

Appendix G: VMT Technical Memorandum

TECHNICAL MEMORANDUM

Date: May 10, 2019

To: Gina Kotos,

From: Paul Herrmann, P.E.

Subject: DRAFT Vehicle Miles Traveled (VMT) Assessment for the City of Diamond Bar General Plan Update GHG Analysis

Fehr & Peers completed quantifying vehicle miles of travel (VMT) for the Diamond Bar General Plan Update (Project) in the City of Diamond Bar, California. These VMT results will be used in a greenhouse gas (GHG) emissions analysis. The purpose of this memorandum is to document the methodology used for estimating VMT for the Project.

Methodology

Transportation emissions are based on emissions associated with VMT. VMT for a project or City can be estimated through the use of travel demand models that forecast traffic patterns for specific driver purposes on typical weekdays. The SCAG model used for this analysis is consistent with the 2016 SCAG Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS). The SCAG model is available in Base Year (2016) and Future Year (2040) versions, each with land use and roadway network assumptions for the given year. For use in this study, the SCAG model traffic analysis zones (TAZs) inside Diamond Bar were updated to be consistent with the land use developed by Dyett & Bhatia and confirmed by the City of Diamond Bar for the existing base year (2017) and consistent with the proposed General Plan land use for 2040. There are three types of trips that were considered for this analysis.

- I-I: Trips that start in the City of Diamond Bar and end in the City of Diamond Bar
- I-X: Trips that start in the City of Diamond Bar and end outside the City of Diamond Bar
- X-I: Trips that start outside the City of Diamond Bar and end inside the City of Diamond Bar

Trips that pass through the City (trips that do not start or end in the City of Diamond Bar) were excluded from this analysis.

The VMT estimates incorporate the “full accounting” methodology, in that it accounts for the complete length of the trip from the origin TAZ to the destination TAZ and assigns 100% of that trip distance to the Project or City of Diamond Bar. The VMT is normalized by dividing by the total service population. Service population represents residential population plus employment in the study area. **Table 1**, summarizes the VMT for the Project for Base Year (2016), Future Year (2030), and Buildout Year (2040). The VMT/SP in the Base Year (2017) is 40.18, while in the Buildout Year (2040) the VMT/SP decreases to 37.78. The VMT/SP decreases with the buildout of the city of Diamond Bar General Plan Update in both years 2030 and 2040.

For informational purposes, the Regional Targets Advisory Committee (RTAC) VMT information was provided. The RTAC VMT estimates incorporate the “half accounting” methodology. For I-X trips and X-I trips, 50% of the trip distance is assigned to the Project or City of Diamond Bar while the other half of the project trip distance is assigned to the trip end outside the Project or City of Diamond Bar. The final RTAC VMT estimate is the sum of the I-I trip VMT plus the half the I-X and X-I trip VMT.

Table 1: City of Diamond Bar VMT Summary

Scenario	Final VMT for GHG Calcs					General Plan LU			VMT/SP
	I-I	I-X	X-I	Total	Total with RTAC VMT (50% ixxi)	Population	Employment	Service Population	
Base Year 2017	32,260	1,445,655	1,437,045	2,914,961	1,473,610	57,853	14,702	72,555	40.18
Future Year 2030	38,374	1,577,732	1,551,959	3,168,065	1,603,220	63,005	18,810	81,815	38.83
Buildout Year2 040	42,741	1,672,072	1,634,039	3,348,854	1,695,797	66,685	21,744	88,429	37.87

