

BICYCLE FACILITIES

County: Kern

Federal Number:

Approval Date:

Caltrans DIST-EA:

Short Description: Monitor Street Complete Streets

Project Scope: Installation of Class II/IV Bike lanes along Monitor St between Fairview Road and Merrimac Road

Project Sponsor:

Private Agency: No

CMAQ Funding: \$4,531,811 **Annual Auto Trips Reduced:** 16,636

Local Match: \$587,145 **Annual Auto VMT Reduced:** 29,944

Capital Recovery Factor: 0.08

Project Analysis Period: 15 years

Days (D): 365 days of use/year

Average Daily Traffic (ADT): 7,725 trips per day

Adjustment (A) on ADT: 0.0029

Credit (C) for

Activity Centers near project: 0.0030

***EMISSION
FACTORS:***

Auto Trip End Factor

Auto VMT Factor

ROG : 0.438 *grams per trip*

0.049 *grams per mile*

NO_x : 0.263

0.051

PM_{2.5} : 0.002

0.034

EMISSION

Pounds per Year

Kilograms per Day

REDUCTIONS:

ROG: 18

0.02

NO_x: 12

0.01

PM_{2.5}: 2

0.002

Total: 32

0.04

COST-EFFECTIVENESS OF:

CMAQ Funds: \$11,993.4 per pound \$23,986,775 per ton

All Funding Sources: \$13,547.3 per pound \$27,094,520 per ton

Table 3A. Average Auto Emission Factors - Gasoline

(Fleet of Light-Duty Passenger Vehicles, Light-Duty Trucks, and Motorcycles)

Analysis Period or Project Life	1-5 Years (2022-2026)	6-10 Years (2022-2031)	11-15 Years (2022-2036)	16-20 Years (2022-2041)
ROG				
VMT (g/mile)	0.058	0.052	0.049	0.046
commute trip ends (g/trip end)	0.609	0.530	0.471	0.425
average trip ends (g/trip end)	0.555	0.489	0.438	0.398
NOx				
VMT (g/mile)	0.074	0.060	0.051	0.045
commute trip ends (g/trip end)	0.291	0.257	0.235	0.220
average trip ends (g/trip end)	0.323	0.287	0.263	0.246
PM_{2.5}				
VMT (g/mile)	0.034	0.034	0.034	0.034
running exhaust only (g/mile)	0.001	0.001	0.001	0.001
tire and brake wear (g/mile)	0.005	0.005	0.005	0.005
road dust (g/mile)	0.028	0.028	0.028	0.028
commute trip ends (g/trip end)	0.003	0.003	0.003	0.002
average trip ends (g/trip end)	0.002	0.002	0.002	0.002
CO				
VMT (g/mile)	0.991	0.876	0.804	0.755
commute trip ends (g/trip end)	4.312	3.764	3.377	3.091
average trip ends (g/trip end)	3.717	3.293	2.989	2.764

Source: EMFAC2021 V1.0.2, average annual emissions, statewide vehicle fleet, 50% humidity, temperature 75 °F.

PM_{2.5}, road dust: statewide average annual PM_{2.5} emission factor is based on [US EPA's Compilation of Air Pollutant Emission Factors, Vol. 5 \(AP-42, Chapter 13.2.1, Jan. 2011\)](#), and [CARB's Miscellaneous Process Methodology 7.9, Entrained Paved Road Travel, Paved Road Dust](#) (updated Nov. 2016).

[PM_{2.5} = 0.15*PM₁₀]