Appendix E
Calculation of Vehicle Miles Travelled

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Memorandum

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Subject:	Stanford EIR – Revised VMT Calculation for SUMC
Project No.	60027814

This memo presents the revised vehicle miles traveled (VMT) calculation for SUMC as required for the air quality section of the EIR. Total daily trips for SUMC (hospital and MOB) were first calculated using peak hour trip rates developed specifically for this project and from information from *Trip Generation* (7th Edition) by Institute of Transportation Engineers. Daily trip rates for hospital and MOB uses were calculated from the proportional relationship between peak hour and daily traffic contained in *Trip Generation* (7th Edition). Table 1 presents the details.

Table 1 Daily Trips for SUMC in 2025

	Land Use	Net Project GFA (Sq ft)	Daily Rate	Daily Trips
2025	Hospital	854,970	10.99	9,400
	MOB	21,400	30.89	661
Total SUMC				**10,061**

SUMC estimates that 60% of the daily trips are made by patients and 40% made by employees. Using employee and patient origin data (zip codes), provided in the project application package, distances from these origins to SUMC were estimated. Each employee or patient daily trip is multiplied by the travel distance. The summation gives the total project VMT in 2025. It is assumed that patients from origins more than 200 miles away would use other modes of transportation (e.g. plane) and travel a distance of 21 miles from San Francisco Airport to SUMC.

The total SUMC VMT for 2025 is 275,837 daily vehicle miles. The average employee trip length is 20.8 miles, slightly higher than the average home-based work trip length of 14.5 miles obtained from the VTA travel demand model. The average patient trip length is 31.8 miles and the overall average trip length (employees and patients) is 27.4 miles.

VMT with TDM reduction

VMT for the project is also calculated taking into account the potential TDM plans for SUMC. The TDM plans included the GO Pass program as well as the provision of remote parking at the Ardenwood Park and Ride.

The expected number of daily Caltrain users in 2025 is calculated by mode split data from the Fehr and Peers memo dated September 2008 (*Analysis of GO Pass Program for Hospital Employees*). A total of 2072 trips per day would travel to SUMC on Caltrain if GO Passes are provided to all hospital employees. VMT for the Caltrain commuters includes the travel distance between the employees' home and the nearest Caltrain station. In addition, employees coming from the East Bay (e.g. from Hayward, Union City, etc.) would be able to park at the Ardenwood Park and Ride and transfer to transit (U-Line). The resultant VMT is 238,519 daily vehicle miles, 37,318 miles less than without the TDM program. Table 2 summarizes the VMT for the two scenarios.

Table 2 2025 SUMC VMT With and Without TDM Program

VMT Without TDM (daily vehicle miles)	VMT With TDM (daily vehicle miles)	VMT Reduction (%)
275,837	238,519	13.5