Appendix A

Amended Air Quality Modeling Sheets

Nishi Annual Operational GHG Emissions (Calculated Outside of CalEEMod)

Electricity							
Baseline (2022)							
Facility	**MWh**	**Sqft**	**kWh/SF**	**CO2 (MT)**	**CH4 (MT)**	**N2O (MT)**	**CO2e (MT)**
Electricity Total	13,979			2,382	0.16	0.03	2,398
Unmitigated (2022)							
Facility	**MWh**	**Sqft**	**kWh/SF**	**CO2 (MT)**	**CH4 (MT)**	**N2O (MT)**	**CO2e (MT)**
MF For Sale	1,450	325,200	4	247	0.02	0.00	249
MF Rental	3,092	604,200	5	527	0.04	0.01	530
R&D	4,171	325,000	13	711	0.05	0.01	715
Retail	107	20,000	5	18	0.00	0.00	18
Roadway Ltg	4			1	0.00	0.00	1
Walk/Bike Path Ltg	65			11	0.00	0.00	11
Open Parking Ltg	7			1	0.00	0.00	1
Garage Ltg	131			22	0.00	0.00	22
Garage Ventilation	195			33	0.00	0.00	33
Pool	15			3	0.00	0.00	3
Spa (x3)	28			5	0.00	0.00	5
Electricity Total	9,265	1,274,400	28	1,579	0	0	1,589
Solar Panel Electricity Generation (Bldg and carports only)	8,077			1,376	0	0	1,385
Net Electricity Use with Solar Generation (Bldg and carports only)	1,188			202			204
Solar Panel Electricity Generation (Bldg and carports only + Additional PV)	10,938			1,864	0	0	1,876
Net Electricity Use with Solar Generation (Bldg and carports only + Additional PV)	-2,861			-488			-491
Note: Assumes PG&E emission factors achieve 33% renewables by 2022.							

Natural Gas							
Baseline (2022)							
Facility	**Therms**	**Sqft**	**Therm/SF**	**CO2 (MT)**	**CH4 (MT)**	**N2O (MT)**	**CO2e (MT)**
Total	268,000			1,421	13.40	0.27	1,956
Natural Gas Total	268,000			1,421	13.40	0.27	1,956
Unmitigated (2022)							
Facility	**Therms**	**Sqft**	**Therm/SF**	**CO2 (MT)**	**CH4 (MT)**	**N2O (MT)**	**CO2e (MT)**
MF For Sale	21,860	325,200	67	116	1.09	0.02	160
MF Rental	61,480	604,200	102	326	3.07	0.06	449
R&D	102,050	325,000	314	541	5.10	0.10	745
Retail	1,800	20,000	90	10	0.09	0.00	13
Roadway Ltg	-			0	0.00	0.00	0
Walk/Bike Path Ltg	-			0	0.00	0.00	0
Open Parking Ltg	-			0	0.00	0.00	0
Garage Ltg	-			0	0.00	0.00	0
Garage Ventilation	-			0	0.00	0.00	0
Pool	-			0	0.00	0.00	0
Spa (x3)	5,130			27	0.26	0.01	37
Other				0	0.00	0.00	0
Natural Gas Total	192,320			1,020	9.62	0.19	1,404

Water						
Baseline (2022)						
Water Management Type	**Volume Transported (MG)**	**MWh**	**CO2 (MT)**	**CH4 (MT)**	**N2O (MT)**	**CO2e (MT)**
Potable						
R&D/Office	7.7					
R&D/Non-office	2.9					
Retail	0.5					
Retail (business use)	1.9					
Residential	36.5					
Non-Potable						
Open Space	4.9					
Summary						
Water Supply (potable)	49.5	195.66	38	0.00	0.00	38
Water Supply (recycled)	4.9494	3.96	1	0.00	0.00	1
Total	**54**	**200**	**39**	**0.00**	**0.00**	**39**
Unmitigated (2022)						
Water Management Type	**Volume Transported (MG)**	**MWh**	**CO2 (MT)**	**CH4 (MT)**	**N2O (MT)**	**CO2e (MT)**
Potable	46.3					
Non-Potable						
Open Space	4.9					
Summary						
Water Supply (potable)	46.3	182.75	35	0.00	0.00	36
Water Supply (recycled)	4.9	3.96	1	0.00	0.00	1
Total	**51**	**187**	**36**	**0.00**	**0.00**	**36**
Note: Assumes 5% reduction from baseline indoor water use that includes very high eff. fixtures.						

Transportation

On-Road - Unmitigated (2022)

Vehicle Type	Vehicle Miles Travelled	Fuel Type	Fuel Use (1000 gal or kwh)	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)
Aggregate EMFAC2014 vehicle types	78%	Gas					
Aggregate EMFAC2014 vehicle types	14%	Diesel					
Aggregate EMFAC2014 vehicle types	8%	Electric					
Aggregate EMFAC2014 vehicle types	35,252	Gas		10,590	0.22		10,598
Aggregate EMFAC2014 vehicle types	6,384	Diesel		335	0.00		335
Aggregate EMFAC2014 vehicle types	3,564	Electric	1,265	0.245	0.00	0.00	0
Total VMT from Fehr & Peers	**45,200**			**10,925**	**0.22**		**10,933**

On-Road - Mitigated (2022)

Vehicle Type	Vehicle Miles Travelled	Fuel Type	Fuel Use (1000 gal or kwh)	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)
Aggregate EMFAC2014 vehicle types	78%	Gas					
Aggregate EMFAC2014 vehicle types	14%	Diesel					
Aggregate EMFAC2014 vehicle types	8%	Electric					
Aggregate EMFAC2014 vehicle types	28,202	Gas		8,472	0		8,478
Aggregate EMFAC2014 vehicle types	5,107	Diesel		268	0		268
Aggregate EMFAC2014 vehicle types	2,851	Electric	1,012	0.172	0.00	0.00	0
Total VMT from Fehr & Peers	**36,160**			**8,740**	**0.17**		**8,746**

On-Road - Unmitigated (2050)

Vehicle Type	Vehicle Miles Travelled	Fuel Type	Fuel Use (1000 gal or kwh)	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)
Aggregate EMFAC2014 vehicle types	78%	Gas					
Aggregate EMFAC2014 vehicle types	14%	Diesel					
Aggregate EMFAC2014 vehicle types	8%	Electric					
Aggregate EMFAC2014 vehicle types	35,252	Gas		8,498	0		8,500
Aggregate EMFAC2014 vehicle types	6,384	Diesel		659	0		659
Aggregate EMFAC2014 vehicle types	3,564	Electric	1,265	0.216	0.00	0.00	0.22
Total VMT from Fehr & Peers	**45,200**			**9,157**	**0.07**		**9,160**

On-Road - Mitigated (2050)

Vehicle Type	Vehicle Miles Travelled	Fuel Type	Fuel Use (1000 gal or kwh)	CO2 (MT)	CH4 (MT)	N2O (MT)	CO2e (MT)
Aggregate EMFAC2014 vehicle types	78%	Gas					
Aggregate EMFAC2014 vehicle types	14%	Diesel					
Aggregate EMFAC2014 vehicle types	8%	Electric					
Aggregate EMFAC2014 vehicle types	28,202	Gas		6,799	0		6,800
Aggregate EMFAC2014 vehicle types	5,107	Diesel		527	0		527
Aggregate EMFAC2014 vehicle types	2,851	Electric	1,012	0.486	0.00	0.00	0
Total VMT from Fehr & Peers	**36,160**			**7,326**	**0.05**		**7,328**

Note: Electricity use per mile for electric vehicles was based on average kwh per mile from EPA Fuel Economy Data. Assumes mileage based on 50% light duty autos and 50% light duty utility vehicles for the 2013 model year.
Source: http://www.fueleconomy.gov/feg/download.shtml

Yolo County Vehicle Emission Factors from EMFAC 2014													
			tpd/mi										
Calendar Year	Fuel Type	%VMT	HC	CO	NOx	SOx	PM	TOG	ROG	CO_2	CH_4	PM_{10}	$PM_{2.5}$
2022	Gas	85%	3.13E-07	2.48E-06	2.21E-07	8.34E-09	1.32E-07	3.34E-07	3.15E-07	8.32E-04	1.69E-08	1.29E-07	5.43E-08
2022	Dsl	13%	8.46E-09	5.16E-08	2.96E-07	1.67E-09	2.09E-08	1.21E-08	1.03E-08	1.75E-04	7.78E-10	2.06E-08	9.07E-09
2022	Elec	2%	2.42E-10	NA	NA	NA	8.34E-09	2.61E-10	2.61E-10	NA	NA	8.20E-09	3.25E-09
2050	Gas	78%	1.68E-07	1.28E-06	8.49E-08	7.29E-09	1.61E-07	1.80E-07	1.73E-07	7.28E-04	5.64E-09	1.58E-07	6.40E-08
2050	Dsl	14%	1.00E-08	6.80E-08	4.28E-07	2.97E-09	3.70E-08	1.44E-08	1.26E-08	3.12E-04	6.21E-10	3.64E-08	1.54E-08
2050	Elec	8%	1.73E-09	NA	NA	NA	4.10E-08	1.86E-09	1.86E-09	NA	NA	4.03E-08	1.60E-08

tpd/mi = tons per day per vehicle-mile
NA = Not Available
Source: EMFAC2014 v. 1.0.7

GHG Emission Assumptions			
GWP			
CO2	1		
CH4	34	100 year lifespan. With inclusion of climate-carbon feedbacks as recommended by several studies (Gillett and Matthews 2010, Collins et al. 2013)	IPCC Fifth Assessment Report - Chapter 8. Table 8.7
N2O	298		IPCC Fifth Assessment Report - Chapter 8. Table 8.7
Energy Emission Factors	**Value**	**Notes**	**Source**
lb CH4/GWh	28.49	Electricity	eGrid 2010 (Updated February 2014)
lb N2O/GWh	6.03	Electricity	
lbs CO2/MWh	427.272213	Electricity - 2013 (23.8% renewable)	PG&E 2013 EPS Report. PG&E system average. CPUC http://www.cpuc.ca.gov/PUC/energy/Renewables/
MT CO2/MWh	0.193807416	Electricity - 2013 (23.8% renewable)	
MT CO2/MWh	0.170408095	Electricity - 2020 (33% renewable)	Calculated from PG&E 2013 Emission Factors
MT CH4/MWh	1.13626E-05	Electricity (33% renewable)	Calculated from eGrid 2010 assuming eGrid factors are represented by 23.8% renewables
MT N2O/MWh	2.40493E-06	Electricity (33% renewable)	
kg CO_2/MMBtu	53.02	Natural Gas - US Weighted Average	2014 Climate Registry Emission Factors. Table 12.1.
g CH4/MMBtu	5	Natural Gas - Residential/Commercial	2014 Climate Registry Emission Factors. Table 12.9.
g N2O/MMBtu	0.1	Natural Gas - Residential/Commercial	2014 Climate Registry Emission Factors. Table 12.9.

Operational Criteria Pollutant Emissions Calcuations

Unmitigated

Phase 1				TPY	TPY	lb/day	lb/day
Year	**Emissions Source**	**Method**	**Notes**	**ROG**	**NOX**	**PM10**	**PM2.5**
2019	Electricity	Calculated	Uses 2020 PGE EF's with RPS				
2019	Natural Gas	CalEEMod/ Calculated	Applies therms/DU calculated from DEG. GHG calculated separetely. GHG for phases scaled by CAP emissions	0.05	0.43	0.18	0.18
2019	Water	Calculated	Calculated from Cunningham Engineering numbers	NA	NA	NA	NA
2019	Waste	CalEEMod	Default	NA	NA	NA	NA
2019	Mobile	Calculated	Scaled total by residential and commercial sqft in Phase 1	2.14	1.80	4.91	2.06
2019	Area Source	CalEEMod	Assume no hearths for new development. Does not account for consumer products.	1.32	0.03	0.14	0.14
2019	Consumer Products	Calculated	Using CalEEMod recommended emission factors (0.0000214 lbs ROG/sqft/day). CalEEMod incorrectly applies this emissions factor to all land uses, including land uses that might not have emissions such as parking lots.	2.03			
	TOTAL			5.54	2.25	5.24	2.39
	Consumer Products	CalEEMod	CalEEMod default calculation	7.39			

Unmitigated

Phase 2				TPY	TPY	lb/day	lb/day
Year	**Emissions Source**	**Method**	**Notes**	**ROG**	**NOX**	**PM10**	**PM2.5**
2022	Electricity	Calculated	Uses 2020 PGE EF's with RPS				
2022	Natural Gas	CalEEMod/ Calculated	Applies therms/DU calculated from DEG. GHG calculated separetely.	0.05	0.46	0.19	0.19
2022	Water	Calculated	Calculated from Cunningham Engineering numbers	NA	NA	NA	NA
2022	Waste	CalEEMod	Default	NA	NA	NA	NA
2022	Mobile	Calculated	Scaled total by residential and commercial sqft in Phase 2	2.30	1.94	5.29	2.22
2022	Area Source (non consumer products)	CalEEMod	Assume no hearths for new development. Does not account for consumer products.	0.45	0.03	0.15	0.15
2022	Consumer Products	Calculated	Using CalEEMod recommended emission factors (0.0000214 lbs ROG/sqft/day). CalEEMod incorrectly applies this emissions factor to all land uses, including land uses that might not have emissions such as parking lots.	2.19			
	TOTAL			5.00	2.42	5.64	2.57
	Consumer Products	CalEEMod	CalEEMod default calculation	3.18			

Unmitigated

Combined Annual Emissions				TPY	TPY	lb/day	lb/day
	Emissions Source	**Model**	**Notes**	**ROG**	**NOX**	**PM10**	**PM2.5**
2022	Energy	see above		0.10	0.88	0.38	0.38
2022	*Electricity*			*0.00*	*0.00*	*0.00*	*0.00*
2022	*Natural Gas*			*0.10*	*0.88*	*0.38*	*0.38*
2022	Water	see above		NA	NA	NA	NA
2022	Waste	see above		NA	NA	NA	NA
2022	Mobile	EMFAC2014	VMT/d from F&P	4.44	3.73	10.20	4.29
2022	Area Source (w/ consumer products)	see above		6.00	0.06	0.29	0.29
	TOTAL			10.54	4.67	10.87	4.96
			Thresholds of Significance	**10**	**10**	**80**	**80**
			Exceeds Thresholds?	**Yes**	**No**	**No**	**No**

Mitigated (with 20% less VMT)

Combined Annual Emissions				TPY	TPY	lb/day	lb/day
	Emissions Source	**Model**	**Notes**	**ROG**	**NOX**	**PM10**	**PM2.5**
2022	Energy	see above		0.10	0.88	0.38	0.38
2022	*Electricity*			*0.00*	*0.00*	*0.00*	*0.00*
2022	*Natural Gas*			*0.10*	*0.88*	*0.38*	*0.38*
2022	Water	see above		NA	NA	NA	NA
2022	Waste	see above		NA	NA	NA	NA
2022	Mobile	EMFAC2014	VMT/d from F&P	3.55	2.99	8.16	3.43
2022	Area Source (w/ consumer products)	see above		6.00	0.06	0.29	0.29
	TOTAL			9.65	3.93	8.83	4.10
			Thresholds of Significance	**10**	**10**	**80**	**80**
			Exceeds Thresholds?	**No**	**No**	**No**	**No**

Reduction from Unmitigated

Combined Annual Emissions				TPY	TPY	lb/day	lb/day
	Emissions Source	**Model**	**Notes**	**ROG**	**NOX**	**PM10**	**PM2.5**
2022	Energy	see above		0.00	0.00	0.00	0.00
2022	*Electricity*			*0.00*	*0.00*	*0.00*	*0.00*
2022	*Natural Gas*			*0.00*	*0.00*	*0.00*	*0.00*
2022	Water	see above		0.00	0.00	0.00	0.00
2022	Waste	see above		0.00	0.00	0.00	0.00
2022	Mobile	EMFAC2014	VMT/d from F&P	-0.89	-0.75	-2.04	-0.86
2022	Area Source (w/ consumer products)	see above		0.00	0.00	0.00	0.00
	TOTAL			-0.89	-0.75	-2.04	-0.86

Operational Mobile Source Emissions

Mobile Source Emissions - Calculations

VMT Reduction from Mitigation Measure 4.14-5

LAND USE	DAILY PROJECT VMT	Max TDM Reductions	Mitigated VMT
Employment	24,900	23.1%	19,148
Residential	20,300	24.0%	15,428
TOTAL	45,200	20.0%	36,160

Source: Grandy, pers. comm., 2015. (Traffic technical study, Revision from F&P in August 2015)

Calculation using EMFAC 2014 emission factors

				tons/day/ VMT					
Calendar Year	VMT	Fuel Type	%VMT	NOx	ROG	PM_{10}	$PM_{2.5}$	CO_2	CH_4
2022	5,979,764.32	Gas	85%	2.21E-07	3.15E-07	1.29E-07	5.43E-08	8.32E-04	1.69E-08
2022	897,634.01	Dsl	13%	2.96E-07	1.03E-08	2.06E-08	9.07E-09	1.75E-04	7.78E-10
2022	151,424.29	Elec	2%	0.00E+00	2.61E-10	8.20E-09	3.25E-09	0.00E+00	0.00E+00
2022	Aggregate excluding electric			2.26E-07	2.69E-07	1.13E-07	4.73E-08	7.30E-04	1.45E-08

Unmitigated -2022				Tons/Year		lbs/day		MT/Year	
	VMT	Fuel Type	%VMT	NOx	ROG	PM_{10}	$PM_{2.5}$	CO_2	CH_4
Aggregate EMFAC2014 vehicle types	38,453.86	Gas	85%	3.11	4.42	9.95	4.17	10,590.36	0.22
Aggregate EMFAC2014 vehicle types	5,772.38	Diesel	13%	0.62	0.02	0.24	0.10	334.82	0.00
Aggregate EMFAC2014 vehicle types	973.76	Electric	2%	0.00	0.00	0.02	0.01	(calculated separately)	
TOTAL	45,200.00			3.73	4.44	10.20	4.29	10,925.18	0.22

Mitigated -2022				Tons/Year		lbs/day		MT/Year	
	VMT	Fuel Type	%VMT	NOx	ROG	PM_{10}	$PM_{2.5}$	CO_2	CH_4
Aggregate EMFAC2014 vehicle types	30,763.09	Gas	85%	2.49	3.53	7.96	3.34	8,472.29	0.17
Aggregate EMFAC2014 vehicle types	4,617.91	Diesel	13%	0.50	0.02	0.19	0.08	267.86	0.00
Aggregate EMFAC2014 vehicle types	779.01	Electric	2%	0.00	0.00	0.01	0.01	(calculated separately)	
TOTAL	36,160.00			2.99	3.55	8.16	3.43	8,740.14	0.17

Per capita analysis	MT CO_2e/ Year	Estimated Nishi Population	$MTCO_2e$/ capita
Unmitigated -2022	10,933	2,804	3.90
Mitigated -2022	8,746	2,804	3.12

Note: GHG emissions from electric vehicles calculated seperately

Mobile Source Emissions - Calculations

VMT Reduction from Mitigation Measure 4.14-5

LAND USE	DAILY PROJECT VMT	Max TDM Reductions	Mitigated VMT
Employment	24,900	23.1%	19,148
Residential	20,300	24.0%	15,428
TOTAL	45,200	20.0%	36,160

Source: Grandy, pers. comm., 2015. (Traffic technical study, Revision from F&P in August 2015)

Calculation using EMFAC 2014 emission factors

				tons/day/ VMT					
Calendar Year	VMT	Fuel Type	%VMT	NOx	ROG	PM_{10}	$PM_{2.5}$	CO_2	CH_4
2050	7,333,564.22	Gas	78%	8.49E-08	1.73E-07	1.58E-07	6.40E-08	7.28E-04	5.64E-09
2050	1,328,113.20	Dsl	14%	4.28E-07	1.26E-08	3.64E-08	1.54E-08	3.12E-04	6.21E-10
2050	741,340.95	Elec	8%	0.00E+00	1.86E-09	4.03E-08	1.60E-08	0.00E+00	0.00E+00
2050	Aggregate excluding electric			1.27E-07	1.37E-07	1.28E-07	5.21E-08	6.12E-04	4.49E-09

Unmitigated -2050				Tons/Year		lbs/day		MT/Year	
	VMT	Fuel Type	%VMT	NOx	ROG	PM_{10}	$PM_{2.5}$	CO_2	CH_4
Aggregate EMFAC2014 vehicle types	35,252.20	Gas	78%	1.09	2.23	11.12	4.51	8,498.17	0.07
Aggregate EMFAC2014 vehicle types	6,384.20	Diesel	14%	1.00	0.03	0.46	0.20	658.94	0.00
Aggregate EMFAC2014 vehicle types	3,563.60	Electric	8%	0.00	0.00	0.29	0.11	(calculated separately)	
TOTAL	45,200.00			2.09	2.26	11.87	4.82	9,157.11	0.07

Mitigated -2050				Tons/Year		lbs/day		MT/Year	
	VMT	Fuel Type	%VMT	NOx	ROG	PM_{10}	$PM_{2.5}$	CO_2	CH_4
Aggregate EMFAC2014 vehicle types	28,201.76	Gas	78%	0.87	1.78	8.90	3.61	6,798.54	0.05
Aggregate EMFAC2014 vehicle types	5,107.36	Diesel	14%	0.80	0.02	0.37	0.16	527.15	0.00
Aggregate EMFAC2014 vehicle types	2,850.88	Electric	8%	0.00	0.00	0.23	0.09	(calculated separately)	
TOTAL	36,160.00			1.67	1.81	9.50	3.86	7,325.69	0.05

Per capita analysis	MT CO_2e/ Year	Estimated Nishi Population	$MTCO_2e$/ capita
Unmitigated -2050	9,160	2,804	3.27
Mitigated -2050	7,328	2,804	2.61

Note: GHG emissions from electric vehicles calculated seperately

Mobile Source Emissions - EMFAC2014 Emission Factors

					g/mi					
Calendar Year	Sub_Area	Vehicle Class	Fuel Type	VMT	NOx	ROG	PM_{10}	$PM_{2.5}$	CO_2	CH_4
2022	Yolo (SV)	LDA	Gas	3,270,263.19	0.24429	0.35370	0.16878	0.07085	995.05459	0.01945
2022	Yolo (SV)	LDT1	Gas	277,446.25	0.04428	0.10574	0.01452	0.00619	98.30793	0.00360
2022	Yolo (SV)	LDT2	Gas	1,464,270.13	0.15548	0.21309	0.07537	0.03154	582.41327	0.01042
2022	Yolo (SV)	MDV	Gas	821,773.50	0.18674	0.23775	0.04239	0.01779	453.79324	0.01290
2022	Yolo (SV)	LHD1	Gas	64,862.48	0.09713	0.07994	0.00628	0.00271	62.70465	0.00405
2022	Yolo (SV)	LHD2	Gas	11,510.90	0.01018	0.00572	0.00126	0.00054	12.18998	0.00032
2022	Yolo (SV)	T6TS	Gas	11,327.81	0.01674	0.00914	0.00180	0.00076	16.37599	0.00087
2022	Yolo (SV)	T7IS	Gas	1,453.56	0.00598	0.00114	0.00013	0.00005	2.79214	0.00029
2022	Yolo (SV)	UBUS	Gas	4,211.42	0.00624	0.00442	0.00067	0.00028	7.83563	0.00156
2022	Yolo (SV)	SBUS	Gas	2,079.35	0.00171	0.00093	0.00173	0.00074	1.66067	0.00025
2022	Yolo (SV)	OBUS	Gas	5,529.09	0.00434	0.00176	0.00088	0.00037	7.79153	0.00020
2022	Yolo (SV)	MCY	Gas	40,763.21	0.05719	0.20008	0.00084	0.00040	8.13482	0.02104
2022	Yolo (SV)	MH	Gas	4,273.44	0.00282	0.00084	0.00068	0.00029	6.03288	0.00023
2022	Yolo (SV)	LDA	Elec	151,135.13	NA	0.00024	0.00746	0.00296	NA	NA
2022	Yolo (SV)	LDT1	Elec	289.16	NA	0.00000	0.00001	0.00001	NA	NA
2022	Yolo (SV)	LDA	Dsl	38,929.25	0.00547	0.00089	0.00248	0.00130	10.98589	0.00004
2022	Yolo (SV)	LDT1	Dsl	380.80	0.00035	0.00004	0.00005	0.00004	0.14961	0.00000
2022	Yolo (SV)	LDT2	Dsl	2,770.95	0.00011	0.00004	0.00015	0.00007	0.97985	0.00000
2022	Yolo (SV)	MDV	Dsl	16,648.02	0.00088	0.00023	0.00095	0.00045	7.85672	0.00001
2022	Yolo (SV)	LHD1	Dsl	95,110.78	0.39831	0.02308	0.01370	0.00799	61.02311	0.00107
2022	Yolo (SV)	LHD2	Dsl	26,465.64	0.05521	0.00478	0.00373	0.00195	18.51846	0.00022
2022	Yolo (SV)	UBUS	Dsl	8,048.47	0.08749	0.00604	0.00848	0.00409	18.64636	0.02891
2022	Yolo (SV)	MH	Dsl	1,285.34	0.00774	0.00021	0.00041	0.00028	1.49563	0.00001
2022	Yolo (SV)	T6 Ag	Dsl	5,496.94	0.03756	0.00343	0.00241	0.00184	7.79816	0.00016
2022	Yolo (SV)	T6 Public	Dsl	1,724.85	0.01306	0.00018	0.00033	0.00017	2.42192	0.00001
2022	Yolo (SV)	T6 CAIRP Small	Dsl	2,678.62	0.00463	0.00013	0.00043	0.00018	3.51459	0.00001
2022	Yolo (SV)	T6 CAIRP Heavy	Dsl	872.59	0.00197	0.00005	0.00014	0.00006	1.13738	0.00000
2022	Yolo (SV)	T6 Instate Construction Small	Dsl	23,582.60	0.04818	0.00134	0.00382	0.00165	31.43290	0.00006
2022	Yolo (SV)	T6 Instate Construction Heavy	Dsl	3,610.95	0.01249	0.00033	0.00062	0.00029	4.86527	0.00002
2022	Yolo (SV)	T6 Instate Small	Dsl	270,069.61	0.47151	0.01342	0.04340	0.01851	357.10175	0.00062
2022	Yolo (SV)	T6 Instate Heavy	Dsl	103,003.65	0.25278	0.00696	0.01688	0.00737	135.47645	0.00032
2022	Yolo (SV)	T6 OOS Small	Dsl	1,534.75	0.00265	0.00007	0.00025	0.00010	2.01373	0.00000
2022	Yolo (SV)	T6 OOS Heavy	Dsl	499.96	0.00114	0.00003	0.00008	0.00003	0.65226	0.00000
2022	Yolo (SV)	T6 Utility	Dsl	879.89	0.00222	0.00003	0.00014	0.00006	1.20640	0.00000
2022	Yolo (SV)	T7 Ag	Dsl	1,681.93	0.02031	0.00194	0.00107	0.00092	3.54052	0.00009
2022	Yolo (SV)	T7 Public	Dsl	7,063.67	0.07692	0.00146	0.00104	0.00054	15.98093	0.00007
2022	Yolo (SV)	PTO	Dsl	11,979.44	0.06929	0.00351	0.00021	0.00020	26.10690	0.00016
2022	Yolo (SV)	T7 CAIRP	Dsl	54,906.10	0.22135	0.00784	0.00661	0.00281	100.47433	0.00036
2022	Yolo (SV)	T7 CAIRP Construction	Dsl	2,561.58	0.00989	0.00036	0.00031	0.00014	4.69467	0.00002
2022	Yolo (SV)	T7 Utility	Dsl	185.93	0.00076	0.00002	0.00002	0.00001	0.39421	0.00000
2022	Yolo (SV)	T7 NNOOS	Dsl	68,083.63	0.14979	0.00650	0.00776	0.00307	117.96233	0.00030
2022	Yolo (SV)	T7 NOOS	Dsl	21,687.89	0.08973	0.00317	0.00260	0.00110	40.47595	0.00015
2022	Yolo (SV)	T7 Other Port	Dsl	678.95	0.00368	0.00012	0.00009	0.00004	1.24511	0.00001
2022	Yolo (SV)	T7 POAK	Dsl	1,411.06	0.00927	0.00030	0.00019	0.00009	2.67750	0.00001
2022	Yolo (SV)	T7 Single	Dsl	60,330.83	0.20673	0.00636	0.00730	0.00312	107.38553	0.00030
2022	Yolo (SV)	T7 Single Construction	Dsl	6,626.47	0.02786	0.00077	0.00082	0.00036	12.02087	0.00004
2022	Yolo (SV)	T7 Tractor	Dsl	36,921.80	0.18340	0.00598	0.00469	0.00213	65.58803	0.00028
2022	Yolo (SV)	T7 Tractor Construction	Dsl	4,940.52	0.02621	0.00079	0.00065	0.00030	9.02993	0.00004
2022	Yolo (SV)	T7 SWCV	Dsl	10,125.41	0.08829	0.00086	0.00123	0.00053	49.88790	0.00124
2022	Yolo (SV)	SBUS	Dsl	3,257.22	0.02712	0.00048	0.00285	0.00128	4.99240	0.00002
2022	Yolo (SV)	Motor Coach	Dsl	726.02	0.00357	0.00013	0.00013	0.00006	1.42148	0.00001
2022	Yolo (SV)	All Other Buses	Dsl	871.90	0.00331	0.00010	0.00015	0.00007	1.20069	0.00000

Weighted Average Emission Factors

			g/mi					
Calendar Year	fuel	VMT	NOx	ROG	PM_{10}	$PM_{2.5}$	CO_2	CH_4
2022	Gas	5,979,764.32	2.01E-01	2.85E-01	1.17E-01	4.92E-02	7.55E+02	1.53E-02
2022	Dsl	897,634.01	2.69E-01	9.39E-03	1.87E-02	8.23E-03	1.59E+02	7.06E-04
2022	Elec	151424	NA	2.37E-04	7.44E-03	2.95E-03	NA	NA

NA: Not Available

Mobile Source Emissions - EMFAC2014 Emission Factors

					g/mi					
Calendar Year	Sub_Area	Vehicle Class	Fuel Type	VMT	NOx	ROG	PM_{10}	$PM_{2.5}$	CO_2	CH_4
2050	Yolo (SV)	LDA	Gas	4,001,390.07	0.10324	0.21130	0.20097	0.08159	869.37183	0.00652
2050	Yolo (SV)	LDT1	Gas	316,976.59	0.00848	0.01639	0.01591	0.00646	72.42332	0.00054
2050	Yolo (SV)	LDT2	Gas	1,993,070.15	0.05969	0.11085	0.10004	0.04058	531.25859	0.00409
2050	Yolo (SV)	MDV	Gas	900,595.43	0.02947	0.07887	0.04525	0.01838	312.34863	0.00207
2050	Yolo (SV)	LHD1	Gas	28,414.98	0.01061	0.00696	0.00273	0.00117	25.35475	0.00025
2050	Yolo (SV)	LHD2	Gas	10,813.21	0.00309	0.00182	0.00119	0.00051	10.79342	0.00008
2050	Yolo (SV)	T6TS	Gas	14,164.81	0.00606	0.00463	0.00225	0.00095	19.74080	0.00034
2050	Yolo (SV)	T7IS	Gas	1,898.81	0.00766	0.00103	0.00017	0.00007	3.40501	0.00029
2050	Yolo (SV)	UBUS	Gas	5,474.43	0.00279	0.00064	0.00087	0.00037	9.77167	0.00008
2050	Yolo (SV)	SBUS	Gas	2,236.80	0.00047	0.00078	0.00186	0.00080	1.70688	0.00021
2050	Yolo (SV)	OBUS	Gas	7,543.26	0.00285	0.00179	0.00120	0.00050	10.37399	0.00014
2050	Yolo (SV)	MCY	Gas	47,318.12	0.06489	0.21213	0.00099	0.00048	9.71201	0.02592
2050	Yolo (SV)	MH	Gas	3,667.57	0.00045	0.00010	0.00058	0.00024	4.90633	0.00002
2050	Yolo (SV)	LDA	Elec	741,196.85	NA	0.00169	0.03656	0.01450	NA	NA
2050	Yolo (SV)	LDT1	Elec	144.10	NA	0.00000	0.00001	0.00000	NA	NA
2050	Yolo (SV)	LDA	Dsl	55,820.25	0.00044	0.00021	0.00279	0.00113	11.34296	0.00001
2050	Yolo (SV)	LDT1	Dsl	176.92	0.00001	0.00000	0.00001	0.00000	0.03808	0.00000
2050	Yolo (SV)	LDT2	Dsl	4,389.79	0.00012	0.00005	0.00024	0.00010	1.09713	0.00000
2050	Yolo (SV)	MDV	Dsl	25,848.51	0.00022	0.00011	0.00130	0.00053	8.42630	0.00000
2050	Yolo (SV)	LHD1	Dsl	53,324.93	0.00892	0.00749	0.00567	0.00255	30.34519	0.00035
2050	Yolo (SV)	LHD2	Dsl	26,708.69	0.00288	0.00365	0.00325	0.00147	17.02031	0.00017
2050	Yolo (SV)	UBUS	Dsl	5,474.25	0.00507	0.00014	0.00517	0.00221	11.34753	0.00738
2050	Yolo (SV)	MH	Dsl	1,030.50	0.00281	0.00008	0.00019	0.00009	1.14548	0.00000
2050	Yolo (SV)	T6 Ag	Dsl	5,496.94	0.01980	0.00031	0.00088	0.00038	7.28444	0.00001
2050	Yolo (SV)	T6 Public	Dsl	861.79	0.00240	0.00004	0.00014	0.00006	1.13646	0.00000
2050	Yolo (SV)	T6 CAIRP Small	Dsl	3,796.48	0.00655	0.00017	0.00061	0.00026	4.89021	0.00001
2050	Yolo (SV)	T6 CAIRP Heavy	Dsl	1,236.74	0.00241	0.00006	0.00020	0.00008	1.56362	0.00000
2050	Yolo (SV)	T6 Instate Construction Small	Dsl	42,078.33	0.07992	0.00204	0.00674	0.00286	54.28547	0.00009
2050	Yolo (SV)	T6 Instate Construction Heavy	Dsl	6,443.00	0.01134	0.00034	0.00103	0.00044	8.26948	0.00002
2050	Yolo (SV)	T6 Instate Small	Dsl	460,520.11	0.84322	0.02214	0.07377	0.03133	593.42288	0.00103
2050	Yolo (SV)	T6 Instate Heavy	Dsl	182,644.24	0.34207	0.00907	0.02929	0.01245	230.52638	0.00042
2050	Yolo (SV)	T6 OOS Small	Dsl	2,175.24	0.00375	0.00010	0.00035	0.00015	2.80191	0.00000
2050	Yolo (SV)	T6 OOS Heavy	Dsl	708.60	0.00138	0.00003	0.00011	0.00005	0.89590	0.00000
2050	Yolo (SV)	T6 Utility	Dsl	1,104.41	0.00269	0.00004	0.00018	0.00007	1.44783	0.00000
2050	Yolo (SV)	T7 Ag	Dsl	1,681.93	0.01195	0.00022	0.00019	0.00008	3.48800	0.00001
2050	Yolo (SV)	T7 Public	Dsl	7,193.06	0.03193	0.00076	0.00082	0.00032	14.17916	0.00004
2050	Yolo (SV)	PTO	Dsl	21,776.03	0.09702	0.00471	0.00014	0.00014	43.49969	0.00022
2050	Yolo (SV)	T7 CAIRP	Dsl	77,819.74	0.15708	0.00741	0.00886	0.00349	131.45499	0.00034
2050	Yolo (SV)	T7 CAIRP Construction	Dsl	4,570.62	0.01003	0.00046	0.00052	0.00021	7.98110	0.00002
2050	Yolo (SV)	T7 Utility	Dsl	233.37	0.00089	0.00002	0.00003	0.00001	0.45114	0.00000
2050	Yolo (SV)	T7 NNOOS	Dsl	96,496.57	0.18049	0.00848	0.01089	0.00425	166.68958	0.00039
2050	Yolo (SV)	T7 NOOS	Dsl	30,738.77	0.06435	0.00300	0.00350	0.00138	52.75052	0.00014
2050	Yolo (SV)	T7 Other Port	Dsl	1,088.54	0.00224	0.00010	0.00012	0.00005	1.77724	0.00000
2050	Yolo (SV)	T7 POAK	Dsl	3,811.68	0.00846	0.00037	0.00044	0.00017	6.30976	0.00002
2050	Yolo (SV)	T7 Single	Dsl	109,668.44	0.18384	0.00821	0.01234	0.00479	181.16963	0.00038
2050	Yolo (SV)	T7 Single Construction	Dsl	11,823.58	0.02168	0.00090	0.00133	0.00052	19.67548	0.00004
2050	Yolo (SV)	T7 Tractor	Dsl	53,145.31	0.10550	0.00476	0.00605	0.00239	85.79966	0.00022
2050	Yolo (SV)	T7 Tractor Construction	Dsl	8,815.35	0.02073	0.00084	0.00101	0.00040	14.71247	0.00004
2050	Yolo (SV)	T7 SWCV	Dsl	14,156.25	0.03081	0.00057	0.00164	0.00067	64.25181	0.00003
2050	Yolo (SV)	SBUS	Dsl	3,203.16	0.00857	0.00021	0.00268	0.00115	4.71380	0.00001
2050	Yolo (SV)	Motor Coach	Dsl	1,029.01	0.00255	0.00010	0.00017	0.00007	1.91153	0.00000
2050	Yolo (SV)	All Other Buses	Dsl	1,022.06	0.00195	0.00005	0.00016	0.00007	1.31832	0.00000

Weighted Average Emission Factors

			g/mi					
Calendar Year	fuel	VMT	NOx	ROG	PM_{10}	$PM_{2.5}$	CO_2	CH_4
2050	Gas	7,333,564.22	7.70E-02	1.57E-01	1.43E-01	5.81E-02	6.60E+02	5.12E-03
2050	Dsl	1,328,113.20	3.88E-01	1.15E-02	3.30E-02	1.39E-02	2.83E+02	5.63E-04
2050	Elec	741341	NA	1.69E-03	3.66E-02	1.45E-02	NA	NA

NA: Not Available