



2023 - 2024

College of Engineering

I-10 FREEWAY SENIOR PROJECT

California State Polytechnic University, Pomona

Supplemental Traffic Report



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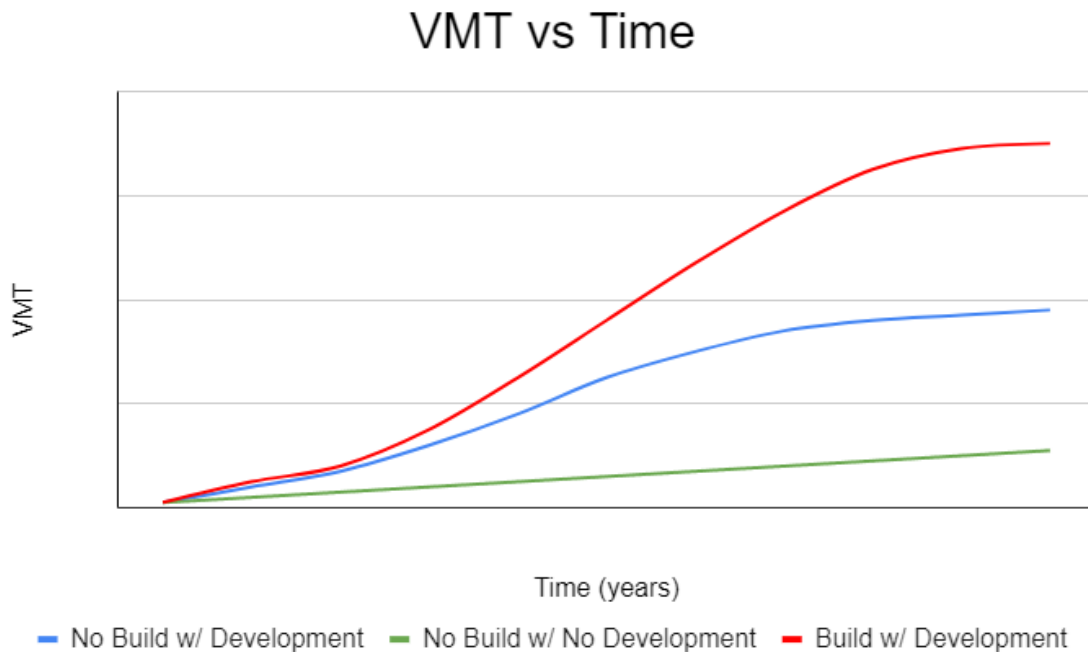


1. Vehicle Miles Travel Analysis

Vehicle miles travelled (VMT) is a metric used to determine the energy consumption in a transportation network. The metric takes the number of vehicles and multiplies by the distance each vehicle travelled. The Office directive aims to prevent an increase in VMT with projects. The goal is to minimize the induction of additional vehicular trips, or the distances travelled to the destination.

The City of Banning and Community of Cabazon has an approximate VMT of 28.7 per capita for home-based other trips, while 23.5 per capita for home-based work trips. The County average is approximately 26.2 and 17.7, respectively.

The existing roadway network does not have existing congestion issues other than the I-10 freeway. Without existing congestion, an immediate addition towards roadway capacity would not affect the induction of VMT. However, as forecasted in the opening and design year, expected congestion may occur. This would indicate that the roadway reached its maximum capacity it could handle, and therefore trips would be reconsidered or no longer be made due to the congestion. Since the Project would add additional roadway capacity to accommodate the congestion, it is reasonably considered that the VMT would be induced with the new roadway capacity. An illustration of this induction in VMT is shown below.



Mitigation measures to reduce the potential future induced VMT is described further in the Preliminary Environmental Analysis Report.



2. Bus on Shoulder

As mentioned with the Stakeholders, a bus-on-shoulder (BOS) feasibility analysis was conducted. In the Intersection Safety and Operations Assessment Process report, the existing transit network would utilize the I-10 within the Project vicinity. Concerns of historical traffic congestion affected the bus route. Implementing BOS would improve travel time for the bus route. Shown in Table 1 are the travel times under each condition. An average of 35 miles-per-hour is assumed where the bus is travelling on the shoulder during congested times. The congested travel time is defined by the fifth percentile speed found using Streetlight Data Implementation of BOS would improve travel time by 324 seconds.

Table 1 – BOS Feasibility				
	Existing	Congested Existing	BOS	Time Savings during Congested State
Travel Time	143	550	226	324

Notes: All values are presented in seconds