

4.17 Transportation and Traffic

This section evaluates the potential impacts of the proposed Project on transportation and traffic conditions on the roadways and other transportation facilities in the vicinity of the Project site. The analysis includes the study area roadways, which are in the jurisdictions of the City of Lompoc, County of Santa Barbara, and State of California Department of Transportation (Caltrans), and also addresses the Project's effects on safety.

The Strauss Wind Energy Project (SWEP) and the proposed transmission line would be located south of the City of Lompoc in unincorporated Santa Barbara County. Both Project components would be accessed via San Miguelito Road, which is a County-owned rural road that extends south as a continuation of I Street in Lompoc. Figure 2-1 shows the regional location of the proposed Project.

The traffic impact analysis addresses two general categories of Project impacts:

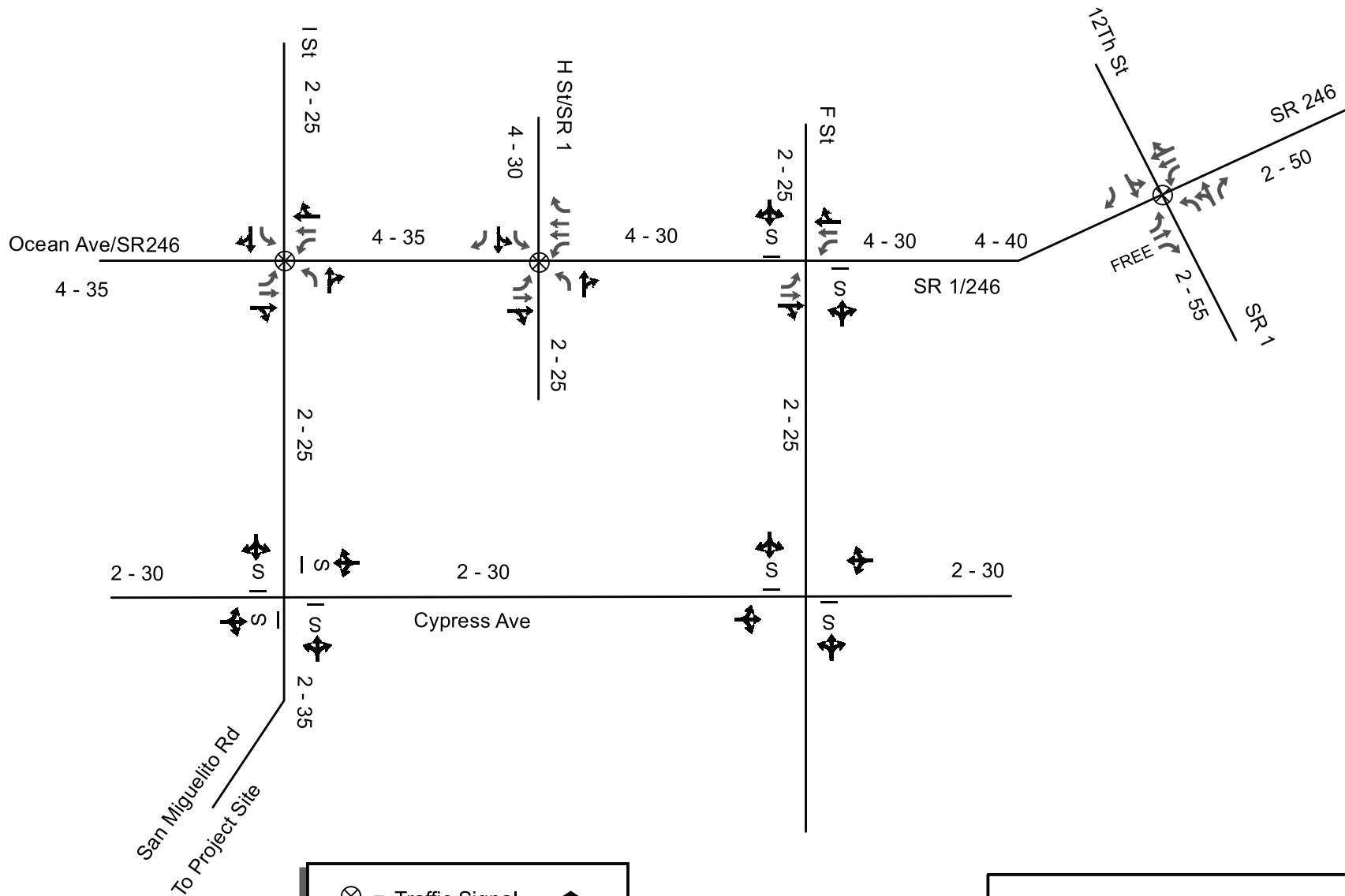
- The first category involves the typical day-to-day impacts associated with the construction of the proposed facilities. The approach for the analysis of this category of impacts is consistent with a standard traffic impact study; i.e., the most directly affected intersections are evaluated with regard to before and after traffic volumes and levels of service.
- The second category involves the effects of transporting the rotor blades and towers for the wind turbine generators, which would require the use of oversized and overweight vehicles. The analysis of this issue involves an assessment of physical conditions and the ability of the roadways to accommodate the transport of the Project components along the designated routes. This analysis does not address traffic volumes and levels of service.

4.17.1 Environmental Setting

Existing Roadway Network

The environmental setting for the proposed Project includes the public roadways that provide regional and local access to the Project site. For the standard traffic impact analysis, the roadways in the Project vicinity that provide regional access to the Project area include U.S. Highway 101, State Route 1 (SR-1), and State Route 246 (SR-246). The roadways that provide local access to the Project site include Ocean Avenue, F Street, H Street, I Street, Cypress Avenue, and San Miguelito Road. Figure 4.17-1 depicts the layout of the local access roadways and shows the number of lanes and the speed limit on each roadway segment, the type of traffic control at each study area intersection, and the lane configuration at each intersection. A description of these roadways is provided below. Additional information regarding these roadways is provided in Section 3.14.1.1 of the Lompoc Wind Energy Project (LWEP) EIR.

- **U.S. Highway 101.** U.S. Highway 101 is a major north-south regional roadway that links the Project area to Santa Maria and San Francisco to the north and to Santa Barbara and Los Angeles to the south. Access from U.S. Highway 101 to the Project vicinity is provided by SR-1 and SR-246, each of which has an interchange with U.S. Highway 101 approximately 15 miles east of the Project site. U.S. Highway 101 is owned and operated by Caltrans.
- **State Route 1.** SR-1 is a north-south highway that runs through the coastal cities of Las Cruces, Lompoc, Guadalupe, and Pismo Beach. Within the City of Lompoc, SR-1 runs along Ocean Avenue



⊗ = Traffic Signal

S = Stop sign

x-yy = # of Lanes/Speed Limit

Figure 4.17-1. Study Area Intersections

(between 12th Street and H Street) and H Street (north of Ocean Avenue). SR-1 joins with U.S. Highway 101 southeast of Lompoc at Las Cruces and is owned and operated by Caltrans.

- **State Route 246.** SR-246 is an east-west roadway that extends from Lompoc to Buellton, Solvang, and Santa Ynez. Within the City of Lompoc, SR-246 runs along Ocean Avenue. SR-246 joins with U.S. Highway 101 east of Lompoc at Buellton and is owned and operated by Caltrans.
- **Ocean Avenue.** Ocean Avenue is an east-west roadway that is classified as a major arterial in the City of Lompoc General Plan. It has four travel lanes through the study area west of 12th Street and two lanes east of 12th Street. Ocean Avenue is a Caltrans facility and is designated as SR-1 and SR-246 between H Street and 12th Street, SR-246 west of H Street, and SR-246 east of 12th Street. The speed limit on Ocean Avenue is 35 miles per hour (mph) west of H Street, 30 mph east of H Street, 40 mph west of 12th Street, and 50 mph east of 12th Street. Ocean Avenue is designated as a truck route by the City of Lompoc.
- **F Street.** F Street is a two-lane north-south street that provides a link between Ocean Avenue and Cypress Avenue. The segment of F Street between Ocean Avenue and Cypress Avenue is classified as a collector street and is designated as a truck route. North of Ocean Avenue and south of Cypress Avenue, F Street is classified as a local street and is not a truck route. The speed limit on F Street is 25 mph and it is a City of Lompoc street.
- **H Street.** H Street is a north-south street that is classified as a major arterial north of Ocean Avenue. It has four lanes north of Ocean Avenue and two lanes south of Ocean Avenue. H Street is designated as SR-1 and as a truck route north of Ocean Avenue. South of Ocean Avenue, H Street is a local street and is not a truck route. The speed limit on H Street is 30 mph north of Ocean Avenue and 25 mph south of Ocean Avenue. H Street is a City of Lompoc street.
- **I Street.** I Street is a two-lane north-south street that provides a link between Ocean Avenue and San Miguelito Road. It is classified as a minor arterial south of Ocean Avenue and as a local street north of Ocean Avenue. I Street is designated as a truck route south of Cypress Avenue. The speed limit on I Street is 25 mph north of Cypress Avenue and 35 mph south of Cypress Avenue. I Street is a City of Lompoc street.
- **Cypress Avenue.** Cypress Avenue is a two-lane east-west street that provides a link between F Street and I street south of Ocean Avenue. It is classified as a collector street in the General Plan and the segment of Cypress Avenue between F Street and I Street is designated as a truck route. The speed limit on Cypress Avenue is 30 mph and it is a City of Lompoc street.
- **San Miguelito Road.** San Miguelito Road is a two-lane north-south rural roadway that is the southerly continuation of I Street. It is the only roadway that provides access to the Project site. San Miguelito Road is classified as a minor arterial and is designated as a truck route. The speed limit on San Miguelito Road is 35 mph in the Lompoc area and 40 mph to the south. San Miguelito Road begins in Lompoc, but is in the jurisdiction of Santa Barbara County south of Lompoc.

The roadways that would be used as an access route to transport the oversized and overweight tower and blade components are as follows:

- | | |
|---------------------|----------------------------------|
| • Interstate 5 | • <u>Los Berros Road</u> |
| • State Highway 166 | • <u>E. Union Valley Parkway</u> |
| • Thompson Avenue | • <u>Santa Lucia Canyon Road</u> |

- Floradale Avenue
- U.S. Highway 101
- Business U.S. Hwy 101/State Hwy 135
- State Highway 1/State Highway 135
- State Highway 1
- State Highway 246
- Ocean Avenue
- F Street
- Cypress Avenue
- I Street
- San Miguelito Road

A map illustrating the travel route for these oversized and overweight trucks is shown on Figure 4.17-2.

The rest of the GE 3.8 components would be delivered from the Port of Stockton through Interstate 5, CA-132W, CA-140E, CA-165S, CA-152E, CA-33S, and exit at Fairfax Avenue.

- From Belmont Avenue, CA-33S, exit at Manning Avenue.
- From Colorado Road, turn to CA-145S, CA-269S, CA-33S, CA-166W, US-101S, CA-135S to Donovan Road, turn to Blosser Road, CA-116W, CA-1S to Santa Lucia Canyon Road, Floradale Avenue, and turn to Ocean Avenue, then South I Street, San Miguelito Road.

The GE 1.79 components coming from Garden City, Kansas would be delivered via I-5, I-210W, I-118W, I-23, US-101, CA-135, CA-135S to Donovan Road, turn to Blosser Road, CA-116W, CA-1S, use Santa Lucia Canyon Road, Floradale Avenue, and turn to Ocean Avenue, then South I Street, San Miguelito Road.

Existing Daily Traffic Volumes

Daily traffic volume data were assembled for each of the study area roadway segments where information was available, as provided in Table 4.17-1.

Table 4.17-1. Daily Traffic Volumes

Roadway Segment	# of Lanes	Daily Traffic Volume
U.S. Highway 101		
North of SR-246	4	20,800
Between SR-1 and SR-246	4	22,400
South of SR-1	4	29,500
SR-246/Ocean Avenue		
West of H Street	4	10,300
East of H Street	4	13,500
West of 12 th Street/SR-1	4	11,000
East of 12 th Street/SR-1	2	10,000
SR-1/H Street		
North of Ocean Avenue	4	11,600
SR-1		
South of Ocean Avenue	2	8,500
F Street		
South of Ocean Avenue	2	1,900
I Street		
South of Ocean Avenue	2	2,000
Cypress Avenue		
Between F Street and I Street	2	3,900
San Miguelito Road		
South of Lompoc	2	1,800

Sources: (Caltrans 2016), (Lompoc 2009)

Figure 4.17-2. Improvements Needed on Transportation Route for Oversized Trucks Hauling Blades



10 0 10
Miles




SAN LUIS
BISPO COUNTY

KERN COUNTY

SANTA BARBARA
COUNTY

VENTURA
COUNTY



-  Project Boundary
-  Proposed Transportation Route
-  Improvements Needed

Existing Intersection Levels of Service

The traffic analysis addresses six intersections in the study area, as shown in Table 4.17-2. The table lists the intersections and shows the responsible public agency and the type of traffic control that is in place at each intersection.

Manual traffic counts were taken at the six study area intersections in September 2018 during the morning and afternoon peak periods from 7:00 to 9:00 AM and 4:00 to 6:00 PM. The one-hour interval of peak traffic flow within each of the two-hour monitoring periods was identified for each intersection. Figure 4.17-3 shows the existing peak-hour traffic volumes and turning movements at each intersection for the AM and PM peak hours. The numbers were rounded to the nearest five for values under 20 and to the nearest 10 for values over 20.

Table 4.17-2. Study Area Intersections

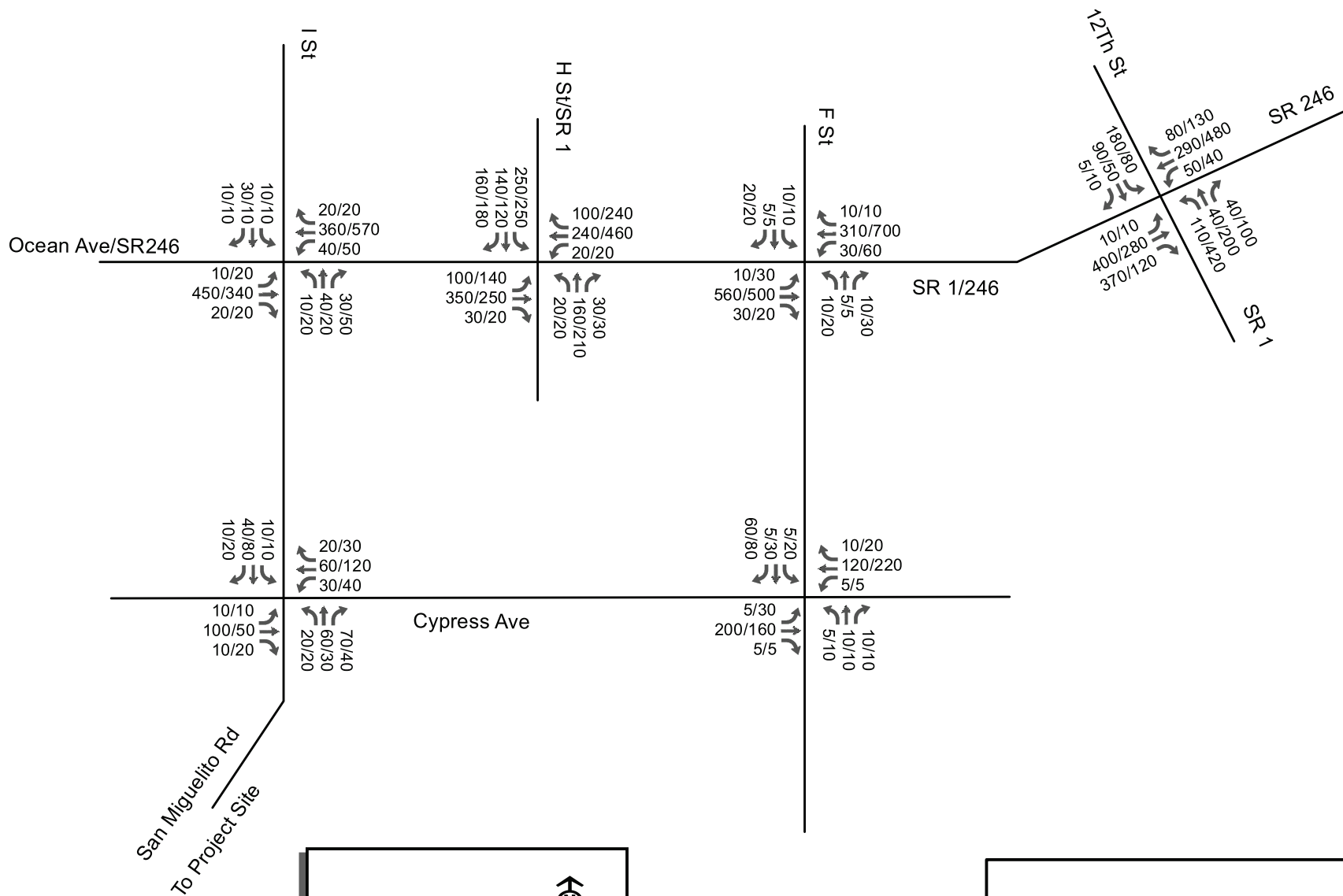
Intersection	Jurisdiction	Type of Traffic Control
Ocean Avenue / SR-246 at I Street	Caltrans	Traffic Signal
Ocean Avenue / SR-246 at H Street / SR-1	Caltrans	Traffic Signal
Ocean Avenue / SR-1 / SR-246 at F Street	Caltrans	Stop Signs on NB & SB F Street
Ocean Avenue / SR-246 at 12 th Street / SR-1	Caltrans	Traffic Signal
Cypress Avenue at I Street / San Miguelito Road	City of Lompoc	4-Way Stop Signs
Cypress Avenue at F Street	City of Lompoc	Stop Signs on NB & SB F Street

NOTE: NB & SB = Northbound & Southbound

The traffic counts included a classification count to quantify the number of automobiles/light-duty vehicles separately from the number of trucks traveling through the intersections during the peak periods. The traffic volumes shown on Figure 4.17-2 represent the number of vehicles counted during the peak hours, which includes the total number of cars, other light-duty vehicles, and trucks/buses. For purposes of the level of service calculations, however, the trucks were converted to passenger car equivalents (PCEs) at each intersection. A PCE adjustment accounts for the fact that a truck occupies more roadway capacity than an automobile because of its larger size and slower acceleration rates. A PCE factor of 2.5 was applied to the trucks to calculate the overall PCE volume at each intersection. The truck percentages that were counted at each intersection are shown in Table 4.17-3.

Table 4.17-3. Existing Truck Percentages at Each Intersection

Intersection	AM Peak Hour	PM Peak Hour
Ocean Avenue / SR-246 at I Street	2.2 %	1.3 %
Ocean Avenue / SR-246 at H Street / SR-1	3.6 %	1.4 %
Ocean Avenue / SR-1 / SR-246 at F Street	3.6 %	1.4 %
Ocean Avenue / SR-246 at 12 th Street / SR-1	3.9 %	0.8 %
Cypress Avenue at I Street / San Miguelito Road	10.8 %	1.2 %
Cypress Avenue at F Street	4.4 %	0.5 %



XX/YY = AM/PM Peak Hour

Figure 4.17-3. Existing Peak Hour Traffic Volumes

A level of service analysis was conducted for the study area intersections using two separate methodologies: the Intersection Capacity Utilization (ICU) methodology and the Highway Capacity Manual (HCM) methodology (Transportation Research Board 2016). Two methodologies were used because the Santa Barbara County “Environmental Thresholds and Guidelines Manual” (Santa Barbara County 2018) specifies that intersections should be evaluated using the ICU procedure while the City of Lompoc and Caltrans guidelines specify that the HCM methodology should be used (Lompoc 2009) (Caltrans 2002).

Level of service values at intersections range from LOS A to LOS F. LOS A represents excellent operating conditions with little or no delay to motorists, while LOS F represents congested conditions with excessive vehicle delay. LOS E is typically defined as the operating “capacity” of a roadway. Santa Barbara County, the City of Lompoc, and Caltrans define LOS A, B, and C as acceptable operating conditions. The relationship between ICU values, delay values, and the corresponding levels of service at intersections is shown in Table 4.17-4.

Table 4.17-4. Relationship between ICU Values, Delay Values, and Levels of Service

Level of Service	ICU Values	Delay at Signalized Intersection (seconds per vehicle)	Delay at Unsignalized Intersection (seconds per vehicle)
A	0.00 to 0.60	0.0 to 10.0	0.0 to 10.0
B	> 0.60 to 0.70	> 10.0 to 20.0	> 10.0 to 15.0
C	> 0.70 to 0.80	> 20.0 to 35.0	> 15.0 to 25.0
D	> 0.80 to 0.90	> 35.0 to 55.0	> 25.0 to 35.0
E	> 0.90 to 1.00	> 55.0 to 80.0	> 35.0 to 50.0
F	> 1.00	> 80.0	> 50.0

To quantify the existing baseline traffic conditions, the six study area intersections were analyzed to determine their operating conditions during the morning and afternoon peak hours. Based on the peak-hour traffic volumes, turning movement counts, and existing number of lanes at each intersection, the ICU values and levels of service have been determined for each intersection, as summarized in Table 4.17-5. As shown, all six of the study area intersections currently operate at an acceptable LOS A or B during the peak hours.

Table 4.17-5. Existing Intersection Levels of Service – ICU Methodology

Intersection	ICU Value & Level of Service	
	AM Peak Hour	PM Peak Hour
SIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-246 at I Street	0.327 – A	0.350 – A
Ocean Avenue / SR-246 at H Street / SR-1	0.493 – A	0.605 – B
Ocean Avenue / SR-246 at 12 th Street / SR-1	0.616 – B	0.579 – A
UNSIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-1 / SR-246 at F Street	0.339 – A	0.385 – A
Cypress Avenue at I Street / San Miguelito Road	0.315 – A	0.309 – A
Cypress Avenue at F Street	0.289 – A	0.360 – A

Based on the peak-hour traffic volumes, turning movement counts, and existing number of lanes at each intersection, the delay values and levels of service have been determined at each intersection using the HCM methodology, as summarized in Table 4.17-6. The average levels of vehicle delay for each intersection and the resulting levels of service were determined using the Highway Capacity Software (HCS). As shown, all six of the study area intersections currently operate at an acceptable LOS A, B, or C during the peak hours.

The delay values and levels of service shown in Table 4.17-6 for the intersections with traffic signals and four-way stop signs represent the average vehicle delays for the entire intersection. The delay values and levels of service for the intersections with two stop signs (Ocean Avenue at F Street and Cypress Avenue at F Street) represent the vehicle delay for the movements at the stop sign with the highest delay value.

Table 4.17-6. Existing Intersection Levels of Service – HCM Methodology

Intersection	Delay Value (seconds) & Level of Service	
	AM Peak Hour	PM Peak Hour
SIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-246 at I Street	8.9 – A	9.1 – A
Ocean Avenue / SR-246 at H Street / SR-1	19.9 – B	25.7 – C
Ocean Avenue / SR-246 at 12 th Street / SR-1	21.8 – C	24.3 – C
UNSIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-1 / SR-246 at F Street	17.4 – C	24.0 – C
Cypress Avenue at I Street / San Miguelito Road	8.6 – A	8.5 – A
Cypress Avenue at F Street	11.0 – B	12.6 – B

Future Baseline Traffic Conditions

The future baseline traffic conditions without the Project were established for the anticipated year of construction for the proposed Project, which is anticipated to be 2020. The baseline traffic conditions for the year 2020 were estimated by applying a growth factor of two percent to the existing traffic volumes. The two percent increase (one percent annual growth rate for two years) is consistent with the assumptions used in other recent traffic studies that were conducted for development projects in Lompoc; e.g., the Summit View Homes Project (Lompoc 2012). This growth factor accounts for the traffic increases associated with general ambient regional growth and the cumulative increase in traffic volumes that would be generated by other proposed development projects in the area.

Staff at the City of Lompoc's Planning Division of the Community Development Department were consulted to determine if there were other proposed development projects that would be completed and occupied prior to the construction of the proposed Project that would result in a cumulative impact on the study area intersections. Four projects were identified:

- Wine Storage – 13,906 square feet – 440 Commerce Court
- Sobhani Industrial Warehouse – 15, 000 square feet – 424 Commerce Court
- Summit View Homes – 44 units – Harris Grade Road at Purisima Road
- Transit Yard – 320 North D Street

Because these projects are either geographically separated from the study area intersections or would result in minor increases in generated traffic volumes, a detailed cumulative traffic analysis was not conducted. The assumed ambient growth factor would account for the minor effects that these projects would have on the study area intersections.

Based on the projected peak-hour traffic volumes, the future (year 2020) baseline levels of service were calculated for the study area intersections for each peak period, as summarized in Table 4.17-7 for the ICU analysis methodology and on Table 4.17-8 for the HCM methodology. As shown, all of the study area intersections are projected to operate at acceptable levels of service (LOS A, B, or C) during the weekday morning and afternoon peak hours.

Table 4.17-7. 2020 Intersection Levels of Service – ICU Methodology

Intersection	ICU Value & Level of Service	
	AM Peak Hour	PM Peak Hour
SIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-246 at I Street	0.332 – A	0.354 – A
Ocean Avenue / SR-246 at H Street / SR-1	0.500 – A	0.614 – B
Ocean Avenue / SR-246 at 12 th Street / SR-1	0.628 – B	0.590 – A
UNSIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-1 / SR-246 at F Street	0.343 – A	0.390 – A
Cypress Avenue at I Street / San Miguelito Road	0.317 – A	0.313 – A
Cypress Avenue at F Street	0.292 – A	0.365 – A

Table 4.17-8. 2020 Intersection Levels of Service – HCM Methodology

Intersection	Delay Value (seconds) & Level of Service	
	AM Peak Hour	PM Peak Hour
SIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-246 at I Street	8.9 – A	9.1 – A
Ocean Avenue / SR-246 at H Street / SR-1	20.2 – C	26.7 – C
Ocean Avenue / SR-246 at 12 th Street / SR-1	22.5 – C	25.2 – C
UNSIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-1 / SR-246 at F Street	17.8 – C	25.0 – C
Cypress Avenue at I Street / San Miguelito Road	8.6 – A	8.5 – A
Cypress Avenue at F Street	11.0 – B	12.7 – B

Potential Physical Constraints to Truck Traffic

Some of the roadways and intersections in the Project area have physical constraints that would limit the ability to accommodate the movement of oversized and overweight trucks. The truck and trailer combinations that would be used to transport the blades and tower components would have dimensions up to 255 feet long, 16 feet high, and 15 feet wide with weights up to 200,000 pounds (ATS 2017, Logisticus 2018). As lane widths vary from 10 to 12 feet, the maximum legal weight limit for a

vehicle is 80,000 pounds according to the California Vehicle Code (California 2018), and 255 feet is extremely long for a vehicle, the trucks and trailers that would be used as transport vehicles would certainly be oversized and overweight. In addition to the 80,000-pound weight limit for a vehicle, the Vehicle Code has specific weight limits for individual axles and wheels, as determined by the design of the vehicles and trailers and the distance between axles. The weight limits are applicable to State highways and well as local County and City-owned roadways. As many of the truck and trailer combinations for the proposed Project would be oversized and/or overweight, special permits would have to be obtained from Caltrans and the affected local authorities authorizing the applicant to operate the oversized and overweight vehicles on the designated roadways. Additional information regarding the State and local roadway regulations is provided in the “Regulatory Framework” section of the LWEP EIR and the “Regulatory Setting” section of this SEIR.

As an example of the potential physical constraints, the minimum vertical clearance on SR-1 at the Gaviota Creek separation is 16.24 feet, which would barely be adequate to accommodate these vehicles. In addition, the City of Lompoc has a concern regarding vehicle weights at the Robinson Bridge on SR-246. San Miguelito Road has overhanging trees that would be lower than the vertical clearances of some of the construction trucks and loads, and there are horizontal curves along San Miguelito Road that have turning radii that are too small to accommodate the Project’s oversized trucks/trailers. Similarly, there are multiple intersections along the haul route, particularly in the City of Lompoc, that have turning radius constraints that would restrict the movement of the Project’s oversized trucks/trailers. The affected intersections in Lompoc are Ocean Avenue at H Street, Ocean Avenue at F Street, Cypress Avenue at F Street, and Cypress Avenue at I Street. The affected intersections along the roadways outside of Lompoc include the Interstate 5 off-ramps at State Highway 166/Maricopa Highway, State Highway 166 at Thompson Avenue, Thompson Avenue at the U.S. Highway 101 ramps, and State Highway 1/Cabrillo Highway at California Boulevard at Vandenberg Air Force Base. Temporary modifications would be made at these intersections to provide enough space for the trucks and trailers to traverse the intersection, such as the removal of signs, street light poles, traffic signal poles, street trees, and wires. Preliminary studies indicate that a total of 28 signs, two traffic signal poles, five street light poles, and eight trees would be temporarily removed at the eight affected intersections. In addition, physical modifications would be required along San Miguelito Road, including widening the road to provide passable turning radii and removing potentially 158 oak trees along San Miguelito road.

Existing Transit Service

The study area is served by the City of Lompoc Transit (COLT), a public transit agency that provides bus service to Lompoc and Vandenberg Village. Route 1 runs along I Street, Cypress Avenue, and an eastern segment of Ocean Avenue and Route 2 runs along I Street and Cypress Avenue (Lompoc 2014). There is no transit service to the Project site along San Miguelito Road.

In addition, The Breeze Bus Route 100 provides weekday commuter service between Lompoc, Vandenberg Air Force Base, and Santa Maria; and Clean Air Express provides commuter service from Lompoc to Goleta and Santa Barbara.

Existing Pedestrian and Bicycle Facilities

Sidewalks are currently in place along most of the streets in the Lompoc study area, although there are some missing links to the sidewalk network on F Street, Cypress Avenue, and I Street south of

Cypress Avenue. There are no sidewalks along San Miguelito Road, so pedestrians walk along the bike lane and/or shoulder of the roadway. Bike lanes are currently in place along Cypress Avenue and on I Street south of Cypress Avenue. The I Street bike lanes continue to the south along San Miguelito Road for approximately 1¼ mile south of the Lompoc city boundary. There are no bike lanes on the remainder of San Miguelito Road toward the Project site.

Aviation Facilities

There are two airports in the vicinity of the Project site: Lompoc Airport and Vandenberg Air Force Base. Lompoc Airport is a general aviation airport located on the north side of Lompoc west of SR-1 and north of Central Avenue. The runway at Lompoc Airport is approximately six miles north of the Project site and it has an east-west alignment. Vandenberg Air Force Base is a military base with a runway that is located approximately seven miles northwest of the Project site. The runway has a southeast to northwest alignment.

4.17.2 Regulatory Setting

A discussion of the regulatory setting for the Project relative to transportation and traffic is provided in Section 3.14.2, *Regulatory Framework*, of the LWEP EIR. That section presents information regarding the applicable Federal agencies (U.S. Department of Transportation and Federal Highway Administration), State of California agencies (Caltrans), and local agencies (Santa Barbara County, Santa Barbara County Association of Governments, and the City of Lompoc).

The study area roadways are within the jurisdiction of Caltrans, the County of Santa Barbara, and the City of Lompoc. Caltrans is responsible for SR-1, SR-246, and U.S. Highway 101. Santa Barbara County is responsible for San Miguelito Road. The City of Lompoc is responsible for F Street, I Street, H Street south of Ocean Avenue, and Cypress Avenue. These agencies are responsible for the operation and maintenance of the study area roadways.

In addition to the information provided in the LWEP EIR regarding the regulatory setting, the Federal Aviation Administration has authority over any features that could potentially affect air space operations and safety, as detailed below.

Federal Aviation Administration (FAA). The FAA has broad authority for airspace review and the evaluation of any project that could pose a potential hazard to air navigation. The clearest trigger for FAA review is a physical penetration of airspace. The FAA conducted an aeronautical study on each proposed turbine at the Project site and determined that each turbine would not exceed obstruction standards and would not be a hazard to air navigation provided that the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines) (FAA 2018).

4.17.3 Significance Thresholds

Santa Barbara County. The significance criteria used by Santa Barbara County for evaluating the potential traffic impacts of proposed projects are outlined in the “Environmental Thresholds and Guidelines Manual”. As stated in Chapter 19 Section B, a significant traffic impact occurs when:

- a. The addition of project traffic to an intersection increases the volume to capacity (V/C) ratio by the value provided below or sends 5, 10, or 15 trips to an intersection operating at LOS F, E, or D.

LEVEL OF SERVICE (including project)	INCREASE IN V/C GREATER THAN
A	0.20
B	0.15
C	0.10
	Or the Addition Of:
D	15 trips
E	10 trips
F	5 trips

- b. Project access to a major road or arterial road would require a driveway that would create an unsafe situation or a new traffic signal or major revisions to an existing traffic signal.
- c. Project adds traffic to a roadway that has design features (e.g., narrow width, road side ditches, sharp curves, poor sight distance, inadequate pavement structure) or receives use which would be incompatible with substantial increases in traffic (e.g., rural roads with use by farm equipment, livestock, horseback riding, or residential roads with heavy pedestrian or recreational use, etc.) that will become potential safety problems with the addition of project or cumulative traffic. Exceedance of the roadways designated Circulation Element Capacity may indicate the potential for the occurrence of the above impacts.
- d. Project traffic would utilize a substantial portion of an intersection(s) capacity where the intersection is currently operating at acceptable levels of service (A-C) but with cumulative traffic would degrade to or approach LOS D (V/C of 0.81) or lower. Substantial is defined as a minimum change of 0.03 for intersections which would operate from 0.80 to 0.85 and a change of 0.02 for intersections which would operate from 0.86 to 0.90, and 0.01 for intersections operating at anything lower.

If the above thresholds are exceeded, construction of improvements or project modifications to reduce the levels of significance to insignificance are required.

City of Lompoc. As stated in the City of Lompoc General Plan (Lompoc 2013), the City's traffic impact threshold is: "The City shall maintain intersection traffic levels of service (LOS) at LOS C or better throughout the City, with the exception of intersections monitored in accordance with the Congestion Management Program (CMP) administered by the Santa Barbara County Association of Governments (SBCAG). CMP intersections shall maintain a LOS in accordance with the most recent CMP standards (at LOS D or better), when it can be demonstrated that all feasible mitigation measures have been applied to the project and LOS C, with said modification, cannot be achieved."

Peak-hour traffic generates the heaviest demand on the circulation system and the lane configuration at intersections is the limiting factor in roadway capacity; therefore, peak-hour intersection capacity analyses address "worst-case conditions."

Caltrans. The level of service (LOS) for operating State highway facilities is based upon measures of effectiveness (MOEs). These MOEs describe the measures best suited for analyzing State highway facilities (i.e., freeway segments, signalized intersections, on- or off-ramps, etc.). Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway

facility is operating at less than the appropriate target LOS, the existing MOE should be maintained (Caltrans 2002).

4.17.4 Environmental Impacts and Mitigation Measures

Table 4.17-9 below lists the impacts and mitigation measures identified for transportation and traffic in Section 3.14, *Traffic and Circulation*, of the LWEPP EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the LWEPP impacts or mitigation measures have been modified for the SWEP.

Table 4.17-9. LWEPP Impacts and Mitigation Measures – Transportation and Traffic

Impact No.	LWEPP Impact Statements	LWEPP Mitigation Measures	SWEP Changes
TC-1	LOS and V/C Ratio. Project-related construction traffic would temporarily affect traffic levels and LOS on Project area roadways.	TC-1: Traffic Management Plan. TC-2: Traffic Mitigation Fees.	Updated impact discussion. Changed significance conclusion. Revised/updated mitigation (MM TC-1 only).
TC-2	Roadway Safety. Long, heavy trucks used to deliver equipment during construction could present safety concerns, and physical modifications to the roadway or nearby trees and power lines may be required.	TC-1: Traffic Management Plan. TC-2: Traffic Mitigation Fees. TC-4: Oversize Load Permits.	Updated impact discussion. Revised/updated mitigation (MM TC-1 only).
TC-3	Truck Delivery Routes-Weight and Load Limitations. Heavy-haul trucks would be required to transport large and heavy equipment subject to weight, height, and load limitations.	TC-1: Traffic Management Plan. TC-2: Traffic Mitigation Fees.	This impact has been removed.
TC-4	Road Blockages/Traffic Delays. During peak construction, several oversized trucks per day could slow traffic and necessitate temporary blockages of intersections.	TC-2: Traffic Mitigation Fees.	Updated impact discussion. Revised/updated mitigation (none required).
TC-5	Damage to Roadways. Trucks carrying heavy equipment could damage existing streets. Project vehicles could track dust and soil onto public roads.	TC-2: Traffic Mitigation Fees. TC-3: Roadway Repairs.	Updated impact discussion. Revised/updated mitigation (MM TC-3 only).

The traffic analysis in the LWEPP EIR relative to traffic volumes and LOS on the Project area roadways was based on daily traffic volumes on specific roadway segments, as summarized in Table 3.14-5 of Section 3.14.3.3 of the LWEPP EIR. As the significance thresholds outlined above in Section 4.17-3 state that the traffic impact analysis should be based on the Project's impacts at intersections, the traffic analysis for the SWEP addresses the traffic volumes and LOS at the intersections that would be most-directly affected by the Project.

Impact Assessment Methodology

The objective of the traffic analysis is to quantify the impacts of the proposed Project on the roadways and intersections in the vicinity of the Project site and determine if the impacts would be significant. Construction of the Project would generate relatively heavy traffic volumes associated with workers driving to and from the Project site and materials being delivered to the site. As the operation of the

facility after construction is complete would generate only negligible traffic volumes (i.e., occasional maintenance and repair activities), the focus of the traffic analysis is the impacts during construction.

The methodology for the traffic study, in general, was to (1) establish the existing and projected future baseline traffic conditions without the Project, (2) estimate the levels of traffic that would be generated by the proposed Project during construction, and (3) conduct a comparative analysis of traffic conditions with and without the Project's construction activities to determine if there would be significant Project-related impacts. The analysis is based on the weekday morning and afternoon peak-hour traffic volumes at the study area intersections.

Project-generated Traffic

The volumes of traffic that would be generated by the proposed Project during construction were determined in order to estimate the impacts of the Project on the study area roadways and intersections. While the Project would be constructed over an estimated 10-month period, the traffic analysis is based on the impacts during months 6 and 7, which is the time during which the Project would generate the highest levels of traffic.

Table 4.17-10 shows the volumes of peak-hour and daily trips that would be generated by the proposed Project during this peak construction period. The table shows the number of vehicle trips and the number of trips in terms of passenger car equivalents (PCEs) using a PCE factor of 2.5 for trucks. This adjustment was made because trucks occupy more roadway capacity than passenger cars/light-duty vehicles relative to roadway capacity. It should be noted that the PCE factor of 2.5 is not applicable to the oversize and overweight trucks that would be used to transport the blades and tower components; i.e., the truck and trailer combinations that would be up to 255 feet long, 16 feet high, and 15 feet wide. The traffic volumes and PCE values shown in the table were used in the standard traffic impact analysis for the level of service calculations. It is assumed that the trucks transporting the blades and tower components would travel during non-peak times and potentially at night and/or on the weekends to minimize traffic disruptions because the procedures required to move the equipment through the intersections would temporarily close the intersections.

The number of worker trips is based on the assumption that 100 workers would be utilized during the periods of peak construction activities and that there would be an average carpool usage of 1.1 workers per vehicle. The number of truck trips is based on the assumption that there would be 108 truck trips per day and that 25 percent of these trips could potentially occur during the peak hours (which is a conservatively high estimation). As shown, the Project would generate an estimated 145 peak-hour vehicle trips during the peak hours and 290 trips per day, which equates to a total of 227 PCE trips during the peak hours and 454 PCE trips per day.

Table 4.17-10. Project Generated Traffic during Construction

Vehicle Category	AM Peak Hour			PM Peak Hour			Daily
	Inbound	Outbound	Total	Inbound	Outbound	Total	
Workers – Autos/Pick-up Trucks	91	0	91	0	91	91	182
Trucks	27	27	54	27	27	54	108
Trucks in PCEs	68	68	136	68	68	136	272
Total Vehicles	118	27	145	27	118	145	290
Total PCEs	159	68	227	68	159	227	454

NOTE: PCE = Passenger Car Equivalents

The worker commute traffic that would be generated by the proposed Project during the morning and afternoon peak hours was distributed onto the roadway network based on the anticipated geographical distribution of the workers' residences and the observed traffic patterns on the study area roadway network. Figure 4.17-4 shows the assumed geographic distribution of the employee commute traffic. Using the generated traffic volumes for workers shown in Table 4.17-10 and the geographical distribution assumptions outlined above, the volumes of commuter traffic at each study area intersection were determined, as shown on Figure 4.17-4 for the AM and PM peak hours.

The geographical distribution of the Project-generated truck traffic and the volumes of truck traffic at each study area intersection are shown on Figure 4.17-5. The figure shows the number of peak-hour vehicles and the number of PCEs at each intersection.

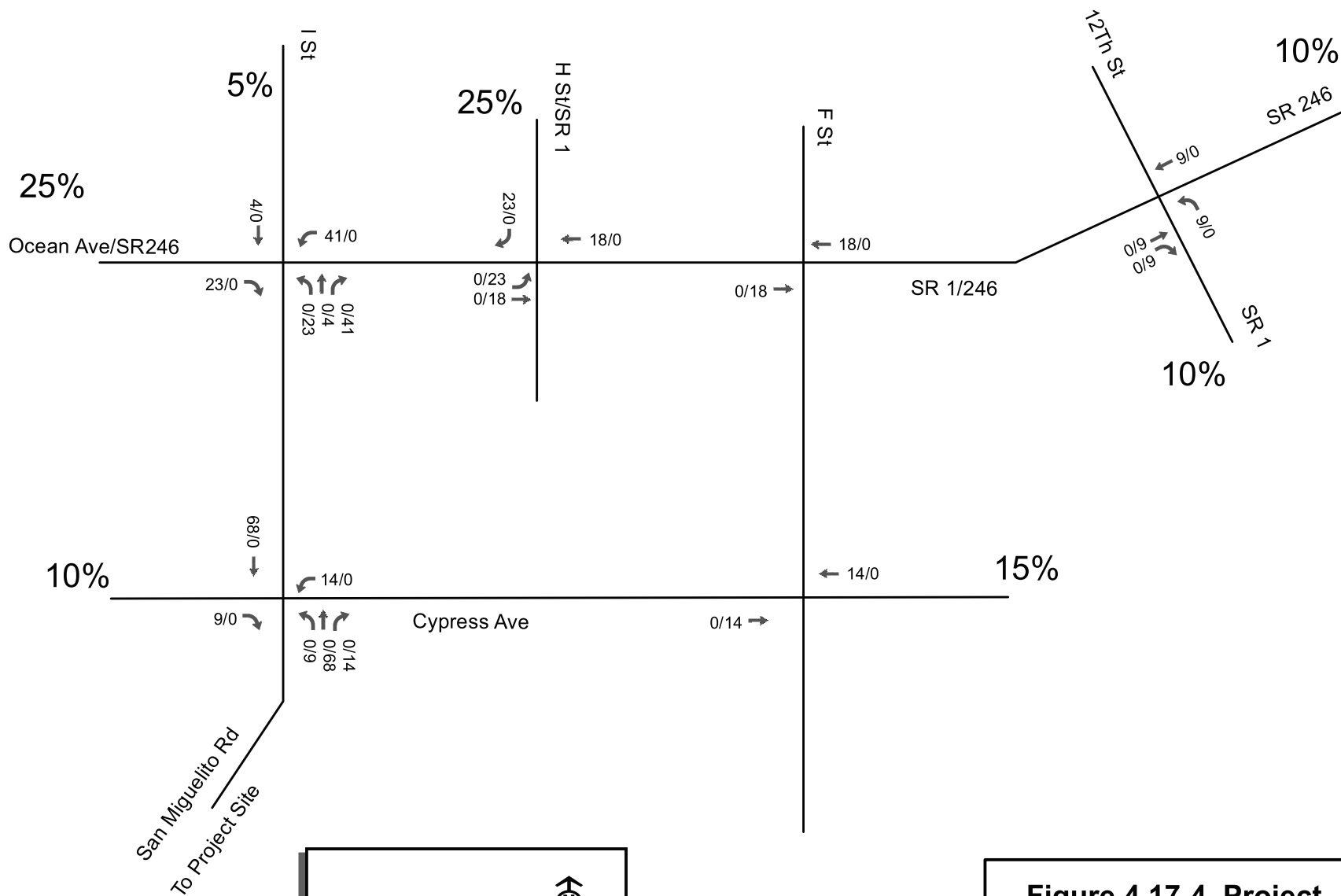
For purposes of quantifying the impacts of the proposed Project, the traffic analysis considers two scenarios. One is the Project's impacts on existing conditions and the other is the Project's impacts on the projected year 2020 conditions. To quantify the impacts on existing conditions, the Project-generated traffic volumes shown on Figures 4.17-4 and 4.17-5 were added to the existing traffic volumes. The resulting "existing plus Project" traffic volumes are shown on Figure 4.17-6. The total volumes of traffic projected for the year 2020 traffic conditions were determined by expanding the existing traffic volumes by a growth factor of two percent and then adding the Project-generated traffic volumes.

Intersection Impact Analysis

An analysis of traffic impacts was conducted by quantifying the before-and-after traffic volumes, then determining the levels of service at the study area intersections for the "without Project" and "with Project" scenarios. Two methodologies were used for the intersection analysis; the intersection capacity analysis (ICU) methodology, which is consistent with the Santa Barbara County guidelines, and the Highway Capacity Manual (HCM) methodology, which is consistent with the City of Lompoc and Caltrans guidelines.

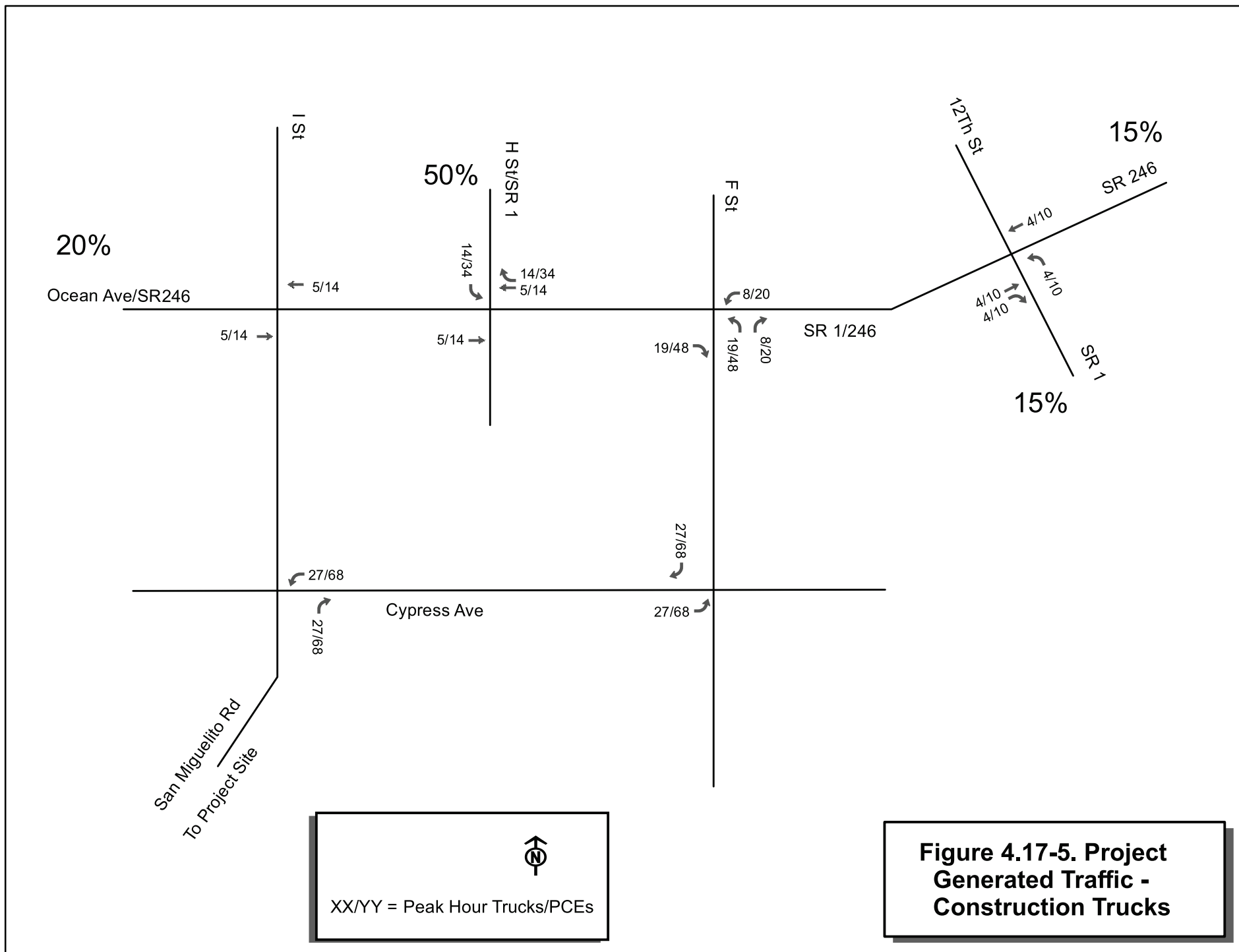
For the ICU analysis methodology, the before-and-after ICU values and levels of service at each of the study area intersections are summarized in Table 4.17-11 for the AM and PM peak hours for the existing conditions baseline scenario. The intersection of Ocean Avenue/SR-246 at I Street, for example, currently operates with an ICU value of 0.327 and LOS A for existing conditions and would operate with an ICU value of 0.364 and LOS A for the existing plus Project scenario. The Project would result in an increase in the ICU value of 0.037, which would not constitute a significant impact.

Table 4.17-11 indicates that all six of the study area intersections would continue to operate at acceptable levels of service (LOS A and B) for the scenario with the proposed Project and that none of the study area intersections would be significantly impacted by the proposed Project according to the Santa Barbara County significance criteria presented previously.



XX/YY = AM/PM Peak Hour

**Figure 4.17-4. Project
Generated Traffic -
Construction Workers**



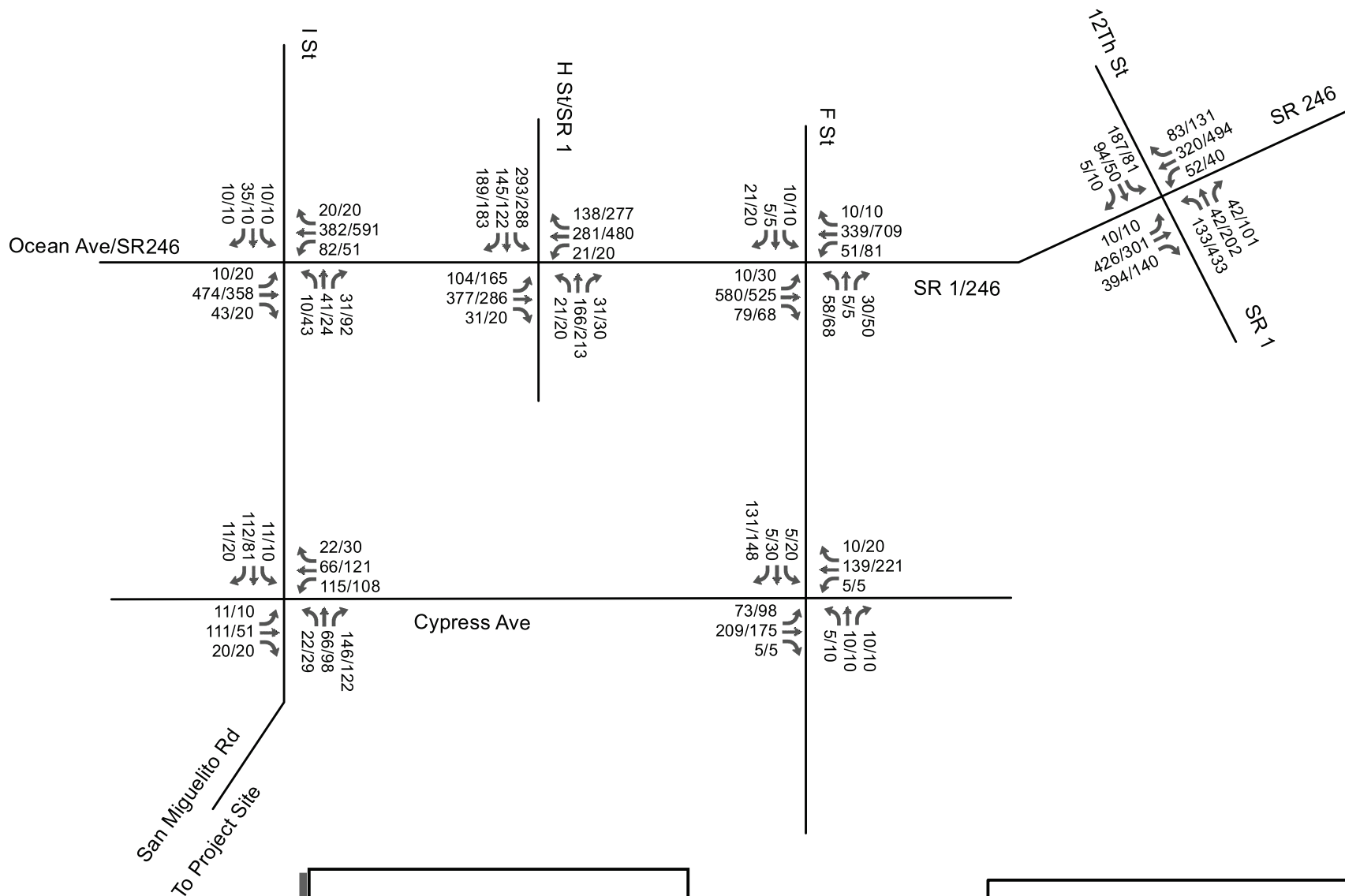


Figure 4.17-6. Existing Plus Project Traffic Volumes

Table 4.17-11. Project Impact on Intersection Levels of Service – ICU Methodology, Existing Baseline

Intersection	ICU Value & Level of Service		Increase in ICU Value	Significant Impact
	Existing Conditions	Existing Plus Project		
SIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-246 at I Street				
AM Peak Hour	0.327 – A	0.364 – A	0.037	No
PM Peak Hour	0.350 – A	0.383 – A	0.033	No
Ocean Avenue / SR-246 at H Street / SR-1				
AM Peak Hour	0.493 – A	0.513 – A	0.020	No
PM Peak Hour	0.605 – B	0.633 – B	0.028	No
Ocean Avenue / SR-246 at 12 th Street / SR-1				
AM Peak Hour	0.616 – B	0.630 – B	0.014	No
PM Peak Hour	0.579 – A	0.593 – A	0.014	No
UNSIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-1 / SR-246 at F Street				
AM Peak Hour	0.339 – A	0.402 – A	0.063	No
PM Peak Hour	0.385 – A	0.427 – A	0.042	No
Cypress Avenue at I Street / San Miguelito Road				
AM Peak Hour	0.315 – A	0.414 – A	0.099	No
PM Peak Hour	0.309 – A	0.430 – A	0.121	No
Cypress Avenue at F Street				
AM Peak Hour	0.289 – A	0.373 – A	0.084	No
PM Peak Hour	0.360 – A	0.445 – A	0.085	No

The before-and-after ICU values and levels of service at each of the study area intersections are shown in Table 4.17-12 for the year 2020 baseline scenario. The table indicates that all six of the study area intersections would operate at acceptable levels of service (LOS A and B) for the scenario with the proposed Project and that none of the study area intersections would be significantly impacted.

Table 4.17-12. Project Impact on Intersection Levels of Service – ICU Methodology, 2020 Baseline

Intersection	ICU Value & Level of Service		Increase in ICU Value	Significant Impact
	2020 Without Project	2020 With Project		
SIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-246 at I Street				
AM Peak Hour	0.332 – A	0.368 – A	0.036	No
PM Peak Hour	0.354 – A	0.387 – A	0.033	No
Ocean Avenue / SR-246 at H Street / SR-1				
AM Peak Hour	0.500 – A	0.520 – A	0.020	No
PM Peak Hour	0.61408 – B	0.643 – B	0.029	No
Ocean Avenue / SR-246 at 12 th Street / SR-1				
AM Peak Hour	0.628 – B	0.639 – B	0.011	No
PM Peak Hour	0.590 – A	0.606 – B	0.016	No

Intersection	ICU Value & Level of Service		Increase in ICU Value	Significant Impact
	2020 Without Project	2020 With Project		
UNSIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-1 / SR-246 at F Street				
AM Peak Hour	0.343 – A	0.407 – A	0.064	No
PM Peak Hour	0.390 – A	0.432 – A	0.042	No
Cypress Avenue at I Street / San Miguelito Road				
AM Peak Hour	0.317 – A	0.418 – A	0.101	No
PM Peak Hour	0.313 – A	0.433 – A	0.120	No
Cypress Avenue at F Street				
AM Peak Hour	0.292 – A	0.377 – A	0.085	No
PM Peak Hour	0.365 – A	0.450 – A	0.085	No

For the HCM analysis methodology, the before-and-after delay values and levels of service at each of the study area intersections are summarized in Table 4.17-13 for the existing conditions baseline scenario. The intersection of Ocean Avenue/SR-246 at I Street, for example, currently operates with an average delay value of 8.9 seconds and LOS A for existing conditions and would operate with a delay value of 9.4 seconds and LOS A for the existing plus Project scenario. The Project would result in an increase in average delay of 0.5 seconds per vehicle and would not result in a significant impact.

Table 4.17-13 indicates that five of the six study area intersections would continue to operate at acceptable levels of service (LOS A, B, and C) for the scenario with the proposed Project, but that one intersection would be significantly impacted according to the City of Lompoc and Caltrans criteria because the intersection of Ocean Avenue/SR-1/SR-246 at F Street would operate at LOS D during the AM peak hour and LOS F during the PM peak hour.

Table 4.17-13. Project Impact on Intersection Levels of Service – HCM Methodology, Existing Baseline

Intersection	Delay Value & Level of Service		Increase in Delay Value	Significant Impact
	Existing Conditions	Existing Plus Project		
SIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-246 at I Street				
AM Peak Hour	8.9 – A	9.4 – A	0.5	No
PM Peak Hour	9.1 – A	9.6 – A	0.5	No
Ocean Avenue / SR-246 at H Street / SR-1				
AM Peak Hour	19.9 – B	20.8 – C	0.9	No
PM Peak Hour	25.7 – C	31.0 – C	5.3	No
Ocean Avenue / SR-246 at 12 th Street / SR-1				
AM Peak Hour	21.8 – C	22.3 – C	0.5	No
PM Peak Hour	24.3 – C	25.1 – C	0.8	No

Intersection	Delay Value & Level of Service		Increase in Delay Value	Significant Impact
	Existing Conditions	Existing Plus Project		
UNSIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-1 / SR-246 at F Street AM Peak Hour PM Peak Hour	17.4 – C 24.0 – C	27.8 – D 61.5 – F	10.4 37.5	Yes Yes
Cypress Avenue at I Street / San Miguelito Road AM Peak Hour PM Peak Hour	8.6 – A 8.5 – A	9.9 – A 10.2 – B	1.3 1.7	No No
Cypress Avenue at F Street AM Peak Hour PM Peak Hour	11.0 – B 12.6 – B	12.7 – B 15.8 – C	1.7 3.2	No No

It should be noted that the deficient levels of service shown for the intersection of Ocean Avenue/SR-1/SR-246 at F Street represent the delays on northbound F Street for vehicles waiting at the stop sign to turn onto Ocean Avenue. The LOS values for an intersection with stop signs on the minor approaches to the intersection are based on the delay values for vehicles stopped at the stop signs (as opposed to the delays for the entire intersection).

The before-and-after delay values and levels of service at each of the study area intersections are shown in Table 4.17-14 for the year 2020 baseline scenario. The table indicates that five of the six study area intersections would operate at acceptable levels of service (LOS A, B, and C) for the scenario with the proposed Project, but that one intersection would be significantly impacted; i.e., the intersection of Ocean Avenue/SR-1/SR-246 at F Street, which would operate at LOS D during the AM peak hour and LOS F during the PM peak hour.

Table 4.17-14. Project Impact on Intersection Levels of Service – HCM Methodology, 2020 Baseline

Intersection	ICU Value & Level of Service		Increase in ICU Value	Significant Impact
	2020 Without Project	2020 With Project		
SIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-246 at I Street AM Peak Hour PM Peak Hour	8.9 – A 9.1 – A	9.4 – A 9.6 – A	0.5 0.5	No No
Ocean Avenue / SR-246 at H Street / SR-1 AM Peak Hour PM Peak Hour	20.2 – C 26.7 – C	21.1 – C 32.3 – C	0.9 5.6	No No
Ocean Avenue / SR-246 at 12 th Street / SR-1 AM Peak Hour PM Peak Hour	22.5 – C 25.2 – C	23.0 – C 26.2 – C	0.5 1.0	No No
UNSIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-1 / SR-246 at F Street AM Peak Hour PM Peak Hour	17.8 – C 25.0 – C	29.0 – D 67.1 – F	11.2 42.1	Yes Yes

Intersection	ICU Value & Level of Service		Increase in ICU Value	Significant Impact
	2020 Without Project	2020 With Project		
Cypress Avenue at I Street / San Miguelito Road AM Peak Hour PM Peak Hour	8.6 – A 8.5 – A	10.0 – A 10.2 – B	1.4 1.7	No No
Cypress Avenue at F Street AM Peak Hour PM Peak Hour	11.0 – B 12.7 – B	12.8 – B 16.0 – C	1.8 3.3	No No

Proposed Actions to Accommodate Oversized Vehicles

Several detailed reports have been prepared by the Applicant’s consultants that specify the proposed haul routes for the oversized vehicles that would be transporting the blades and tower components of the wind turbine generators. The reports identify the constrained locations along the haul route and present measures that should be taken to accommodate the oversized trucks at each location. The constrained locations that are most critical are the eight intersections presented previously where the trucks and trailers would have to make 90-degree turns and 31 locations along San Miguelito Road where the existing turning radius is too sharp to accommodate the long truck and trailer combinations (Logisticus 2018). In addition, there are 27 locations along the haul route, particularly on San Miguelito Road, where trees and other vegetation would disrupt the movement of the oversized load because of the excessive height, width, and length of the vehicle (ATS 2017). Potentially 158 oak trees would be removed along San Miguelito road.

The reports present various actions that should be taken to accommodate the movement of the oversized trucks through each of the constrained locations. The proposed actions are as follows:

Intersections. Removing signs, street light poles, traffic signal poles, street trees, and bus shelters and adding gravel adjacent to the roadway. Re-installing and re-activating all signs, street light poles, traffic signal poles, and bus shelters and replacing trees where needed. Typically, these features are removed an hour or two in advance of the vehicle passage, then the signs and street light/traffic signal poles are put back in place as soon as possible after the passage of the vehicle, possibly on temporary foundations for ease of removal for the next vehicle passage. It is possible that multiple trucks could be traveling in tandem as a convoy, which would reduce the number of times that the features would be removed and replaced, but would increase the duration of each intersection closure. When all of the oversized vehicle deliveries are completed, the signs, poles, and bus shelters would be permanently replaced, and new trees would be planted to replace the trees that were removed.

San Miguelito Road Curves. Reinforcing and adding gravel to the shoulders, adding fill material to widen the shoulders, cutting back the hillside adjacent to the road, and clearing trees and brush adjacent to the road. Replacing trees and vegetation where needed and restoring road to original condition if required by County and adjacent property owner. For any actions that would physically affect features on private property, such as driveways, fences, gates, and trees, the applicant would coordinate with the property owner to develop a mutually acceptable methodology for the removal, modification, and replacement/repair of any affected features.

Entire Haul Route. Provide police escorts and repair all damaged facilities.

The transportation and traffic impacts of the proposed SWEP are discussed below.

TC-1 LOS and V/C Ratio. Project-related construction traffic could temporarily affect traffic levels and LOS on Project area roadways.

Impact TC-1 regarding traffic volumes and levels of service on the study area roadways was presented in Section 3.14.3.3 of the LWEF EIR and the finding was that the Project would result in Class III impacts, which are adverse impacts found not to be significant. The revised analysis in the SWEF SEIR (i.e., the standard traffic impact analysis that addresses the peak hour impacts of workers' commute vehicles, light-duty trucks, and legal-sized haul trucks) concludes that the Project would result in a Class II impact, as there are significant environmental impacts that can be feasibly mitigated or avoided. The impact classification changed from a Class III impact in the LWEF EIR to a Class II impact in the SWEF SEIR because the SWEF SEIR traffic analysis included a detailed evaluation of the delays and levels of service at the study area intersections during the peak periods. This level of analysis was not conducted for the LWEF EIR.

A potentially significant impact could occur at the intersection of Ocean Avenue/SR-1/SR-246 at F Street because of the excessive vehicle delays and unacceptable LOS at the stop sign. This impact could be mitigated by deploying a flag person at that intersection to facilitate the movement of trucks from northbound F Street onto Ocean Avenue and/or by prohibiting northbound truck movements at that intersection during the AM and PM peak periods. This measure would be included as a component of Mitigation Measure (MM) TC-1, which is a Traffic Management Plan (TMP) that would be prepared by the Applicant for approval by Santa Barbara County, the City of Lompoc, and Caltrans. The TMP would be implemented in conjunction with the construction of the proposed Project.

Mitigation Measures

Although the finding in the LWEF EIR was that the Project would not have a significant impact with regard to Impact TC-1, it nevertheless recommended two mitigation measures for this impact: MM TC-1 (Traffic Management Plan) and MM TC-2 (Traffic Mitigation Fees). For the SWEF, implementation of MM TC-1 would be appropriate to reduce this impact, but MM TC-2 is not recommended because contributing to a County of Santa Barbara fee program would not mitigate the LOS impact, particularly since the type of fee is not specified in the LWEF EIR. While Project-related fees might be required by Santa Barbara County, the City of Lompoc, and/or Caltrans (e.g., encroachment permit fees, plan check fees, excavation permit fees, etc.), they are not recommended as an SEIR mitigation measure for the SWEF because they are standard fees that are not associated with corresponding CEQA impacts.

MM TC-1 Traffic Management Plan (TMP). The Applicant shall prepare a TMP for submittal to the County of Santa Barbara, City of Lompoc, and Caltrans. The purpose of the TMP is to address potential hazards associated with Project truck traffic and to address level of service impacts. The plan will require measures such as informational signs, flagmen when equipment may result in blockages of throughways, and traffic control to implement any necessary changes in temporary lane configuration.

Specific provisions would include, but not be limited to:

- Location and use of flag persons and pilot cars during the delivery of large/heavy loads.
- Requirements to limit the hours for transporting large/heavy loads to minimize traffic impacts.
- Limit the number of large/heavy loads per day, or to specific days.

- Provide for advance notification of residents, businesses, emergency providers, and hospitals when roads or intersections may be partially or completely closed.
- Develop protocols for passage of emergency vehicles and regular traffic when large/heavy vehicles are traveling at slow speeds.
- Ensure adequate parking for workers, construction vehicles, and trucks.
- Encourage measures for using carpooling, shuttle buses, cycling, or motorcycling to travel to the construction site.
- Transportation Demand Management (TDM), including agreements, employee information, reporting, and traffic count monitoring.
- Prepare and implement detailed plans to safely accommodate the movement of oversized vehicles along the proposed haul routes, with particular emphasis on constrained locations such as intersections where the oversized vehicles will be turning and curves on San Miguelito Road where the turning radius cannot adequately accommodate the passage of the oversized vehicles. The plans would include, but not be limited to, detour signage, use of traffic control officers, time of day and/or day of week restrictions, and required coordination with police, fire, and other emergency service providers. The oversized vehicles would also be required to have police escorts along the entire travel route. These provisions are subject to review and approval by the affected public agencies.

Plan Requirements. All requirements shall be shown on grading and building plans prior to zoning clearance for the first and all subsequent Project phases.

Timing. The TMP shall be approved by all involved agencies prior to Zoning Clearance.

Monitoring. County staff will ensure that the measures that are included in the TMP will be implemented throughout the construction phase and will monitor the locations to ensure compliance.

TC-2 Roadway Safety. Long, heavy trucks used to deliver equipment during construction could present safety concerns, and physical modifications to the roadway or nearby trees and power lines will be required.

Impact TC-2, regarding safety concerns associated with the use of oversized trucks to transport the Project's construction materials to the Project site, was presented in Section 3.14.3.3 of the LWEP EIR and the finding was that the Project would result in Class II impacts, which are significant impacts that can be feasibly mitigated or avoided. For the SWEP, this impact would also be potentially significant but can be reduced to a less-than-significant level with mitigation (Class II). The truck and trailer combinations would be longer for the proposed SWEP as compared to the LWEP because the largest blades for the SWEP would be 225 feet in length (68.5 meters) while the largest blades assumed for the LWEP were 135 feet long. This would result in a truck/trailer combination length of up to 255 feet for the SWEP as compared to 165 feet for the LWEP.

The proposed Project would have 30 wind turbine generators (WTGs) and each WTG would have three blades. So there would be a total of 90 oversized vehicles transporting the blades to the Project site as a worst-case scenario. It is possible that multiple blades could be transported on a single truck and trailer combination, which would reduce the total number of vehicle trips, but it is more likely that each blade would be transported individually. In addition, the towers would be transported in four

pieces (a base, a mid-section, a top, and a hub and nose cone assembly), which would result in a total of 120 additional oversized/overweight vehicle trips for the 30 WTGs. In total, the Project would generate up to 210 oversized and/or overweight vehicle trips during the construction phase.

The Project would require equipment, materials, and supplies to be transported to the Project site on public roadways and many of the loads would require the use of oversized and/or overweight trucks. These trucks would potentially result in safety issues and would require special measures, particularly along San Miguelito Road where there are constraints associated with sharp curves, vegetation, oak trees, and terrain issues, and at intersections where the trucks would be turning. Locations such as these would require physical modifications to such features as utility lines, poles, traffic signals, signs, trees, vegetation, and the roadway design.

The Project's impacts are also considered potentially significant because the driveway access points to the various Project site locations could result in safety issues. This relates to criterion "b" of the Santa Barbara County thresholds of significance presented in Section 4.17.3 above. In addition, the Project would add oversized truck traffic to a roadway that has design features that would become potential safety problems with the addition of Project traffic, which relates to criterion "c."

Several detailed analyses have been prepared by the Applicant that specify the haul routes, identify the constrained locations, and present measures that should be taken to accommodate the oversized trucks at each location. These strategies are presented in the "Strauss Wind 67m Blade Feasibility Assessment" (Logisticus 2018, see SEIR Appendix F), the "Transportation Study for San Miguelito Road Strauss Wind Energy Project" (LAV/Pinnacle Engineering 2018, see Appendix G), and "Strauss Wind Project Review" (ATS 2017, see Appendix H). It is stated in the "Strauss Wind 67m Blade Feasibility Assessment" report that the blade transport activities would result in a high risk level, which is consistent with the finding of a Class II impact for Roadway Safety in this SWEP EIR. The Logisticus report highlights off-site road improvements, blade length, and police escorts, all of which have been addressed in this impact assessment.

The dimensions of the oversized truck and trailer combinations greatly exceed the size of conventional tractor/trailer vehicles and the maximum vehicle weights far exceed the legal weight limit of 80,000 pounds. The measures proposed in the reports for accommodating the oversized vehicles are summarized in a previous section. As stated, physical modifications would be made at each of the intersections where the trucks would be turning, such as the removal of signs, light poles, traffic signals, trees, and bus shelters so that the trucks could slowly make their turns through the intersections. This would result in temporary blockages and delays to motorists at the affected locations. Typically, these features are removed an hour or two in advance of the vehicle passage, then the signs and street light/traffic signal poles are put back in place as soon as possible after the passage of the vehicle, possibly on temporary foundations for ease of removal for the next vehicle passage. It is possible that multiple trucks could be traveling in tandem as a convoy, which would reduce the number of times that the features would be removed and replaced, but would increase the duration of each intersection closure. When all of the oversized vehicle deliveries are completed, the signs, poles, and bus shelters would be permanently replaced, and new trees would be planted to replace the trees that were removed.

Similarly, there are numerous locations along San Miguelito Road where the transport vehicles would be too large to negotiate the sharp curves. These locations would be modified by reinforcing shoulders, added gravel to shoulders, using fill material to widen shoulders, cutting back hillsides, and potentially removing 158 oak trees and other vegetation, resulting in about 3.2 acres of total vegetation loss along

the road. These actions, along with continuous police escorts, would facilitate the passage of the oversized vehicles through these constrained locations. While these transport operations would be an inconvenience to the traveling public by creating blockages and delays, the safety risks would be mitigated by including components in the Traffic Control Plan to address such issues and then implementing the plan in conformance with the direction of the affected public agencies. The information provided in the haul route documents will be used by the public agencies as input to the issuance of required permits for oversized and overweight trucks and will be included in the Traffic Control Plan to ensure compliance with the proposed CEQA mitigation.

The LWEP EIR identified three mitigation measures for this impact: MM TC-1 (Traffic Management Plan), MM TC-2 (Traffic Mitigation Fees), and MM TC-4 (Permits for Oversize Loads). MM TC-1 would be required to offset the impacts of the SWEP, and this measure is described in detail under Impact TC-1 above. Neither MM TC-2 nor MM TC-4 would be needed for the SWEP. MM TC-2 is not included because contributing to a fee program would not mitigate the significant impact, as discussed above for Impact TC-1. MM TC-4 is not included because permits are automatically required from a public agency if a truck operator intends to transport oversized and/or overweight vehicles on a public roadway. The Applicant or the Applicant's representative will be required to obtain such permits from Caltrans, Santa Barbara County, and the City of Lompoc if oversized or overweight vehicles will be used regardless of the findings of this SEIR.

Mitigation Measures

MM TC-1 Traffic Management Plan (TMP). See Impact TC-1 for the full text of this measure.

~~**TC 3 Truck Delivery Routes Weight and Load Limitations.** Heavy haul trucks would be required to transport large and heavy equipment subject to weight, height, and load limitations.~~

Impact TC-3, regarding the use of overweight trucks to transport the Project's construction materials to the Project site, was presented in Section 3.14.3.3 of the LWEP EIR and the finding was that the Project would result in Class III impacts, which are adverse but not significant impacts. For the SWEP, this impact has been deleted as it is addressed in Impacts TC-2, TC-4, and TC-5.

TC-4 Road Blockages/Traffic Delays. During peak construction, several oversized trucks per day could slow traffic and necessitate temporary blockages of intersections.

Impact TC-4, regarding the use of oversized trucks that could slow traffic and necessitate temporary blockages of intersections, was presented in Section 3.14.3.3 of the LWEP EIR and the finding was that the Project would result in Class III impacts, which are adverse but not significant impacts. For the SWEP, this impact is considered to be potentially significant, but can be mitigated to a less-than-significant level (Class II). The impact category was changed to Class II because the size of the blades that would be transported and the number of oversized trucks that would be generated for the SWEP project would be substantially greater than what was assumed for the LWEP EIR traffic analysis.

The Project would require equipment, materials, and supplies to be transported to the Project site on public roadways and many of the loads would require the use of oversized trucks, which would result in temporary blockages and/or traffic delays where the trucks would be blocking lanes while they are

slowly turning through the intersections. As described in detail in Impact TC-2 above, the Project would generate up to 210 oversized and/or overweight vehicle trips during the construction phase. Permits are automatically required from a public agency if a truck operator intends to transport oversized vehicles on a public roadway. The Applicant would be required to obtain permits from Caltrans, Santa Barbara County, and the City of Lompoc if oversized vehicles will be used.

Several detailed analyses have been prepared by the Applicant that specify the haul routes, identify the constrained locations, and present measures that should be taken to accommodate the oversized trucks at each location. These strategies are presented in the “Strauss Wind 67m Blade Feasibility Assessment” (Logisticus Project Group 2018, see SEIR Appendix F), the “Transportation Study for San Miguelito Road Strauss Wind Energy Project” (LAV/Pinnacle Engineering 2018, see SEIR Appendix G), and “Strauss Wind Project Review” (ATS 2017, Appendix H). The information provided in these documents will be used by the public agencies as input to the issuance of required permits for oversized and overweight trucks.

The dimensions of the oversized truck and trailer combinations greatly exceed the size of conventional tractor/trailer vehicles. The measures proposed in the technical reports for accommodating the oversized vehicles are summarized in a previous section. As stated, physical modifications would be made at each of the intersections where the trucks would be turning, such as the removal of signs, light poles, traffic signals, trees, and bus shelters so that the trucks could slowly make their turns through the intersections. This would result in temporary blockages and delays to motorists at the affected locations for approximately one hour at each intersection for each truck passage. Similarly, there are numerous locations along San Miguelito Road where the transport vehicles would be too large to negotiate the sharp curves. These locations would be modified by reinforcing shoulders, adding gravel to shoulders, using fill material to widen shoulders, cutting back hillsides, and removing trees and other vegetation. These actions, along with continuous police escorts, would facilitate the passage of the oversized vehicles through these constrained locations. While these transport operations would be an inconvenience to the traveling public by creating blockages and delays, the blockages and traffic delays would be mitigated by including components in the Traffic Control Plan to address such issues and then implementing the plan in conformance with the direction of the affected public agencies.

MM TC-1 would be required to offset the impacts of the road blockages and traffic delays. Although the finding in the LWEF EIR was that the Project would have a Class III impact (not significant) with regard to Impact TC-4, it identified one mitigation measure for this impact: MM TC-2 (Traffic Mitigation Fees). MM TC-2 is not required as a mitigation measure for the SWEP because the payment of fees would not mitigate a potentially significant impact. While Project-related fees might be required by Santa Barbara County, the City of Lompoc, and/or Caltrans for permits, the fees are not included as SEIR mitigation measures.

Mitigation Measures

MM TC-1 Traffic Management Plan (TMP). See Impact TC-1 for the full text of this measure.

TC-5 Damage to Roadways. Trucks carrying heavy equipment could damage existing streets.

Section 3.14.3.3 of the LWEF EIR discussed the possibility of damage to public roadways from the use of heavy trucks transporting the Project's construction materials to the Project site. The finding was that the Project would result in Class II impacts, which are significant impacts that can be feasibly mitigated or avoided. For the SWEF, damage to public roadways would also result in a Class II impact. Trucks could potentially cause damage to the roadway surfaces, shoulders, culverts, and other infrastructure. While the maximum legal weight on a public roadway is 80,000 pounds, the overweight trucks that would be used to transport WTG blades and tower components to the Project site would weigh approximately 150,000 pounds and potentially up to 200,000 pounds for certain loads (ATS 2017, Logisticus 2018). To transport overweight loads of these magnitudes on public streets, the operator must obtain overweight permits and will typically be required to use specialized trucks with multiple axles and tires to disperse the individual loads to numerous tires and thereby minimize excess pressure on the pavement. The specialized trucks are designed to minimize or avoid damage to the roadways, but the effectiveness cannot be guaranteed.

The impacts associated with roadway damage would be mitigated with the implementation of MM TC-3 (Roadway Repairs) whereby the applicant shall enter into an agreement with the affected jurisdictions to ensure that any damage to roadways attributable to the Project will be repaired or reconstructed to the original conditions. The roads will be photographed or videotaped prior to construction to ensure that the repairs will return the road to pre-construction conditions or better.

The LWEF EIR identified two mitigation measures for Impact TC-5: MM TC-2 (Traffic Mitigation Fees) and MM TC-3 (Roadway Repairs). While MM TC-3 is needed for the SWEF to offset this impact, MM TC-2 is not necessary because contributing to a fee program would not mitigate the potentially significant impact, as discussed above for Impact TC-1.

Mitigation Measures

MM TC-3 Roadway Repairs. The Applicant shall enter into an agreement with affected jurisdictions to ensure that any damage to roadways attributable to Project traffic is mitigated through repair or reconstruction to original conditions. Roads will be photographed or videotaped prior to construction to ensure that final repairs are sufficient to return the road to pre-construction conditions and all repairs shall be made to the current standards or policies of the affected jurisdiction. The Applicant shall also comply with the requirements of the hauling permits from affected jurisdictions prior to the construction of the Project.

Plan Requirements. All requirements shall be included in the TMP. The applicant shall pay for any repairs needed during the construction phase to maintain the roads in acceptable condition, as determined by the TMP. At the conclusion of each major construction phase, all affected roads shall be restored to pre-construction conditions in consultation with the affected jurisdictions. In addition, prior to the start of the rainy season, the roadways impacted by construction activities and heavy load delivery shall be surveyed to ensure that any roadway damage will not be subject to further damage from erosion caused by precipitation. If roadways are determined to need repair, interim repairs shall be proposed for review and approval by the affected jurisdictions and implemented in an approved timeframe to avoid further roadway damage.

Timing. The TMP shall be approved prior to the zoning clearance. Any bonds associated with post road repairs shall be secured prior to Zoning Clearance. Bonds shall not be released until all roadway repairs meet agencies satisfaction.

Monitoring. County staff will ensure that road damage is adequately documented and required repairs are completed.

TC-6 Soil on Roadways. Project vehicles could track dust and soil onto public roads.

Section 3.14.3.3 of the LWEPP EIR discussed the effects of dust and soil being tracked onto public roadways. The finding was that the Project would result in Class III impacts, which are adverse impacts found not to be significant. Similar to the LWEPP, this impact would not be significant for the SWEP (Class III). Although tracked out dust is a Class III impact relative to traffic and circulation, it is addressed as a PM10 air quality impact and has been determined to have a potentially significant impact. It is a Class II air quality impact because it can be mitigated with the implementation of MM AQ-2 (Dust Control Plan).

4.17.5 Cumulative Effects

Geographic Extent/Context

The geographic area of the cumulative analysis for transportation and traffic is the area generally defined by the City of Lompoc and the unincorporated area of Santa Barbara County south of Lompoc along San Miguelito Road. This area was selected because it includes the roadways that would primarily be affected by the proposed Project and the proposed development projects that would generate additional traffic volumes. The study area for cumulative impacts would also include locations outside the geographic area defined above where there are projects that would contribute traffic to the study area street segments. There would also be some minor cumulative traffic impacts in Kern County and San Luis Obispo County because the movement of oversized trucks through these counties could contribute to traffic delays, particularly along State Highway 166, which is a two-lane highway.

Cumulative Effects

Other construction projects within or near the study area would have an indirect cumulative traffic impact if they were to occur simultaneously with the construction of the proposed Project because they would generate additional traffic volumes on the roadways impacted by the proposed Project. In addition, land development projects in the area would have a cumulative traffic impact if they were to be completed and operational prior to the construction of the proposed Project. These cumulative impacts were considered by applying an ambient growth factor to the existing traffic volumes while forecasting the future 2020 baseline traffic volumes. The cumulative impacts for this scenario are summarized in Tables 4.17-7 and 4.17-8 for the study area intersections.

As the cumulative impact of other projects was assumed to result in only a two percent increase in baseline traffic volumes, the cumulative impacts would be minor with regard to traffic and transportation issues. The proposed Project's contribution to the cumulative impacts would be the same as what was shown for the Project-only impact analysis; i.e., that it would have a significant temporary impact (Class II) related to congestion during construction (Impact TC-1), roadway safety

(Impact TC-2), roadway blockages by oversized vehicles (Impact TC-4), and damage to public roads (Impact TC-5).

4.17.6 Residual Impacts

As summarized in Section 4.17.4, Impact TC-6 would be less than significant. With implementation of proposed mitigation measures, residual effects from Impacts TC-1, TC-2, TC-4 and TC-5 would be less than significant.

4.17.7 Impact and Mitigation Summary

Table 4.17-15 below provides a summary of the SWEP's impacts related to transportation and traffic. The table also indicates the mitigation measures proposed to reduce each significant impact.

Table 4.17-15. SWEP Impact and Mitigation Summary – Transportation and Traffic

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
TC-1	LOS and V/C Ratio. Project-related construction traffic could temporarily affect traffic levels and LOS on Project area roadways.	TC-1: Traffic Management Plan.	Class II
TC-2	Roadway Safety. Long, heavy trucks used to deliver equipment during construction could present safety concerns and physical modifications to the roadway or nearby trees will be required.	TC-1: Traffic Management Plan.	Class II
TC-4	Road Blockages/Traffic Delays. During peak construction, several oversized trucks per day could slow traffic and necessitate temporary blockages of intersections.	TC-1: Traffic Management Plan.	Class II
TC-5	Damage to Roadways. Trucks carrying heavy equipment could damage existing streets.	TC-3: Roadway Repairs.	Class II
TC-6	Soil on Roadways. Project vehicles could track dust and soil onto public roads.	None required.	Class III

Class I. Significant unavoidable adverse impact.

Class II. Significant environmental impacts that can be feasibly mitigated or avoided.

Class III. Adverse impacts found not to be significant.

Class IV. Impacts beneficial to the environment.

4.17.8 References

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