Appendix D

Transportation Impact Analysis

Fresno Rendering Plant Relocation Project

Transportation Impact Analysis Draft

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CHAPTER 1. INTRODUCTION

This study analyzes the potential impacts to the transportation system associated with the proposed relocation of the Darling facility from its current location on Belgravia Avenue to a new location on about 35 to 50 acres near the City's wastewater treatment plan. The impact analysis examines the roadway, transit, bicycle, pedestrian, rail, and aviation components of the transportation system.

The technical analysis contained in this report will form the basis of the transportation chapter for the Environmental Impact Report (EIR) and includes traffic operations of the roadway segments within the study area. This report also evaluates policy impacts related to air traffic patterns, hazards, emergency access, transit, bicycle, and pedestrian facilities. The study identifies mitigation measures to address project impacts where appropriate. The methodologies used in this study comply with applicable California Environmental Quality Act (CEQA) guidelines and requirements.

This study analyzes the following scenarios:

- Existing Conditions Analysis – The existing and existing plus project analyses are used to identify impacts directly related to the development of the proposed project. Existing roadway operations were analyzed using roadway geometrics as observed in Spring 2017 and traffic volumes obtained in May 2017.
- Cumulative Conditions Analysis – The Cumulative Conditions scenario analyzes the proposed project's effects on transportation when viewed in connection with the effects of reasonably foreseeable future projects. Outside of the City of Fresno sphere-of-influence (SOI), the analysis uses the Fresno Council of Governments (Fresno COG) 2035 population and employment forecasts as land use inputs for future development in the region. The analysis also includes reasonably foreseeable roadway network changes consistent with the City of Fresno General Plan.

STUDY AREA

The study area was developed with input from the City of Fresno and includes the following roadway segments and their intersections:

- Jensen Avenue (Project Access to Fruit Avenue)
- Cornelia Avenue (Church Avenue to North Avenue)
- Brawley Avenue (Church Avenue to North Avenue)
- Marks Avenue (Church Avenue to North Avenue)
- West Avenue (Church Avenue to North Avenue)

ANALYSIS METHODOLOGY

TRAVEL DEMAND FORECASTING

This study uses a modified version of the Fresno COG regional travel demand forecasting (TDF) model used for the City of Fresno General Plan Update. All traffic volume forecasts were adjusted, using the difference method, to account for the difference between existing counts and the base year model forecasts.

TRAFFIC OPERATIONS

The analysis of traffic operations was conducted for roadway segments and their intersections.

Study Intersections

Traffic operations at the study intersections were analyzed using procedures and methodologies contained in the Highway Capacity Manual (HCM), Transportation Research Board, 2010. These methodologies were applied using Synchro software package (Version 9), developed by Trafficware. **Table 1** displays the delay range associated with each LOS category for signalized and unsignalized intersections based on the HCM.

TABLE 1:
INTERSECTION LEVEL OF SERVICE CRITERIA

Level of Service	Average Control Delay [seconds/vehicle]		Description
	Signalized	Stop Controlled	
A	< 10.0	< 10.0	Very low delay. At signalized intersections, most vehicles do not stop.
B	10.1 to 20.0	10.1 to 15.0	Generally good progression of vehicles. Slight delays.
C	>20.1 to 35.0	>15.1 to 25.0	Fair progression. At signalized intersections, increased number of stopped vehicles.
D	>35.1 to 55.0	>25.1 to 35.0	Noticeable congestion. At signalized intersections, large portion of vehicles stopped.
E	>55.1 to 80.0	>35.1 to 50.0	Poor progression. High delays and frequent cycle failure.
F	>80.0	>50.0	Oversaturation. Forced flow. Extensive queuing.

Source: Highway Capacity Manual (Transportation Research Board, 2010)

The HCM methodology determines the level of service (LOS) at signalized intersections by comparing the average control delay (i.e. delay resulting from initial deceleration, queue move-up time, time actually stopped, and final acceleration) per vehicle at the intersection to the established thresholds. The LOS for traffic signal controlled and all-way stop controlled intersections is based on the average control delay for the entire intersection. For side-street stop-controlled intersections, the LOS is evaluated separately for each individual movement with delay reported for the critical (i.e., worst case) turning movement.

Study Roadway Segments

Roadway segment traffic operations was conducted using the roadway segment analysis methodology applied for the City's General Plan update. Traffic volumes on the study roadway segments are used to determine the overall usage and congestion. Note that the roadway segment analysis is based on traffic counts taken at a single location, which was intended to be representative of the entire segment. A link connects two intersections; a segment is a series of links. The segments used in this analysis were developed based on where a series of links had common physical and traffic conditions. Typically, intersection operations control the perception of drivers on a roadway facility, since drivers experience delay at intersections.

Traffic operations on the study roadway segments were measured using a qualitative measure called level of service (LOS). LOS is a general measure of traffic operating conditions whereby a letter grade, from A (the best) to F (the worst), is assigned. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving, as well as speed, travel time, traffic interruptions, and freedom to maneuver. The LOS grades are generally defined as follows:

- **LOS A** represents free-flow travel with an excellent level of comfort and convenience and the freedom to maneuver.
- **LOS B** has stable operating conditions, but the presence of other road users causes a noticeable, though slight, reduction in comfort, convenience, and maneuvering freedom.
- **LOS C** has stable operating conditions, but the operation of individual users is substantially affected by the interaction with others in the traffic stream.
- **LOS D** represents high-density, but stable flow. Users experience severe restriction in speed and freedom to maneuver, with poor levels of comfort and convenience.
- **LOS E** represents operating conditions at or near capacity. Speeds are reduced to a low but relatively uniform value. Freedom to maneuver is difficult with users experiencing frustration and poor comfort and convenience. Unstable operation is frequent, and minor disturbances in traffic flow can cause breakdown conditions.
- **LOS F** is used to define forced or breakdown conditions. This condition exists wherever the volume of traffic exceeds the capacity of the roadway. Long queues can form behind these bottleneck points with queued traffic traveling in a stop-and-go fashion.

The LOS was calculated for each study roadway segment to evaluate the quality of traffic conditions. LOS was determined by comparing traffic volumes for each roadway segments, incorporating roadway functional classification, and number of travel lanes, presence of two-way left-turn lanes with peak hour LOS capacity thresholds. These thresholds are shown in **Table 2** and were calculated based on the methodology contained in the Highway Capacity Manual (HCM) (Transportation Research Board 2000). The HCM methodology is the prevailing measurement standard used throughout the United States and is recommended for use in the City of Fresno *Traffic Impact Study Report Guidelines* (2009). In addition to LOS, the ratio of volume-to-capacity is also provided. The volume-to-capacity ratio is provided for

information purposes to provide the reader with a general sense of how close the peak hour traffic volume on a subject roadway segment is to the assigned capacity of the roadway. A volume-to-capacity ration of 1.00 would signify a roadway at capacity.

TABLE 2:
ROADWAY FUNCTIONAL CLASS AND PEAK HOUR LOS THRESHOLDS

Functional Class	Median	Lanes	Peak Hour Level of Service Capacity Thresholds				
			A	B	C	D	E
Freeway	N/A[1]	4	2,720	4,460	6,630	7,720	8,630
		3+Aux[2]	2,360	3,860	5,640	6,730	7,530
		3	2,000	3,270	4,660	5,740	6,430
		2+Aux	1,650	2,700	3,850	4,760	5,340
		2	1,300	2,130	3,050	3,790	4,260
State Expressway	Divided	6	2,410	3,960	5,730	7,450	8,450
		4	1,610	2,650	3,810	4,960	5,630
		2	810	1,340	1,890	2,470	2,810
City Expressway	Raised Median	6			1,860	6,170	6,520
		5			1,520	5,110	5,430
		4			1,180	4,050	4,340
		2			520	1,910	2,160
Super Arterial	Raised Median	6				4,910	6,240
		5				4,040	5,195
		4				3,170	4,150
Arterial	Raised Median	8			2,120	7,070	7,490
		6			1,560	5,270	5,610
		5			1,280	4,370	4,670
		4			1,000	3,470	3,730
		3			720	2,555	2,795
		2			440	1,640	1,860
	TWLTL	4			940	3,290	3,550
		2			420	1,550	1,760
	Undivided	4			770	2,740	2,980
		2			340	1,270	1,480
Collector	TWLTL	4			940	3,290	3,550
		2			420	1,550	1,760
	Undivided	4			770	2,740	2,980
		2			340	1,270	1,480
One-Way	Undivided	3		1,960	2,240	2,430	2,610
		2		1,250	1,490	1,620	1,740
		1		550	740	800	870
Rural State Highway	Undivided	2	310	570	1,020	1,730	2,470
Rural Arterial	Divided	4			1,950	3,580	3,780
	Undivided	2			570	1,230	1,310
Rural Collector/Local	Undivided	2			700	930	1,000

Notes:
[1] N/A – Not applicable for operational class
[2] Aux – Auxiliary Lane
– LOS is not achievable because of type of facility.
Source: Fehr & Peers 2012.

ANALYSIS ASSUMPTIONS AND METHODOLOGY LIMITATIONS

Key assumptions made in the process of this study include:

- Existing traffic counts collected in May 2017 and are representative of existing conditions and included passenger cars and light trucks, and heavy vehicles. The share of heavy vehicles entering the study intersections is outlined below for AM and PM peak hour conditions:

Intersection With Jensen Avenue	AM	PM
Cornelia Avenue	21%	6%
Brawley Avenue	25%	5%
Marks Avenue	10%	5%
West Avenue	12%	5%

Travel Demand Forecasting Limitations

As noted earlier, this study uses a modified version of the Fresno COG regional travel demand forecasting (TDF) model used for the City of Fresno General Plan Update, which was calibrated and validated for the that analysis. While this makes the TDF model the most valid and capable tool for forecasting future traffic volumes, the TDF model has some limitations in its application for this study. For example, the model was designed to model traffic for regional air quality conformity, and typically only includes the regional roadway network within Fresno County. The TDF model does not included roadway network and traffic analysis zone detail in adjacent counties like Madera County, Merced County, San Benito County, Kings County, and Tulare County. Refinements to the traffic model's traffic analysis zone connections to the roadway network were made to better model development access and traffic assignment. In addition, local roadways were added to the model within the project study area to be able to generate future travel forecasts.

While the model was calibrated and is able to closely replicate existing roadway segment volumes, the model is more limited in its ability to forecast subtle differences in the operational characteristics of the transportation system. With multiple routes available, drivers may choose to use different routes for the same trip depending on traffic signal progression, congestion, and individual preferences. While the model accounts for segment level congestion, it is more limited in its ability to directly account for changes in routes due to signal operations, merge, diverge, and weaving operations at freeway interchanges, and driver preferences.

To account for some of these limitations, this study uses a process known as the "difference method" to develop traffic volume forecasts. This approach adjusts raw model volume forecasts by adding the forecasted incremental growth from the TDF model to the existing traffic counts.

Traffic Operations Limitations

This study uses analysis methodologies that are consistent with the City of Fresno's *Traffic Impact Study Report Guidelines* (2009). However, the roadway segment methodology has certain limitations. For example, while the development of the roadway segment capacity thresholds in **Table 2** considered corridor level inputs specific to City of Fresno roadways, such as median type, signal density, and signal cycle length for arterial-level facilities, segment-level analysis does not account for the full effect of subtle operational characteristics of the corridor operations like vehicle queuing that may occur due to a queue spilling out of or blocking a turn pocket at an intersection or vehicle queues spilling back from adjacent intersections or operations of arterial-level facilities with freeway facilities at interchange locations.

In addition, this methodology does not consider the potential impact on walking, bicycling, and transit. Pedestrians, bicyclists, and transit riders are all users of the roadway system but may not be fully recognized in the traffic operations analysis and the calculation of LOS. The LOS thresholds in **Table 2** are based on driver's comfort and convenience. Identifying the need for roadway improvements based on the resulting roadway LOS can have unintended impacts to other modes such as increasing the walking time for pedestrians. In evaluating the roadway system, a lower vehicle LOS may be desired when balanced against other community values related to resource protection, social equity, economic development, and consideration of pedestrians, bicyclists, and transit users. To address some of these limitations, peak hour intersection operations are also conducted.

REGULATORY SETTING

This section summarizes the transportation policies, laws, and regulations that apply to the proposed project. This information provides context for the impact discussion related to the project's consistency with applicable regulatory conditions. Further, this study identifies impacts to traffic operations by comparing roadway LOS analysis results against LOS policies set forth by the City of Fresno.

Federal Plans, Policies, Regulations, Laws

No federal plans, policies, regulations or laws pertaining to transportation are applicable.

State Plans, Policies, Regulations, and Laws

Senate Bill 743

On September 27, 2013, Governor Brown signed Senate Bill 743 (SB 743), which made several changes to the California Environmental Quality Act (CEQA) for project located in areas served by transit. The changes direct the Governor's Office of Planning and Research (OPR) to develop a new approach for analyzing the transportation impacts under CEQA, which may eliminate vehicle delay and level of service as CEQA impacts for many parts of California. SB 743 also creates a new exemption for certain projects that are consistent with a Specific Plan and, eliminates the need to evaluate aesthetic and parking impacts of a project, in some circumstances. The guidelines will likely go into effect in late 2017/early 2018 after the Natural Resource Agency completes its rulemaking process, unless OPR elects to allow an opt-in period of one to two years.

City of Fresno

The City of Fresno provides for the mobility of people and goods within the city.

City of Fresno 2035 General Plan

The City of Fresno adopted the Fresno General Plan in December 2014 as an update to the previous 2002 Fresno General Plan. The Fresno General Plan serves as the community's guide for the continued development, enhancement, and revitalization of the Fresno metropolitan area.

The General Plan includes the following policies related to transportation and circulation that are relevant to this analysis:

- **MT-2-i:** Transportation Impact Studies. Require a Transportation Impact Study (currently named Traffic Impact Study) to assess the impacts of new development projects on existing and planned streets for projects meeting one or more of the following criteria, unless it is determined by the City Traffic Engineer that the project site and surrounding area already has appropriate multi-modal infrastructure improvements.
    - When a project includes a General Plan amendment that changes the General Plan Land Use Designation.
    - When the project will substantially change the off-site transportation system (auto, transit, bike or pedestrian) or connection to the system, as determined by the City Traffic Engineer.
    - Transportation impact criteria are tiered based on a project's location within the City's Sphere of Influence. This is to assist with areas being incentivized for development. The four zones, as defined on Figure MT-4, are listed below. The following criteria apply:
        - Traffic Impact Zone I (TIZ-I): TIZ-I represents the Downtown Planning Area. Maintain a peak hour LOS standard of F or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.
        - Traffic Impact Zone II (TIZ-II): TIZ-II generally represents areas of the City currently built up and wanting to encourage infill development. Maintain a peak hour LOS standard of E or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.
        - Traffic Impact Zone III (TIZ-III): TIZ-III generally represents areas near or outside the City Limits but within the SOI as of December 31, 2012. Maintain a peak hour LOS standard

of D or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 100 or more peak hour new vehicle trips.

- Traffic Impact Zone IV (TIZ-IV): TIZ-IV represents the southern employment areas within and planned by the City. Maintain a peak hour LOS standard of E or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.

City of Fresno Traffic Impact Study Report Guidelines

The City of Fresno's Traffic Impact Study Report Guidelines establish general procedures and requirements for the preparation of traffic impact studies associated with development within the city. The guidelines are intended to be a checklist to ensure regular study items are not missed but are not intended to be prescriptive to the point of eliminating professional judgment.

The guidelines include the preferred traffic analysis methodologies, significance criteria, and documentation requirements. This study is conducted using the preferred analysis methodologies and significance criteria as outlined in the guidelines.

City of Fresno Bicycle Active Transportation Plan

The City of Fresno Active Transportation Plan (ATP) is a comprehensive guide outlining the vision of active transportation in the City of Fresno, and a roadmap for achieving that vision. ***County of Fresno 2000 General Plan***

The County of Fresno 2000 General Plan includes the following policy related to transportation and circulation that are relevant to this analysis:

- **Policy TR-A.2:** The County shall plan and design its roadway system in a manner that strives to meet Level of Service (LOS) D on urban roadways within the spheres of influence of the cities of Fresno and Clovis and LOS C on all other roadways in the county.

SIGNIFICANCE CRITERIA

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in significant adverse impact on the environment. The criteria used to determine the significance of an impact to transportation and traffic are based on the Environmental Checklist in Appendix G of the State CEQA Guidelines. Accordingly, transportation and traffic impacts resulting from the proposed project are considered significant through application of the following thresholds of significance.

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including

but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

e) Result in inadequate emergency access?

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

As allowed with the passage of CA Assembly Bill 2419 (Bowler), the Fresno COG Policy Board rescinded the Congestion Management Program on September 25, 1997 at the request of the local member agencies. Therefore, no roadway segment in Fresno is identified in a county congestion management program. This issue will not be discussed further in this EIR.

City of Fresno

The proposed project is located in TIZ III as defined by Policy MT-2-1 of the City of Fresno General Plan. Therefore, the project would cause a significant impact to the roadway system if it would result in the following conditions:

- Cause a roadway segment or intersection operating at LOS D or better to operate at LOS E or worse
- Increase the average delay for a study intersection that is already operating at unacceptable LOS by 5.0 seconds or more
- Increase the volume-to-capacity ratio of a roadway segment operating at LOS E or F by 0.05 or more

Transit, Bicycle, and Pedestrian Facilities

The City of Fresno *Traffic Impact Study Report Guidelines* do not currently have thresholds for impacts on transit, bicycle, and pedestrian facilities.

For purposes of this study, the project would cause a significant impact to the transit system, bicycle network, and/or pedestrian facilities if it would:

- Disrupt or interfere with existing or planned public transit services or facilities
- Create an inconsistency with policies concerning transit systems set forth in the City of Fresno General Plan or other applicable adopted policy document

- Disrupt or interfere with existing or planned bicycle/pedestrian facilities
- Result in unsafe conditions for pedestrians, including unsafe pedestrian/bicycle or pedestrian/vehicle conflicts
- Result in unsafe conditions for bicycles, including unsafe bicycle/pedestrian or bicycle/vehicle conflicts
- Create an inconsistency with policies related to bicycle or pedestrian systems set forth in the City of Fresno General Plan, the City of Fresno Bicycle, Pedestrian, and Trails Master Plan, or other applicable adopted policy document

County of Fresno

The County of Fresno 2000 General Plan Policy TR-A.2 states that the County shall plan and design its roadway system in a manner that strives to meet LOS D on urban roadways within the spheres of influence of the cities of Fresno and Clovis and LOS C on all other roadways in the county. In no case should the County plan for worse than LOS D on rural County roadways, worse than LOS E on urban roadways within the spheres of influence of the cities of Fresno and Clovis, or in cooperation with Caltrans and the Council of Fresno County Governments, plan for worse than LOS E on State highways in the county.

A project is considered to have a significant impact if its traffic, when added to the traffic of the without-project condition, would cause any of the changes in traffic conditions described below:

Roadway Segments:

- Cause a roadway that is operating at an acceptable LOS to deteriorate to an unacceptable LOS
- Cause the V/C ratio (on a directional peak hour basis) to increase by more than 0.05 on a roadway that is already operating at an unacceptable LOS. It should be noted that a decrease from an unacceptable LOS to a lesser LOS (e.g. from LOS D to LOS E in County areas) is not considered an impact unless the corresponding V/C ratio increase is greater than 0.05.

Signalized Intersections:

- Cause an intersection that is operating at an acceptable LOS to deteriorate to an unacceptable LOS
- Cause the average delay to increase by more than 5.0 seconds at a signalized intersection that is operating at an unacceptable LOS.

Unsignalized intersections (all-way stop, side-street stop, roundabouts):

- Cause a movement or approach that is operating at an acceptable LOS to deteriorate to an unacceptable LOS
- Cause the average delay to increase by more than 5.0 seconds on a movement or approach that is operating at an unacceptable LOS. It should be noted that a decrease from an unacceptable LOS to a lesser LOS (e.g. from LOS D to LOS E in County areas) is not considered an impact unless the corresponding delay increase is greater than 5.0 seconds.

Table 3 summarizes the applicable level of service significance threshold for study area roadways and intersections. For each study roadway segment and intersection, **Table 3** identifies if the facility is located in the Fresno County, the City of Fresno and if it is located in the City of Fresno SOI and the corresponding significance criteria.

TABLE 3:
INTERSECTION LEVEL OF SERVICE SIGNIFICANCE CRITERIA

Facility Type	Study Facility	Jurisdiction	City of Fresno SOI?	Applicable Significance Threshold
Intersections	Jensen Ave./Cornelia Ave.	County	No	LOS C
	Jensen Ave./Brawley Ave.	County	No	LOS C
	Jensen Ave./Marks Ave.	County[1]	East Side of Intersection	LOS C/LOS D
	Jensen Ave./West Ave.	County[2]	Yes	LOS D
Roadways	Jensen Ave. – Project Access to Cornelia Ave.	County	No	LOS C
	Jensen Ave. – Cornelia Ave. to Brawley Ave.	County	No	LOS C
	Jensen Ave. – Brawley Ave. to Marks Ave.	County	No	LOS C
	Jensen Ave. – Marks Ave. to West Ave.	County/City[3]	Yes	LOS D
	Jensen Ave. – West Ave. to Fruit Ave.	County/City[4]	Yes	LOS D
	Cornelia Ave. – Church Ave. to Jensen Ave.	County	No	LOS C
	Cornelia Ave. – Jensen Ave. to North Ave.	County	No	LOS C
	Brawley Ave. – Church Ave. to Jensen Ave.	County	No	LOS C
	Brawley Ave. – Jensen Ave. to North Ave.	County	No	LOS C
	Marks Ave. – Church Ave. to Jensen Ave.	County	East Side of Roadway	LOS C/LOS D
	Marks Ave. – Jensen Ave. to North Ave.	County	East Side of Roadway	LOS C/LOS D
	West Ave. – Church Ave. to Jensen Ave.	County/City[5]	Yes	LOS D
	West Ave. – Jensen Ave. to North Ave.	City	Yes	LOS D

Notes:
[1]East side of intersection is located in City SOI.
[2]25% of intersection is in County.
[3]County segment west of Hughes Avenue alignment. Hughes Avenue alignment to West Avenue – westbound direction is County segment, eastbound direction is City segment.
[4]Westbound direction is City segment, eastbound direction is County segment.
[5]Northbound direction is City segment, Southbound direction is County segment.
Source: Fehr & Peers, 2019

CHAPTER 2. EXISTING CONDITIONS

This chapter describes the existing travel characteristics and the condition of the roadway, transit, bicycle and pedestrian systems, goods movement, and aviation in the study area. This study uses the existing conditions as the baseline to measure the potential impacts of proposed project.

TRAVEL CHARACTERISTICS

The City of Fresno is the fifth-largest city in California with a population of about 500,100 in 2011. Fresno County has a population of 940,220 people making it the tenth-largest county in the state and is expected to reach 1.1 million people by 2020 (City of Fresno 2012). Located in the California's San Joaquin Valley, Fresno is equidistance from the major population centers in Northern and Southern California with easy access to the California Central Coast and Sierra Nevada.

The 2000-2001 California Household Travel Survey provides information on residents' travel patterns including the purpose and method of travel in Fresno County. For convenience, travel survey responses are grouped into the following three general categories:

- Home-Based Work: Trips may begin or end at a residence and represent travel between a residence and place of work.
- Home-Based Other: Trips may begin or end at a residence and include school trips, shopping trips, or trips for recreation.
- Non-Home-Based: Trips do not begin or end at a residence. These trips would include a trip from work to a restaurant during lunch

According to the 2000-2001 California Household Travel Survey, Home-Based Work trips account for 20 percent of trips. In general, Home-Based Work trips occur during the morning and evening commute periods and are predominately made by automobile. There is less flexibility in the departure and arrival time for work trips, due to traditional work schedules. Other trip purposes account for about 80 percent of travel and are more evenly distributed throughout the day.

Most residents traveled from home to work by automobile (about 98 percent) with about 15 percent of those being shared ride (i.e., carpool) trips. Shared ride, transit, walk, and bike trips were significantly higher for non-work trips (Home-Based Other and Non-Home-Based purposes).

The average weekday person trip length for Home-Based Work was about 20 minutes compared to Home-Based Other trips (15 minutes), and Non-Home-Based trips (16 minutes). On average, non-work trips are about 30 percent shorter than work trips and have a higher percentage of transit walk and bike use. This is reasonable given trip purpose, trip scheduling flexibility, and proximity of trip origin and trip destination.

The 2000-2001 California Household Travel Survey also shows that about 12 percent of Fresno County households did not have access to a vehicle and therefore are dependent on transit, walking, and bicycling for mobility.

ROADWAY NETWORK

The roadway network in the city is generally a traditional grid-based network of north/south and east/west streets. Nearly every major street in the Fresno metropolitan area is regularly spaced at half-mile intervals. The grid system provides high levels of accessibility (i.e., travel choices) for travelers. The study facilities are listed below:

Intersections

- Jensen Avenue/Cornelia Avenue
- Jensen Avenue/Brawley Avenue
- Jensen Avenue/Marks Avenue
- Jensen Avenue/West Avenue

Roadway Segments

- Jensen Avenue – Project Access to Cornelia Avenue
- Jensen Avenue – Cornelia Avenue to Brawley Avenue
- Jensen Avenue – Brawley Avenue to Marks Avenue
- Jensen Avenue – Marks Avenue to West Avenue
- Jensen Avenue – West Avenue to Fruit Avenue
- Cornelia Avenue – Church Avenue to Jensen Avenue
- Cornelia Avenue – Jensen Avenue to North Avenue
- Brawley Avenue – Church Avenue to Jensen Avenue
- Brawley Avenue – Jensen Avenue to North Avenue
- Marks Avenue – Church Avenue to Jensen Avenue
- Marks Avenue – Jensen Avenue to North Avenue
- West Avenue – Church Avenue to Jensen Avenue
- West Avenue – Jensen Avenue to North Avenue

Roadway Characteristics

All of the study roadways outlined above are two lanes. Except for Jensen Avenue, which is classified as an arterial, all of the other study roadways are collectors with 55 mile per hour posted speed limits. Jensen Avenue has striped and paved shoulders, while Cornelia Avenue, Brawley Avenue, Marks Avenue, and West

Avenue do not. All of the study intersections have side-street stop control with Jensen Avenue being the uncontrolled facility.

TRAFFIC OPERATIONS

Table 4 summarizes existing conditions AM and PM peak hour Level of Service (LOS) for the study intersections. As shown, all of the study intersections operate acceptably at LOS C or better during both the AM and PM peak hours.

TABLE 4:
PEAK HOUR INTERSECTION LEVEL OF SERVICE – EXISTING CONDITIONS

Intersection	LOS Threshold	Traffic Control	LOS / Delay (seconds)[1]	
			AM	PM
1. Jensen Avenue/Cornelia Avenue	C	SSSC	A (B) / 3 (12)	A (B) / 4 (14)
2. Jensen Avenue/Brawley Avenue	C	SSSC	A (B) / 4 (12)	A (B) / 2 (13)
3. Jensen Avenue/Marks Avenue	C/D	SSSC	A (B) / 4 (14)	A (C) / 5 (16)
4. Jensen Avenue/West Avenue	D	SSSC	A (B) / 1 (12)	A (B) / 1 (13)

Notes: SSSC = side-street stop control
[1]For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
Source: Fehr & Peers, 2017

The AM and PM peak hour intersection turning movement traffic volumes used for the analysis presented in **Table 4** are included in the technical appendix.

Table 5 summarizes existing conditions AM and PM peak hour Level of Service (LOS) for the study roadways. As shown, all of the study roadways operate at LOS D or better during both the AM and PM peak hours. The County roadway segments of Jensen Avenue between Cornelia Avenue and Marks Avenue operate unacceptably at LOS D.

Compared to the intersection analysis results, the roadway segment analysis results in more conservative (i.e., on the high side) LOS, given that drivers perception of travel and delay while traveling along the study corridor are heavily influenced by conditions experience at the study intersections.

TABLE 5:
PEAK HOUR ROADWAY SEGMENT LEVEL OF SERVICE – EXISTING CONDITIONS

Intersection		LOS Threshold	Volume		Lanes	Existing			
			AM	PM		AM		PM	
						VC	LOS	VC	LOS
Jensen Avenue	Project Access to Cornelia Avenue	LOS C	257	337	2	0.17	C	0.23	C
	Cornelia Avenue to Brawley Avenue	LOS C	268	373	2	0.18	C	0.25	D
	Brawley Avenue to Marks Avenue	LOS C	427	468	2	0.29	D	0.32	D
	Marks Avenue to West Avenue	LOS D	405	483	2	0.27	D	0.33	D
	West Avenue to Fruit Avenue	LOS D	412	499	2	0.28	D	0.34	D
Cornelia Avenue	Church Avenue to Jensen Avenue	LOS C	84	112	2	0.06	C	0.08	C
	Jensen Avenue to North Avenue	LOS C	83	119	2	0.06	C	0.08	C
Brawley Avenue	Church Avenue to Jensen Avenue	LOS C	93	83	2	0.06	C	0.06	C
	Jensen Avenue to North Avenue	LOS C	71	39	2	0.05	C	0.03	C
Marks Avenue	Church Avenue to Jensen Avenue	LOS C/LOS D	168	201	2	0.11	C	0.14	C
	Jensen Avenue to North Avenue	LOS C/LOS D	96	127	2	0.06	C	0.09	C
West Avenue	Church Avenue to Jensen Avenue	LOS D	44	55	2	0.03	C	0.04	C
	Jensen Avenue to North Avenue	LOS D	25	41	2	0.02	C	0.03	C

Notes: SSSC = side-street stop control
Source: Fehr & Peers, 2017

Public Transportation

Public transportation in the city consists of the following services and facilities:

- Public bus service
- Express bus service
- Demand-response paratransit
- Passenger rail service

Fresno Area Express (FAX) is the predominant transit provider in the city. FAX runs 20 routes and provides over 17,000,000 annual passenger boardings, averaging about 41,000 passenger trips per day. The entire FAX system runs about 1,000 bus operations per day. Ridership trends in recent years have shown an

increase in the number of people using transit, which may be attributable to poor economic conditions and the rising cost of travel.

Handy Ride is a demand-response service for seniors and persons with disabilities, as required by the Americans with Disabilities Act. This paratransit service serves up to 12,500 eligible individuals in the FAX service area and provided about 240,000 passenger rides in fiscal year 2010.

The Fresno County Rural Transit Agency (FCRTA) and Amtrak also provide services for regional travel outside of the Fresno-Clovis Metropolitan Area. FCRTA provides service to many of the unincorporated communities in Fresno County such as Coalinga and Mendota (FCRTA 2012). The San Joaquin Line is one of Amtrak's passenger rail services with connections between the San Joaquin Valley, the Sacramento Valley, the San Francisco Bay Area, and Los Angeles. Greyhound provides similar (more frequent) bus service to these regions.

Bicycle and Pedestrian Circulation

The city is generally flat, which provide a favorable environment for bicycling and walking as a mode of transportation. The City of Fresno ATP, which was completed in October 2016, provides regarding the City of Fresno's bicycle and pedestrian circulation system.

Except for an uncontrolled pedestrian crossing on the east leg of the Jensen Avenue/Valentine Avenue intersection, there are no designated bicycle and pedestrian facilities at the study intersections, which is consistent with the land use in the study area. A Class II bike lane is planned on Jensen Avenue and a Class I bike path is planned on Marks Avenue. In addition, sidewalks are planned on Jensen Avenue and West Avenue.

As documented in the City of Fresno Active Transportation Plan (October 2016), the study area has a low bicycle and pedestrian index. This is an indication of a low level trips being made by walking and biking, but also consistent with the intensity of land use in the study area.

Aviation

The City of Fresno manages the Fresno Yosemite International Airport (FYI). The airport is located in northeast Fresno just southwest of Clovis in between Highways 168 and 180. There are two runways, each of which is 7,205 feet long and 100 feet wide. There are 174 aircraft based at FYI with an average of 371 daily aircraft operations in 2012. In 2011, the two runways served about 1.2 million passengers and airport officials expect that number to grow in the future. There are also two other general aviation airports (i.e., Chandler and Sierra Sky Park) and four heliports, including McCarthy Ranch, Community Regional Medical Center, Valley Medical Center, and PG&E Service Center in the city (AirNav 2012).

CHAPTER 3. PROJECT ANALYSIS

This chapter presents the transportation analysis for existing plus project conditions. This scenario analyzes the impacts of the proposed project on existing conditions.

PROJECT DESCRIPTION

The proposed project includes a general plan amendment and rezone of land adjacent to the City of Fresno wastewater treatment plan to accommodate relocation of the existing Darling rendering facility, which is located at 795 W. Belgravia Avenue. The proposed project would be located approximately 4 miles west of the current facility.

The proposed project would generally be located on the southwest corner of the Jensen Avenue/Cornelia Avenue intersection and would be set back from the road approximately 1,600 feet. As proposed, the project would employ up to 70 full-time employees that would work in three shifts with a maximum of 25 employees on site per shift. The facility would typically operate 24 hours per day, up to seven days per week. The project is anticipated to generate an average of 150 truck trips per day. The project would also include up to 36 parking spaces for employee and visitor parking.

Project access is proposed on Jensen Avenue and Cornelia Avenue. The Jensen Avenue access will be for trucks and the Cornelia Avenue access will be for employees and visitors.

TRIP GENERATION

Table 6 summarizes daily, AM peak hour, and PM peak hour trip generation for the proposed project. Due to the unique characteristics of the project, we estimated trip generation based on the Darling Ingredients Inc. Operational Statement. As shown in Table 6, the proposed project is expected to generate about 273 trips per day with 36 trips occurring in the AM peak hour and 28 trips occurring in the PM peak hour. Truck trips are expected to represent about 55 percent of daily vehicle trips, 36 percent of AM peak hour trips, and 28 percent of PM peak hour trips.

TABLE 6:
PROPOSED PROJECT EMPLOYEE AND TRUCK TRIP GENERATION

User	Quantity[1]		Vehicle Occupancy [Persons/Vehicle][2]	Vehicles per Day	Trip Generation						
					Daily[3]	Peak Hour[4]					
						AM			PM		
	Trucks per Day	Employees				Total	In	Out	Total	In	Out
Employee		70	1.14	61	123	23	17	6	21	9	12
Trucks	75		1.00	75	150	13	7	6	8	5	3
			Total	136	273	36	24	12	28	14	15

Notes:
[1] Source: Darling Ingredients Inc. Operation Statement
[2] 2000/2001 California Statewide Travel Survey - Average vehicle occupancy for Home-Based-Work trips.
[3] Daily Vehicle trips were developed by multiplying total vehicles by two to account for vehicles entering and exiting the project.
[4] Percent of daily vehicles and directional distribution occurring in AM and PM peak hours based on the Manufacturing land use category (ITE 140) from Trip Generation Manual, Institute of Transportation Engineers, 9th Edition. The percent of daily truck trips and directional distribution occurring in the AM and PM peak hours based on the Fontana Truck Trip Generation Study.
Source: Fehr & Peers, 2017

TRIP DISTRIBUTION

Table 7 summarizes the expected distribution of project trips. As shown, the distribution is expected to be different for employees and trucks. All trucks will use Jensen Avenue to access the project. However, employees will not be restricted and will likely use other routes to access the project, based on the origin of their trip. The distribution of employee trips was developed based on existing counts and the output for the modified version of the FresnoCOG travel forecasting model developed for the City of Fresno General Plan.

TABLE 7:
PROJECT TRIP DISTRIBUTION

Roadway	Travel To/From Each Roadway							
	Employees				Trucks			
	North	South	East	West	North	South	East	West
Jensen Avenue	-	-	98%[2]	-	-	-	100%	100%[3]
Cornelia Avenue	1%	100% / 1%[1]	-	-	-	-	-	-
Brawley Avenue	1%	1%	-	-	-	-	-	-
Marks Avenue	2%	2%			-	-	-	-
West Avenue	1%	1%	-	-	-	-	-	-

Notes:
[1]100 % of employee trips will use Cornelia Avenue and the project access. 1% of employee trips are forecast to use Cornelia Avenue south of the project access.
[2]Repersents percentage of employee trips just east of Jensen Avenue.
[3]Represents truck trips between the project access and Cornelia Avenue.
Source: Fehr & Peers, 2017

TRAFFIC FORECASTS

Traffic volume forecasts for the project analysis scenarios under existing and cumulative conditions were developed by adding the project trip generation from **Table 6** to the existing traffic counts and cumulative no project traffic volume forecasts, using the trip distribution for employee and truck trips shown in **Table 7**.

As discussed previously, the cumulative traffic volume forecast were developed using the modified version of the Fresno COG regional travel demand forecasting (TDF) model developed for the City of Fresno General Plan Update. All traffic volume forecasts were adjusted, using the difference method, to account for the difference between existing counts and the base year model forecasts. In the study area, the General Plan includes widening of Jensen Avenue east of Marks Avenue from two to four lanes and widening of Marks Avenue from two to four lanes north of Jensen Avenue.

TRAFFIC OPERATIONS

Intersection and roadway segment traffic operation are presented below for existing and cumulative conditions with the addition of project trips.

Existing Plus Project Analysis

Table 8 summarizes existing conditions AM and PM peak hour Level of Service (LOS) for the study intersections. As shown, all of the study intersection will operate acceptably at LOS C or better during both the AM and PM peak hours with the addition of project trips.

TABLE 8:
PEAK HOUR INTERSECTION LEVEL OF SERVICE – EXISTING PLUS PROJECT CONDITIONS

Intersection	Traffic Control	LOS Threshold	LOS / Delay (seconds) [1]			
			Existing Conditions		Existing Plus Project Conditions	
			AM	PM	AM	PM
1. Jensen Avenue/Cornelia Avenue	SSSC	LOS C	A (B) / 3 (12)	A (B) / 4 (14)	A (B) / 4 (12)	A (B) / 4 (15)
2. Jensen Avenue/Brawley Avenue	SSSC	LOS C	A (B) / 4 (12)	A (B) / 2 (13)	A (B) / 3 (13)	A (B) / 2 (13)
3. Jensen Avenue/Marks Avenue	SSSC	LOS C/LOS D	A (B) / 4 (14)	A (C) / 5 (16)	A (C) / 4 (15)	A (C) / 5 (17)
4. Jensen Avenue/West Avenue	SSSC	LOS D	A (B) / 1 (12)	A (B) / 1 (13)	A (B) / 1 (12)	A (B) / 1 (14)

Notes: SSSC = side-street stop control
[1]For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
Source: Fehr & Peers, 2017

Table 9 summarizes existing plus project conditions AM and PM peak hour Level of Service (LOS) for the study roadways. As shown, all of the study roadways will operate at LOS D or better during both the AM and PM peak hours with the addition of project trips.

The addition of project trips to the County roadway segments of Jensen Avenue between the project access and Cornelia Avenue will cause the LOS to worsen from acceptable LOS C to unacceptable LOS D. However, the volume-to-capacity ratio will not increase by more than 0.05. The County roadway segments of Jensen Avenue between Cornelia Avenue and Marks Avenue, will operate unacceptably at LOS D during at least one peak hour, with the addition of project trips. However, the volume-to-capacity ratio will not increase by more than 0.05.

Compared to the intersection analysis results, the roadway segment analysis results in more conservative (i.e., on the high side) LOS, given that drivers perception of travel and delay while traveling along the study corridor are heavily influenced by conditions experience at the study intersections.

TABLE 9:
PEAK HOUR ROADWAY SEGMENT LEVEL OF SERVICE – EXISTING PLUS PROJECT CONDITIONS

Intersection		LOS Threshold	Volume				Lanes	Existing Conditions				Existing Plus Project Conditions			
			Existing Conditions		Existing Plus Project Conditions			AM		PM		AM		PM	
			AM	PM	AM	PM		VC	LOS	VC	LOS	VC	LOS	VC	LOS
Jensen Avenue	Project Access to Cornelia Avenue	LOS C	257	337	288	360	2	0.17	C	0.23	C	0.19	C	0.24	D
	Cornelia Avenue to Brawley Avenue	LOS C	268	373	323	413	2	0.18	C	0.25	D	0.22	C	0.28	D
	Brawley Avenue to Marks Avenue	LOS C	427	468	481	507	2	0.29	D	0.32	D	0.32	D	0.34	D
	Marks Avenue to West Avenue	LOS D	405	483	457	521	2	0.27	D	0.33	D	0.31	D	0.35	D
	West Avenue to Fruit Avenue	LOS D	412	499	462	536	2	0.28	D	0.34	D	0.31	D	0.36	D
Cornelia Avenue	Church Avenue to Jensen Avenue	LOS C	84	112	85	112	2	0.06	C	0.08	C	0.06	C	0.08	C
	Jensen Avenue to North Avenue	LOS C	83	119	108	137	2	0.06	C	0.08	C	0.07	C	0.09	C
Brawley Avenue	Church Avenue to Jensen Avenue	LOS C	93	83	94	83	2	0.06	C	0.06	C	0.06	C	0.06	C
	Jensen Avenue to North Avenue	LOS C	71	39	72	39	2	0.05	C	0.03	C	0.05	C	0.03	C
Marks Avenue	Church Avenue to Jensen Avenue	LOS C/LOS D	168	201	169	202	2	0.11	C	0.14	C	0.11	C	0.14	C
	Jensen Avenue to North Avenue	LOS C/LOS D	96	127	97	128	2	0.06	C	0.09	C	0.07	C	0.09	C
West Avenue	Church Avenue to Jensen Avenue	LOS D	44	55	45	55	2	0.03	C	0.04	C	0.03	C	0.04	C
	Jensen Avenue to North Avenue	LOS D	25	41	26	41	2	0.02	C	0.03	C	0.02	C	0.03	C

Notes:
Source: Fehr & Peers, 2017

Cumulative Analysis

Table 10 summarizes cumulative condition AM and PM peak hour Level of Service (LOS) for the study intersections. As shown, the side street stop-controlled study intersections are forecasted to operate unacceptably (i.e., LOS E or F) during the PM peak hour under cumulative conditions. The addition of project traffic will worsen operations at these two intersections. Poor operation at this intersection is due to planned growth in the study area. The analysis assumes the planned widening of Jensen Avenue and Marks Avenue, and installation of traffic signal control at the intersections of Jensen Avenue/Marks Avenue and Jensen Avenue/West Avenue.

TABLE 10:
PEAK HOUR INTERSECTION LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS

Intersection	Traffic Control	LOS Threshold	LOS / Delay (seconds) [1]			
			Cumulative Condition		Cumulative Plus Project Condition	
			AM	PM	AM	PM
1. Jensen Avenue/Cornelia Avenue	SSSC	LOS C	A(C) / 7(23)	**A(F) / 10(61)**	A(C) / 8(27)	**A(F) / 12(71)**
2. Jensen Avenue/Brawley Avenue	SSSC	LOS C	A(C) / 5(21)	**A(E) / 7(46)**	A(C) / 5(23)	**A(F) / 7(52)**
3. Jensen Avenue/Marks Avenue	Signal	LOS C/LOS D	C / 33	C / 26	C / 33	C / 27
4. Jensen Avenue/West Avenue	Signal	LOS D	C / 24	C / 28	C / 24	C / 28

Notes: SSSC = side-street stop control, **Bold** indicates unacceptable operations
[1]For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
Source: Fehr & Peers, 2017

Table 11 summarizes cumulative condition AM and PM peak hour Level of Service (LOS) for the study roadways. As shown, all of the study roadways will operate at LOS D or better during both the AM and PM peak hours.

The County roadway segments of Jensen Avenue between the project access and Marks Avenue and the study segments of Marks Avenue (i.e., in the County) will operate unacceptably at LOS D with and without the addition of project trips. However, the addition of project trips will not cause the volume-to-capacity ratio to increase by more than 0.05. The addition of project trip will not change the LOS of the study roadway segments, compared to cumulative no project conditions.

Compared to the intersection analysis results, the roadway segment analysis results in better LOS. Unacceptable operation of the study intersections is due to delay experienced by driver accessing Jensen Avenue from the side streets. These results indicate that improved traffic control is needed, but not additional capacity on the roadways (i.e., beyond what is planned).

TABLE 11:
PEAK HOUR ROADWAY SEGMENT LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS

Intersection		LOS Threshold	Volume				Lanes	Cumulative Conditions				Cumulative Plus Project Conditions			
			Cumulative		Cumulative Plus Project			AM		PM		AM		PM	
			AM	PM	AM	PM		VC	LOS	VC	LOS	VC	LOS	VC	LOS
Jensen Avenue	Project Access to Cornelia Avenue	LOS C	460	660	490	680	2	0.31	D	0.45	D	0.33	D	0.46	D
	Cornelia Avenue to Brawley Avenue	LOS C	580	980	630	1,020	2	0.39	D	0.66	D	0.43	D	0.69	D
	Brawley Avenue to Marks Avenue	LOS C	670	950	730	990	2	0.45	D	0.64	D	0.49	D	0.67	D
	Marks Avenue to West Avenue	LOS D	1,800	1,990	1,850	2,030	4	0.48	D	0.53	D	0.50	D	0.54	D
	West Avenue to Fruit Avenue	LOS D	1,620	1,900	1,670	1,940	4	0.43	D	0.51	D	0.45	D	0.52	D
Cornelia Avenue	Church Avenue to Jensen Avenue	LOS C	170	340	170	340	2	0.11	C	0.23	C	0.11	C	0.23	C
	Jensen Avenue to North Avenue	LOS C	90	190	110	200	2	0.06	C	0.13	C	0.07	C	0.14	C
Brawley Avenue	Church Avenue to Jensen Avenue	LOS C	150	260	150	260	2	0.10	C	0.18	C	0.10	C	0.18	C
	Jensen Avenue to North Avenue	LOS C	80	60	80	60	2	0.05	C	0.04	C	0.05	C	0.04	C
Marks Avenue	Church Avenue to Jensen Avenue	LOS C/LOS D	1,070	1,150	1,070	1,150	4	0.29	D	0.31	D	0.29	D	0.31	D
	Jensen Avenue to North Avenue	LOS C/LOS D	620	730	620	730	2	0.42	D	0.49	D	0.42	D	0.49	D
West Avenue	Church Avenue to Jensen Avenue	LOS D	430	580	430	580	2	0.29	D	0.39	D	0.29	D	0.39	D
	Jensen Avenue to North Avenue	LOS D	500	600	500	600	2	0.34	D	0.41	D	0.34	D	0.41	D

Notes: **Bold** indicates unacceptable operations
Source: Fehr & Peers, 2017

CHAPTER 4. MITIGATION MEASURES

This chapter summarizes the potentially significant project-specific and cumulative impacts of the proposed project on the transportation system. Each impact is followed by a recommended mitigation measure to reduce the significance of identified impacts.

This section evaluates the significance of project impacts based on the thresholds of significance and analysis results presented in previous chapters.

Traffic Increase

Impact 1: The project would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

This is a Significant Impact

As outlined above, the addition of project trips would worsen unacceptable operations under cumulative conditions. Implementation of the following mitigation would result is acceptable operations:

Jensen Avenue/Cornelia Avenue

- Install all-way stop control
- A separate right-turn lane on the westbound approach

Jensen Avenue/Brawley Avenue

- Install all-way stop control

Since this impact occurs under cumulative conditions, the project would be responsible for its proportional share of the improvements identified above. At the discretion of the City of Fresno, fair share payment could occur in the form of payment of traffic impact fees, an ad-hoc fee payment, or construction of the improvement with reimbursement or fee credits. **Table 12** summarizes intersection operations under cumulative conditions with the mitigation discussed above.

TABLE 12:
PEAK HOUR INTERSECTION LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS (MITIGATED)

Jensen Avenue Intersection	LOS Threshold	LOS / Delay (seconds) [1]					
		Cumulative Plus Project Condition			Cumulative Plus Project Condition (Mitigated)		
		Traffic Control	AM	PM	Traffic Control	AM	PM
1. Cornelia Avenue	LOS C	SSSC	A(C) / 8(27)	**A(F) / 12(71)**	AWSC	B / 14	C / 18
2. Brawley Avenue	LOS C	SSSC	A(C) / 5(23)	**A(F) / 7(52)**	AWSC	B / 14	C / 24

Notes: SSSC = side-street stop control, AWSC= All way stop control, **Bold** indicates unacceptable operations
[1]For side-street stop controlled intersections, the delay and LOS for the most-delayed individual movement is shown in parentheses next to the average intersection delay and LOS. All results are rounded to the nearest second.
Source: Fehr & Peers, 2017

Residual Significance: Less than Significant

Congestion Management Program

Impact 2 The project would not conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

The passage of California Assembly Bill 2419 in 1996 allowed counties to "opt out" of the California Congestion Management Program, reference above, if a majority of local governments elected to exempt themselves from California's congestion management plans. On September 25, 1997, the Fresno COG Policy Board rescinded the Fresno County Congestion Management Program at the request of the local member agencies. Therefore, this impact criteria is not applicable and this impact is less than significant.

Residual Significance: Less than Significant

Air Traffic Patterns

Impact 3 The project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

The closest airport, Fresno Chandler Executive airport, is located 3.5 miles northeast of the project site. The project includes large equipment, including two new 60-foot protein storage silos. These are not tall enough to affect air traffic at the nearest airport. The project is an industrial use and would not substantially increase demand for air travel. Therefore, the project should not result in any safety risks due to altered air traffic patterns.

Residual Significance: Less than Significant

Hazards

Impact 4 The project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Implementation of the project under existing conditions would not impact study roadway or intersection operation, based on established significance criteria. In addition, the mitigation discussed under Impact 1, would improve operations for non-project traffic under cumulative conditions. The project includes separate access points for employees/visitors and trucks; therefore, the ingress/egress is designed to avoid conflicts between truck and employee vehicle traffic. Furthermore, final site design will require review and approval by the City Public Works department, which will verify that all access points, driveways, and parking areas meet City standards.

Residual Significance: Less than Significant

Emergency Access

Impact 5 The project would not result in inadequate emergency access

The project includes two access locations. One access on Jensen Avenue for trucks and one access on Cornelia Avenue for employees and visitors. In addition, the project will be constructed based on prevailing design standards related to roadway infrastructure.

Residual Significance: Less than Significant

Conflict with Alternative Transportation

Impact 6 The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

As described above under "Environmental Setting," the project vicinity has almost no existing or planned bicycle and pedestrian facilities, which is consistent with the rural agricultural setting. As indicated in the City's Active Transportation Plan, the area has low bicycle and pedestrian index, which indicates a low level of trips being made by walking and biking. Given the remote location of the project site, it is not likely that employees would walk or bicycle to work. Therefore, the proposed project would not disrupt existing or planned bicycle or pedestrian facilities or create any policy inconsistencies related to bicycle- or pedestrian-related policies.

In addition, there are no current or planned bus lines in the vicinity. Therefore, relocation of the proposed rendering plant would not place additional demand on transit and would not conflict with transit policies for the area.

Residual Significance: Less than Significant

TECHNICAL APPENDIX