Appendix H:
Transportation Supporting Information

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Traffic Impact Analysis Report

Fresno Southeast Development Area (SEDA) Specific Plan TIA DRAFT

City of Fresno, California

June 30, 2022

TJKM

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EXECUTIVE SUMMARY

This report summarizes the results of the Traffic Impact Analysis (TIA) conducted for the Southeast Development Area (SEDA) located east of the city of Fresno, California. The SEDA comprises approximately 9,000 acres of land and was formally designated as a Growth Area in the 2035 Fresno General Plan. The plan consists of various mixed uses. There will be approximately 37,000 new jobs created along with 45,000 new housing units. The SEDA area is located southeast of the City of Fresno, with East North Avenue as its southern border, McCall Avenue as its eastern border, and Ashlan Avenue as its northern border.

This report provides the roadway segment level of service (LOS) related to the project. Additionally, the report also includes evaluations and recommendations concerning project site access and on-site circulation for vehicles, bicycles, and pedestrians, as well as a vehicle miles traveled (VMT) analysis.

To evaluate the impacts on the transportation infrastructure due to the addition of traffic from the proposed project, 20 study roadway segments were evaluated during the weekday morning (a.m.) peak hour and evening (p.m.) peak hour, and daily scenarios. The study segments were evaluated under *Existing Conditions, Year 2035 Baseline (No Project) Conditions,* and *Year 2035 Project Conditions*. For the purpose of this analysis, potential traffic operational effects from the proposed project are identified based on established operational thresholds described in the report.

Project Trip Generation

The proposed project is expected to generate approximately 94,477 weekday p.m. peak hour trips and 866,452 total daily trips.

Existing Conditions

Existing volumes for the SEDA area for AM/PM peak hour and daily are low due to the rural nature of the project area. Peak daily volumes are less than 15,000 while the highest AM/PM peak volumes observed hover around 1,000.

Year 2035 Baseline (No Project) Condition

Year 2035 no project scenario volumes for the project area were projected from existing volumes using the delta method and the Fresno Council of Governments Travel Demand Model (Fresno ABM). Low growth in the no project condition results in volumes very similar to existing conditions.

Year 2035 Project Conditions

Year 2035 project scenario volumes were projected with SEDA project land use coded into the Fresno ABM. Higher growth rates derived from the model resulted in almost doubling of daily volumes in some roadway segments for the daily time period.

Vehicle Miles Traveled

The proposed project will be located at the southeast boundary of Fresno. The project is expected to increase the total VMT in the area; but will not have a significant impact due to the mixed use nature of the project. The construction of additional sidewalks, other walkways, and bicycle facilities on the project site will encourage future residents and customers to use alternate modes (walking, biking, transit), further

reducing potential VMT impacts. In addition, the mixed use nature of the project with added commercial destinations mean that residents will travel shorter for their needs, shortening the VMT per capita and VMT per employee impacts. Future transit operations are anticipated for the SEDA project area, further reducing its VMT impacts.

1.0 INTRODUCTION

This report summarizes the results of the Traffic Impact Analysis (TIA) for the proposed SEDA Specific Plan development in Fresno, California.

1.1 Project Description

The project proposes to 9,000 acres of mixed use development in the southeast of the city of Fresno in its sphere of influence. In total, there will be around 45,000 housing units (split between 26,000 single family dwelling units and 19,000 multi family dwelling units), 12,000 retail employees, 8,000 office employees, and 17,000 civic institutional employees for a total of 37,000 employees.

The project is located in the southeast of the City of Fresno, with Ashlan Avenue as the northern border, McCall Avenue as eastern border, E North Avenue as southern border, and Temperance Road as the western border.

The following section discusses the TIA Purpose, study segments, and analysis scenarios.

1.2 Project Purpose

The purpose of the Traffic Impact Analysis is to evaluate the impacts on the transportation infrastructure due to the addition of the traffic from the proposed SEDA project. The report also includes evaluations and recommendations concerning project site access and on-site circulation for vehicles, bicycles, and pedestrians, queuing analysis at the study intersections, parking supply, and a VMT analysis.

1.3 Study Segments

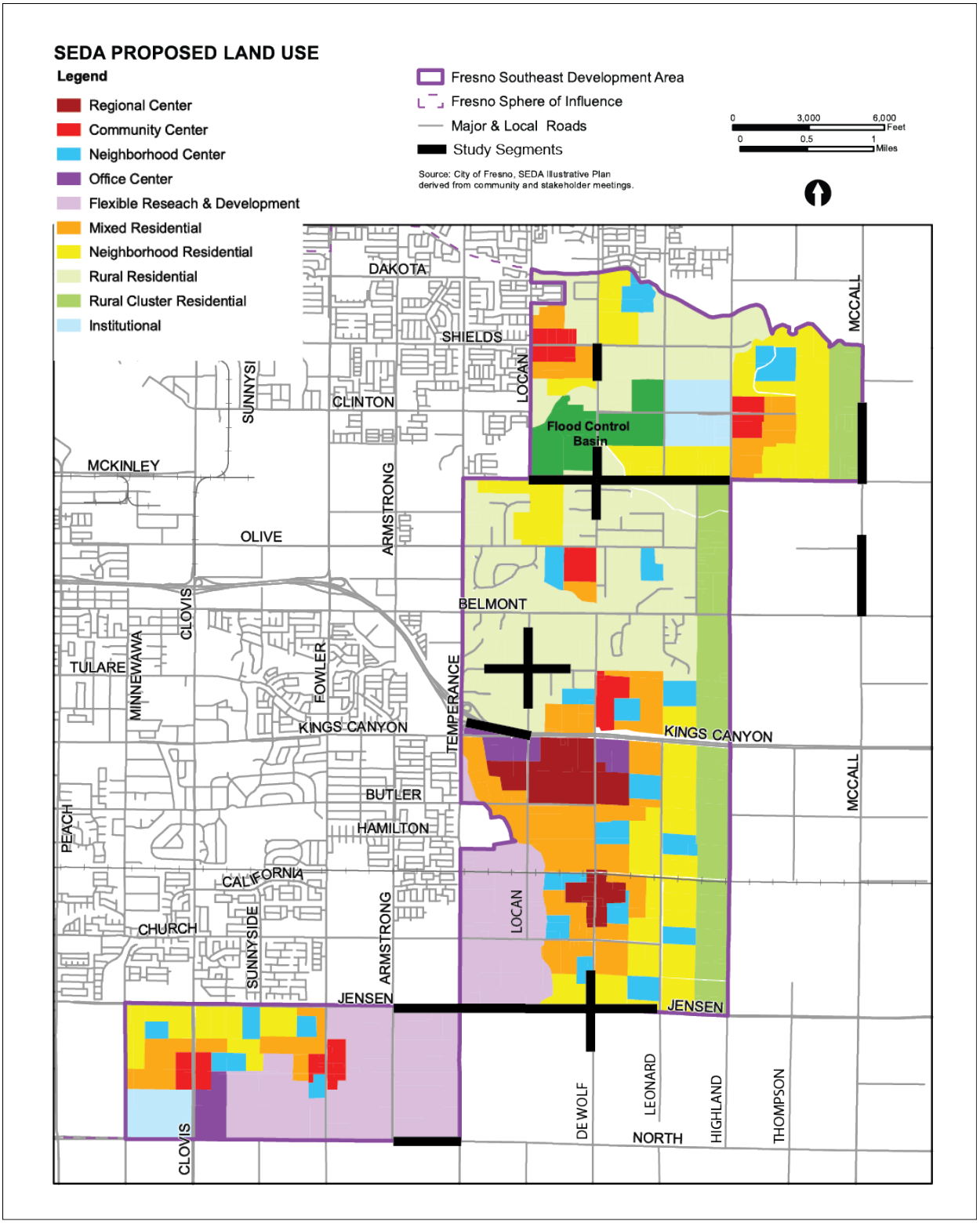
TJKM evaluated traffic conditions at twenty study segments during the a.m. and p.m. peak hours and daily conditions for a typical weekday. The study segments were based on availability of count data from both the City and County of Fresno count databases. No new counts were conducted due to the worldwide COVID-19 pandemic affecting recent traffic patterns. The peak periods were between 6:30 a.m. – 8:30 a.m. and 4:30 p.m. – 6:30 p.m. The study segments and associated traffic controls are as follows:

1. Clovis Ave south of American Ave
2. De Wolf Ave north of McKinley Ave
3. De Wolf Ave south of McKinley Ave
4. De Wolf Ave south of Clinton Ave
5. De Wolf Ave north of Jensen Ave
6. De Wolf Ave south of Jensen Ave
7. Jensen Ave east of Bethel Ave
8. Jensen Ave east of De Wolf Ave
9. Jensen Ave west of De Wolf Ave
10. Jensen Ave east of Temperance Ave
11. Jensen Ave west of Temperance Ave
12. Kings Canyon Rd east of Temperance Ave
13. Locan Ave north of Tulare Ave

14. Locan Ave south of Tulare Ave
15. McCall Ave north of McKinley Ave
16. McCall Ave north of Ashlan Ave
17. McCall Ave north of Belmont Ave
18. Tulare Ave east of Locan Ave
19. Tulare Ave west of Locan Ave
20. North St west of Temperance Ave

Figure 1 illustrates the study segments and the vicinity map of the proposed project.

Figure 1: SEDA Site Plan and Study Segments



Source: City of Fresno, SEDA Regulating Districts, 02/10/2022.

1.4 Analysis Scenarios

This study addresses the following three traffic scenarios:

- **Existing Conditions** – This scenario evaluates the study segments based on existing traffic volumes, lane geometry, and traffic controls.
- **Year 2035 Baseline (No Project) Conditions** – This scenario evaluates study segments for the future with no build conditions.
- **Year 2035 Project Conditions** – This scenario is identical to the earlier one but in addition to build conditions. It presumes building of SEDA plan land uses by 2035 for impact analysis, consistent with General Plan EIR.

2.0 STUDY METHODOLOGY

Traffic impacts related to the proposed project were evaluated for both compliance with applicable regulatory documents and environmental significance as defined in the California Environmental Quality Act (CEQA). In Accordance with the *Technical Advisory* published by the Governor's Office of Planning and Research (OPR), a qualitative and quantitative VMT analysis forms the basis of the CEQA analysis for the proposed project. An LOS analysis was conducted to determine consistency with City of Fresno plans and standards.

2.1 Level of Service Analysis Methodology

Roadway segment traffic operations were conducted using the roadway segment analysis methodology utilized in Fresno's General Plan. Traffic volumes on the study roadway segments are used to determine the overall usage and congestion. Do note that roadway segment analysis is based on the traffic counts taken at a single location, which are intended to be representative of the entire segment. A roadway link connects two intersections; and a segment is a series of links. The segments used in the SEDA analysis were developed based on where existing count data have been collected in the SEDA project area.

Traffic operations on the study roadway segments were measured using a qualitative measure called level of service (LOS). LOS generally measures traffic operating conditions whereby a letter grade from A (the best) to F (the worst) are 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 next section of this report denotes the LOS standards.

2.2 Level of Service Standards

LOS grades are generally defined as follows:

- **A** represents free flow travel with excellent level of comfort and convenience and the freedom to maneuver.
- **B** represents stable operating conditions, but the presence of other road users causes a noticeable, though slight, reduction in comfort, convenience, and maneuvering freedom.
- **C** represents stable operating conditions, but the operation of individual users is substantially affected by the interaction with others in the traffic stream.
- **D** represents high density, but stable flow. Users experience severe restriction in speed and freedom to maneuver, with poor levels of comfort and convenience.
- **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.
- **F** represents forced or breakdown conditions. This conditions exists when volume of traffic exceeds the capacity of the roadways. Long queues form and stop and go traffic becomes the norm.

The LOS was calculated for each of the study roadway segments to evaluate the quality of traffic conditions. LOS was determined by comparing traffic volumes for each roadway segment, incorporating roadway functional classification, the number of travel lanes, and the presence of left turn lanes at peak hour LOS capacity thresholds. The LOS thresholds are shown in table 1 below.

Table 1: 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.

For daily segment volume LOS analysis, the Transportation Research Board's Highway Capacity Manual special report 209 was used. **Table 2** shows the level of service criteria for daily segment volumes based on volume to capacity ratios.

Table 2: LOS Thresholds for Daily Segment Volumes based on V/C Ratios

Level of Service	Description	V/C[b]
A	Free-flow conditions with unimpeded maneuverability. Stopped delay at signalized intersection is minimal.	0.00 to 0.60
B	Reasonably unimpeded operations with slightly restricted maneuverability. Stopped delays are not bothersome.	0.61 to 0.70
C	Stable operations with somewhat more restrictions in making mid-block lane changes than LOS B. Motorists will experience appreciable tension while driving.	0.71 to 0.80
D	Approaching unstable operations where small increases in volume produce substantial increases in delay and decreases in speed.	0.81 to 0.90
E	Operations with significant intersection approach delays and low average speeds.	0.91 to 1.00
F	Operations with extremely low speeds caused by intersection congestion, high delay, and adverse signal progression.	Greater Than 1.00

[a] For arterials that are multilane divided or undivided with some parking, a signalized intersection density of four to eight per mile, and moderate roadside development.
[b] Volume-to-capacity ratio.

≥ greater than or equal to.
< less than.

Source: Transportation Research Board, *Highway Capacity Manual, Special Report 209* (Washington, D.C., 1994).

The City of Fresno adopted its General Plan in December 2014 and serves as the community's guide for continued development, enhancement, and revitalization of the Fresno metropolitan area. The General Plan's policies and standards for specific plans such as the SEDA project requires a transportation impact study to assess the impact on existing and planned streets. Since the SEDA project is located in Traffic Impact Zone IV (TIZ-IV), the project would need to maintain a LOS standard of E or better for all roadway segments.

2.3 Vehicle Miles Traveled

SB 743, which was signed into law by Governor Brown in 2013 and codified in Public Resources Code 21099, tasked OPR with establishing new criteria for determining the significance of transportation impacts under CEQA. SB 743 requires the new criteria to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." SB 743 changes the way that public agencies evaluate the transportation impacts of projects under CEQA, recognizing that roadway congestion, while an inconvenience to drivers, is not itself an environmental impact (see Pub. Resource Code, § 21099, subd. (b)(2)). In December 2018, OPR circulated its most recent *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR) that provides recommendations and describes various options for assessing VMT for transportation analysis purposes. "Vehicle miles traveled" refers to the amount and distance of automobile travel "attributable to a project". Other relevant considerations may include the effects of the project on transit or non-motorized travel. The VMT analysis options described by OPR are primarily tailored towards single-use development residential, office or office projects, not mixed use projects and not athletic facility projects. OPR recommends the following methodology and criteria for specific land uses:

- For residential projects, OPR recommends that VMT impacts be considered potentially significant if a residential project is expected to generate VMT per Capita (i.e., VMT per resident) at a rate that exceeds 85 percent of a regional average.
- For office projects, OPR recommends that VMT impacts be considered potentially significant if an office project is expected to generate VMT per Employee at a rate that exceeds 85 percent of a regional average.
- For retail projects, OPR recommends that VMT impacts be considered potentially significant if a project results in a net increase in total VMT. This approach takes into account the likelihood that retail developments may lead to increases or decreases in VMT, depending on previously existing retail travel patterns. This approach may also be used for other types of projects with customer components.
- OPR also indicates that local serving retail (projects smaller than 50,000 square feet) may be presumed to have a less than significant VMT impact.
- OPR does not provide specific guidance on evaluating other land use types, except to say that other land uses could choose to use the method applicable to the land use with the most similarity to the proposed project.
- For mixed-use projects, OPR describes several options that include (1) evaluating each land use separately; or (2) evaluating mixed-use projects based on the method applicable to the dominant land use. Evaluating each land use separately would potentially fail to measure the positive effects of mixed-use projects in reducing VMT.

OPR also recommends exempting some project types from VMT analysis based on the likelihood that such projects will generate low rates of VMT:

- OPR recommends that projects generating less than 110 trips per day generally may be assumed to cause a less than significant transportation impact.

- OPR notes that residential and office projects that located in areas with low VMT, and that incorporate similar features, will tend to exhibit similar low VMT, and can be screened out.
- OPR states that residential, retail, office and mixed-use projects near transit stations or major transit stops should be screened out based on the likelihood that such projects will have a less than significant impact on VMT.

VMT Screening Criteria

City of Fresno guidelines include the following screening criteria for identifying projects that can be presumed to have a less-than-significant impact:

- Projects that generate or attract fewer than 110 daily vehicle trips; or,
- Projects of 10,000 square feet or less of non-residential space or 20 residential units or less, or otherwise generating less than 836 VMT per day.
- Residential, retail, office projects, or mixed-use projects proposed within ½ mile of an existing major transit stop or an existing stop along a high quality transit corridor.
- Residential projects (home-based VMT) at 13% or below the baseline County-wide home-based average VMT per capita, or employment projects (employee VMT) at 13% or below the baseline Bay Area average commute VMT per employee in areas with low VMT that incorporate similar VMT reducing features (i.e., density, mix of uses, transit accessibility)
- Public facilities (e.g. emergency services, passive parks (low-intensity recreation, open space, libraries, community centers, public utilities) and government buildings.

2.4 Fresno Travel Demand Model (FresnoABM)

The latest approved version of the Fresno Activity Based Travel Demand Model (Fresno ABM) was obtained for use in travel demand forecasting and VMT analysis for this project. All traffic volume forecasts were adjusted, using the difference (DELTA) method, to account for the difference between existing counts and base year model forecasts. The FresnoABM has a base year of 2015 and a forecast year of 2035, while the count data collected from the Fresno City count database were from the year 2018.

3.0 EXISTING CONDITIONS

This section describes existing conditions in the immediate project site vicinity, including roadway facilities, bicycle and pedestrian facilities, and available transit service. In addition, existing traffic volumes and operations are presented for the study intersections, including the results of LOS calculations.

3.1 Existing Setting and Roadway System

Regional roadway facilities providing access to the proposed SEDA development is provided via State Route 180. Local access to the SEDA plan area is provided by various arterials and connectors.

State Route 180 (SR180) is a six-lane, east-west state highway in Fresno County connecting Centerville to the east and Mendota to the west. It runs through the central portion of the SEDA development and its speed limit is 65 miles per hour (mph). The highway merges with Kings Canyon Road when the highway portion ends near De Wolf Avenue.

Kings Canyon Road is a four-lane, east-west arterial that connects downtown Fresno to SR180 in the east It runs through the central portion of the SEDA development and its speed limit is 45 miles per hour (mph) to Argyle.

Clovis Avenue is primarily a four-lane, north-south arterial in eastern Fresno, connecting residents from Clovis all the way down to State Route 99. It is primarily a six lane arterial within the SEDA area and surrounding land uses include single-family and commercial/retail uses. The speed limit along Clovis Ave is 45 mph to Butler Ave.

Temperance Avenue is a four-lane, north-south super arterial in Fresno with an interchange at SR180. Temperance Avenue consists of mostly farmland and becomes a two-lane road south of Hamilton Avenue. The speed limit along Temperance Avenue is 45 mph to Church.

De Wolf Avenue is a two-lane, north-south collector in eastern Fresno that runs perpendicular to SR180. The road consists of mostly farmland and connects multiple elementary schools. It runs through the central portion of SEDA. The speed limit along De Wolf Avenue is 45 mph.

McCall Avenue is a two-lane, north-south collector in eastern Fresno that intersects with SR180. The road consists of mostly farmland and connects the city of Selma to Fresno. It runs through the eastern edge of SEDA. The speed limit along De Wolf Avenue is 45 mph.

Jensen Avenue is a four-lane, east-west super arterial in southern Fresno that connects SR99 with Sanger. Jensen Avenue consists of mostly farmland and runs through the southern portion of SEDA. The speed limit along Jensen Avenue is 45 mph within Fresno City limits, 60 mph outside in County.

Belmont Avenue is a two-lane, east-west collector in eastern Fresno that runs north of and parallel to SR180. The road consists of mostly farmland and runs through the central portion of SEDA. The speed limit along Belmont Avenue is 45 mph to Armstrong, 50 mph to Temperance Ave.

Tulare Avenue is a two-lane, east-west collector in eastern Fresno that runs south of and parallel to SR180. The road consists of mostly suburban tracts and runs through the central portion of SEDA. The speed limit along Tulare Avenue is 40 mph.

Armstrong Avenue is a two-lane, north-south collector in eastern Fresno that runs parallel to Temperance Ave. The road consists of mostly rural tracts and runs through the western portion of SEDA. The speed limit along Armstrong Avenue is 45 mph.

Fowler Avenue is a two-lane, north-south collector in eastern Fresno that runs parallel to Temperance Ave. The road consists of mostly rural tracts and is located at the western boundary of SEDA. The speed limit along Fowler Avenue is 45 mph.

3.2 Existing Pedestrian Facilities

Walkability is defined as the ability to travel easily and safely between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal "walkable" community includes wide sidewalks, a mix of land uses such as residential, employment, and shopping opportunities, a limited number of conflict points with vehicle traffic, easy access to transit facilities and services and a network of pedestrian facilities. Pedestrian facilities are comprised of crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access the destinations such as institutions, businesses, public transportation, and recreation facilities.

As this project is a Specific Plan for a rural area, currently there are very limited pedestrian facilities in the project vicinity.

3.3 Existing Bicycle Facilities

The 2016 City of Fresno Active Transportation Plan outlines policies and objectives to improve the current active transportation system that includes walking and biking. The various bicycle facilities throughout the county are described below.

- **Class I Shared-Use Path**: Class I bikeways are a completely separate right-of-way designed for the exclusive use of cyclists and pedestrians, with minimal crossings for motorists. These paths are often located along creeks, canals, and rail lines. There is one small Class I bike path near Temperance Ave near Shields Ave on the northern end of the SEDA area.
- **Class II Bike Lanes**: Class II bike lanes use special lane markings, pavement legends, and signage. Bike lanes provide designated street space for bicyclists, typically adjacent to outer vehicle travel lanes. Buffered bike lanes increase separation through painted buffers between vehicle lanes and/or parking, and green paint at conflict zones (e.g., driveways or intersections). There are no existing Class II facilities, but there are many planned in the Fresno General Plan and in the SEDA plan for the project area.
- **Class III Bike Routes**: Bike routes provide enhanced mixed-traffic conditions for bicyclists through signage, shared arrow (sharrow) striping, and/or traffic calming treatments and provide continuity to a bikeway network. Bike routes are typically designated along gaps between bike trails or bike lanes or along low-volume, low-speed streets. Bicycle boulevards further enhance bike routes by encouraging slower speeds and discouraging non-local vehicle traffic using traffic diverters, chicanes, traffic circles, and speed tables. There are no existing Class III facilities in the project area, but there are many planned in the SEDA plan for the project area.

- **Class IV Bikeway**: Bikeways are also known as cycle tracks or separated bikeways, are set aside for the exclusive use of bicycles and physically separated from vehicle traffic. Separated bikeways were adopted by Caltrans in 2015. Separation may include grade separation, flexible posts, physical barriers, or on-street parking. There are no existing or planned Class IV bikeways in the project area.

3.4 Existing Transit Facilities

Fresno Area Express (FAX) is the local bus system for the city of Fresno. Currently, there are no bus lines that run through the SEDA area. Bus routes 1, 22, and 35 runs on Clovis Street near the SEDA area, but do not directly serve the plan area. There are plans to bring in Fresno bus rapid transit lines into the SEDA plan area in the future.

3.5 Existing Peak Hour Traffic Volumes For Study Segments

The existing operations of the study roadway segments were evaluated for the highest one-hour volumes during weekday morning and evening peak periods. In addition to peak hour, daily volumes were also evaluated. The table below shows the list of segments that have count data from both the City and County of Fresno.

Table 3: Existing Conditions Study Segment Traffic Volumes

Segment Name	#	AM Peak	PM Peak	Daily
Clovis south of American	1	1,037	1,154	14,404
De Wolf north of McKinley	2	472	326	2,766
De Wolf south of McKinley	3	282	248	1,881
De Wolf south of Clinton	4	332	228	2,271
De Wolf north of Jensen	5	187	174	1,693
De Wolf south of Jensen	6	95	120	1,139
Jensen east of Bethel	7	924	1,057	13,941
Jensen east of De Wolf	8	608	718	9,710
Jensen west of De Wolf	9	503	715	8,609
Jensen east of Temperance	10	1,015	801	9,856
Jensen west of Temperance	11	1,019	876	10,748
Kings Canyon east of Temperance	12	4	4	52
Locan north of Tulare	13	18	17	162
Locan south of Tulare	14	12	19	154
McCall north of McKinley	15	500	382	4,197
McCall north of Ashlan	16	390	439	5,167
McCall north of Belmont	17	485	518	5,730
Tulare east of Locan	18	24	27	248

Tulare west of Locan	19	38	54	595
North Ave west of Temperance	20	193	216	2,442

3.6 Existing Vehicle Miles Traveled

For existing conditions VMT, the SEDA project area was overlaid on top of the FresnoABM loaded vehicle assignment network and the total VMT for the SEDA project was calculated by multiplying daily volumes by distance travelled. In addition, VMT per service population (which is the sum of population and employees) was calculated. **Table 4** summarizes the existing VMT from the FresnoABM for the SEDA project area.

Table 4: Existing Conditions VMT

	2015 Base Year Model
SEDA VMT	330,350
Population	3,410
Employment	2,306
SEDA VMT per Service Population	57.79

4.0 YEAR 2035 BASELINE (NO PROJECT) CONDITIONS

This chapter presents the results of the level of service calculations under the year 2035 baseline conditions without the project. Level of service analysis at the study segments were conducted for 2035 no project conditions to establish a base to evaluate the impacts due to the addition of traffic from the proposed project. Study segment volumes were forecasted using the Fresno Activity Based Travel Demand Model. **Table 5** shows the forecasted study segment volumes for the year 2035 baseline (no project) conditions.

Table 5: Year 2035 Baseline (No Project) Conditions Study Segment Traffic Volumes

Segment Name	#	AM Peak	PM Peak	Daily
Clovis south of American	1	1,071	1,163	15,309
De Wolf north of McKinley	2	688	495	4,237
De Wolf south of McKinley	3	282	258	1,881
De Wolf south of Clinton	4	484	347	3,470
De Wolf north of Jensen	5	187	174	1,693
De Wolf south of Jensen	6	95	137	1,221
Jensen east of Bethel	7	1,006	1,105	15,079
Jensen east of De Wolf	8	705	830	11,518
Jensen west of De Wolf	9	597	850	10,143
Jensen east of Temperance	10	1,606	1,095	13,894
Jensen west of Temperance	11	1,333	1,107	12,676
Kings Canyon east of Temperance	12	4	4	52
Locan north of Tulare	13	18	32	218
Locan south of Tulare	14	12	34	199
McCall north of McKinley	15	500	382	4,197
McCall north of Ashlan	16	390	439	5,167
McCall north of Belmont	17	485	518	5,730
Tulare east of Locan	18	38	45	363
Tulare west of Locan	19	59	90	861
North Ave west of Temperance	20	193	216	2,442

4.1 Study segment Level of Service Analysis – Year 2035 No Project Conditions

The study segment level of service analysis for the forecasted volumes are presented in **Table 6.** All of the study segments in the year 2035 no project conditions are forecasted to perform at a LOS of D or better.

Table 6: Year 2035 Baseline (No Project) Conditions Study Segment LOS

Segment Name	#	AM Peak	PM Peak	Daily
Clovis south of American	1	C	C	B
De Wolf north of McKinley	2	D	D	C
De Wolf south of McKinley	3	C	C	B
De Wolf south of Clinton	4	D	C	B
De Wolf north of Jensen	5	C	C	A
De Wolf south of Jensen	6	B	B	A
Jensen east of Bethel	7	C	C	B
Jensen east of De Wolf	8	B	B	A
Jensen west of De Wolf	9	B	B	A
Jensen east of Temperance	10	C	C	B
Jensen west of Temperance	11	C	C	B
Kings Canyon east of Temperance	12	A	A	A
Locan north of Tulare	13	A	A	A
Locan south of Tulare	14	A	A	A
McCall north of McKinley	15	D	D	C
McCall north of Ashlan	16	D	D	C
McCall north of Belmont	17	D	D	C
Tulare east of Locan	18	A	A	A
Tulare west of Locan	19	A	A	A
North St west of Temperance	20	A	A	A

4.2 Year 2035 No Project Conditions Vehicle Miles Traveled

For the Year 2035 baseline no project conditions VMT, the SEDA project area was overlaid on top of the FresnoABM loaded vehicle assignment network and the total VMT for the SEDA project was calculated by multiplying daily volumes by distance travelled. In addition, VMT per service population (which is the sum of population and employees) was calculated. **Table 7** summarizes the 2035 baseline no project VMT from the FresnoABM for the SEDA project area. In the forecast year no project condition, VMT per service population for the SEDA project area falls slightly compared to the existing base year condition.

Table 7: Year 2035 No Project Conditions VMT

	2035 Baseline No Project Model
SEDA Project Area VMT	371,397
Population	5,046
Employment	3,077
SEDA VMT per Service Population	45.72

5.0 YEAR 2035 PROJECT CONDITIONS

This chapter presents the results of the level of service calculations for the year 2035 conditions with the SEDA project. Level of service analysis at the study segments were conducted for 2035 with project conditions. Study segment volumes were forecasted using delta method using the Fresno Activity Based Travel Demand Model. **Table 8** shows the forecasted study segment volumes for the year 2035 with project conditions.

Table 8: Year 2035 With Project Conditions Study Segment Traffic Volumes

Segment Name	#	AM Peak	PM Peak	Daily
Clovis south of American	1	1,266	1,367	18,223
De Wolf north of McKinley	2	838	544	5,510
De Wolf south of McKinley	3	457	357	3,614
De Wolf south of Clinton	4	610	395	4,678
De Wolf north of Jensen	5	322	305	3,549
De Wolf south of Jensen	6	178	235	2,166
Jensen east of Bethel	7	1,135	1,375	18,813
Jensen east of De Wolf	8	1,040	1,179	16,757
Jensen west of De Wolf	9	866	1,180	15,122
Jensen east of Temperance	10	2,096	1,519	20,017
Jensen west of Temperance	11	1,862	1,562	19,744
Kings Canyon east of Temperance	12	8	8	111
Locan north of Tulare	13	44	44	392
Locan south of Tulare	14	29	48	320
McCall north of McKinley	15	831	651	6,377
McCall north of Ashlan	16	562	612	5,662
McCall north of Belmont	17	867	919	9,956
Tulare east of Locan	18	54	61	582
Tulare west of Locan	19	80	118	1,391
North Ave west of Temperance	20	193	286	2,442

Compared to the 2035 no project condition, Jensen Way and McCall Lane saw the most growth in AM peak, PM peak, and daily volumes with the SEDA project built out. Due to the existing low volumes from the City of Fresno count data, the forecasted with project SEDA volumes are not as high as raw FresnoABM output volumes.

5.1 Study Segment Level of Service Analysis – Year 2035 With Project Conditions

The study segment level of service analysis for the forecasted volumes are presented in **Table 9.** All of the study segments in the year 2035 with project conditions are forecasted to perform at a LOS of D or better.

Table 9: Year 2035 With Project Conditions Study Segment LOS

Segment Name	#	AM Peak	PM Peak	Daily
Clovis south of American	1	C	C	B
De Wolf north of McKinley	2	D	D	D
De Wolf south of McKinley	3	D	D	D
De Wolf south of Clinton	4	D	D	D
De Wolf north of Jensen	5	D	D	D
De Wolf south of Jensen	6	D	D	D
Jensen east of Bethel	7	C	C	B
Jensen east of De Wolf	8	C	C	B
Jensen west of De Wolf	9	C	C	B
Jensen east of Temperance	10	C	C	B
Jensen west of Temperance	11	C	C	A
Kings Canyon east of Temperance	12	A	A	A
Locan north of Tulare	13	A	A	A
Locan south of Tulare	14	A	A	A
McCall north of McKinley	15	D	D	C
McCall north of Ashlan	16	D	D	C
McCall north of Belmont	17	D	D	C
Tulare east of Locan	18	A	A	A
Tulare west of Locan	19	A	A	A
North Ave west of Temperance	20	A	A	A

5.2 Year 2035 With Project Conditions Vehicle Miles Traveled

For the Year 2035 with project conditions VMT, the SEDA project area was overlaid on top of the FresnoABM loaded vehicle assignment network and the total VMT for the SEDA project was calculated by multiplying daily volumes by distance travelled. In addition, VMT per service population (which is the sum of population and employees) was calculated. **Table 10** summarizes the 2035 baseline no project VMT from the FresnoABM for the SEDA project area.

Table 10: Year 2035 With Project Conditions VMT

	2035 With Project Model (SEDA)
SEDA VMT	974,369
Population	151,670
Employment	40,490
SEDA VMT per Service Population	5.07

The VMT per Service Population in the SEDA project area with the project built out in 2035 drops from 45.72 to 5.07. The transition from a mostly rural area (which the SEDA project area currently is) to a developed urbanized mixed use site results in a large VMT reduction. This is because trip distances for both the production side (residential) and attraction side (commercial) are shortened since residents and employees are now better connected to jobs and services within the SEDA project area.

5.3 SEDA Project Trip Generation

Table 11 summarizes daily and PM peak hour trip generation for the proposed SEDA Project. ITE Trip Generation 11th Edition was used to generate the trip rates for the four types of land uses in the SEDA Project.

Table 11: SEDA Project Trip Generation

Land Use (Units)	***Size***		***Daily***		***P.M. Peak***	
			Rate	***Trips***	***Rate***	***Trips***
Housing (Dwelling Units)	45,274	Dwelling Units	8.35	378,038	0.77	34,861
Retail / Commercial (Employees)	12,648	Employees	26.60	336,437	3.49	44,142
Office (Employees)	8,069	Employees	3.33	26,870	0.45	3,631
Government / Civic (Employees)	16,681	Employees	7.50	125,108	0.71	11,844
Total Trips				**866,452**		**94,477**

In total, the SEDA project is expected to generate 866,452 total daily trips and 94,477 PM peak hour trips from the 45,274 total dwelling units and 37,398 total employees.

6.0 FINDINGS AND RECOMMENDATIONS

The following sections provide additional analyses of other transportation issues associated with the project site, including:

- Roadway Impact Analysis
- Pedestrian, Bicycle, and Transit Recommendations

Unlike the LOS impact methodology, the analyses in these sections is based on professional judgment in accordance with the standards and methods employed by traffic engineers. Although operational issues are not considered CEQA impacts, they do describe traffic conditions that are relevant to the project environment.

6.1 Roadway Impact Analysis – Traffic Increase

The SEDA Project would have an impact on the existing roadways within the project area. While the LOS analysis does not show any deficient roadways for the 2035 project condition, De Wolf Avenue and McCall Avenue are most impacted with LOS of D in the project scenario. Widening these two collector streets from 1 lane in each direction to 2 lanes in each direction will better serve the SEDA project and allow for smoother north-south traffic flow within the SEDA project. Likewise, it is recommended that McKinley Avenue be widened from its current configuration of 1 lane in each direction to 2 lanes in each direction for better east west connectivity within the SEDA area.

Other roadways within the SEDA plan should be upgraded into a network of Complete Streets as defined by the Fresno Complete Streets Policy adopted in 2019. A Complete Street is defined as a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users – including bicyclists, pedestrians, transit vehicles, trucks, and motorists. In addition to Complete Streets, the safety of the designed roadway network environment shall be implemented such that driver, pedestrian, and bicyclist safety are paramount.

6.2 Pedestrian, Bicycle, and Transit Recommendations

Pedestrian facilities recommended for the SEDA area include sidewalks on all roadways, trails and greenways to connect the regional town center (De Wolf and Kings Canyon Blvd) with the community town centers, and should complement the natural landscape of the SEDA plan area.

Bicycle facilities within SEDA should be compliant with the latest Fresno Active Transportation Plan guidelines and enhance connectivity between the SEDA mixed use areas to the residential areas.

Transit facilities within SEDA should provide for a safe, integrated, and efficient multimodal transportation system. The regional center of SEDA should be well connected by transit to provide access to and from central Fresno to the SEDA area. Transit stations and stops should be located near major activity centers and mixed use zones. Bus lines should connect public places, schools, medical facilities, concentrations of commercial space, and high density residential and employment areas.

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