

ENVIRONMENT | PLANNING | DEVELOPMENT SOLUTIONS, INC.

To: Brooke Blandino
From: Meghan Macias, TE
Date: 3/1/2023
Re: Trip Generation Analysis for North Coast Highway Solar Project

This technical memorandum provides an analysis of the North Coast Highway Solar Project in the county of Humboldt. The Assessor's Parcel Numbers for the site are 204-081-002, 204-081-004, 204-081-007, and 204-171-045. Access to the site is provided by County Route 36.

The purpose of this analysis is to determine whether a Traffic Impact Analysis or Vehicle Miles Traveled Analysis would be required for the project. The project proposes to construct a 2.8 megawatt-alternating current (MWac) photovoltaic power generating facility. The project site plan is shown in Figure 1. The project site is currently vacant.

Construction Project Trip Generation

It is anticipated that construction activity would follow 3 major phases:

- Phase 1 – Mobilization
- Phase 2 – Site Improvements and Grading
- Phase 3 – Panel Installation and Connection

Heavy construction equipment would be moved on-site at the beginning of construction and would remain on-site throughout as needed. These trips have not been included in the construction trip generation calculation, as they would not occur daily basis during construction. It is anticipated that daily vehicle traffic would be primarily made up of worker's passenger cars/light trucks, dump trucks during any soil import/export, flatbed delivery trucks, water trucks and porta let trucks. The highest number of trips would likely be from construction workers traveling to and from the site each day. The number of workers required during each phase has been estimated based on the required workers and construction equipment that were required for the construction of other similar solar projects.

Most of the construction workers are expected to arrive on-site before 7 AM and would depart prior to the 4 PM to 6 PM peak commute period. However, the trip generation assumes that 25 percent of workers may arrive during the peak period between 7 AM and 9 AM and could depart between 4 PM and 6 PM. Most construction and delivery trucks would arrive and depart the site throughout the day. For the trip generation, it has been assumed that at least one of each type of off-site construction vehicle would arrive or depart the site during the peak hours.

The construction trip generation is shown in Table 1 and has been calculated for total trips and for passenger car equivalent (PCE). A PCE factor is applied to truck trips to account for the fact that trucks utilize more capacity on the roadway than a passenger car due to larger size and slower acceleration. PCE factors of 2.0 for medium trucks and 3.0 for heavy trucks were used for this analysis and are conservative based on the guidance for passenger car equivalent factors found in the Highway Capacity Manual, 6th Edition.

As shown in Table 1, the phase with the highest construction trip generation would be during the Panel Installation and Connection phase with 134 daily and 17 peak hour trips. When adjusted to account for PCE, Phase 3 would generate 158 daily and 20 peak hour trips.

Table 1. Construction Trip Generation

	PCE	Vehicle Trips			PCE Trips		
		Daily	AM Peak Hour	PM Peak Hour	Daily	AM Peak Hour	PM Peak Hour
Phase 1 - Mobilization							
Workers (estimated 10 workers) ¹	1.0	30	4	4	30	4	4
Flatbed Delivery Trucks	3.0	4	2	2	12	6	6
Porta Let Trucks	2.0	2	1	1	4	2	2
		36	7	7	46	12	12
Phase 2 - Site Improvements and Grading							
Workers (estimated 20 workers) ¹	1.0	70	9	9	70	9	9
Concrete Trucks	2.0	6	1	1	12	2	2
Porta Let Trucks	2.0	2	1	1	4	2	2
		78	11	11	86	13	13
Phase 3 - Panel Installation and Connection							
Workers (estimated 40 workers) ¹	1.0	120	15	15	120	15	15
Flatbed Delivery Trucks	3.0	10	1	1	30	3	3
Porta Let Trucks	2.0	4	1	1	8	2	2
		134	17	17	158	20	20

PCE = Passenger Car Equivalent

¹ Worker trips are assumed to be outside of the peak hours. However, it is estimated that 25 percent of workers may arrive or depart the site during the AM or PM peak commute periods.

Since all trips would use County Route 36, Caltrans Guide for the Preparation of Traffic Impact Studies was used to determine the thresholds for traffic impacts on LOS. The guidelines state that projects that generate less than 50 peak hour trips are generally exempt from doing a traffic impact study. Since the highest peak hour volume in PCE is 20 during Phase 3, it is assumed that this project would be exempt from doing a study and would have a less than significant LOS Impact.

Operation Trip Generation

Operation of the project would require significantly fewer trips than generated during the construction phase. The project would not be permanently staffed during operation. The site would be accessed by maintenance personnel a few times per month to perform ongoing repair and maintenance of the facility.

In addition to routine maintenance, the solar panels would be washed approximately once per quarter. A crew of approximately 5 to 10 maintenance workers would perform the quarterly panel washing. No heavy equipment would be required.

Vehicle Miles Traveled

Senate Bill (SB) 743 was signed by Governor Brown in 2013 and required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to LOS for evaluating Transportation impacts. SB 743 specified that the new criteria should promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks and a diversity of land uses. The bill also specified that delay-based level of service could no longer be considered an indicator of a significant impact on the environment. In response, Section 15064.3 was added to the CEQA Guidelines beginning January 1, 2019. Section 15064.3 - Determining the Significance of Transportation Impacts states that Vehicle Miles Traveled (VMT) is the most appropriate measure of transportation impacts and provides lead agencies with the discretion to choose the most appropriate methodology and thresholds for evaluating VMT. Section 15064.3(c) states that the provisions of the section shall apply statewide beginning on July 1, 2020.

The County of Humboldt has not adopted VMT analysis guidelines; therefore, guidelines from the OPR Technical Advisory on Evaluating Transportation Impacts In CEQA, December 2018, are applied. The OPR guidelines state that small projects with less than 110 average daily trips are generally exempt from having to analyze VMT. The operation of the project would generate a maximum of 6 daily trips. For this reason, the project would have a less than significant impact on VMT.

If you have any questions about this analysis, please contact me at (949) 794-1186 or meghan@epdsolutions.com.

Figure 1: Project Site Plan

