state are ZE by 2045, where feasible. The Executive Order's goal for the State is to transition to 100 percent ZE off-road vehicles and equipment by 2035, where feasible. On August 25, 2022, CARB adopted the Advanced Clean Cars II (ACC II) regulations that codifies the EO goal of 100 percent of in-

state sales of new passenger vehicles and trucks be ZE by 2035. Starting in year 2026, ACC II requires that 35 percent of new vehicles sold be ZE or plug-in hybrids.

- Transportation Sector Regulations – Advanced Clean Fleets and Advanced Clean Trucks. CARB adopted the Advanced Clean Fleets (ACF) regulation in 2023 to accelerate the transition to zero-emission medium- and heavy-duty vehicles. In conjunction with the Advanced Clean Trucks (ACT) regulation, the ACF regulations help to ensure that medium- and heavy-duty zero-emission vehicles (ZEV) are brought to the market by requiring certain fleets to purchase ZEVs. The ACF ZEV phase-in approach, which provides initial focus where the best fleet electrification opportunities exist, sets clear targets for regulated fleets to make a full conversion to ZEVs and creates a catalyst to accelerate development of a heavy-duty public charging infrastructure network.
- Renewable Portfolio/Carbon Neutrality Regulations – Senate Bills 1078, 107, and X1-2, and Executive Order S-14-08. A major component of California's Renewable Energy Program is the renewables portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08, signed in November 2008, expanded the State's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.
- Renewable Portfolio/Carbon Neutrality Regulations – Senate Bill 350. Senate Bill 350 (de Leon) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.
- Renewable Portfolio/Carbon Neutrality Regulations – Senate Bill 100. On September 10, 2018, Governor Brown signed SB 100. Under SB 100, the RPS for public-owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.
- Renewable Portfolio/Carbon Neutrality Regulations – Senate Bill 1020. SB 1020 was signed into law on September 16, 2022. It requires renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent by 2040. Additionally, SB 1020 requires all state agencies to procure 100 percent of electricity from renewable energy and zero-carbon resources by 2035.
- Energy Efficiency Regulations – California Building Code: Building Energy Efficiency Standards. Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977

(Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

The 2022 standards become effective and replace the existing 2019 standards on January 1, 2023. The 2022 standards would require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers.[1]

- Energy Efficiency Regulations – California Building Code: CALGreen. On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[2] The mandatory provisions of CALGreen became effective January 1, 2011. The 2019 CALGreen standards became effective January 1, 2020 while the 2022 CALGreen standards become effective on January 1, 2023.
- Energy Efficiency Regulations – 2006 Appliance Efficiency Regulations. The 2006 Appliance Efficiency Regulations (20 CCR Sections 1601 through 1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as "business as usual," they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.
- Solid Waste Regulations – AB 939. California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code Section 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.
- Solid Waste Regulations – AB 341. AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

[1] California Energy Commission, 2021, May 19. Amendments to the Building Energy Efficiency Standards (2022 Energy Code) Draft Environmental Report. CEC-400-2021-077-D.

[2] The green building standards became mandatory in the 2010 edition of the code.

GREENHOUSE GAS EMISSIONS

- Solid Waste Regulations – AB 1327. The California Solid Waste Reuse and Recycling Access Act (AB 1327, Public Resources Code Section 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.
- Solid Waste Regulations – AB 1826. In October of 2014, Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings with five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed with food waste.
- Water Efficiency Regulations – SBX7-7. The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 required urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.
- Water Efficiency Regulations – AB 1881. The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.
- Short-Lived Climate Pollutants – SB 1383. On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and methane. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 required the state board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also established targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel

fuel use.[3] In-use on-road rules were expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

[3] California Air Resources Board, 2017, Short-Lived Climate Pollutant Reduction Strategy, https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf, accessed June 12, 2024.

We Can Model Regional Emissions, But Are the Results Meaningful for CEQA?

Authors: AEP Climate Change Committee (Michael Hendrix, Dave Mitchell, Haseeb Qureshi, Jennifer Reed, Brian Schuster, Nicole Vermilion, and Rich Walters)

On December 24, 2018, the California Supreme Court, *Sierra Club v. County of Fresno (Friant Ranch, L.P.] (2018) 6 Cal.5th 502, Case No. S219783 (Friant Ranch*), held that simply identifying that a project exceeds an emissions threshold is not sufficient to identify a project's significant effect on the environment relative to the health effects of project emissions. The Court found that an EIR should make a reasonable effort to substantively connect a project's criteria pollutant emissions to likely health consequences, or explain why it is not currently feasible to provide such an analysis. In 2019, there were several CEQA documents that included health effects modeling to provide additional analysis for projects with criteria air pollutant emissions that exceed a significance threshold. While it is technically possible to conduct this modeling, we argue that this additional layer of quantitative analysis may not always provide decision-makers and the public with additional meaningful information. It is the air districts that are best suited to provide frameworks for how to identify health effects of regional criteria pollutant emissions under CEQA.

Introduction

Significance thresholds for regional criteria pollutants used by California air districts and lead agencies represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable national or state ambient air quality standard (AAQS). By analyzing the project's emissions against these thresholds, the CEQA document assesses whether these emissions directly contribute to any regional or local exceedances of the applicable AAQS and exposure levels. The basis of the ruling in Friant Ranch was that the EIR did not provide a meaningful analysis of the adverse health effects that would be associated with the project's criteria pollutant emissions, which were identified as being far above the relevant thresholds. The discussion of the adverse health effects in the EIR was general in nature and did not connect the levels of the pollutants that would be emitted by the project to adverse health effects.

The process of correlating project-related criteria pollutant emissions to health-based consequences is called a health impact assessment (HIA). An HIA involves two steps: 1) running a regional photochemical grid model (PGM) to estimate the small increases in concentrations of ozone and particulate matter (PM) in the region as a result of a project's emissions of criteria and precursor pollutants; and 2) running the U.S. EPA Benefits Mapping and Analysis Program (BenMAP) to estimate the resulting health impacts from these increases in concentrations of ozone and PM.

Limitations of Regional-Scale Dispersion Models

It is technically feasible to conduct regional-scale criteria pollutant modeling for a development project. Particulate matter (PM) can be divided into two categories: directly emitted PM and secondary PM. Secondary PM, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur oxides (SO_x) and NO_x, Ozone (O_3) is a secondary pollutant formed from the oxidation of reactive organic gases (ROGs) and nitrogen oxides (NOx) in the presence of sunlight. Rates of ozone formation are a function of a variety of complex physical factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns.. Secondary formation of PM and ozone can occur far from the original emissions source from regional transport due to wind and topography (e.g. low-level jet stream). As such, modeling concentrations of secondary PM and ozone require photochemical grid models (PGMs), such as CMAQ and CAMx. These models have a much larger "grid" system and much lower resolution than localized dispersion modeling (e.g., AERMOD). For example, common grid cells in PGMs are 4x4 kilometers, while AERMOD can identify concentrations at the meter-level.

Photochemical modeling also depends on all emission sources in the entire domain. Low resolution and spatial averaging produces "noise" and model uncertainty that can exceed a project's specific emissions. Additionally, regional-scale models are highly contingent upon background concentrations. Factors such as meteorology and topography greatly affect the certainty levels of predicted concentrations at receptor points. As a result, there are statistical ranges of uncertainty through all the modeling steps. Due to these factors, it is difficult to predict ground-level secondary PM and ozone concentrations associated with relatively small emission sources with a high degree of certainty. While it is possible to use a regional-scale model to predict these regional concentrations, when a project's emissions are less than the regional model's resolution, the resultant ambient air quality concentrations will be within the margin of uncertainty. In CEQA terms, this would fit the definition of "speculative". Only when the scale of emissions would result in changes in ambient air quality beyond the model margin of uncertainty would the results not be "speculative" as defined by CEQA.

Identifying Health Effects due to Ambient Air Quality Changes

BenMap is a model developed by the USEPA to understand the health effects from changes in ozone and PM concentrations. If there is an acceptable level of confidence that the results provided by the regional dispersion modeling are valid, then these concentrations can be translated into health outcomes using BenMap. The health outcomes in BenMap are based on changes in ambient air concentrations and the population exposed to these changes. Data provided by this analysis may indicate increased number of workdays lost to illness, hospital admissions (respiratory), emergency room visits (asthma), or mortality, among other health effects. These are called "health incidences."

Translating the incremental increase in PM and ozone concentrations to specific health effects is also subject to uncertainty. For example, regional models assign the same toxicity to PM regardless of the source of PM (such as road dust as exhaust), and thus potentially overpredict adverse health effects of PM. BenMap also assumes that health effects can occur at any concentration, including small incremental concentrations, and assumes that impacts seen at large concentration differences can be linearly scaled down to small increases in concentration, with no consideration of potential thresholds below which health impacts may not occur. Additionally, BenMap is used for assessing impacts over large areas and populations and was not intended to be used for individual projects. For health incidences, the number of hospitalizations or increase in morbidity predicted by BenMap is greatly affected by the population characteristics.[1] Small increases in emissions in an area with a high population have a much greater affect than large increases in emissions over an area with a small population. As a result, the same amount of emissions generated in an urban area could result in greater health consequences than if the same emissions occurred on the urban periphery, where fewer people may be affected. This will also depend on other factors including meteorology and photochemistry, as discussed above. Emissions in areas with conditions that favor high air dispersion or unfavorable ozone formation will likely have relatively lower effects on ambient air quality and health outcomes.

While BenMap provides additional statistical information about health consequences requested by the Court in the Friant Ranch decision, this information is only meaningful when presented with the full health context of the region or locality at hand. For example, if the BenMap analysis says that the project would result in two additional hospital admissions, this result alone is not useful unless one identifies how many hospital admissions are caused by poor air quality now (without the project) and how many hospital admissions occur

[1] BenMap assigns prevalence rate for asthma and other health effects based on indicators such as gender, race, age, ethnicity, etc. The BenMap user manual specifically states that there are a wide range of variables that can be included in the health effect function. The health effect function was developed based on epidemiological studies, and specifically states that "there are a number of issues that arise when deriving and choosing between health effect functions that go well beyond this user manual. Hence, it is important to have a trained health researcher assist in developing the impact function data file."

overall (due to air quality and other causes). Because health is not solely influenced by ambient air quality, and has many factors that are highly variable across geographies and populations, there is an added level of uncertainty in using a generalized identification of health effects due to air quality conditions overlaid onto a specific diverse set of health conditions and other factors. Regardless of the uncertainty levels, if regional health effects are identified for a project, then the CEQA analysis needs to provide a full health baseline for decision-makers and the public to be able to understand the marginal change due to project criteria pollutant emissions. Given the margin of uncertainty at each step in the process (regional scale modeling, existing ambient air quality effects on health, population health conditions vulnerability, and marginal health effects of air pollution), the identification of marginal health effects due to individual projects using regional air quality modelling and tools such as BenMap are likely to be within the level of uncertainty and thus defined as "speculative" per CEQA.

The Role of Air Districts

Regional, community, multiscale air quality modeling conducted by the air districts for each individual air basin or locality within the air basin would be the most appropriate indictor of health effects for projects. The AQMPs provide a forecast of regional emissions based on regional dispersion modeling for all sources within the air basin. Regional-scale models attempt to account for all emissions sources within an air basin.

The regional scale model requires inputs such as existing and future regional sources of pollutants and global meteorological data, which are generally not accessible by CEQA practitioners. Modeling of future years should consider future concentrations of air pollutants based on regional growth projections and existing programs, rules, and regulations adopted by Federal, State, and local air districts. In general, air pollution in California is decreasing as a result of Federal and State laws. Based on the air quality management plans (AQMPs) required for air districts in a nonattainment area, air quality in the air basins are anticipated to improve despite an increase in population and employment growth. Air districts are charged with assessing programs, rules, and regulations so that the increase in population and employment does not conflict with the mandate to achieve the AAQS. Because emissions forecasting and health outcomes based on the regional growth projections to achieve the AAQS is under the purview of the air districts, it should also fall on the air districts to identify the potential health outcomes associated with individual project's criteria pollutant emissions.

The South Coast Air Quality Management District (South Coast AQMD) and the Sacramento Metropolitan Air Quality Management District (Sacramento Metropolitan AQMD) are exploring concepts for project-level analysis in light of Friant Ranch to assist local lead agencies.

» South Coast AQMD is looking at the largest land use development project they have had in the air basin and doing a sensitivity analysis (using CAMx for photochemical grid modeling and BenMap for health outcomes) to see how locating a very large project in different parts of the air basin (Los Angeles, Inland Empire, v. Orange County) would affect the health incidence.

» Sacramento Metropolitan AQMD is also looking at a screening process. Rather than looking at the upper end (i.e., largest project in the air basin), Sacramento Metropolitan AQMD is starting at the smallest project that exceeds the regional significance threshold and running CAMx and BenMap at different locations in the air basin to see how it affects regional health incidences.

Guidance from Air Districts would be the most effective way to incorporate meaningful information concerning regional health effects of project criteria pollutants in CEQA analyses, including guidance as to when modelling is and is not useful and meaningful, how modelling should be conducted, and how to best present additional information to inform decision-makers and the public about a project's impacts.

So…until air districts do their part, what should we do?

PROJECTS WITH CRITERIA POLLUTANT EMISSIONS BELOW AIR DISTRICT THRESHOLDS

The Friant Ranch ruling was about providing disclosure of health effects of project emissions that were well over the significance thresholds. Since the air district thresholds are tied to a level the air districts find to not have a significant effect on ambient air quality, there should be no need to discuss the health effects of criteria pollutant emissions that are less than the significance thresholds.

PROJECTS WITH CRITERIA POLLUTANT EMISSIONS ABOVE AIR DISTRICT THRESHOLDS

Pursuant to Section 15125 of the CEQA Guidelines, the environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. For CEQA, the health effects associated with buildout of a project would occur at the project's horizon year. Because CEQA requires an analysis of the change from existing conditions, the change in effects would be associated with changes in ambient air quality and associated health outcomes between existing conditions and the project's horizon year. Therefore, in order to show how a project affects health outcomes in an air basin, the CEQA documents will need to qualitatively or quantitatively address: (1) existing ambient criteria pollutant concentrations, health incidences due to existing air quality, and health incidences overall; 2) future (without project) ambient criteria pollutant concentrations and health incidences, and 3) future (with project) ambient criteria pollutant concentrations and health incidences.

Projects with significant criteria pollutant emissions could use regional modelling and BenMap to identify health effects of project emissions, but it is likely that many (or most) projects that are not regionally substantial in scale will be shown to have minimal regional changes in PM and ozone concentrations and therefore minimal changes in associated health effects. In addition, many projects may have emissions that are less than the uncertainty level of regional air quality models and BenMap health effects modeling; in these cases, quantitative results will not be meaningful. Thus, absent better direction from air districts, CEQA lead agencies will have to determine on a case by case basis whether a qualitative discussion of health effects will suffice, or whether regional modeling, despite its limitations, should be conducted for the project.

Where a project has substantial criteria pollutant emissions when considered on a regional scale, and there is reason to believe that the modeling of ambient air quality and regional health effects would produce non-speculative results when considering modeling uncertainties, then CEQA lead agencies should use regional modelling.

Conclusion

The purpose of CEQA is to inform the public as to the potential for a project to result in one or more significant adverse effects on the environment (including health effects). A CEQA document must provide an understandable and clear environmental analysis and provide an adequate basis for decision making and public disclosure. Regional dispersion modeling of criteria pollutants and secondary pollutants like PM and ozone can provide additional information, but that information may be within the margin of modelling uncertainty and/or may not be meaningful for the public and decision-makers unless a full health context is presented in the CEQA document. Simply providing health outcomes based on use of a regional-scale model and BenMap may not satisfy the goal to provide decision-makers and the public with information that would assist in weighting the environmental consequences of a project. A CEQA document must provide an analysis that is understandable for decision making and public disclosure. Regional scale modeling may provide a technical method for this type of analysis, but it does not necessarily provide a meaningful way to connect the magnitude of a project's criteria pollutant emissions to health effects without speculation.

In order to accurately connect the dots, we urge California air districts to provide more guidance on how to identify and describe the health effects of exceeding regional criteria pollutant thresholds. The air districts are the primary agency responsible for ensuring that the air basins attain the AAQS and ensure the health and welfare of its residents relative to air quality. Because emissions forecasting and health outcomes are based on the regional growth projections to achieve the AAQS is under the purview of the air districts, it should fall on the air districts to identify the potential health outcomes associated with exceeding the CEQA thresholds for projects. The air districts should provide lead agencies with a consistent, reliable, and meaningful analytical approach to correlate specific health effects that may result from a project's criteria pollutant emissions.

Glossary

AAQS – Ambient Air Quality Standards

BenMap – Benefits Mapping and Analysis Program

CAMx – Comprehensive Air Quality Model with extensions

CMAQ – Community Multiscale Air Quality

NOx – Nitrogen Oxides

PM – Particulate Matter

SOx – Sulfur Oxides

State – California

USEPA – United States Environmental Protection Agency

S219783

IN THE SUPREME COURT OF C ALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,

Plaintiffs and Appellants,

v.

COUNTY OF FRESNO,

Defendant and Respondent,

and,

FRIANT RANCH, L.P.,

Real Party in Interest and Respondent.

After a Published Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726
Honorable Rosendo A. Pena, Jr.

APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*

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TO THE HONORABLE CHIEF JUSTICE AND JUSTICES OF THE SUPREME COURT:

APPLICATION FOR LEAVE TO FILE *AMICUS CURIAE* BRIEF

Pursuant to Rule 8.520(f) of the California Rules of Court, the South Coast Air Quality Management District (SCAQMD) respectfully requests leave to file the attached *amicus curiae* brief. Because SCAQMD's position differs from that of either party, we request leave to submit this amicus brief in support of neither party.

HOW THIS BRIEF WILL ASSIST THE COURT

SCAQMD's proposed amicus brief takes a position on two of the issues in this case. In both instances, its position differs from that of either party. The issues are:

1) Does the California Environmental Quality Act (CEQA) require an environmental impact report (EIR) to correlate a project's air pollution emissions with specific levels of health impacts?
2) What is the proper standard of review for determining whether an EIR provides sufficient information on the health impacts caused by a project's emission of air pollutants?

This brief will assist the Court by discussing the practical realities of correlating identified air quality impacts with specific health outcomes. In short, CEQA requires agencies to provide detailed information about a project's air quality impacts that is sufficient for the public and decisionmakers to adequately evaluate the project and meaningfully understand its impacts. However, the level of analysis is governed by a rule of reason; CEQA only requires agencies to conduct analysis if it is reasonably feasible to do so.

With regard to health-related air quality impacts, an analysis that correlates a project's air pollution emissions with specific levels of health impacts will be feasible in some cases but not others. Whether it is feasible depends on a variety of factors, including the nature of the project and the nature of the analysis under consideration. The feasibility of analysis may also change over time as air districts and others develop new tools for measuring projects' air quality related health impacts. Because SCAQMD has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, it is uniquely situated to express an opinion on the extent to which the Court should hold that CEQA requires lead agencies to correlate air quality impacts with specific health outcomes.

SCAQMD can also offer a unique perspective on the question of the appropriate standard of review. SCAQMD submits that the proper standard of review for determining whether an EIR is sufficient as an informational document is more nuanced than argued by either party. In our view, this is a mixed question of fact and law. It includes determining whether additional analysis is feasible, which is primarily a factual question that should be reviewed under the substantial evidence standard. However, it also involves determining whether the omission of a particular analysis renders an EIR insufficient to serve CEQA's purpose as a meaningful, informational document. If a lead agency has not determined that a requested analysis is infeasible, it is the court's role to determine whether the EIR nevertheless meets CEQA's purposes, and courts should not defer to the lead agency's conclusions regarding the legal sufficiency of an EIR's analysis. The ultimate question of whether an EIR's analysis is "sufficient" to serve CEQA's informational purposes is predominately a question of law that courts should review de novo.

This brief will explain the rationale for these arguments and may assist the Court in reaching a conclusion that accords proper respect to a lead agency's factual conclusions while maintaining judicial authority over the ultimate question of what level of analysis CEQA requires.

STATEMENT OF INTEREST OF *AMICUS CURIAE*

The SCAQMD is the regional agency primarily responsible for air pollution control in the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of the Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410; Cal. Code Regs., tit. 17, § 60104.) The SCAQMD participates in the CEQA process in several ways. Sometimes it acts as a lead agency that prepares CEQA documents for projects. Other times it acts as a responsible agency when it has permit authority over some part of a project that is undergoing CEQA review by a different lead agency. Finally, SCAQMD also acts as a commenting agency for CEQA documents that it receives because it is a public agency with jurisdiction by law over natural resources affected by the project.

In all of these capacities, SCAQMD will be affected by the decision in this case. SCAQMD sometimes submits comments requesting that a lead agency perform an additional type of air quality or health impacts analysis. On the other hand, SCAQMD sometimes determines that a particular type of health impact analysis is not feasible or would not produce reliable and informative results. Thus, SCAQMD will be affected by the Court's resolution of the extent to which CEQA requires EIRs to correlate emissions and health impacts, and its resolution of the proper standard of review.

CERTIFICATION REGARDING AUTHORSHIP AND FUNDING

No party or counsel in the pending case authored the proposed amicus curiae brief in whole or in part, or made any monetary contribution intended to fund the preparation or submission of the brief. No person or entity other than the proposed *Amicus Curiae* made any monetary contribution intended to fund the preparation or submission of the brief.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY
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BRIEF OF AMICUS CURIAE

SUMMARY OF ARGUMENT

The South Coast Air Quality Management District (SCAQMD) submits that this Court should not try to establish a hard-and-fast rule concerning whether lead agencies are required to correlate emissions of air pollutants with specific health consequences in their environmental impact reports (EIR). The level of detail required in EIRs is governed by a few, core CEQA (California Environmental Quality Act) principles. As this Court has stated, "[a]n EIR must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." (*Laurel Heights Improvement Assn. v. Regents of the Univ of Cal.* (1988) 47 Cal.3d 376, 405 ["*Laurel Heights I*"]) Accordingly, "an agency must use its best efforts to find out and disclose all that it reasonably can." (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 428 (quoting CEQA Guidelines § 15144)[1].). However, "[a]nalysis of environmental effects need not be exhaustive, but will be judged in light of what is reasonably feasible." (*Association of Irritated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1390; CEQA Guidelines §§ 15151, 15204(a).)

With regard to analysis of air quality related health impacts, EIRs must generally quantify a project's pollutant emissions, but in some cases it is not feasible to correlate these emissions to specific, quantifiable health impacts (e.g., premature mortality; hospital admissions). In such cases, a general description of the adverse health impacts resulting from the pollutants at issue may be sufficient. In other cases, due to the magnitude

[1] The CEQA Guidelines are found at Cal. Code Regs., tit. 14 §§ 15000, *et seq.*

or nature of the pollution emissions, as well as the specificity of the project involved, it may be feasible to quantify health impacts. Or there may be a less exacting, but still meaningful analysis of health impacts that can feasibly be performed. In these instances, agencies should disclose those impacts.

SCAQMD also submits that whether or not an EIR complies with CEQA's informational mandates by providing sufficient, feasible analysis is a mixed question of fact and law. Pertinent here, the question of whether an EIR's discussion of health impacts from air pollution is sufficient to allow the public to understand and consider meaningfully the issues involves two inquiries: (1) Is it feasible to provide the information or analysis that a commenter is requesting or a petitioner is arguing should be required?; and (2) Even if it is feasible, is the agency relying on other policy or legal considerations to justify not preparing the requested analysis? The first question of whether an analysis is feasible is primarily a question of fact that should be judged by the substantial evidence standard. The second inquiry involves evaluating CEQA's information disclosure purposes against the asserted reasons to not perform the requested analysis. For example, an agency might believe that its EIR meets CEQA's informational disclosure standards even without a particular analysis, and therefore choose not to conduct that analysis. SCAQMD submits that this is more of a legal question, which should be reviewed de novo as a question of law.

ARGUMENT

I. RELEVANT FACTUAL AND LEGAL FRAMEWORK.

A. Air Quality Regulatory Background

The South Coast Air Quality Management District (SCAQMD) is one of the local and regional air pollution control districts and air quality

management districts in California. The SCAQMD is the regional air pollution agency for the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410, 17 Cal. Code Reg. § 60104.) The SCAQMD also includes the Coachella Valley in Riverside County (Palm Springs area to the Salton Sea). (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "chapter 7" hyperlink; pp 7-1, 7-3 (last visited Apr. 1, 2015).) The SCAQMD's jurisdiction includes over 16 million residents and has the worst or nearly the worst air pollution levels in the country for ozone and fine particulate matter. (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Executive Summary" hyperlink p. ES-1 (last visited Apr. 1, 2015).)

Under California law, the local and regional districts are primarily responsible for controlling air pollution from all sources except motor vehicles. (Health & Saf. Code § 40000.) The California Air Resources Board (CARB), part of the California Environmental Protection Agency, is primarily responsible for controlling pollution from motor vehicles. (*Id.*) The air districts must adopt rules to achieve and maintain the state and federal ambient air quality standards within their jurisdictions. (Health & Saf. Code § 40001.)

The federal Clean Air Act (CAA) requires the United States Environmental Protection Agency (EPA) to identify pollutants that are widely distributed and pose a threat to human health, developing a so-called "criteria" document. (42 U.S.C. § 7408; CAA § 108.) These pollutants are frequently called "criteria pollutants." EPA must then establish "national ambient air quality standards" at levels "requisite to protect public health",

allowing "an adequate margin of safety." (42 U.S.C. § 7409; CAA § 109.) EPA has set standards for six identified pollutants: ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter (PM), and lead. (U.S. EPA, National Ambient Air Quality Standards (NAAQS), http://www.epa.gov/air/criteria.html (last updated Oct. 21, 2014).)[2]

Under the Clean Air Act, EPA sets emission standards for motor vehicles and "nonroad engines" (mobile farm and construction equipment, marine vessels, locomotives, aircraft, etc.). (42 U.S.C. §§ 7521, 7547; CAA §§ 202, 213.) California is the only state allowed to establish emission standards for motor vehicles and most nonroad sources; however, it may only do so with EPA's approval. (42 U.S.C. §§ 7543(b), 7543(e); CAA §§ 209(b), 209(c).) Sources such as manufacturing facilities, power plants and refineries that are not mobile are often referred to as "stationary sources." The Clean Air Act charges state and local agencies with the primary responsibility to attain the national ambient air quality standards. (42 U.S.C. § 7401(a)(3); CAA § 101(a)(3).) Each state must adopt and implement a plan including enforceable measures to achieve and maintain the national ambient air quality standards. (42 U.S.C. § 7410; CAA § 110.) The SCAQMD and CARB jointly prepare portion of the plan for the South Coast Air Basin and submit it for approval by EPA. (Health & Saf. Code §§ 40460, et seq.)

The Clean Air Act also requires state and local agencies to adopt a permit program requiring, among other things, that new or modified "major" stationary sources use technology to achieve the "lowest achievable emission rate," and to control minor stationary sources as

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[2] Particulate matter (PM) is further divided into two categories: fine particulate or $PM_{2.5}$ (particles with a diameter of less than or equal to 2.5 microns) and coarse particulate (PM_{10}) (particles with a diameter of 10 microns or less). (U.S. EPA, Particulate Matter (PM), http://www.epa.gov/airquality/particlepollution/ (last visited Apr. 1, 2015).)

needed to help attain the standards. (42 U.S.C. §§ 7502(c)(5), 7503(a)(2), 7410(a)(2)(C); CAA §§ 172(c)(5), 173(a)(2), 110(a)(2)(C).) The air districts implement these permit programs in California. (Health & Saf. Code §§ 42300, et seq.)

The Clean Air Act also sets out a regulatory structure for over 100 so-called "hazardous air pollutants" calling for EPA to establish "maximum achievable control technology" (MACT) for sources of these pollutants. (42 U.S.C. § 7412(d)(2); CAA § 112(d)(2).) California refers to these pollutants as "toxic air contaminants" (TACs) which are subject to two state-required programs. The first program requires "air toxics control measures" for specific categories of sources. (Health & Saf. Code § 39666.) The other program requires larger stationary sources and sources identified by air districts to prepare "health risk assessments" for impacts of toxic air contaminants. (Health & Saf. Code §§ 44320(b), 44322, 44360.) If the health risk exceeds levels identified by the district as "significant," the facility must implement a "risk reduction plan" to bring its risk levels below "significant" levels. Air districts may adopt additional more stringent requirements than those required by state law, including requirements for toxic air contaminants. (Health & Saf. Code § 41508; *Western Oil & Gas Assn. v. Monterey Bay Unified APCD* (1989) 49 Cal.3d 408, 414.) For example, SCAQMD has adopted a rule requiring new or modified sources to keep their risks below specified levels and use best available control technology (BACT) for toxics. (SCAQMD, *Rule 1401-New Source Review of Toxic Air Contaminants*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiv; then follow "Rule 1401" hyperlink (last visited Apr. 1, 2015).)

B. The SCAQMD's Role Under CEQA

The California Environmental Quality Act (CEQA) requires public agencies to perform an environmental review and appropriate analysis for projects that they implement or approve. (Pub. Resources Code § 21080(a).) The agency with primary approval authority for a particular project is generally the "lead agency" that prepares the appropriate CEQA document. (CEQA Guidelines §§ 15050, 15051.) Other agencies having a subsequent approval authority over all or part of a project are called "responsible" agencies that must determine whether the CEQA document is adequate for their use. (CEQA Guidelines §§ 15096(c), 15381.) Lead agencies must also consult with and circulate their environmental impact reports to "trustee agencies" and agencies "with jurisdiction by law" including "authority over resources which may be affected by the project." (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines §§ 15086(a)(3), 15073(c).) The SCAQMD has a role in all these aspects of CEQA.

Fulfilling its responsibilities to implement its air quality plan and adopt rules to attain the national ambient air quality standards, SCAQMD adopts a dozen or more rules each year to require pollution reductions from a wide variety of sources. The SCAQMD staff evaluates each rule for any adverse environmental impact and prepares the appropriate CEQA document. Although most rules reduce air emissions, they may have secondary environmental impacts such as use of water or energy or disposal of waste—e.g., spent catalyst from control equipment.[3]

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[3] The SCAQMD's CEQA program for its rules is a "Certified Regulatory Program" under which it prepares a "functionally equivalent" document in lieu of a negative declaration or EIR. (Pub. Resources Code § 21080.5, CEQA Guidelines § 15251(l).)

The SCAQMD also approves a large number of permits every year to construct new, modified, or replacement facilities that emit regulated air pollutants. The majority of these air pollutant sources have already been included in an earlier CEQA evaluation for a larger project, are currently being evaluated by a local government as lead agency, or qualify for an exemption. However, the SCAQMD sometimes acts as lead agency for major projects where the local government does not have a discretionary approval. In such cases, SCAQMD prepares and certifies a negative declaration or environmental impact report (EIR) as appropriate.[4] SCAQMD evaluates perhaps a dozen such permit projects under CEQA each year. SCAQMD is often also a "responsible agency" for many projects since it must issue a permit for part of the projects (e.g., a boiler used to provide heat in a commercial building). For permit projects evaluated by another lead agency under CEQA, SCAQMD has the right to determine that the CEQA document is inadequate for its purposes as a responsible agency, but it may not do so because its permit program already requires all permitted sources to use the best available air pollution control technology. (SCAQMD, *Rule 1303(a)(1) – Requirements*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiii; then follow "Rule 1303" hyperlink (last visited Apr. 1, 2015).)

Finally, SCAQMD receives as many as 60 or more CEQA documents each month (around 500 per year) in its role as commenting agency or an agency with "jurisdiction by law" over air quality—a natural resource affected by the project. (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines § 15366(a)(3).) The SCAQMD staff provides comments on as many as 25 or 30 such documents each month.

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[4] The SCAQMD's permit projects are not included in its Certified Regulatory Program, and are evaluated under the traditional local government CEQA analysis. (Pub. Resources Code §§ 21150-21154.)

(SCAQMD Governing Board Agenda, Apr. 3, 2015, Agenda Item 16, Attachment A, http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-april-3-2015; then follow "16. Lead Agency Projects and Environmental Documents Received by SCAQMD" hyperlink (last visited Apr. 1, 2015).) Of course, SCAQMD focuses its commenting efforts on the more significant projects.

Typically, SCAQMD comments on the adequacy of air quality analysis, appropriateness of assumptions and methodology, and completeness of the recommended air quality mitigation measures. Staff may comment on the need to prepare a health risk assessment detailing the projected cancer and noncancer risks from toxic air contaminants resulting from the project, particularly the impacts of diesel particulate matter, which CARB has identified as a toxic air contaminant based on its carcinogenic effects. (California Air Resources Board, Resolution 98-35, Aug. 27, 1998, http://www.arb.ca.gov/regact/diesltac/diesltac.htm; then follow Resolution 98-35 hyperlink (last visited Apr. 1, 2015).) Because SCAQMD already requires new or modified stationary sources of toxic air contaminants to use the best available control technology for toxics and to keep their risks below specified levels, (SCAQMD Rule 1401, supra, note 15), the greatest opportunity to further mitigate toxic impacts through the CEQA process is by reducing emissions—particularly diesel emissions—from vehicles.

II. THIS COURT SHOULD NOT SET A HARD-AND-FAST RULE CONCERNING THE EXTENT TO WHICH AN EIR MUST CORRELATE A PROJECT'S EMISSION OF POLLUTANTS WITH RESULTING HEALTH IMPACTS.

Numerous cases hold that courts do not review the correctness of an EIR's conclusions but rather its sufficiency as an informative document. (*Laurel Heights 1, supra*, 47 Cal.3d at p. 392; *Citizens of Goleta Valley v.*

Bd. of Supervisors (1990) 52 Cal.3d 553, 569; *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1197.)

As stated by the Court of Appeal in this case, where an EIR has addressed a topic, but the petitioner claims that the information provided about that topic is insufficient, courts must "draw[] a line that divides *sufficient* discussions from those that are *insufficient*." (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) The Court of Appeal readily admitted that "[t]he terms themselves – sufficient and insufficient – provide little, if any, guidance as to where the line should be drawn. They are simply labels applied once the court has completed its analysis." (*Id.*)

The CEQA Guidelines, however, provide guidance regarding what constitutes a sufficient discussion of impacts. Section 15151 states that "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." Case law reflects this: "Analysis of environmental effects need not be exhaustive, but will be judged in light of what was reasonably feasible." (*Association of Irritated Residents v. County of Madera, supra,* 107 Cal.App.4th at p. 1390; see also CEQA Guidelines § 15204(a).)

Applying this test, this Court cannot realistically establish a hard-and-fast rule that an analysis correlating air pollution impacts of a project to quantified resulting health impacts is always required, or indeed that it is never required. Simply put, in some cases such an analysis will be "feasible"; in some cases it will not.

For example, air pollution control districts often require a proposed new source of toxic air contaminants to prepare a "health risk assessment" before issuing a permit to construct. District rules often limit the allowable cancer risk the new source may cause to the "maximally exposed individual" (worker and residence exposures). (*See, e.g.*, SCAQMD Rule 1401(c)(8); 1401(d)(1), *supra* note 15.) In order to perform this analysis, it

is necessary to have data regarding the sources and types of air toxic contaminants, location of emission points, velocity of emissions, the meteorology and topography of the area, and the location of receptors (worker and residence). (SCAQMD, *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588), pp. 11-16*; (last visited Apr. 1, 2015) http://www.aqmd.gov/home/library/documents-support-material; "Guidelines" hyperlink; AB2588; then follow AB2588 Risk Assessment Guidelines hyperlink.)

Thus, it is feasible to determine the health risk posed by a new gas station locating at an intersection in a mixed use area, where receptor locations are known. On the other hand, it may not be feasible to perform a health risk assessment for airborne toxics that will be emitted by a generic industrial building that was built on "speculation" (i.e., without knowing the future tenant(s)). Even where a health risk assessment can be prepared, however, the resulting maximum health risk value is only a calculation of risk—it does not necessarily mean anyone will contract cancer as a result of the project.

In order to find the "cancer burden" or expected additional cases of cancer resulting from the project, it is also necessary to know the numbers and location of individuals living within the "zone of impact" of the project: i.e., those living in areas where the projected cancer risk from the project exceeds one in a million. (SCAQMD, Health Risk Assessment Summary form, http://www.aqmd.gov/home/forms ; filter by "AB2588" category; then "Health Risk Assessment" hyperlink (last visited Apr. 1, 2015).) The affected population is divided into bands of those exposed to at least 1 in a million risk, those exposed to at least 10 in a million risk, etc. up to those exposed at the highest levels. (*Id.*) This data allows agencies to calculate an approximate number of additional cancer cases expected from

the project. However, it is not possible to predict which particular individuals will be affected.

For the so-called criteria pollutants[5], such as ozone, it may be more difficult to quantify health impacts. Ozone is formed in the atmosphere from the chemical reaction of the nitrogen oxides (NO_x) and volatile organic compounds (VOC) in the presence of sunlight. (U.S. EPA, Ground Level Ozone, http://www.epa.gov/airquality/ozonepollution/ (last updated Mar. 25, 2015).) It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources. (U.S. EPA, *Guideline on Ozone Monitoring Site Selection* (Aug. 1998) EPA-454/R-98-002 § 5.1.2, http://www.epa.gov/ttnamti1/archive/cpreldoc.html (last visited Apr. 1, 2015).) NO_x and VOC are known as "precursors" of ozone.

Scientifically, health effects from ozone are correlated with increases in the ambient level of ozone in the air a person breathes. (U.S. EPA, *Health Effects of Ozone in the General Population,* Figure 9, http://www.epa.gov/apti/ozonehealth/population.html#levels (last visited Apr. 1, 2015).) However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. For example, the SCAQMD's 2012 AQMP showed that reducing NO_x by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion. (South Coast Air Quality Management District, *Final 2012 AQMP (February 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Appendix V: Modeling & Attainment Demonstrations" hyperlink,

[5] See discussion of types of pollutants, supra, Part I.A.

pp. v-4-2, v-7-4, v-7-24.) SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_x or VOC emissions from relatively small projects.

On the other hand, this type of analysis may be feasible for projects on a regional scale with very high emissions of NO_x and VOCs, where impacts are regional. For example, in 2011 the SCAQMD performed a health impact analysis in its CEQA document for proposed Rule 1315, which authorized various newly-permitted sources to use offsets from the districts "internal bank" of emission reductions. This CEQA analysis accounted for essentially *all* the increases in emissions due to new or modified sources in the District between 2010 and 2030.[6] The SCAQMD was able to correlate this very large emissions increase (e.g., 6,620 pounds per day NO_x (1,208 tons per year), 89,180 pounds per day VOC (16,275 tons per year)) to expected health outcomes from ozone and particulate matter (e.g., 20 premature deaths per year and 89,947 school absences in the year 2030 due to ozone).[7] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System* (see hyperlink in fn 6*)* at p. 4.1-35, Table 4.1-29.)

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[6] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, Attachment G, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System, Vol. 1, p.4.0-6,* http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-february-4-2011; the follow "26. Adopt Proposed Rule 1315 – Federal New Source Review Tracking System" (last visited April 1, 2015).)

[7] The SCAQMD was able to establish the location of future NO_x and VOC emissions by assuming that new projects would be built in the same locations and proportions as existing stationary sources. This CEQA document was upheld by the Los Angeles County Superior Court in *Natural Res. Def. Council v SCAQMD*, Los Angeles Superior Court No. BS110792).

However, a project emitting only 10 tons per year of NO_x or VOC is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models that are currently used to determine ozone levels. Thus, in this case it would not be feasible to directly correlate project emissions of VOC or NO_x with specific health impacts from ozone. This is in part because ozone formation is not linearly related to emissions. Ozone impacts vary depending on the location of the emissions, the location of other precursor emissions, meteorology and seasonal impacts, and because ozone is formed some time later and downwind from the actual emission. (EPA Guideline on Ozone Monitoring Site Selection (Aug. 1998) EPA-454/R-98-002, § 5.1.2; https://www.epa.gov/ttnamti1/archive/cpreldoc.html; then search "Guideline on Ozone Monitoring Site Selection" click on pdf) (last viewed Apr. 1, 2015).)

SCAQMD has set its CEQA "significance" threshold for NO_x and VOC at 10 tons per year (expressed as 55 lb/day). (SCAQMD, *Air Quality Analysis Handbook*, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook; then follow "SCAQMD Air Quality Significance Thresholds" hyperlink (last visited Apr. 1, 2015).) This is because the federal Clean Air Act defines a "major" stationary source for "extreme" ozone nonattainment areas such as SCAQMD as one emitting 10 tons/year. (42 U.S.C. §§ 7511a(e), 7511a(f); CAA §§ 182(e), 182(f).) Under the Clean Air Act, such sources are subject to enhanced control requirements (42 U.S.C. §§ 7502(c)(5), 7503; CAA §§ 172(c)(5), 173), so SCAQMD decided this was an appropriate threshold for making a CEQA "significance" finding and requiring feasible mitigation. Essentially, SCAQMD takes the position that a source that emits 10 tons/year of NO_x or VOC would contribute cumulatively to ozone formation. Therefore, lead agencies that use SCAQMD's thresholds of significance may determine

that many projects have "significant" air quality impacts and must apply all feasible mitigation measures, yet will not be able to precisely correlate the project to quantifiable health impacts, unless the emissions are sufficiently high to use a regional modeling program.

In the case of particulate matter ($PM_{2.5}$)[8], another "criteria" pollutant, SCAQMD staff is aware of two possible methods of analysis. SCAQMD used regional modeling to predict expected health impacts from its proposed Rule 1315, as mentioned above. Also, the California Air Resources Board (CARB) has developed a methodology that can predict expected mortality (premature deaths) from large amounts of $PM_{2.5}$. (California Air Resources Board, *Health Impacts Analysis: PM Premature Death Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort_arch.htm (last reviewed Jan. 19, 2012).) SCAQMD used the CARB methodology to predict impacts from three very large power plants (e.g., 731-1837 lbs/day). (Final Environmental Assessment for Rule 1315, *supra*, pp 4.0-12, 4.1-13, 4.1-37 (e.g., 125 premature deaths in the entire SCAQMD in 2030), 4.1-39 (0.05 to 1.77 annual premature deaths from power plants.) Again, this project involved large amounts of additional $PM_{2.5}$ in the District, up to 2.82 tons/day (5,650 lbs/day of $PM_{2.5}$, or, or 1029 tons/year. (*Id.* at table 4.1-4, p. 4.1-10.)

However, the primary author of the CARB methodology has reported that this $PM_{2.5}$ health impact methodology is not suited for small projects and may yield unreliable results due to various uncertainties. [9] (SCAQMD, *Final Subsequent Mitigated Negative Declaration for: Warren*

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[8] SCAQMD has not attained the latest annual or 24-hour national ambient air quality standards for "$PM_{2.5}$" or particulate matter less than 2.5 microns in diameter.

[9] Among these uncertainties are the representativeness of the population used in the methodology, and the specific source of PM and the corresponding health impacts. (*Id.* at p. 2-24.)

E&P, Inc. WTU Central Facility, New Equipment Project (certified July 19, 2011), http://www.aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2011; then follow "Final Subsequent Mitigated Negative Declaration for Warren E&P Inc. WTU Central Facility, New Equipment Project" hyperlink, pp. 2-22, 2-23 (last visited Apr. 1, 2015).) Therefore, when SCAQMD prepared a CEQA document for the expansion of an existing oil production facility, with very small $PM_{2.5}$ increases (3.8 lb/day) and a very small affected population, staff elected not to use the CARB methodology for using estimated $PM_{2.5}$ emissions to derive a projected premature mortality number and explained why it would be inappropriate to do so. (*Id.* at pp 2-22 to 2-24.) SCAQMD staff concluded that use of this methodology for such a small source could result in unreliable findings and would not provide meaningful information. (*Id.* at pp. 2-23, 2-25.) This CEQA document was not challenged in court.

In the above case, while it may have been technically possible to plug the data into the methodology, the results would not have been reliable or meaningful. SCAQMD believes that an agency should not be required to perform analyses that do not produce reliable or meaningful results. This Court has already held that an agency may decline to use even the "normal" "existing conditions" CEQA baseline where to do so would be misleading or without informational value. (*Neighbors for Smart Rail v. Exposition Metro Line* (2013) 57 Cal.4th 439, 448, 457.) The same should be true for a decision that a particular study or analysis would not provide reliable or meaningful results.[10]

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[10] Whether a particular study would result in "informational value" is a part of deciding whether it is "feasible." CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and

Therefore, it is not possible to set a hard-and-fast rule on whether a correlation of air quality impacts with specific quantifiable health impacts is required in all cases. Instead, the result turns on whether such an analysis is reasonably feasible in the particular case.[11] Moreover, what is reasonably feasible may change over time as scientists and regulatory agencies continually seek to improve their ability to predict health impacts. For example, CARB staff has been directed by its Governing Board to reassess and improve the methodology for estimating premature deaths. (California Air Resources Board, *Health Impacts Analysis: PM Mortality Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort.htm (last reviewed Dec. 29, 2010).) This factor also counsels against setting any hard-and-fast rule in this case.

III. THE QUESTION OF WHETHER AN EIR CONTAINS SUFFICIENT ANALYSIS TO MEET CEQA'S REQUIREMENTS IS A MIXED QUESTION OF FACT AND LAW GOVERNED BY TWO DIFFERENT STANDARDS OF REVIEW.

A. Standard of Review for Feasibility Determination and Sufficiency as an Informative Document

A second issue in this case is whether courts should review an EIR's informational sufficiency under the "substantial evidence" test as argued by Friant Ranch or the "independent judgment" test as argued by Sierra Club.

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technological factors." (Pub. Resources Code § 21061.1.) A study cannot be "accomplished in a *successful* manner" if it produces unreliable or misleading results.

[11] In this case, the lead agency did not have an opportunity to determine whether the requested analysis was feasible because the comment was non-specific. Therefore, SCAQMD suggests that this Court, after resolving the legal issues in the case, direct the Court of Appeal to remand the case to the lead agency for a determination of whether the requested analysis is feasible. Because Fresno County, the lead agency, did not seek review in this Court, it seems likely that the County has concluded that at least some level of correlation of air pollution with health impacts is feasible.

As this Court has explained, "a reviewing court must adjust its scrutiny to the nature of the alleged defect, depending on whether the claim is predominantly one of improper procedure or a dispute over the facts." (*Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 435.) For questions regarding compliance with proper procedure or other legal questions, courts review an agency's action de novo under the "independent judgment" test. (*Id.*) On the other hand, courts review factual disputes only for substantial evidence, thereby "accord[ing] greater deference to the agency's substantive factual conclusions." (*Id.*)

Here, Friant Ranch and Sierra Club agree that the case involves the question of whether an EIR includes sufficient information regarding a project's impacts. However, they disagree on the proper standard of review for answering this question: Sierra Club contends that courts use the independent judgment standard to determine whether an EIR's analysis is sufficient to meet CEQA's informational purposes,[12] while Friant Ranch contends that the substantial evidence standard applies to this question.

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[12] Sierra Club acknowledges that courts use the substantial evidence standard when reviewing predicate factual issues, but argues that courts ultimately decide as a matter of law what CEQA requires. (Answering Brief, pp. 14, 23.)

SCAQMD submits that the issue is more nuanced than either party contends. We submit that, whether a CEQA document includes sufficient analysis to satisfy CEQA's informational mandates is a mixed question of fact and law,[13] containing two levels of inquiry that should be judged by different standards.[14]

The state CEQA Guidelines set forth standards for the adequacy of environmental analysis. Guidelines Section 15151 states:

> An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good-faith effort at full disclosure.

In this case, the basic question is whether the underlying analysis of air quality impacts made the EIR "sufficient" as an informative document. However, whether the EIR's analysis was sufficient is judged in light of what was reasonably feasible. This represents a mixed question of fact and law that is governed by two different standards of review.

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[13] Friant Ranch actually states that the claim that an EIR lacks sufficient relevant information is, "most properly thought of as raising mixed questions of fact and law." (Opening Brief, p. 27.) However, the remainder of its argument claims that the court should apply the substantial evidence standard of review to all aspects of the issue.

[14] Mixed questions of fact and law issues may implicate predominantly factual subordinate questions that are reviewed under the substantial evidence test even though the ultimate question may be reviewed by the independent judgment test. *Crocker National Bank v. City and County of San Francisco* (1989) 49 Cal.3d 881, 888-889.

SCAQMD submits that an EIR's sufficiency as an informational document is ultimately a legal question that courts should determine using their independent judgment. This Court's language in *Laurel Heights I* supports this position. As this Court explained: "The court does not pass upon the correctness of the EIR's environmental conclusions, but only upon its *sufficiency as an informative document.*" (*Laurel Heights I, supra,* 47 Cal.3d at 392-393) (emphasis added.) As described above, the Court in *Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 431, also used its independent judgment to determine what level of analysis CEQA requires for water supply impacts. The Court did not defer to the lead agency's opinion regarding the law's requirements; rather, it determined for itself what level of analysis was necessary to meet "[t]he law's informational demands." (*Id.* at p. 432.) Further, existing case law also holds that where an agency fails to comply with CEQA's information disclosure requirements, the agency has "failed to proceed in the manner required by law." (*Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 118.)

However, whether an EIR satisfies CEQA's requirements depends in part on whether it was reasonably feasible for an agency to conduct additional or more thorough analysis. EIRs must contain "a detailed statement" of a project's impacts (Pub. Res. Code § 21061), and an agency must "use its best efforts to find out and disclose all that it reasonably can." (CEQA Guidelines § 15144.) Nevertheless, "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." (CEQA Guidelines § 15151.)

SCAQMD submits that the question of whether additional analysis or a particular study suggested by a commenter is "feasible" is generally a question of fact. Courts have already held that whether a particular alternative is "feasible" is reviewed by the substantial evidence test.

(*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 598-99; *Center for Biological Diversity v. County of San Bernardino* (2010) 185 Cal.App.4th 866, 883.) Thus, if a lead agency determines that a particular study or analysis is infeasible, that decision should generally be judged by the substantial evidence standard. However, SCAQMD urges this Court to hold that lead agencies must explain the basis of any determination that a particular analysis is infeasible in the EIR itself. An EIR must discuss information, including issues related to the feasibility of particular analyses "in sufficient detail to enable meaningful participation and criticism by the public. '[W]hatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report.'" (*Laurel Heights I, supra*, 47 Cal.3d at p. 405 (quoting *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 831) (discussing analysis of alternatives).) The evidence on which the determination is based should also be summarized in the EIR itself, with appropriate citations to reference materials if necessary. Otherwise commenting agencies such as SCAQMD would be forced to guess where the lead agency's evidence might be located, thus thwarting effective public participation.

Moreover, if a lead agency determines that a particular study or analysis would not result in reliable or useful information and for that reason is not feasible, that determination should be judged by the substantial evidence test. (See *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority*, *supra*, 57 Cal.4th 439, 448, 457:

whether "existing conditions" baseline would be misleading or uninformative judged by substantial evidence standard.[15])

If the lead agency's determination that a particular analysis or study is not feasible is supported by substantial evidence, then the agency has not violated CEQA's information disclosure provisions, since it would be infeasible to provide additional information. This Court's decisions provide precedent for such a result. For example, this Court determined that the issue of whether the EIR should have included a more detailed discussion of future herbicide use was resolved because substantial evidence supported the agency's finding that "the precise parameters of future herbicide use could not be predicted." *Ebbetts Pass Forest Watch v. California Dept. of Forestry & Fire Protection* (2008) 43 Cal.4th 936, 955.

Of course, SCAQMD expects that courts will continue to hold lead agencies to their obligations to consult with, and not to ignore or misrepresent, the views of sister agencies having special expertise in the area of air quality. (*Berkeley Keep Jets Over the Bay v. Board of Port Commissioners* (2007) 91 Cal.App.4th 1344, 1364 n.11.) In some cases, information provided by such expert agencies may establish that the purported evidence relied on by the lead agency is not in fact "substantial". (*Id.* at pp. 1369-1371.)

In sum, courts retain ultimate responsibility to determine what CEQA requires. However, the law does not require exhaustive analysis, but only what is reasonably feasible. Agencies deserve deference for their factual determinations regarding what type of analysis is reasonably feasible. On the other hand, if a commenter requests more information, and the lead agency declines to provide it but does *not* determine that the

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[15] The substantial evidence standard recognizes that the courts "have neither the resources nor the scientific expertise" to weigh conflicting evidence on technical issues. (*Laurel Heights I, supra,* 47 Cal.3d 376, 393.)

requested study or analysis would be infeasible, misleading or uninformative, the question becomes whether the omission of that analysis renders the EIR inadequate to satisfy CEQA's informational purposes. (*Id.* at pp. 1370-71.) Again, this is predominantly a question of law and should be judged by the de novo or independent judgment standard of review. Of course, this Court has recognized that a "project opponent or reviewing court can always imagine some additional study or analysis that might provide helpful information. It is not for them to design the EIR. That further study...might be helpful does not make it necessary." (*Laurel Heights I, supra,* 47 Cal.3d 376, 415 – see also CEQA Guidelines § 15204(a) [CEQA "does not require a lead agency to conduct every test. . . recommended or demanded by commenters."].) Courts, then, must adjudicate whether an omission of particular information renders an EIR inadequate to serve CEQA's informational purposes.[16]

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[16] We recognize that there is case law stating that the substantial evidence standard applies to "challenges to the scope of an EIR's analysis of a topic" as well as the methodology used and the accuracy of the data relied on in the document "because these types of challenges involve factual questions." (*Bakersfield Citizens for Local Control v. City of Bakersfield, supra,* 124 Cal.App.4th 1184, 1198, and cases relied on therein.) However, we interpret this language to refer to situations where the question of the scope of the analysis really is factual—that is, where it involves whether further analysis is feasible, as discussed above. This interpretation is supported by the fact that the *Bakersfield* court expressly rejected an argument that a claimed "omission of information from the EIR should be treated as inquiries whether there is substantial evidence supporting the decision approving the project. " *Bakersfield, supra,* 124 Cal.App.4th at p. 1208. And the *Bakersfield* court ultimately decided that the lead agency must analyze the connection between the identified air pollution impacts and resulting health impacts, even though the EIR already included some discussion of air-pollution-related respiratory illnesses. *Bakersfield, supra,* 124 Cal.App.4th at p. 1220. Therefore, the court must not have interpreted this question as one of the "scope of the analysis" to be judged by the substantial evidence standard.

B. Friant Ranch's Rationale for Rejecting the Independent Judgment Standard of Review is Unsupported by Case Law.

In its brief, Friant Ranch makes a distinction between cases where a required CEQA topic is not discussed at all (to be reviewed by independent judgment as a failure to proceed in the manner required by law) and cases where a topic is discussed, but the commenter claims the information provided is insufficient (to be judged by the substantial evidence test). (Opening Brief, pp. 13-17.) The Court of Appeal recognized these two types of cases, but concluded that both raised questions of law. (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) We believe the distinction drawn by Friant Ranch is unduly narrow, and inconsistent with cases which have concluded that CEQA documents are insufficient. In many instances, CEQA's requirements are stated broadly, and the courts must interpret the law to determine what level of analysis satisfies CEQA's mandate for providing meaningful information, even though the EIR discusses the issue to some extent.

For example, the CEQA Guidelines require discussion of the existing environmental baseline. In *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 954-955, the lead agency had discussed the environmental baseline by describing historic month-end water levels in the affected lakes. However, the court held that this was not an adequate baseline discussion because it failed to discuss the timing and amounts of past actual water releases, to allow comparison with the proposed project. The court evidently applied the independent judgment test to its decision, even though the agency discussed the issue to some extent.

Likewise, in *Vineyard Area Citizens* (2007) 40 Cal.4th 412, this Court addressed the question of whether an EIR's analysis of water supply impacts complied with CEQA. The parties agreed that the EIR was required to analyze the effects of providing water to the development project, "and that in order to do so the EIR had, in some manner, to identify the planned sources of that water." (*Vineyard Area Citizens, supra,* at p. 428.) However, the parties disagreed as to the level of detail required for this analysis and "what level of uncertainty regarding the availability of water supplies can be tolerated in an EIR . . . ." (*Id.*) In other words, the EIR had analyzed water supply impacts for the project, but the petitioner claimed that the analysis was insufficient.

This Court noted that neither CEQA's statutory language or the CEQA Guidelines specifically addressed the question of how precisely an EIR must discuss water supply impacts. (*Id.*) However, it explained that CEQA "states that '[w]hile foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.'" (*Id.*, [Guidelines § 15144].) The Court used this general principle, along with prior precedent, to elucidate four "principles for analytical adequacy" that are necessary in order to satisfy "CEQA's informational purposes." (*Vineyard Area Citizens, supra,* at p. 430.) The Court did not defer to the agency's determination that the EIR's analysis of water supply impacts was sufficient. Rather, this Court used its independent judgment to determine for itself the level of analysis required to satisfy CEQA's fundamental purposes. (*Vineyard Area Citizens, supra*, at p. 441: an EIR does not serve its purposes where it neglects to explain likely sources of water and "... leaves long term water supply considerations to later stages of the project.")

Similarly, the CEQA Guidelines require an analysis of noise impacts of the project. (Appendix G, "Environmental Checklist Form."[17]) In *Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1123, the court held that the lead agency's noise impact analysis was inadequate even though it had addressed the issue and concluded that the increase would not be noticeable. If the court had been using the substantial evidence standard, it likely would have upheld this discussion.

Therefore, we do not agree that the issue can be resolved on the basis suggested by Friant Ranch, which would apply the substantial evidence standard to *every* challenge to an analysis that addresses a required CEQA topic. This interpretation would subvert the courts' proper role in interpreting CEQA and determining what the law requires.

Nor do we agree that the Court of Appeal in this case violated CEQA's prohibition on courts interpreting its provisions "in a manner which imposes procedural or substantive requirements beyond those explicitly stated in this division or in the state guidelines." (Pub. Resources Code § 21083.1.) CEQA requires an EIR to describe *all* significant impacts of the project on the environment. (Pub. Resources Code § 21100(b)(2); *Vineyard Area Citizens, supra,* at p. 428.) Human beings are part of the environment, so CEQA requires EIRs to discuss a project's significant impacts on human health. However, except in certain particular circumstances,[18] neither the CEQA statute nor Guidelines specify the precise level of analysis that agencies must undertake to satisfy the law's requirements. (see, e.g., CEQA Guidelines § 15126.2(a) [EIRs must describe "health and safety problems caused by {a project's} physical changes"].) Accordingly, courts must interpret CEQA as a whole to

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[17] Association of Environmental Professionals, 2015 CEQA Statute and Guidelines (2015) p.287.

[18] E.g., Pub. Resources Code § 21151.8(C)(3)(B)(iii) (requiring specific type of health risk analysis for siting schools).

determine whether a particular EIR is sufficient as an informational document. A court determining whether an EIR's discussion of human health impacts is legally sufficient does not constitute imposing a new substantive requirement.[19] Under Friant Ranch's theory, the above-referenced cases holding a CEQA analysis inadequate would have violated the law. This is not a reasonable interpretation.

IV. COURTS MUST SCRUPULOUSLY ENFORCE THE REQUIREMENTS THAT LEAD AGENCIES CONSULT WITH AND OBTAIN COMMENTS FROM AIR DISTRICTS

Courts must "scrupulously enforce" CEQA's legislatively mandated requirements. (*Vineyard Area Citizens, supra*, 40 Cal.4th 412, 435.) Case law has firmly established that lead agencies must consult with the relevant air pollution control district before conducting an initial study, and must provide the districts with notice of the intention to adopt a negative declaration (or EIR). (*Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 958.) As *Schenck* held, neither publishing the notice nor providing it to the State Clearinghouse was a sufficient substitute for sending notice directly to the air district. (*Id.*) Rather, courts "must be satisfied that [administrative] agencies have fully complied with the procedural requirements of CEQA, since only in this way can the important public purposes of CEQA be protected from subversion." *Schenck,* 198 Cal.App.4th at p. 959 (citations omitted).[20]

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[19] We submit that Public Resources Code Section 21083.1 was intended to prevent courts from, for example, holding that an agency must analyze economic impacts of a project where there are no resulting environmental impacts (see CEQA Guidelines § 15131) , or imposing new procedural requirements, such as imposing additional public notice requirements not set forth in CEQA or the Guidelines.

[20] Lead agencies must consult air districts, as public agencies with jurisdiction by law over resources affected by the project, *before* releasing an EIR. (Pub. Resources Code §§ 21104(a); 21153.) Moreover, air

Lead agencies should be aware, therefore, that failure to properly seek and consider input from the relevant air district constitutes legal error which may jeopardize their project approvals. For example, the court in *Fall River Wild Trout Foundation v. County of Shasta,* (1999) 70 Cal.App.4th 482, 492 held that the failure to give notice to a trustee agency (Department of Fish and Game) was prejudicial error requiring reversal. The court explained that the lack of notice prevented the Department from providing any response to the CEQA document. (*Id.* at p. 492.) It therefore prevented relevant information from being presented to the lead agency, which was prejudicial error because it precluded informed decision-making. (*Id.*)[21]

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districts should be considered "state agencies" for purposes of the requirement to consult with "trustee agencies" as set forth in Public Resources Code § 20180.3(a). This Court has long ago held that the districts are not mere "local agencies" whose regulations are superseded by those of a state agency regarding matters of statewide concern, but rather have concurrent jurisdiction over such issues. (*Orange County Air Pollution Control District v. Public Util. Com.* (1971) 4 Cal.3d 945, 951, 954.) Since air pollution is a matter of statewide concern, *Id* at 952, air districts should be entitled to trustee agency status in order to ensure that this vital concern is adequately protected during the CEQA process.

[21] In *Schenck,* the court concluded that failure to give notice to the air district was not prejudicial, but this was partly because the trial court had already corrected the error before the case arrived at the Court of Appeal. The trial court issued a writ of mandate requiring the lead agency to give notice to the air district. The air district responded by concurring with the lead agency that air impacts were not significant. (*Schenck,* 198 Cal.App.4th 949, 960.) We disagree with the *Schenck* court that the failure to give notice to the air district would not have been prejudicial (even in the absence of the trial court writ) merely because the lead agency purported to follow the air district's published CEQA guidelines for significance. (*Id.*, 198 Cal.App.4th at p. 960.) In the first place, absent notice to the air district, it is uncertain whether the lead agency properly followed those guidelines. Moreover, it is not realistic to expect that an air district's published guidelines would necessarily fully address all possible air-quality related issues that can arise with a CEQA project, or that those

Similarly, lead agencies must obtain additional information requested by expert agencies, including those with jurisdiction by law, if that information is necessary to determine a project's impacts. (*Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236-37.) Approving a project without obtaining that information constitutes a failure to proceed in the manner prescribed by CEQA. (*Id.* at p. 1236.)

Moreover, a lead agency can save significant time and money by consulting with the air district early in the process. For example, the lead agency can learn what the air district recommends as an appropriate analysis on the facts of its case, including what kinds of health impacts analysis may be available, and what models are appropriate for use. This saves the lead agency from the need to do its analysis all over again and possibly needing to recirculate the document after errors are corrected, if new significant impacts are identified. (CEQA Guidelines § 15088.5(a).) At the same time, the air district's expert input can help the lead agency properly determine whether another commenter's request for additional analysis or studies is reasonable or feasible. Finally, the air district can provide input on what mitigation measures would be feasible and effective.

Therefore, we suggest that this Court provide guidance to lead agencies reminding them of the importance of consulting with the relevant air districts regarding these issues. Otherwise, their feasibility decisions may be vulnerable to air district evidence that establishes that there is no substantial evidence to support the lead agency decision not to provide specific analysis. (*See Berkeley Keep Jets Over the Bay, supra,* 91 Cal.App.4th 1344, 1369-1371.)

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guidelines would necessarily be continually modified to reflect new developments. Therefore we believe that, had the trial court not already ordered the lead agency to obtain the air district's views, the failure to give notice would have been prejudicial, as in *Fall River, supra,* 70 Cal.App.4th 482, 492.

CONCLUSION

The SCAQMD respectfully requests this Court *not* to establish a hard-and-fast rule concerning whether CEQA requires a lead agency to correlate identified air quality impacts of a project with resulting health outcomes. Moreover, the question of whether an EIR is "sufficient as an informational document" is a mixed question of fact and law containing two levels of inquiry. Whether a particular proposed analysis is feasible is predominantly a question of fact to be judged by the substantial evidence standard of review. Where the requested analysis is feasible, but the lead agency relies on legal or policy reasons not to provide it, the question of whether the EIR is nevertheless sufficient as an informational document is predominantly a question of law to be judged by the independent judgment standard of review.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.520(c)(1) of the California Rules of Court, I hereby certify that this brief contains 8,476 words, including footnotes, but excluding the Application, Table of Contents, Table of Authorities, Certificate of Service, this Certificate of Word Count, and signature blocks. I have relied on the word count of the Microsoft Word Vista program used to prepare this Certificate.

DATED: April 3, 2015 Respectfully submitted,

Barbara Baird

Barbara Baird

PROOF OF SERVICE

I am employed in the County of Los Angeles, California. I am over the age of 18 years and not a party to the within action. My business address is 21865 Copley Drive, Diamond Bar, California 91765.

On April 3, 2015 I served true copies of the following document(s) described as **APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*** by placing a true copy of the foregoing document(s) in a sealed envelope addressed as set forth on the attached service list as follows:

BY MAIL: I enclosed the document(s) in a sealed envelope or package addressed to the persons at the addresses listed in the Service List and placed the envelope for collection and mailing following our ordinary business practices. I am readily familiar with this District's practice for collection and processing of correspondence for mailing. Under that practice, the correspondence would be deposited with the United States Postal Service, with postage thereon fully prepaid at Diamond Bar, California, in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on April 3, 2015 at Diamond Bar, California.

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CASE NO. S219783

IN THE SUPREME COURT OF CALIFORNIA

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Plaintiffs and Appellants

v.

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Defendant and Respondent

FRIANT RANCH, L.P.,
Real Party in Interest and Respondent

After a Decision by the Court of Appeal, filed May 27, 2014
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Appeal from the Superior Court of California, County of Fresno
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APPLICATION

Pursuant to California Rules of Court 8.520(f)(1), proposed Amicus Curiae San Joaquin Valley Unified Air Pollution Control District hereby requests permission from the Chief Justice to file an amicus brief in support of Defendant and Respondent, County of Fresno, and Defendant and Real Parties in Interest Friant Ranch, L.P. Pursuant to Rule 8.520(f)(5) of the California Rules of Court, the proposed amicus curiae brief is combined with this Application. The brief addresses the following issue certified by this Court for review:

> Is an EIR adequate when it identifies the health impacts of air pollution and quantifies a project's expected emissions, or does CEQA further require the EIR to *correlate* a project's air quality emissions to specific health impacts?

As of the date of this filing, the deadline for the final reply brief on the merits was March 5, 2015. Accordingly, under Rule 8.520(f)(2), this application and brief are timely.

1. Background and Interest of San Joaquin Valley Unified Air Pollution Control District

The San Joaquin Valley Unified Air Pollution Control District ("Air District") regulates air quality in the eight counties comprising the San Joaquin Valley ("Central Valley"): Kern, Tulare, Madera, Fresno, Merced, San Joaquin, Stanislaus, and Kings, and is primarily responsible for attaining air quality standards within its jurisdiction. After billions of dollars of investment by Central Valley businesses, pioneering air quality regulations, and consistent efforts by residents, the Central Valley air basin has made historic improvements in air quality.

The Central Valley's geographical, topographical and meteorological features create exceptionally challenging air quality

conditions. For example, it receives air pollution transported from the San Francisco Bay Area and northern Central Valley communities, and the southern portion of the Central Valley includes three mountain ranges (Sierra, Tehachapi, and Coastal) that, under some meteorological conditions, effectively trap air pollution. Central Valley air pollution is only a fraction of what the Bay Area and Los Angeles produce, but these natural conditions result in air quality conditions that are only marginally better than Los Angeles, even though about ten times more pollution is emitted in the Los Angeles region. Bay Area air quality is much better than the Central Valley's, even though the Bay Area produces about six times more pollution. The Central Valley also receives air pollution transported from the Bay Area and northern counties in the Central Valley, including Sacramento, and transboundary anthropogenic ozone from as far away as China.

Notwithstanding these challenges, the Central Valley has reduced emissions at the same or better rate than other areas in California and has achieved unparalleled milestones in protecting public health and the environment:

- In the last decade, the Central Valley became the first air basin classified by the federal government under the Clean Air Act as a "serious nonattainment" area to come into attainment of health-based National Ambient Air Quality Standard ("NAAQS") for coarse particulate matter (PM10), an achievement made even more notable given the Valley's extensive agricultural sector. Unhealthy levels of particulate matter can cause and exacerbate a range of chronic and acute illnesses.
- In 2013, the Central Valley became the first air basin in the country to improve from a federal designation of "extreme" nonattainment to

actually attain (and quality for an attainment designation) of the 1-hour ozone NAAQS; ozone creates "smog" and, like PM10, causes adverse health impacts.

- The Central Valley also is in full attainment of federal standards for lead, nitrogen dioxide, sulfur dioxide, and carbon monoxide.
- The Central Valley continues to make progress toward compliance with its last two attainment standards, with the number of exceedences for the 8-hour ozone NAAQS reduced by 74% (for the 1997 standard) and 38% (for the 2008 standard) since 1991, and for the small particulate matter (PM2.5) NAAQS reduced by 85% (for the 1997 standard) and 61% (for the 2006 standard).

Sustained improvement in Central Valley air quality requires a rigorous and comprehensive regulatory framework that includes prohibitions (e.g., on wood-burning fireplaces in new residences), mandates (e.g., requiring the installation of best available pollution reduction technologies on new and modified equipment and industrial operations), innovations (e.g., fees assessed against residential development to fund pollution reduction actions to "offset" vehicular emissions associated with new residences), incentive programs (e.g., funding replacements of older, more polluting heavy duty trucks and school buses)[1], ongoing planning for continued air quality improvements, and enforcement of Air District permits and regulations.

The Air District is also an expert air quality agency for the eight counties and cities in the San Joaquin Valley. In that capacity, the Air District has developed air quality emission guidelines for use by the Central

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[1] San Joaquin's incentive program has been so successful that through 2012, it has awarded over $ 432 million in incentive funds and has achieved 93,349 tons of lifetime emissions reductions. *See* SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 2012 PM2.5 PLAN, 6-6 (2012) *available at* http://www.valleyair.org/Workshops/postings/2012/12-20-12PM25/FinalVersion/06%20Chapter%206%20Incentives.pdf.

Valley counties and cities that implement the California Environment Quality Act (CEQA).[2] In its guidance, the Air District has distinguished between toxic air contaminants and criteria air pollutants.[3] Recognizing this distinction, the Air District's CEQA Guidance has adopted distinct thresholds of significance for *criteria* pollutants (i.e., ozone, PM2.5 and their respective precursor pollutants) based upon scientific and factual data which demonstrates the level that can be accommodated on a cumulative basis in the San Joaquin Valley without affecting the attainment of the applicable NAAQS.[4] For *toxic air* pollutants, the District has adopted different thresholds of significance which scientific and factual data demonstrates has the potential to expose sensitive receptors (i.e., children, the elderly) to levels which may result in localized health impacts.[5]

The Air District's CEQA Guidance was followed by the County of Fresno in its environment review of the Friant Ranch project, for which the Air District also served as a commenting agency. The Court of Appeal's holding, however, requiring correlation between the project's criteria

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[2] *See, e.g.*, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, PLANNING DIVISION, GUIDE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACTS (2015), *available at* http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf ("CEQA Guidance").

[3] Toxic air contaminants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as birth defects. There are currently 189 toxic air contaminants regulated by the United States Environmental Protection Agency ("EPA") and the states pursuant to the Clean Air Act. 42 U.S.C. § 7412. Common TACs include benzene, perchloroethylene and asbestos. *Id.* at 7412(b).

In contrast, there are only six (6) criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Although criteria air pollutants can also be harmful to human health, they are distinguishable from toxic air contaminants and are regulated separately. For instance, while criteria pollutants are regulated by numerous sections throughout Title I of the Clean Air Act, the regulation of toxic air contaminants occurs solely under section 112 of the Act. Compare 42 U.S.C. §§ 7407 – 7411 & 7501 – 7515 with 42 U.S.C. § 7411.

[4] See, e.g., CEQA Guidance at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, pp. 64-66, 80.

[5] See, e.g., CEQA Guidance at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, pp. 66, 99-101.

pollutants and local health impacts, departs from the Air District's Guidance and approved methodology for assessing criteria pollutants. A close reading of the administrative record that gave rise to this issue demonstrates that the Court's holding is based on a misunderstanding of the distinction between toxic air contaminants (for which a local health risk assessment is feasible and routinely performed) and criteria air pollutants (for which a local health risk assessment is not feasible and would result in speculative results).[6] The Air District has a direct interest in ensuring the lawfulness and consistent application of its CEQA Guidance, and will explain how the Court of Appeal departed from the Air District's long-standing CEQA Guidance in addressing criteria pollutants and toxic air contaminants in this amicus brief.

2. How the Proposed Amicus Curiae Brief Will Assist the Court

As counsel for the proposed amicus curiae, we have reviewed the briefs filed in this action. In addition to serving as a "commentary agency" for CEQA purposes over the Friant Ranch project, the Air District has a strong interest in assuring that CEQA is used for its intended purpose, and believes that this Court would benefit from additional briefing explaining the distinction between criteria pollutants and toxic air contaminants and the different methodologies employed by local air pollution control agencies such as the Air District to analyze these two categories of air pollutants under CEQA. The Air District will also explain how the Court of Appeal's opinion is based upon a fundamental misunderstanding of these two different approaches by requiring the County of Fresno to correlate the project's *criteria* pollution emissions with *local* health impacts. In doing

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[6] CEQA does not require speculation. *See, e.g., Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.*, 6 Cal. 4th 1112, 1137 (1993) (upholding EIR that failed to evaluate cumulative toxic air emission increases given absence of any acceptable means for doing so).

so, the Air District will provide helpful analysis to support its position that at least insofar as criteria pollutants are concerned, CEQA does not require an EIR to correlate a project's air quality emissions to specific health impacts, because such an analysis is not reasonably feasible.

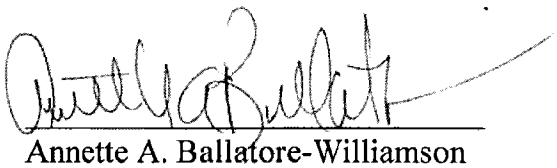
Rule 8.520 Disclosure

Pursuant to Cal. R. 8.520(f)(4), neither the Plaintiffs nor the Defendant or Real Party In Interest or their respective counsel authored this brief in whole or in part. Neither the Plaintiffs nor the Defendant or Real Party in Interest or their respective counsel made any monetary contribution towards or in support of the preparation of this brief.

CONCLUSION

On behalf of the San Joaquin Valley Unified Air Pollution Control District, we respectfully request that this Court accept the filing of the attached brief.

Dated: April 2, 2015



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SAN JOAQUIN VALLEY UNIFIED
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OTHER AUTHORITIES

I. INTRODUCTION.

The San Joaquin Valley Unified Air Pollution Control District ("Air District") respectfully submits that the Court of Appeal erred when it held that the air quality analysis contained in the Environmental Impact Report ("EIR") for the Friant Ranch development project was inadequate under the California Environmental Quality Act ("CEQA") because it did not include an analysis of the correlation between the project's criteria air pollutants and the potential adverse human health impacts. A close reading of the portion of the administrative record that gave rise to this issue demonstrates that the Court's holding is based on a misunderstanding of the distinction between toxic air contaminants and criteria air pollutants.

Toxic air contaminants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as birth defects. There are currently 189 toxic air contaminants (hereinafter referred to as "TACs") regulated by the United States Environmental Protection Agency ("EPA") and the states pursuant to the Clean Air Act. 42 U.S.C. § 7412. Common TACs include benzene, perchloroethylene and asbestos. *Id.* at 7412(b).

In contrast, there are only six (6) criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Although criteria air pollutants can also be harmful to human health,

they are distinguishable from TACs and are regulated separately. For instance, while criteria pollutants are regulated by numerous sections throughout Title I of the Clean Air Act, the regulation of TACs occurs solely under section 112 of the Act. *Compare* 42 U.S.C. §§ 7407 – 7411 & 7501 – 7515 *with* 42 U.S.C. § 7411.

The most relevant difference between criteria pollutants and TACs for purposes of this case is the manner in which human health impacts are accounted for. While it is common practice to analyze the correlation between an individual facility's TAC emissions and the expected localized human health impacts, such is not the case for criteria pollutants. Instead, the human health impacts associated with criteria air pollutants are analyzed and taken into consideration when EPA sets the national ambient air quality standard ("NAAQS") for each criteria pollutant. 42 U.S.C. § 7409(b)(1). The health impact of a particular criteria pollutant is analyzed on a regional and not a facility level based on how close the area is to complying with (attaining) the NAAQS. Accordingly, while the type of individual facility / health impact analysis that the Court of Appeal has required is a customary practice for TACs, it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task.

It is clear from a reading of both the administrative record and the Court of Appeal's decision that the Court did not have the expertise to fully

appreciate the difference between TACs and criteria air pollutants. As a result, the Court has ordered the County of Fresno to conduct an analysis that is not practicable and not likely yield valid information. The Air District respectfully requests that this portion of the Court of Appeal's decision be reversed.

II. THE COURT OF APPEAL ERRED IN FINDING THE FRIANT RANCH EIR INADEQUATE FOR FAILING TO ANALYZE THE SPECIFIC HUMAN HEALTH IMPACTS ASSOCIATED CRITERIA AIR POLLUTANTS.

Although the Air District does not take lightly the amount of air emissions at issue in this case, it submits that the Court of Appeal got it wrong when it required Fresno County to revise the Friant Ranch EIR to include an analysis correlating the criteria air pollutant emissions associated with the project with specific, localized health-impacts. The type of analysis the Court of Appeal has required will not yield reliable information because currently available modeling tools are not well suited for this task. Further, in reviewing this issue de novo, the Court of Appeal failed to appreciate that it lacked the scientific expertise to appreciate the significant differences between a health risk assessment commonly performed for toxic air contaminants and a similar type of analysis it felt should have been conducted for criteria air pollutants.

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A. Currently Available Modeling Tools are not Equipped to Provide a Meaningful Analysis of the Correlation between an Individual Development Project's Air Emissions and Specific Human Health Impacts.

In order to appreciate the problematic nature of the Court of Appeals' decision requiring a health risk type analysis for criteria air pollutants, it is important to understand how the relevant criteria pollutants (ozone and particulate matter) are formed, dispersed and regulated.

Ground level ozone (smog) is not directly emitted into the air, but is formed when precursor pollutants such as oxides of nitrogen (NOx) and volatile organic compounds (VOCs) are emitted into the atmosphere and undergo complex chemical reactions in the process of sunlight.[1] Once formed, ozone can be transported long distances by wind.[2] Because of the complexity of ozone formation, a specific tonnage amount of NOx or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area. In fact, even rural areas that have relatively low tonnages of emissions of NOx or VOCs can have high levels of ozone concentration simply due to wind transport.[3] Conversely, the San Francisco Bay Area has six times more NOx and VOC emissions per square mile than the San Joaquin Valley, but experiences lower

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[1] *See* United States Environmental Protection Agency, *Ground-level Ozone: Basic Information*, available at: http://www.epa.gov/airquality/ozonepollution/basic.html (visited March 10, 2015).
[2] *Id.*
[3] *Id.*

concentrations of ozone (and better air quality) simply because sea breezes disperse the emissions.[4]

Particulate matter ("PM") can be divided into two categories: directly emitted PM and secondary PM.[5] While directly emitted PM can have a localized impact, the tonnage emitted does not always equate to the local PM concentration because it can be transported long distances by wind.[6] Secondary PM, like ozone, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur dioxides (SOx) and NOx.[7] Because of the complexity of secondary PM formation, the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area.

The disconnect between the *tonnage* of precursor pollutants (NOx, SOx and VOCs) and the *concentration* of ozone or PM formed is important because it is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting ozone or PM. Indeed, the national ambient air quality standards ("NAAQS"), which are statutorily required to be set by the United States Environmental Protection

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[4] *San Joaquin Valley Air Pollution Control District 2007 Ozone Plan*, Executive Summary p. ES-6, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/03%20Executive%20Summary.pdf (visited March 10, 2015).

[5] United States Environmental Protection Agency, *Particulate Matter: Basic Information*, available at: http://www.epa.gov/airquality/particlepollution/basic.html (visited March 10, 2015).

[6] *Id.*

[7] *Id.*

Agency ("EPA") at levels that are "requisite to protect the public health," 42 U.S.C. § 7409(b)(1), are established as concentrations of ozone or particulate matter and not as tonnages of their precursor pollutants.[8]

Attainment of a particular NAAQS occurs when the concentration of the relevant pollutant remains below a set threshold on a consistent basis throughout a particular region. For example, the San Joaquin Valley attained the 1-hour ozone NAAQS when ozone concentrations remained at or below 0.124 parts per million Valley-wide on 3 or fewer days over a 3-year period.[9] Because the NAAQS are focused on achieving a particular concentration of pollution region-wide, the Air District's tools and plans for attaining the NAAQS are regional in nature.

For instance, the computer models used to simulate and predict an attainment date for the ozone or particulate matter NAAQS in the San Joaquin Valley are based on regional inputs, such as regional inventories of precursor pollutants (NOx, SOx and VOCs) and the atmospheric chemistry and meteorology of the Valley.[10] At a very basic level, the models simulate future ozone or PM levels based on predicted changes in precursor

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[8] See, e.g., United States Environmental Protection Agency, *Table of National Ambient Air Quality Standards*, available at: http://www.epa.gov/air/criteria.html#3 (visited March 10, 2015).

[9] *San Joaquin Valley Unified Air Pollution Control District 2013 Plan for the Revoked 1-Hour Ozone Standard*, Ch. 2 p. 2-16, available at: http://www.valleyair.org/Air_Quality_Plans/OzoneOneHourPlan2013/02Chapter2ScienceTrendsModeling.pdf (visited March 10, 2015).

[10] *Id.* at Ch. 2 p. 2-19 (visited March 12, 2015); *San Joaquin Valley Unified Air Pollution Control District 2008 PM2.5 Plan*, Appendix F, pp. F-2 – F-5, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Final_Adopted_PM2.5/20%20Appendix%20F.pdf (visited March 19, 2015).

emissions Valley wide.[11] Because the NAAQS are set levels necessary to protect human health, the closer a region is to attaining a particular NAAQS, the lower the human health impact is from that pollutant.

The goal of these modeling exercises is not to determine whether the emissions generated by a particular factory or development project will affect the date that the Valley attains the NAAQS. Rather, the Air District's modeling and planning strategy is regional in nature and based on the extent to which *all* of the emission-generating sources in the Valley (current and future) must be controlled in order to reach attainment.[12]

Accordingly, the Air District has based its thresholds of significance for CEQA purposes on the levels that scientific and factual data demonstrate that the Valley can accommodate without affecting the attainment date for the NAAQS.[13] The Air District has tied its CEQA significance thresholds to the level at which stationary pollution sources permitted by the Air District must "offset" their emissions.[14] This "offset"

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[11] *Id.*

[12] Although the Air District does have a dispersion modeling tool used during its air permitting process that is used to predict whether a particular project's directly emitted PM will either cause an exceedance of the PM NAAQS or contribute to an existing exceedance, this model bases the prediction on a worst case scenario of emissions and meteorology and has no provision for predicting any associated human health impacts. Further, this analysis is only performed for stationary sources (factories, oil refineries, etc.) that are required to obtain a New Source Review permit from the Air District and not for development projects such as Friant Ranch over which the Air District has no preconstruction permitting authority. *See* San Joaquin Valley Unified Air Pollution Control District Rule 2201 §§ 2.0; 3.3.9; 4.14.1, available at: http://www.valleyair.org/rules/currntrules/Rule2201041l.pdf (visited March 19, 2015).

[13] *San Joaquin Valley Unified Air Pollution Control District Guide to Assessing and Mitigating Air Quality Impacts*, (March 19, 2015) p. 22, available at: http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf (visited March 30, 2015).

[14] *Id.* at pp. 22, 25.

level allows for growth while keeping the cumulative effects of all new sources at a level that will not impede attainment of the NAAQS.[15] In the Valley, these thresholds are 15 tons per year of PM, and 10 tons of NOx or VOC per year. *Sierra Club*, *supra*, 172 Cal.Rptr.3d at 303; AR 4554. Thus, the CEQA air quality analysis for criteria pollutants is not really a localized, project-level impact analysis but one of regional, "cumulative impacts."

Accordingly, the significance thresholds applied in the Friant Ranch EIR (15 tons per year of PM and 10 tons of NOx or VOCs) are not intended to be indicative of any localized human health impact that the project may have. While the health effects of air pollution are of primary concern to the Air District (indeed, the NAAQS are established to protect human health), the Air District is simply not equipped to analyze whether and to what extent the criteria pollutant emissions of an individual CEQA project directly impact human health in a particular area. This is true even for projects with relatively high levels of emissions of criteria pollutant precursor emissions.

For instance, according to the EIR, the Friant Ranch project is estimated to emit 109.52 tons per year of ROG (VOC), 102.19 tons per year of NOx, and 117.38 tons per year of PM. Although these levels well

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[15] [15] *San Joaquin Valley Unified Air Pollution Control District Environmental Review Guidelines* (Aug. 2000) p. 4-11, available at: http://www.valleyair.org/transportation/CEQA%20Rules/ERG%20Adopted%20_August%202000_.pdf (visited March 12, 2015).

exceed the Air District's CEQA significance thresholds, this does not mean that one can easily determine the concentration of ozone or PM that will be created at or near the Friant Ranch site on a particular day or month of the year, or what specific health impacts will occur. Meteorology, the presence of sunlight, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone or PM. This is especially true for a project like Friant Ranch where most of the criteria pollutant emissions derive not from a single "point source," but from area wide sources (consumer products, paint, etc.) or mobile sources (cars and trucks) driving to, from and around the site.

In addition, it would be extremely difficult to model the impact on NAAQS attainment that the emissions from the Friant Ranch project may have. As discussed above, the currently available modeling tools are equipped to model the impact of *all* emission sources in the Valley on attainment. According to the most recent EPA-approved emission inventory, the NOx inventory for the Valley is for the year 2014 is 458.2 tons per day, or 167,243 tons per year and the VOC (or ROG) inventory is 361.7 tons per day, or 132,020.5 tons per year.[16] Running the photochemical grid model used for predicting ozone attainment with the

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[16] *San Joaquin Valley Unified Air Pollution Control District 2007 Ozone Plan*, Appendix B pp. B-6, B-9,
available at:
http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/19%20Appendix%20B%20April%202007.pdf (visited March 12, 2015).

emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NOx and VOC in the Valley) is not likely to yield valid information given the relative scale involved.

Finally, even once a model is developed to accurately ascertain local increases in concentrations of photochemical pollutants like ozone and some particulates, it remains impossible, using today's models, to correlate that increase in concentration to a specific health impact. The reason is the same: such models are designed to determine regional, population-wide health impacts, and simply are not accurate when applied at the local level.

For these reasons, it is not the norm for CEQA practitioners, including the Air District, to conduct an analysis of the localized health impacts associated with a project's criteria air pollutant emissions as part of the EIR process. When the accepted scientific method precludes a certain type of analysis, "the court cannot impose a legal standard to the contrary." *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 717 n. 8. However, that is exactly what the Court of Appeal has done in this case. Its decision upends the way CEQA air quality analysis of criteria pollutants occurs and should be reversed.

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B. The Court of Appeal Improperly Extrapolated a Request for a Health Risk Assessment for Toxic Air Contaminants into a Requirement that the EIR contain an Analysis of Localized Health Impacts Associated with Criteria Air Pollutants.

The Court of Appeal's error in requiring the new health impact analysis for criteria air pollutants clearly stems from a misunderstanding of terms of art commonly used in the air pollution field. More specifically, the Court of Appeal (and Appellants Sierra Club et al.) appear to have confused the health risk analysis ("HRA") performed to determine the health impacts associated with a project's toxic air contaminants ("TACs"), with an analysis correlating a project's criteria air pollutants (ozone, PM and the like) with specific localized health impacts.

The first type of analysis, the HRA, is commonly performed during the Air District's stationary source permitting process for projects that emit TACs and is, thus, incorporated into the CEQA review process. An HRA is a comprehensive analysis to evaluate and predict the dispersion of TACs emitted by a project and the potential for exposure of human populations. It also assesses and quantifies both the individual and population-wide health risks associated with those levels of exposure. There is no similar analysis conducted for criteria air pollutants. Thus, the second type of analysis (required by the Court of Appeal), is not currently part of the Air District's process because, as outlined above, the health risks associated

with exposure to criteria pollutants are evaluated on a regional level based on the region's attainment of the NAAQS.

The root of this confusion between the types of analyses conducted for TACs versus criteria air pollutants appears to stem from a comment that was presented to Fresno County by the City of Fresno during the administrative process.

In its comments on the draft EIR, the City of Fresno (the only party to raise this issue) stated:

> [t]he EIR must disclose the human health related effects of the Project's air pollution impacts. (CEQA Guidelines section 15126.2(a).) The EIR fails completely in this area. The EIR should be revised to disclose and determine the significance of TAC impacts, and of human health risks due to exposure to Project-related air emissions.

(AR 4602.)

In determining that the issue regarding the correlation between the Friant Ranch project's criteria air pollutants and adverse health impacts was adequately exhausted at the administrative level, the Court of Appeal improperly read the first two sentences of the City of Fresno's comment in isolation rather than in the context of the entire comment. *See Sierra Club v. County of Fresno* (2014) 172 Cal.Rptr.3d 271, 306. Although the comment first speaks generally in terms of "human health related effects" and "air pollution," it requests only that the EIR be revised to disclose "the significance of TACs" and the "human health risks due to exposure."

The language of this request in the third sentence of the comment is significant because, to an air pollution practitioner, the language would only have indicated only that a HRA for TACs was requested, and not a separate analysis of the health impacts associated with the project's criteria air pollutants. Fresno County clearly read the comment as a request to perform an HRA for TACs and limited its response accordingly. (AR 4602.)[17] The Air District submits that it would have read the City's comment in the same manner as the County because the City's use of the terms "human health risks" and "TACs" signal that an HRA for TACs is being requested. Indeed, the Air District was also concerned that an HRA be conducted, but understood that it was not possible to conduct such an analysis until the project entered the phase where detailed site specific information, such as the types of emission sources and the proximity of the sources to sensitive receptors became available. (AR 4553.)[18] The City of Fresno was apparently satisfied with the County's discussion of human health risks, as it did not raise the issue again when it commented on the final EIR. (AR 8944 – 8960.)

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[17] Appellants do not challenge the manner in which the County addressed TACs in the EIR. (Appellants' Answer Brief p. 28 fn. 7.)

[18] Appellants rely on the testimony of Air District employee, Dan Barber, as support for their position that the County should have conducted an analysis correlating the project's criteria air pollutant emissions with localized health impacts. (Appellants Answer Brief pp. 10-11; 28.) However, Mr. Barber's testimony simply reinforces the Air District's concern that a risk assessment (HRA) be conducted once the actual details of the project become available. (AR 8863.) As to criteria air pollutants, Mr. Barber's comments are aimed at the Air District's concern about the amount of emissions and the fact that the emissions will make it "more difficult for Fresno County and the Valley to reach attainment which means that the health of Valley residents maybe [sic] adversely impacted." Mr. Barber says nothing about conducting a separate analysis of the localized health impacts the project's emissions may have.

The Court of Appeal's holding, which incorrectly extrapolates a request for an HRA for TACs into a new analysis of the localized health impacts of the project's criteria air pollutants, highlights two additional errors in the Court's decision.

First, the Court of Appeal's holding illustrates why the Court should have applied the deferential substantial evidence standard of review to the issue of whether the EIR's air quality analysis was sufficient. The regulation of air pollution is a technical and complex field and the Court of Appeal lacked the expertise to fully appreciate the difference between TACs and criteria air pollutants and tools available for analyzing each type of pollutant.

Second, it illustrates that the Court likely got it wrong when it held that the issue regarding the criteria pollutant / localized health impact analysis was properly exhausted during the administrative process. In order to preserve an issue for the court, '[t]he "exact issue" must have been presented to the administrative agency....' [Citation.] *Citizens for Responsible Equitable Environmental Development v. City of San Diego*, (2011) 196 Cal.App.4th 515, 527 129 Cal.Rptr.3d 512, 521; *Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 535, 78 Cal.Rptr.3d 1, 13. "'[T]he objections must be sufficiently specific so that the agency has the

opportunity to evaluate and respond to them.' [Citation.]" *Sierra Club v. City of Orange*,163 Cal.App.4th at 536.[19]

As discussed above, the City's comment, while specific enough to request a commonly performed HRA for TACs, provided the County with no notice that it should perform a new type of analysis correlating criteria pollutant tonnages to specific human health effects. Although the parties have not directly addressed the issue of failure to exhaust administrative remedies in their briefs, the Air District submits that the Court should consider how it affects the issues briefed by the parties since "[e]xhaustion of administrative remedies is a jurisdictional prerequisite to maintenance of a CEQA action." *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1199, 22 Cal.Rptr.3d 203.

III. CONCLUSION

For all of the foregoing reasons, the Air District respectfully requests that the portion of the Court of Appeal's decision requiring an analysis correlating the localized human health impacts associated with an individual project's criteria air pollutant emissions be reversed.

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[19] *Sierra Club v. City of Orange*, is illustrative here. In that case, the plaintiffs challenged an EIR approved for a large planned community on the basis that the EIR improperly broke up the various environmental impacts by separate project components or "piecemealed" the analysis in violation of CEQA. In evaluating the defense that the plaintiffs had failed to adequately raise the issue at the administrative level, the Court held that comments such as *"the use of a single document for both a project-level and a program-level EIR [is] 'confusing',"* and *"[t]he lead agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project,"* were too vague to fairly raise the argument of piecemealing before the agency. *Sierra Club v. City of Orange*, 163 Cal.App.4th at 537.

correlating the localized human health impacts associated with an individual project's criteria air pollutant emissions be reversed.

Respectfully submitted,

Dated: April 2, 2015

Catherine T. Redmond
Attorney for Proposed Amicus Curiae

SAN JOAQUIN VALLEY
UNIFIED
AIR POLLUTION CONTROL
DISTRICT

CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.204 of the California Rules of Court, I hereby certify that this document, based on the Word County feature of the Microsoft Word software program used to compose and print this document, contains, exclusive of caption, tables, certificate of word count, signature block and certificate of service, 3806 words.

Dated: April 2, 2015

Annette A. Ballatore-Williamson
District Counsel (SBN 192176)

Sierra Club et al, v. County of Fresno, et al
Supreme Court of California Case No.: S219783
Fifth District Court of Appeal Case No.: F066798
Fresno County Superior Court Case No.: 11CECG00726

PROOF OF SERVICE

I am over the age of 18 years and not a p[arty to the above-captioned action; that my business address is San Joaquin Valley Unified Air Pollution Control District located at 1990 E. Gettysburg Avenue, Fresno, California 93726.

On April 2, 2015, I served the document described below:

APPLICATION FOR LEAVE TO FILE AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO

On all parties to this action at the following addresses and in the following manner:

PLEASE SEE ATTACHED SERVICE LIST

(XX) **(BY MAIL)** I caused a true copy of each document(s) to be laced in a sealed envelope with first-class postage affixed and placed the envelope for collection. Mail is collected daily at my office and placed in a United State Postal Service collection box for pick-up and delivery that same day.

( ) **(BY ELECTRONIC MAIL)** I caused a true and correct scanned image (.PDF file) copy to be transmitted via electronic mail transfer system in place at the San Joaquin Valley Unified Air Pollution Control District ("District"), originating from the undersigned at 1990 E. Gettysburg Avenue, Fresno, CA, to the address(es) indicated below.

( ) **(BY OVERNIGHT MAIL)** I caused a true and correct copy to be delivered via Federal Express to the following person(s) or their representative at the address(es) listed below.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that I executed this document on April 2, 2015, at Fresno, California.

Esthela Soto

SERVICE LIST

Sierra Club et al, v. County of Fresno, et al
Supreme Court of California Case No.: S219783
Fifth District Court of Appeal Case No.: F066798
Fresno County Superior Court Case No.: 11CECG00726

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