

4.3 TRAFFIC AND CIRCULATION

4.3.1 INTRODUCTION

This section is based on a traffic impact analysis prepared for the proposed project by DKS Associates in October 2008 (DKS Associates 2008). To ensure consistency with other traffic analyses prepared in this part of San Joaquin County, the analysis presented in this section is based on the *City of Stockton Traffic Impact Study Guidelines*. This section analyzes traffic conditions during typical weekday a.m. (7:00–9:00) and p.m. (4:00–6:00) peak hours under seven general scenarios: existing conditions, existing conditions plus project, background conditions (existing plus approved projects or EPAP), background (EPAP) conditions plus project, cumulative 2035 conditions, cumulative 2035 conditions plus project, and EPAP plus project construction. The impacts of the proposed project were estimated using the current methodologies for levels of service set forth by the City of Stockton (City).

STUDY INTERSECTIONS AND ROADWAYS

Based on DKS Associates' consultation with staff members from San Joaquin County (County) and the City, the following eight intersections were analyzed as part of the traffic impact analysis:

- ▶ State Route (SR) 99 northbound/southbound access and Arch Road (single-point urban interchange, or SPUI), currently signalized
- ▶ Kingsley Road (Frontage Road) and Arch Road, currently signalized
- ▶ Newcastle Road and Arch Road, currently signalized
- ▶ Richard A. McGee Correctional Training Center Annex (CTCA) west driveway and Arch Road, currently one-way-stop controlled
- ▶ CTCA east driveway and Arch Road, currently one-way-stop controlled
- ▶ Austin Road and Arch Road, currently all-way-stop controlled
- ▶ Northern California Youth Correctional Center (NCYCC) south driveway and Newcastle Road
- ▶ Proposed project driveway and Austin Road

In addition to the eight study intersections, the following roadway segments were analyzed as part of the traffic impact analysis:

- ▶ Arch Road between the CTCA west driveway and Newcastle Road
- ▶ Austin Road between Burnham Road and the proposed project driveway

Also, the State Route (SR) 99 freeway mainline was analyzed along two basic segments: north of the Arch Road interchange, and south of the Arch Road interchange

4.3.2 ENVIRONMENTAL SETTING

The project site is located south of the intersection of Arch Road and Austin Road in unincorporated San Joaquin County. This site is approximately 1½ miles east of SR 99 and approximately 1/3 mile southeast of the city of Stockton.

This section describes the existing setting in the vicinity of the project site. A description of the existing access and transportation facilities—the roadway network, study intersections, transit service, and parking conditions—is presented in this section.

ACCESS AND TRANSPORTATION FACILITIES

Regional Access

SR 99 provides regional access to areas north and south of the project site. The freeway connects various counties and cities in San Joaquin County. In the vicinity of the project site, SR 99 includes two lanes in each direction and provides a connection to Arch Road, west of the project site.

Local Access

Five roads generally comprise the local roadway network in the immediate vicinity of the project site: Austin Road, Arch Road, Newcastle Road, Kingsley Road, and Burnham Road.

Austin Road: A north-south roadway east of the project site, Austin Road runs from East Mariposa Road to Caswell Memorial State Park (north of SR 132). In the project vicinity, Austin Road includes one lane in each direction and is classified as a local street. The roadway provides the only direct access to the site and would connect to a proposed project driveway.

Arch Road: An east-west roadway, Arch Road runs along the north frontage of the project site with a posted speed limit of 45 mph. Arch Road extends from Quantas Lane to Austin Road and includes one lane in each direction in the project vicinity. Arch Road is classified as a minor arterial.

Newcastle Road: A north-south local roadway west of the project site, Newcastle Road runs from Arch Road to the NCYCC. In the project vicinity, Newcastle Road includes one lane in each direction and is classified as a local street.

Kingsley Road: With SR 99 on its west side, Kingsley Road serves as a north-south two-lane frontage road. In the vicinity of Arch Road, Kingsley Road has one lane in each direction with a center two-way-left-turn lane (TWLTL) to serve commercial traffic along the roadway.

Burnham Road: An east-west two-lane undivided rural road, Burnham Road connects Austin Road with Kaiser Road east of the project site.

Traffic Control

Four of the seven existing study intersections (the project driveway does not exist) analyzed in the vicinity of the project site are stop-controlled, and the remaining three intersections (SR 99 northbound/southbound access and Arch Road, Kingsley Road and Arch Road, and Newcastle Road and Arch Road) are signalized intersections.

Rail Facilities

The Burlington Northern and Santa Fe Railway Company (BNSF) operates an intermodal transfer facility located on Arch Road east of Austin Road. The facility generates a high percentage of the truck traffic traveling on Arch Road.

Transit

The project site is not currently served by public transit.

EXISTING TRAFFIC CONDITIONS

Intersection Operating Conditions

The intersections and their corresponding existing levels of service (LOS) are presented in Table 4.3-1. (See the description of LOS under “Analysis Methodology” in Section 4.3.4, “Impacts and Mitigation Measures,” below.)

As shown in the table, each of the seven existing study intersections currently operates at LOS C or better during the a.m. and p.m. peak hours. None of the study intersections currently operates at deficient levels.

**Table 4.3-1
Intersection Capacity: Existing Conditions**

No.	Intersection	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
		Average Delay ¹	LOS ²	Average Delay ¹	LOS ²
1	SR 99 SPUI and Arch Road	26.7	C	26.4	C
2	Kingsley Road (Frontage Road) and Arch Road	29.3	C	30.1	C
3	Newcastle Road and Arch Road	4.2	A	16.8	B
4	CTCA west driveway and Arch Road	9.9	A	10.3	B
5	CTCA east driveway and Arch Road	9.4	A	9.3	B
6	Austin Road and Arch Road	8.0	A	8.0	A
7	NCYCC south driveway and Newcastle Road	8.4	A	10.6	B
8	Proposed project driveway and Austin Road	NA	NA	NA	NA

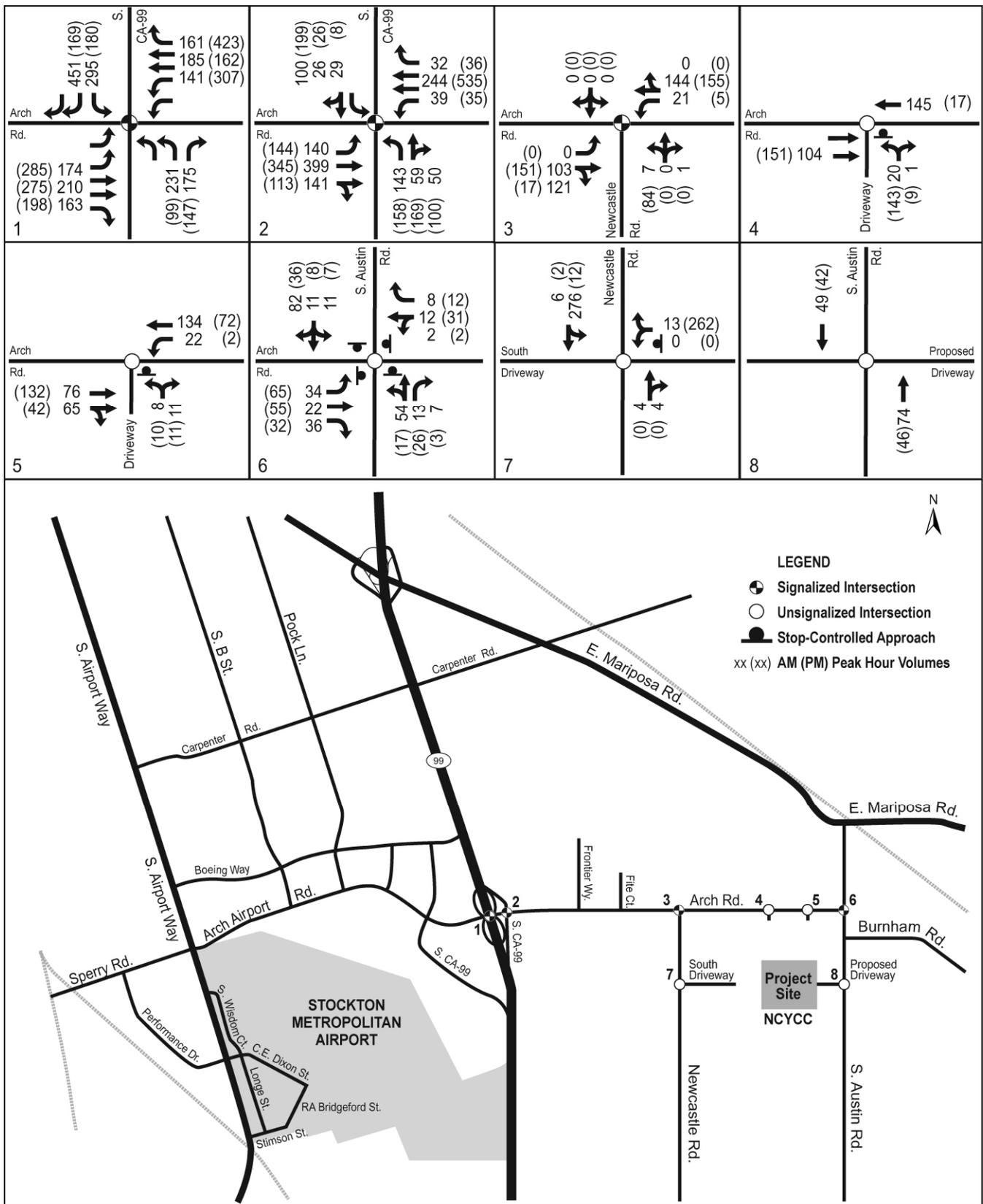
Notes:
 CTCA = Richard A. McGee Correctional Training Center Annex; LOS = level of service; NA = not applicable under existing conditions; SPUI = single-point urban interchange; SR = State Route.
¹ Average delay per vehicle, in seconds.
² Level of service based on worst approach delay for two-way stop-controlled intersections and average delay for all-way stop-controlled intersections.
 Source: Data provided by DKS Associates in 2008

Because CPR is acting as a state agency, the proposed project is not required to comply with local policy and ordinance requirements; however, to maintain consistency with recent traffic analyses conducted for other projects in the vicinity of the project site, guidelines for operating standards of significance for intersections and roadway segment are based on the City of Stockton’s Guidelines. The City of Stockton’s minimum acceptable LOS standard for intersections and roadway segments is LOS D. Therefore, for this EIR, LOS D is considered the minimum acceptable standard.

The existing lane geometry and configurations of the study intersections as well as the existing traffic volumes are presented in Exhibit 4.3-1.

95th Percentile Queues on Arch Road between SR 99 and Kingsley Road

During the existing a.m. and p.m. peak hours, the westbound queue on Arch Road between the SR 99 SPUI and Kingsley Road is three cars and two cars, respectively. The eastbound queue for the a.m. and p.m. peak hours is six cars in both peak hours. The distance between SR 99 SPUI and Kingsley Road is approximately 670 feet (27 cars). The *Highway Capacity Manual* (HCM) methodology (Transportation Research Board 2000) (see “Analysis Methodology” in Section 4.3.4, “Impacts and Mitigation Measures,” below) assumes an average car length of 25 feet; therefore, the queues of three cars (75 feet) on the westbound segment and six cars (150 feet) in the eastbound segment would not significantly interfere with the operation of either intersection.



Source: Data provided by DKS Associates in 2008

Existing Conditions—Intersection Lane Geometry and Peak-Hour Traffic Volumes

Exhibit 4.3-1

Roadway Segment Operating Conditions

The roadway segment's peak-hour volume and its corresponding LOS are presented in Table 4.3-2. According to the City of Stockton roadway LOS criteria, the roadway segments operate at an acceptable level of service (LOS D or better) under existing conditions.

Table 4.3-2 Roadway Segment Analysis: Existing Conditions					
Roadway Segment (Location)	Segment Description	Existing Conditions			
		A.M. Peak Hour		P.M. Peak Hour	
		Speed (Direction)	LOS	Speed (Direction)	LOS
Arch Road (Newcastle Road to CTCA west driveway)	Two-Lane Arterial (without center left-turn lane)	44 mph (westbound)	A	45 mph (eastbound)	A
		Volume (Direction)	LOS	Volume (Direction)	LOS
Austin Road (Arch Road to proposed project driveway)	Two-Lane Arterial (without center left-turn lane)	79 (southbound)	C	46 (northbound)	C

Notes:
 CTCA = Richard A. McGee Correctional Training Center Annex; LOS = level of service;
 Source: Data provided by DKS Associates in 2008

Freeway Mainline Existing Conditions

The existing conditions of SR 99 are described in Tables 4.3-23 and 4.3-24.

BACKGROUND TRAFFIC CONDITIONS

The background conditions scenario includes the traffic expected to be generated by approved and other expected projects in the next several years. In typical traffic analyses, these are the projects expected to be completed prior to completion of a proposed project, and they are added in to the existing conditions to reflect traffic conditions expected to be in effect during construction. In the case of the project, background development is expected to be completed well after project construction is over. The reasons for this assumption are: (1) the proposed project is expected to be constructed within 2 ½ years following release of this draft EIR, and (2) as discussed below, there is substantial background development that has been approved in the project region, but with current economic conditions (housing development slowdown, other similar factors), it is not reasonable to assume that a major proportion of this development will occur and be operational in the near term. Thus, during construction, project traffic is added to existing conditions. During operations, vehicular traffic that would be generated by approved and planned projects in the vicinity of the project site was added to the existing turning movement volumes at the study intersections and roadway segments to evaluate the near-term background conditions scenario.

Background Projects

In total, 23 approved background projects were included in the DKS traffic study. A major project, Mariposa Lakes, is proposed in the project area and is going through the CEQA process. The background conditions scenario does not assume development of any phases of the proposed Mariposa Lakes project because it was not approved at the time the notice of preparation (NOP) was released for the California Health Care Facility Stockton project, nor at the time this DEIR was being prepared (as of September 2008). However, the cumulative scenario described later in this traffic analysis assumes full buildout of the Mariposa Lakes project.

The major projects considered part of the background (existing plus approved projects, or EPAP) scenario are listed below.

- ▶ 29,581,000 square feet of nonresidential development throughout the City of Stockton
- ▶ 15,162 residential dwelling units throughout the City of Stockton
- ▶ Cannery Park (450 acres)
- ▶ North Stockton Projects Phase 3 (180 acres)
- ▶ Westlake Village (681 acres)
- ▶ Northern California Re-Entry (NCRF) Facility (at the CTCA facility, just north of the site on NCYCC property) (134-acre correctional facility with 316 staff distributed over 3 shifts)

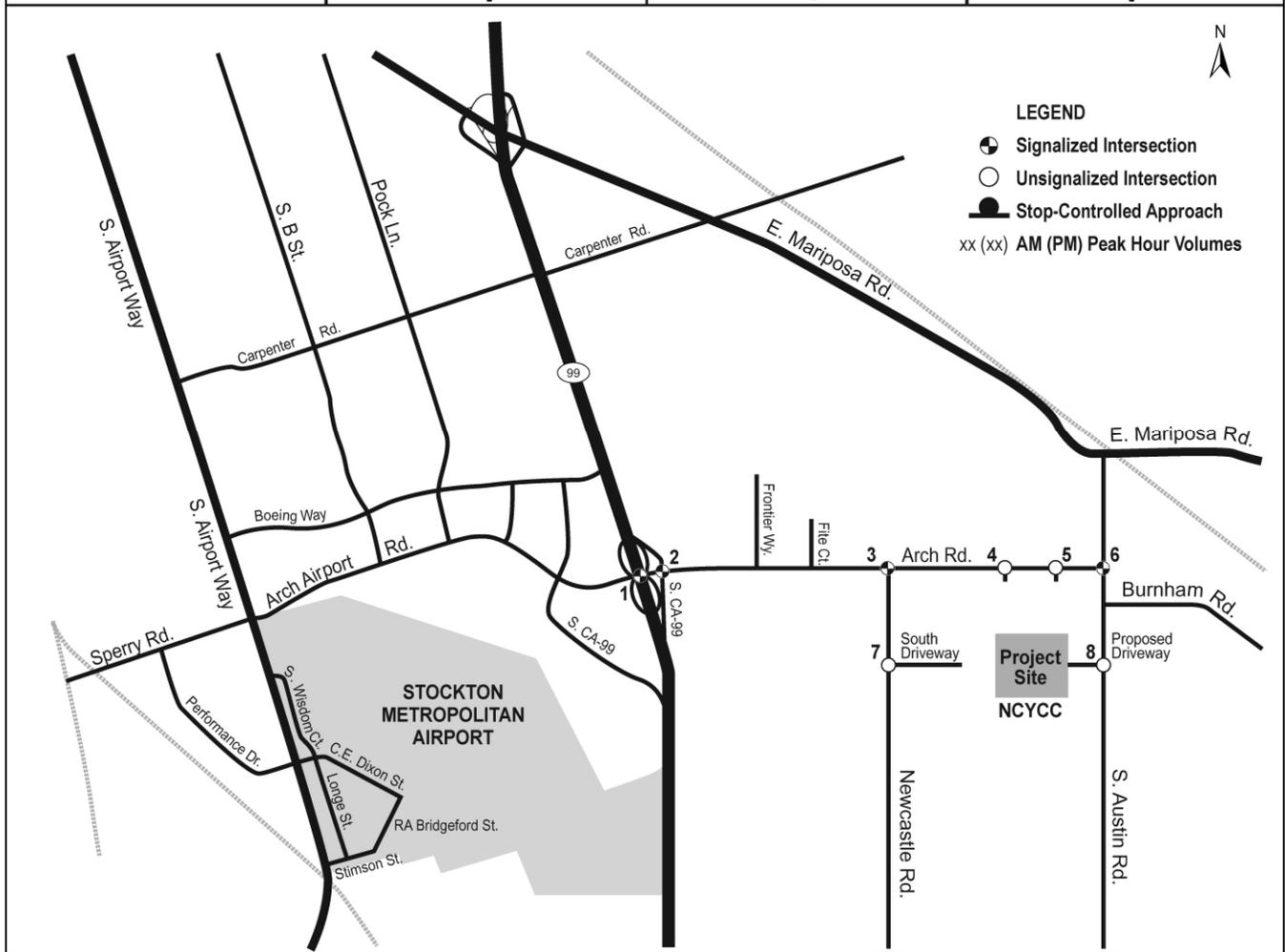
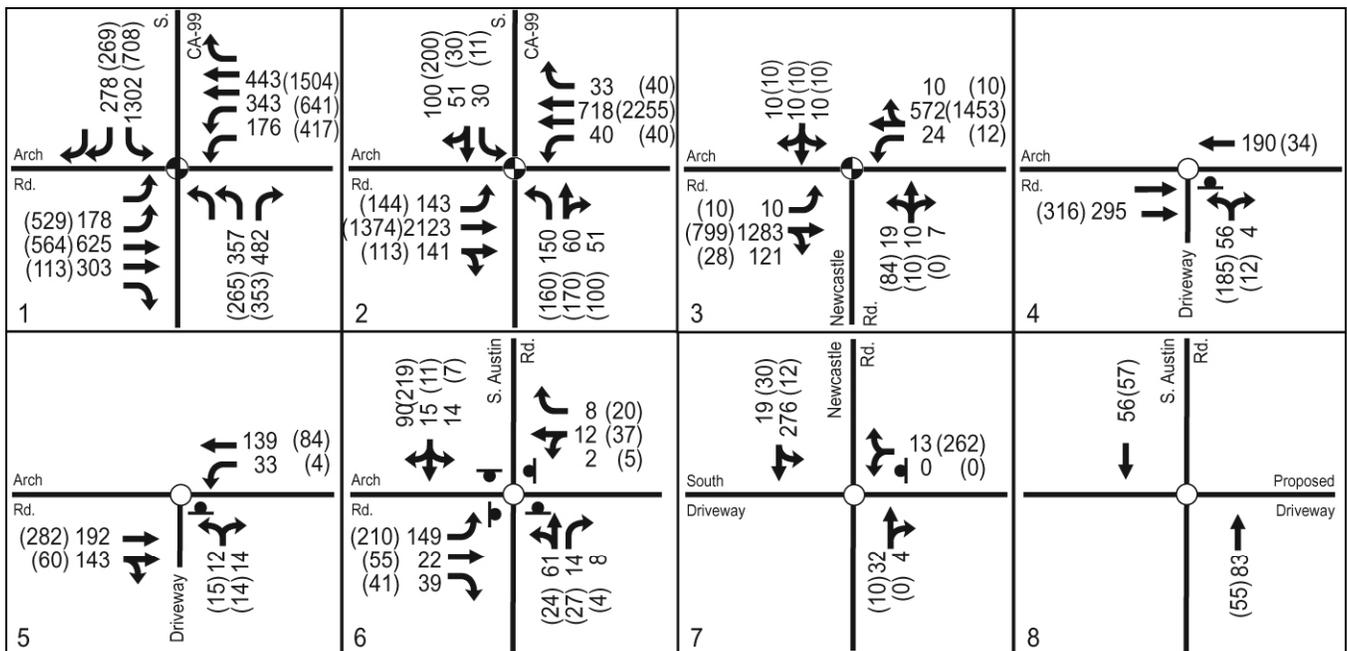
Also considered as a background project is the California Conservation Corps' Delta Service District Center Relocation (CCC project) located on the southeast corner of Newcastle Road/Arch Road. Based on the initial study/mitigated negative declaration prepared for the CCC project (CCC 2004), there would be nominal increases in daily and peak-hour trips from this project.

Background Intersection Conditions

The intersections and their corresponding levels of service are presented in Table 4.3-3. As this table illustrates, all study area intersections operate at acceptable LOS during the a.m. and p.m. peak hours, with the exception of Kingsley Road (Frontage Road) and Arch Road. Intersection lane geometry and peak-hour traffic volumes under background conditions are shown on Exhibit 4.3-2.

Table 4.3-3 Intersection Capacity for Background Conditions					
No.	Intersection	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
		Average Delay ¹	LOS ²	Average Delay ¹	LOS ²
1	SR 99 SPUI and Arch Road	27.6	C	37.8	C
2	Kingsley Road (Frontage Road) and Arch Road	38.2	D	61.8	E
3	Newcastle Road and Arch Road	13.6	B	20.1	C
4	CTCA west driveway and Arch Road ³	12.2	B	12.7	B
5	CTCA east driveway and Arch Road ³	10.5	B	10.3	B
6	Austin Road at Arch Road	9.0	A	10.3	B
7	NCYCC south driveway and Newcastle Road ³	8.5	A	9.4	A
8	Proposed project driveway and Austin Road	NA	NA	NA	NA

Notes:
 CTCA = Richard A. McGee Correctional Training Center Annex; LOS = level of service; SPUI = single-point urban interchange; SR = State Route.
Boldface and shading indicates LOS below threshold LOS D or better.
¹ Average delay per vehicle, in seconds.
² Level of service based on worst approach delay for two-way stop-controlled intersections and average delay for all-way stop-controlled intersections.
³ Unsignalized intersection.
 Source: Data provided by DKS Associates in 2008



Source: Data provided by DKS Associates in 2008

**Background Conditions—
Intersection Lane Geometry and Peak-Hour Traffic Volumes**

Exhibit 4.3-2

95th Percentile Queues on Arch Road between SR 99 and Kingsley Road

During the a.m. and p.m. peak hours, the westbound queue on Arch Road between the SR 99 SPUI and Kingsley Road are five cars and 10 cars, respectively. The eastbound queue for the a.m. and p.m. peak hours are 43 cars and 17 cars, respectively. As previously described, the distance between SR 99 SPUI and Kingsley Road is approximately 670 feet (27 cars). The HCM assumes an average car length of 25 feet; therefore, the queuing of 10 cars on the westbound segment would not substantially affect the operation of Kingsley Road/Arch Road. However, the eastbound queue of 43 cars (1,075 feet) would exceed the 670-foot distance between the intersections and would queue beyond the intersection at the SR 99 SPUI. Since both intersections are forecast to operate with satisfactory LOS, it is likely that the peak queues would occur for only a few signal cycles during the peak hour and would therefore not substantially affect the intersection.

Roadway Segment Operating Conditions

The roadway segment's peak-hour volume and corresponding LOS are presented in Table 4.3-4. According to the City of Stockton roadway LOS standards, the roadway segment in this study would operate at an acceptable LOS (LOS D or better) for the background conditions scenario.

Roadway Segment (Location)	Segment Description	Background Conditions			
		A.M. Peak Hour		P.M. Peak Hour	
		Speed (Direction)	LOS	Speed (Direction)	LOS
Arch Road (Newcastle Road to CTCA west driveway)	Two-Lane Arterial (without center left-turn lane)	46 mph (eastbound)	A	44 mph (eastbound)	A
		Volume (Direction)	LOS	Volume (Direction)	LOS
Austin Road (Arch Road to proposed project driveway)	Two-Lane Arterial (without center left-turn lane)	83 (northbound)	C	57 (southbound)	C

Notes:
 CTCA = Richard A. McGee Correctional Training Center Annex; LOS = level of service
 Source: Data provided by DKS Associates in 2008

4.3.3 REGULATORY CONSIDERATIONS

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

No federal plans, policies, regulations, or laws relating to transportation are applicable to the proposed project.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

No state policies, regulations, or laws relating to transportation are applicable to the proposed project. However, this EIR uses LOS standards developed by the California Department of Transportation (Caltrans) for determining impacts on the freeway mainline.

LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

No goals or policies from the *San Joaquin County General Plan 2010* or the *City of Stockton General Plan 2035* policies or other local plans, policies, regulations, and ordinances are applicable to the proposed project. However, this EIR uses the City of Stockton's standards for determining impacts on local intersections and roadways.

4.3.4 IMPACTS AND MITIGATION MEASURES

ANALYSIS METHODOLOGY

The methodologies used to analyze impacts and the existing lane geometry, configurations of study intersections, and existing traffic volumes are presented in the traffic impact analysis (DKS Associates 2008) completed for the proposed project, which is included in this EIR as Appendix B.

Intersection Level of Service Methodology

DKS analyzed the eight study intersections, recommended, as described above, by the City of Stockton and San Joaquin County staff. DKS collected a.m. and p.m. peak hour vehicle turning movement counts and daily vehicle counts along Arch Road in November 2007 at the intersections of Arch Road at the SR 99 SPUI, the CTCA west and east driveways, and at Austin Road. Turning movement counts at the intersections of Arch Road at Kingsley Road and Newcastle Road were obtained from the Mariposa Lakes Traffic Impact Analysis (TJKM 2007) included as part of the Mariposa Lakes Specific Plan EIR (City of Stockton 2007), and were adjusted to reflect conditions comparable to the collected traffic counts in 2007. Turning movement counts and daily vehicle counts were collected in April 2008 at the intersection of the existing NCYCC driveway on Newcastle Road (south of Arch Road) and the proposed driveway location on Austin Road (south of Arch Road).

DKS Associates used the TRAFFIX software program, which evaluates intersections using the analysis methodologies of the HCM (Transportation Research Board 2000) and determines an intersection’s operating LOS and 95th-percentile queues. A 95th-percentile queue estimate for a signalized intersection typically represents a queue length that will not be exceeded for 95% of the signal cycles during the time period being studied.

Definitions of Intersection Levels of Service

DKS Associates evaluated traffic conditions at the study intersections based on the analysis methodologies and assumptions used in the HCM.

The LOS for one- or two-way-stop-controlled intersections is based on the delay at the worst approach. For signalized intersections and all-way stop-controlled intersections, the average delay for all vehicles is used to determine the intersection’s LOS. Table 4.3-5 provides definitions of LOS for unsignalized and signalized intersections.

Level of Service	Expected Delay (seconds per vehicle)		Description of Delay
	Unsignalized Intersection	Signalized Intersection	
A	≤ 10	≤ 10	Little or no delay
B	> 10 and ≤ 15	> 10 and ≤ 20	Short traffic delay
C	> 15 and ≤ 25	> 20 and ≤ 35	Average traffic delays
D	> 25 and ≤ 35	> 35 and ≤ 55	Long traffic delays
E	> 35 and ≤ 50	> 55 and ≤ 80	Very long traffic delays
F	> 50	> 80	Extreme delays potentially affecting other traffic movements in the intersection

Source: Data provided by DKS Associates in 2008

Roadway Segment Analysis

Arch Road and Austin Road are currently two-lane roadways, and levels of service are based on the traveling speeds compared to the desired free-flow speed. An indicator of this delay is the capacity utilization, or the ratio of traffic volume to its functional capacity. The functional capacity of a roadway segment is influenced by many factors including lane width, shoulder width, grade line, percentage of trucks, peaking characteristics, and terrain.

Arch Road was analyzed based on the methodology from Chapter 15 of the HCM (2000). Exhibit 15-14 of the HCM, “Urban Street Worksheet,” details all of the variables and equations used to calculate LOS. The following assumptions were made to use the Urban Street Worksheet: cycle length of 120 seconds, lane capacity of 1,700, Arrival Type 4 (from the City’s guidelines), Urban Street Class 1 with a free-flow speed of 50 mph, and a Unit Extension of 3. Other factors, such as the signal control adjustment factor and the upstream filtering/metering adjustment factor, were calculated using tables in HCM Chapter 15. The TRAFFIX intersection LOS output at intersections adjacent to the roadway segment, Newcastle Road/Arch Road and Austin Road/Arch Road, was used to determine the effective green-to-cycle (g/c) length ratios. The final output of the Urban Street Worksheet is a segment travel speed. Using Exhibit 15-2 of the HCM, the segment travel speed is equated with an LOS for Urban Street Class 1. Table 4.3-6 summarizes the HCM LOS criteria for various classes of roadway segments, including arterial and collector streets.

Urban Street Class	I	II	III	IV
Range of Free-Flow Speeds	55–45 mph	45–35 mph	35–30 mph	35–25 mph
Typical Free-Flow Speed	50 mph	40 mph	35 mph	30 mph
LOS	Average Travel Speed (mph)			
A	> 42	> 35	> 30	> 25
B	> 34–42	> 28–35	> 24–30	> 19–25
C	> 27–34	> 22–28	> 18–24	> 13–19
D	> 21–27	> 17–22	> 14–18	> 9–13
E	> 16–21	> 13–17	> 10–14	> 7–9
F	≤ 16	≤ 13	≤ 16	≤ 7

Source: Data provided by DKS Associates in 2008

The study segment of Austin Road, south of Burnham Road, would not contain unsignalized intersections on either end of the segment for a majority of the scenarios. Therefore, the HCM methodology could not be applied. Instead, the roadway segment LOS for Austin Road was determined based on the methodology and peak hour volume thresholds provided in the “Florida Tables,” specifically in Table 4-8, “Generalized Peak Hour Directional Volumes for Florida’s Areas Transitioning into Urbanized Areas or Areas Over 5,000 Not in Urbanized Areas” (Florida Department of Transportation – FDOT). Use of the Florida Tables for roadway segment analysis is an acceptable methodology for roadways throughout the United States, and also serves as an alternative methodology to the HCM. The Austin Road segment LOS thresholds were based on LOS D capacities for non-state roadways.

Fair Share Payment

As part of the analysis, mitigation measures are recommended for the study intersections and roadway segments where potentially significant impacts may occur. All improvements are in the city of Stockton or its sphere of influence (suggesting that, with substantial development, it would at some point be annexed to the City). For significant traffic impacts created by the proposed project alone as determined by the City's significance criteria, the CPR would be required to fully construct and implement the mitigation measure(s). For intersections that have cumulatively significant impacts (without the project) from other area development and where the proposed project would contribute considerably to the impact, the CPR would be required to pay its fair-share contribution, which is based on the City of Stockton's fee program that was established to fund major roadway improvements. The City ultimately would provide the improvement, once the intersection is programmed through a capital improvement plan or through some other triggering mechanism, and sufficient funds are available. The percent of project traffic contributing to cumulatively affected roadways was determined with the following formula:

$$\frac{\text{Project Traffic}}{\text{Future New Traffic: (Baseline + Project) - (Existing)}}$$

The project's fair-share fees would be assessed per the City of Stockton's Fee Schedule in effect at the time of project approval. The 2008-2009 City of Stockton's fee schedule (adopted May 2008) includes a number of categories, and the category most closely matching the project is "public facility: office/high density/guest rooms." The actual category/fees that the project would fit in would be determined through consultation with the City of Stockton. The fee schedule provides money for the following improvements:

- ▶ Regional Transportation Impact Fee (RTIF). This fee is used to help (along with other cities and the county) fund regional projects coordinated through the San Joaquin Council of Governments Transportation Improvement Plan, including such improvements widening SR 99
- ▶ Street improvements (includes the Mainline Fee)
- ▶ Traffic signals

Again, these rates are shown for illustration purposes. Any fees paid by the project would need to be determined in discussions between the CPR and the City of Stockton.

SIGNIFICANCE CRITERIA

In accordance with Appendix G of the State CEQA Guidelines, an impact of the proposed project related to traffic and circulation would be considered significant if project implementation would:

- ▶ cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- ▶ exceed, either individually or cumulatively, a level of service standard established for designated roads or highways;
- ▶ 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;
- ▶ substantially increase hazards from a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- ▶ result in inadequate emergency access;

- ▶ result in inadequate parking capacity; or
- ▶ conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Although three of the eight study intersections and roadways are within the jurisdiction of the City of Stockton and the remaining five are within San Joaquin County’s jurisdiction, the San Joaquin County Public Works Department was also consulted on the development of the traffic scope and impact criteria. Based on those discussions, it was determined by the City and County that the traffic analysis for all study area intersections and roadways should be consistent with the City of Stockton’s traffic guidelines and significance criteria. Therefore, the study intersections were analyzed using the City of Stockton’s criteria for significant impacts, although it should be noted that the project is exempt from the requirement to comply with local policies and ordinances, including local LOS standards (see Section 4.1, “Land Use and Planning,” for additional information regarding the project’s exemption from local policies and ordinances).

As previously stated, under the City of Stockton’s Traffic Impact Analysis (TIA) Guidelines, the City of Stockton’s minimum acceptable LOS standard for intersections and roadway segments is LOS D. Therefore, a significant impact would occur if the addition of project-related traffic results in an intersection deteriorating from an acceptable LOS D or better to LOS E or F. According to the guidelines, for intersections with LOS worse than D (i.e., E or F), an impact is considered significant if project traffic results in an increase of greater than 5 seconds of delay.

Heavy vehicle queues adjacent to freeway ramps are generally anticipated and are not considered a significant impact unless public safety issues are involved. Generally, if the LOS of an intersection is LOS D or better, it means that traffic on the side streets is dispersing within a signal cycle, and the impact would not be significant. If the LOS of an intersection exceeds the LOS D threshold, then the impact would be considered significant.

Facilities under the jurisdiction of Caltrans, including freeway segments, ramps, ramp terminals, signalized and unsignalized intersections, and urban streets, are required to use the current Caltrans standard to determine project impact. The Caltrans standards strive to maintain acceptable freeway operations between LOS C and LOS D. Therefore, impacts on freeways are considered significant if the project degrades LOS below LOS D (i.e., LOS E or F).

ISSUES NOT DISCUSSED FURTHER

Other than one guard tower, the proposed project would consist generally of one to three-story buildings and would not include high mast lighting or any radio, television, or cell phone towers that could require a change in air traffic patterns (See Section 4.10 “Hazards and Hazardous Materials” for additional discussion related to building height versus air traffic). In addition, the proposed correctional health center would not substantially increase demand for flights. Therefore, impacts associated with alteration of air traffic patterns are not addressed further.

Additionally, the proposed medical facility is currently being designed to effectively accommodate emergency vehicles (including ambulances) that would use the facility, as allowed within the required security parameters. Furthermore, the proposed project would maintain its own security and utilize the existing NCYCC fire protection service, with backup provided by local agencies. Therefore, impacts associated with emergency vehicle access are also not addressed further.

Because CPR is acting as a state agency, the proposed project is not subject to local plans and policies related to alternative modes of transportation. The proposed project is not located in the vicinity of a residential area, and it is anticipated that very few project employees would commute to work on bicycle. Bicycle facilities are not located or planned in the vicinity of the project site, and the proposed project would not increase the demand for

such facilities. In addition, transit service is currently not available to the project site. San Joaquin Regional Transit District “hopper” bus Routes 91 and 95 are the closest bus routes, located more than 2 miles from the site, and no bus service is planned in the area. Because the proposed project would not be served by bus, the proposed project would not increase the demand for transit service. CPR will coordinate with the San Joaquin Regional Transit District regarding the potential for future bus or shuttle service to the site; however, bus service cannot be verified at this time. Impacts associated with alternative modes of transportation are not significant and are not discussed further.

PROJECT IMPACTS AND MITIGATION MEASURES

IMPACT TRAF-1 *Short-Term Traffic Impacts during Project Construction. The project would generate substantial numbers of vehicle trips associated with commuting construction workers, as well as heavy construction vehicle traffic. Although this condition would be temporary, the construction-related traffic would cause LOS at local intersections, roadways, and the freeway mainline to deteriorate to unacceptable levels. (Significant; less than significant with mitigation)*

Construction of the proposed project is anticipated to start in March 2009, with a completion date of March 2011 (24 months). Construction trip generation estimates were based on the information provided by CPR staff. During the peak construction period (approximately 7 months), construction activities would require up to 1,700 construction workers that would commute to the site on a daily basis. Assuming an average vehicle occupancy rate of one person per vehicle (1.0 AVO), approximately 3,400 daily construction trips would occur on-site during the peak construction period. In addition, it is estimated that 55 daily truck trips (i.e. dozers, cranes, forklift, tractor/loader/backhoe, compressors, and welders) would access the project site during the peak construction period. For purposes of this analysis, a passenger car equivalency (PCE) ratio of 3.0 was applied to the truck trips to determine the total passenger vehicle trips.

Table 4.3-7 provides the trip generation estimates during, the peak construction period. It should be noted that the analysis assumed 50-percent of the daily construction related trips would access the site during the AM and PM peak hours, while the remaining 50-percent would access the site at other times during the day, before or after, the peak commute hours. As such, the construction traffic trip generation would be approximately 3,730 daily trips, including 933 AM peak hour trips, and 933 PM peak hour trips.

Table 4.3-7 Construction Phase Trip Generation Estimates							
Land Use	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Construction Phase-NCYCC Project							
-Construction Worker	3,400	850	0	850	0	850	850
-Heavy Vehicles	330	83	0	83	0	83	83
Total Construction Trip Generation	3,730	933	0	933	0	933	933
Notes: Daily staff trips based on total of 1,700 construction workers at 1 A.V.O. Daily Heavy Vehicle trips based on 55 one-way truck trips at 3.0 PCE (Passenger Car Equivalency). Peak hour trips assume approximately 50 percent of daily trips would access the project site.							

The construction trips would generate approximately twice the amount of vehicle trips than the “plus project” condition during the peak hours, resulting in changes to LOS at the study intersections. Therefore, the addition of

construction trips would cause a temporary impact at intersections along Arch Road during the 7-month peak construction period.

The following scenario was analyzed with project construction trips (at 933 AM and PM peak hour trips):

- **Existing plus Project Construction Trips.** This scenario analyses existing conditions plus the proposed project construction trips.

Intersection Level of Service Analysis

Table 4.3-8 presents the level of service for the existing plus project construction trips. The following study intersections are forecast to operate with an unsatisfactory level of service (LOS E or F) with the addition of project-related construction traffic:

- The intersection of Austin Road and Arch Road (LOS F during both peak hours)
- The intersection of Austin Road and proposed project driveway (LOS F during the PM peak hour)

#	Intersection	Background Conditions				Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²
1	SR 99 SPUI and Arch Road	26.7	C	26.4	C	26.0	C	25.2	C
2	Kingsley Road (Frontage Road) and Arch Road	29.3	C	30.1	C	24.2	C	32.3	C
3	Newcastle Road and Arch Road	4.2	A	16.8	B	4.1	A	9.2	A
4	CTCA West Driveway and Arch Road	9.9	A	10.3	B	20.6	C	31.2	D
5	CTCA East Driveway and Arch Road	9.4	A	9.3	A	15.8	C	14.2	B
6	Austin Road and Arch Road	8.0	A	8.0	A	72.9	F	188.5	F
7	Newcastle Road and NCYCC driveway	8.4	A	10.6	B	8.4	A	10.6	B
8	Austin Road and proposed project driveway	N/A		N/A		10.2	B	53.9	F

¹ Average Delay – per vehicle, in seconds.
² LOS: Level of service based on worst approach delay for two-way stop controlled intersections and average delay for all-way stop controlled intersections.
Boldface and shading indicates LOS below threshold LOS D or better.

95th Percentile Queues on Arch Road between SR 99 and Kingsley Road

During the AM and PM peak hours the westbound queue on Arch Road between the SR 99 SPUI and Kingsley Road is forecast to be 3 cars and 6 cars, respectively. The eastbound queue for the AM and PM peak hours is 16 cars and 7 cars, respectively. The distance between SR 99 SPUI intersection and Kingsley Road is approximately 670 feet (27 cars). HCM assumes an average car length as 25 feet, and therefore the queue of 6 cars on the westbound segment 16 cars on eastbound segment would not significantly impact the SR 99 SPUI.

Roadway Segment Level of Service Analysis

Table 4.3-9 summarizes the estimated roadway segment LOS. According to the City of Stockton roadway level of service standards, the Austin Road study roadway segment would operate at unacceptable level of service (LOS

F) for the Existing plus Project Construction Trips condition in both peak hours, which results in a potentially significant impact.

Roadway Segment (Location)	Segment Description	AM Peak Hour		PM Peak Hour	
		Speed (Direction)	LOS	Speed (Direction)	LOS
Arch Road (Newcastle to CTCA West Driveway)	2-Lane Arterial (w/o Center Left Turn Lane)	43 mph (EB)	A	41 mph (WB)	B
Roadway Segment (Location)	Segment Description	Volume (Direction)	LOS	Volume (Direction)	LOS
Austin Road (Arch Road to proposed project driveway)	2-Lane Arterial (w/o Center Left Turn Lane)	953 (SB)	F	951 (NB)	F

Boldface and shading indicates LOS below threshold LOS D or better.

Freeway Mainline Level of Service Analysis

The freeway was analyzed along two basic segments: north of the Arch Road interchange and south of the Arch Road interchange. No weaving analysis was required due to spacing of ramps of more than 2,500 feet between Arch Road and French Camp Road, and Arch Road and Mariposa Road. The results of freeway level of service analysis for Existing plus Project Construction Trips Condition are summarized in Table 4.3-10.

Scenario	SR 99 Freeway Segment Location	2-Way Total Lanes	Dir.	AM Peak Hour			PM Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS
Existing plus Project Construction Trips	N. of Arch Road	4	SB	3662	0.99	E	3104	0.84	D
			NB	2600	0.70	C	3133	0.85	D
	S. of Arch Road	4	SB	2294	0.62	C	3866	1.04	F
			NB	3240	0.88	D	2692	0.73	C

Boldface and shading indicates LOS below threshold LOS D or better.

According to the table, both northbound and southbound SR 99 (north and south of Arch Road) would operate at LOS E or F during the peak hours as a four-lane highway.

However, the construction of the proposed project would result in the deterioration of two local intersections and one local roadway to below LOS D. Although the construction activities would be temporary, the impact is considered significant.

Mitigation Measure(s) for Impact TRAF-1

CPR will hire a qualified traffic consultant to prepare a Construction Traffic Mitigation Plan (CTMP) for the proposed project.

The CTMP will establish a target of reducing construction traffic by 40% in each peak traffic hour during which construction would occur, based on the total number of trips calculated to occur during the peak construction

period. As shown in Table 4.3-7, peak traffic is 933 vehicles, so the maximum peak hour target number of vehicles that could enter or exit the site during any single peak hour would be 570. This will be accomplished by one or a combination of the following measures:

- ▶ Encourage construction workers to carpool with a goal of 1.75 average vehicle occupancy at all times during the construction period.
- ▶ Stage construction hours to offset traffic during peak traffic hours.
- ▶ Instruct construction employees to (equally) utilize three separate east-west routes to the project site: 1) Mariposa Road; 2) Arch Road; and 3) French Camp Road. This would disperse construction trips from Arch Road and SR 99 north and south of Arch Road.
- ▶ Provide shuttle buses (seating capacity = 40) to pick up construction workers from four remote locations. These four pick up locations would ideally be located in north Stockton, two in central Stockton and one in the south towards the City of Modesto.

In addition to these measures, the CPR will include the following to improve operations near the site:

- ▶ A flagman or other traffic control will be placed at the intersection of Arch Road/Austin Road and the project access driveway during peak arrival/departure whenever there is significant congestion at this intersection.

Significance after Mitigation

The implementation of revised construction worker shifts would revise the project construction peak hour trip generation as shown in Table 4.3-11.

Table 4.3-11 Construction Phase Trip Generation Estimates NCYCC Project (Per Shift)							
Land Use	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Construction Phase-NCYCC Project							
-Construction Worker (1.75 AVO)	1,944	486	0	486	0	486	486
-Heavy Vehicles	330	83	0	83	0	83	83
Total Construction Trip Generation	2,274	569	0	569	0	569	569
Notes: Daily staff trips based on total of 1,700 construction workers at 1.75 A.V.O. this is equivalent to a 40% reduction in peak hour trips. Daily Heavy Vehicle trips based on 55 one-way truck trips at 3.0 PCE (Passenger Car Equivalency).							

With the implementation of the CTMP, the study intersections would operate at satisfactory LOS (LOS D or better), as shown in Table 4.3-12. The use of traffic control at Austin/Arch and the project driveway is not factored into this calculation, because the volumes would still be high relative to the roadway configuration. They would continue to operate with a significant and unavoidable impact, but this impact would primarily affect project construction employees.

#	Intersection	Project Conditions (933 Peak hour trips)				Project Conditions (569 Peak hour trips)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²
1	SR 99 SPUI and Arch Road	26.0	C	25.2	C	26.1	C	26.0	C
2	Kingsley Road (Frontage Road) and Arch Road	24.2	C	32.3	C	25.0	C	30.1	C
3	Newcastle Road and Arch Road	4.1	A	9.2	A	3.0	A	9.3	A
4	CTCA West Driveway and Arch Road	20.6	C	31.2	D	14.8	B	17.5	C
5	CTCA East Driveway and Arch Road	15.8	C	14.2	B	12.4	B	11.6	B
6	Austin Road and Arch Road	72.9	F	188.5	F	14.2	B	32.1	D
7	Newcastle Road and NCYCC driveway	8.4	A	10.6	B	8.4	A	10.6	B
8	Austin Road and proposed project driveway	10.2	B	53.9	F	8.7	A	15.0	B

Boldface and shading indicates LOS below threshold LOS D or better.

95th Percentile Queues on Arch Road between SR 99 and Kingsley Road

After implementation of recommended mitigation measures, the eastbound and westbound queues at the intersection of SR 99 and Frontage Road would continue to be less than the 670 foot distance between the intersections. Therefore, there would be no significant queuing impact.

Roadway Segment Level of Service Analysis

After implementation of recommended mitigation measures, the roadway segments in this study would operate at acceptable LOS (LOS D or better). Arch Road, from Newcastle Avenue to the NCWF West Driveway, would operate at LOS A (45 mph) in the a.m. peak hour in the peak eastbound direction, and LOS B (42 mph) in the p.m. peak hour in the peak westbound direction. Austin Road, from Arch Road to the Proposed Project Driveway, would operate at LOS D (601 vehicles) in the a.m. peak hour in the peak southbound direction, and LOS D (598 vehicles) in the p.m. peak hour in the peak northbound direction.

Freeway Mainline Level of Service Analysis

With implementation of recommended measures in the CTMP, the freeway segments north and south of Arch Road would be mitigated back to their existing baseline levels of service. The SR 99 southbound mainline segment north of Arch Road would continue to operate at LOS E at 0.92 V/C (existing baseline is LOS E at 0.90 V/C). The SR 99 southbound mainline segment south of Arch Road would also continue to operate at LOS E at 0.99 V/C (existing baseline is LOS E at 0.98 V/C). All other mainline segments are forecast to operate at LOS D or better.

Implementation of the CTMP would reduce construction-related impacts at study intersections, roadways, and freeway mainline as shown in Table 4.3-12. After implementation of mitigation measures, the impact would be less than significant.

IMPACT TRAF-2 *Potential for Substantial Degradation of LOS at Local Intersections under Existing Conditions. The proposed project would not, under existing conditions, degrade LOS at any of the study intersections below LOS D, which is the City of Stockton's LOS standard for intersections. (Less than significant)*

The amount of traffic associated with the project was estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. Trip generation is the process of predicting the number of peak-hour trips a proposed development would contribute to the roadways, and whether these trips would be entering or exiting the site. After the number of trips is determined, the distribution process projects the direction these trips would use to approach and depart the site, from a regional perspective. Trip assignment involves determining which specific roadways a vehicle would use to travel between its origin and destination.

Trip Generation

DKS Associates used the following methodology to develop the trip generation table:

- ▶ It is anticipated that the facility would employ between 2,400 and 3,000 people working different sized shifts around the clock. For this analysis, daily volumes were based on staff distribution by shift for the maximum number of anticipated employees (3,000 employees).
- ▶ Staff shifts considered for peak period analysis are as follows:
 - A.M. Peak Period: 8:00 a.m.–5:00 p.m. and 8:00 a.m.–8:00 p.m. (two shifts that begin at 8:00 a.m.)
 - P.M. Peak Period: 8:00 a.m.–5:00 p.m.
- ▶ Vehicle delivery trips and visitor trips were estimated based on 1,734 beds.

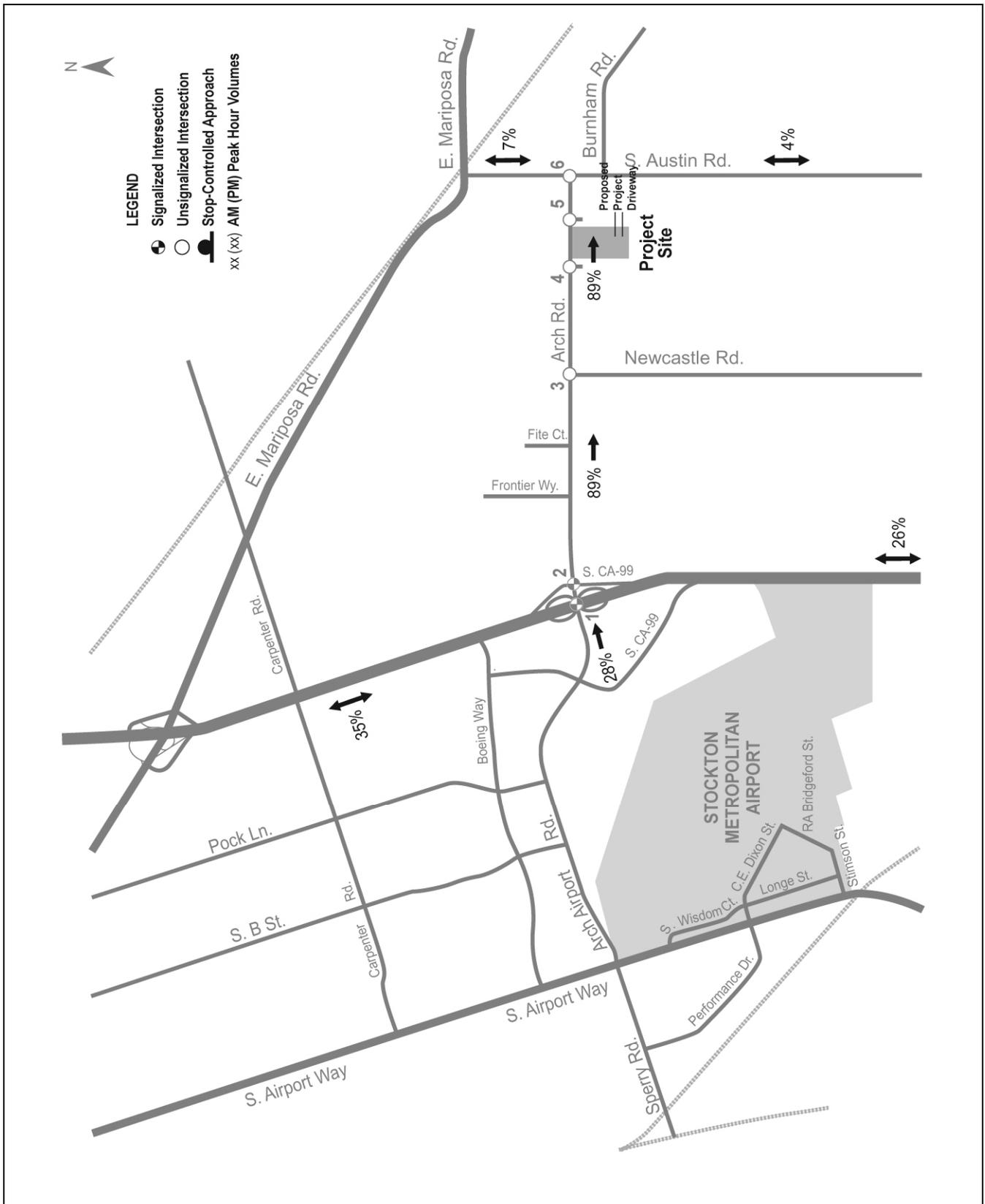
As shown in Table 4.3-13, the proposed project would generate approximately 492 a.m. peak-hour vehicle trips (452 inbound and 40 outbound) and 433 additional p.m. peak-hour vehicle trips (40 inbound, 393 outbound). Approximately 3,566 daily vehicle trips would be generated by the proposed project.

Source of Trips	Daily	A.M. Peak Hour			P.M. Peak Hour		
		In	Out	Total	In	Out	Total
Staff	3,292	412	0	412	0	353	353
Delivery	42	11	11	22	11	11	22
Visitors	232	29	29	58	29	29	58
Total Project Trip Generation	3,566	452	40	492	40	393	433

Notes: Daily staff trips based on total of 1,646 daily staff distributed across the schedule at a 1.0 average vehicle occupancy (AVO).
 Peak-hour staff trips based on 8:00 a.m.–5:00 p.m. shift of 353 staff and 8:00 a.m.–8:00 p.m. shift of 57.
 Delivery trips based on 21 deliveries per day (2 trips per delivery), with 11 deliveries occurring during the a.m. peak hour, and 11 deliveries during the p.m. peak hour.
 Visitor trips based on 116 visitors per day at a 1.0 AVO, with one-quarter of the visits occurring during each peak hour.
 Source: Data provided by DKS Associates in 2008

Trip Distribution

The direction of project trips to and from the project site was based on the existing travel patterns. Existing travel patterns were derived from the data collected at the study intersections in November 2007 and April 2008. Exhibit 4.3-3 illustrates the trip distribution of the proposed project for the weekday a.m. and p.m. peak hours. In general, during the a.m. and p.m. peak hours, approximately 35% of the trips would head south on SR 99, 28% of the trips would come from Arch Airport Road, and 26% of the trips would travel from northbound SR 99. Approximately 7% of the trips would come from northbound Austin Road, and 4% would come from southbound Austin Road.



Source: Data provided by DKS Associates in 2008

Trip Distribution Patterns

Exhibit 4.3-3

Trip Assignment

Project-generated trips were assigned to the roadway network based on likely travel patterns to local and regional routes and existing traffic volumes in the vicinity of the project site. All of the project trips were assumed to access the site using the proposed project driveway located on Austin Road. Exhibit 4.3-4 illustrates the existing plus project peak-hour volumes.

Intersection Levels of Service: Existing Plus Project

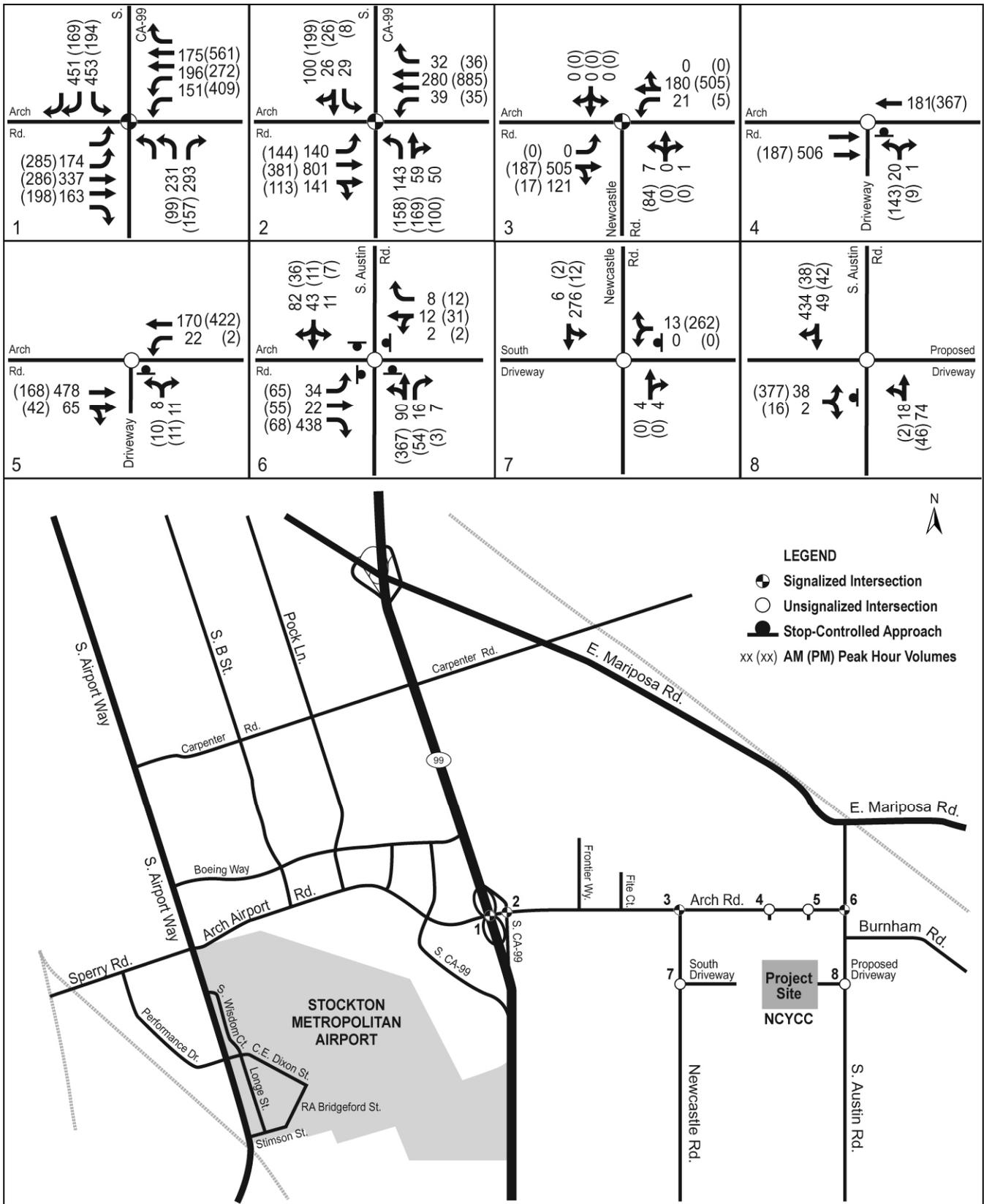
The study intersections and their corresponding levels of service with the addition of project-related traffic are presented in Table 4.3-14.

No.	Intersection	Background Conditions				Project Conditions			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²
1	SR 99 SPUI and Arch Road	26.7	C	26.4	C	26.4	C	26.6	C
2	Frontage Road/Kingsley Road and Arch Road	29.3	C	30.1	C	25.5	C	29.7	C
3	Newcastle Road and Arch Road	4.2	A	16.8	B	3.0	A	10.1	B
4	CTCA west driveway and Arch Road ³	9.9	A	10.3	B	13.9	B	15.0	B
5	CTCA east driveway and Arch Road ³	9.4	A	9.3	A	11.8	B	10.9	B
6	Austin Road at Arch Road	8.0	A	8.0	A	11.7	B	14.8	B
7	NCYCC south driveway and Newcastle Road	8.4	A	10.6	B	8.4	A	10.6	B
8	Proposed project driveway and Austin Road	NA	NA	NA	NA	11.1	B	12.1	B

Notes:
 LOS = level of service; NCYCC = Northern California Youth Correctional Center; NA = not available; SPUI = single-point urban interchange; SR = State Route.
¹ Average delay per vehicle, in seconds.
² Level of service based on worst approach delay for two-way stop-controlled intersections and average delay for all-way stop-controlled intersections.
³ Unsignalized intersection.
 Source: Data provided by DKS Associates in 2008

As indicated in the table, the intersection LOS analysis for the project's effects on existing conditions yielded the following determinations:

- ▶ The intersection of SR 99 SPUI and Arch Road would continue to operate at LOS C in both peak hours.
- ▶ During the a.m. and p.m. peak hours, the intersection of Kingsley Road (Frontage Road) and Arch Road, and Newcastle Road and Arch Road would operate at LOS C or better.
- ▶ The intersection of CTCA west driveway and Arch Road would deteriorate from LOS A to LOS B during the a.m. peak hour. Similarly, the intersection of CTCA east driveway and Arch Road would deteriorate from LOS A to LOS B in the a.m. and p.m. peak hours.



Source: Data provided by DKS Associates in 2008

**Existing plus Project Conditions
Intersection Lane Geometry and Peak-Hour Traffic Volumes**

Exhibit 4.3-4

- ▶ The intersection of Austin Road and Arch Road would operate at LOS B during both the a.m. and p.m. peak hours.
- ▶ The intersection of Newcastle Road and NCYCC south driveway would continue to operate at LOS A and LOS B during the a.m. and p.m. peak hour, respectively.
- ▶ The intersection of Austin Road and the proposed project driveway would operate at LOS B.

In general, according to the City of Stockton intersection LOS standards, the study intersections would continue to operate at an acceptable LOS C or better under the existing plus project conditions scenario.

95th Percentile Queues on Arch Road between SR 99 and Kingsley Road

During the a.m. and p.m. peak hours, the westbound queue on Arch Road between the SR 99 SPUI and Kingsley Road is forecast to be three cars and two cars, respectively. The eastbound queue for the a.m. and p.m. peak hours is 10 cars and five cars, respectively. The distance between the SR 99 SPUI intersection and Kingsley Road is approximately 670 feet (27 cars). The queue of three cars on the westbound segment and 10 cars on the eastbound segment would not significantly affect the operations of either intersection. Exhibit 4.3-5 shows the queuing both with and without the proposed project.

In general, according to the City of Stockton intersection LOS standards, the study intersections would continue to operate at an acceptable LOS C or better under the existing plus project conditions scenario. The project would not, under existing conditions, contribute to a degradation of LOS of any of the study intersections to LOS D or lower. Therefore, this impact would be less than significant.

Mitigation Measure(s) for Impact TRAF-2:

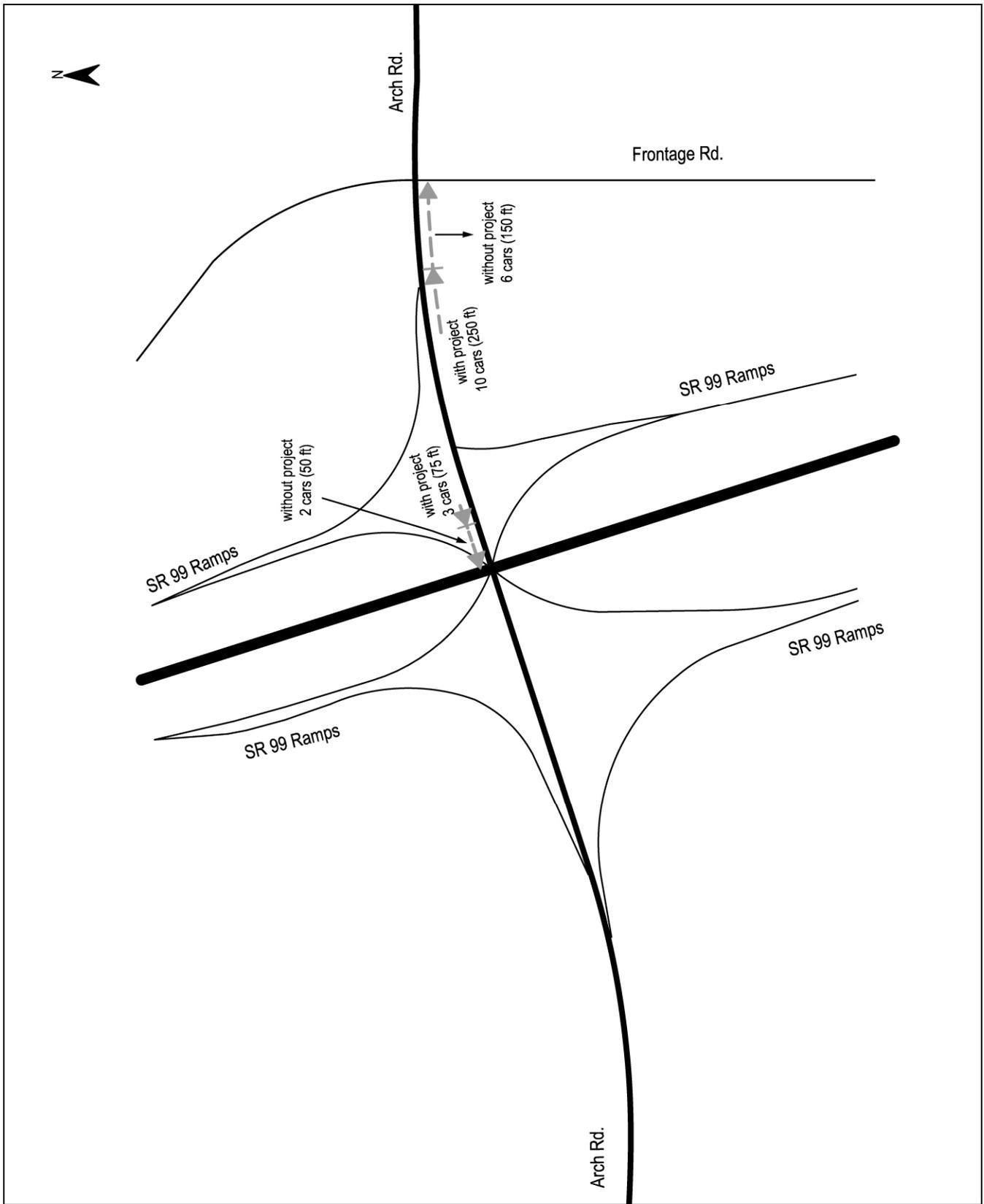
No significant impacts would occur, so no mitigation measures are required.

IMPACT *Potential for Substantial Degradation of LOS of Local Roadway Segments under Existing Conditions.*
TRAF-3 *The project would not, under existing conditions, degrade LOS at local roadway segments below LOS D, which is the City of Stockton's LOS standard for roadway segments. (Less than significant)*

The addition of trips associated with the proposed project would result in a small increase in peak-hour traffic on Arch Road between Newcastle Road and the project site, as well as the segment of Austin Road between Arch Road and the project site. However, the LOS of both roadway segments would remain at or above an acceptable LOS (LOS D) under the existing plus project conditions scenario. Table 4.3-15 summarizes the estimated roadway segment LOS.

Table 4.3-15 Roadway Segment Analysis: Existing Plus Project Conditions					
Roadway Segment (Location)	Segment Description	Existing Plus Project			
		A.M. Peak Hour		P.M. Peak Hour	
		Speed (Direction)	LOS	Speed (Direction)	LOS
Arch Road (Newcastle Road to CTCA west driveway)	Two-Lane Arterial (without center left-turn lane)	45 mph (eastbound)	A	42 mph (westbound)	A
Roadway Segment (Location)	Segment Description	Volume (Direction)	LOS	Volume (Direction)	LOS
Austin Road (Arch Road to proposed project driveway)	Two-Lane Arterial (without center left-turn lane)	483 (southbound)	D	424 (northbound)	D

Notes: CTCA = Richard A. McGee Correctional Training Center Annex; LOS = level of service;
Source: Data provided by DKS Associates in 2008



Data provided by DKS Associates in 2008

95th Percentile Queues: Existing Scenario

Exhibit 4.3-5

The study roadway segments would remain an acceptable LOS (LOS D or better) under existing conditions. Therefore, this impact would be less than significant.

Mitigation Measure(s) for Impact TRAF-3:

No significant impacts would occur, so no mitigation measures are required.

IMPACT TRAF-4 *Potential for Addition of Project Traffic to Result in Substantial Degradation of LOS at Local Intersections under Existing Conditions plus Approved Projects in the Area (EPAP). In combination with traffic generated from approved projects within the vicinity of the project site, the project would contribute to deterioration of LOS at the intersection of Kingsley Road (Frontage Road) and Arch Road and at the intersection of Newcastle Road and Arch Road, exceeding the City of Stockton's LOS standard for intersections. (Significant; less than significant with mitigation) If the City is unable to implement mitigation in a timely manner the impact would remain significant. (Significant and unavoidable)*

Per direction of the City of Stockton Public Works Department, the Existing plus Approved Projects (EPAP) scenario was used to evaluate project operations (without traffic from the proposed Mariposa Lakes Development). The EPAP traffic volumes for the project study area were based on the City's EPAP Peak Hour Model as referenced in the TJKM study completed for the Mariposa Lakes project (TJKM 2007). Based on a review by DKS of the EPAP peak hour traffic volumes and the list of approved projects analyzed in the EPAP model, it was determined that the use of the EPAP peak hour traffic volumes from the TJKM study would be appropriate for the impact analysis.

The study intersections and their corresponding LOS with the addition of project-related traffic are presented in Table 4.3-16.

No.	Intersection	Background Conditions				Project Conditions			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²
1	SR 99 SPUI and Arch Road	27.6	C	37.8	C	30.5	C	32.6	C
2	Frontage Road/Kingsley Road and Arch Road	38.2	D	61.8	E	69.4	E	91.6	F
3	Newcastle Road and Arch Road	13.6	B	20.1	C	55.0	D	62.6	E
4	CTCA west driveway and Arch Road ³	12.2	B	12.7	B	19.2	C	22.2	C
5	CTCA east driveway and Arch Road ³	10.5	B	10.3	B	13.9	B	12.6	B
6	Austin Road at Arch Road	9.0	A	10.3	B	12.1	B	19.2	C
7	NCYCC south driveway and Newcastle Road	8.5	A	9.4	A	8.5	A	9.4	A
8	Proposed project driveway and Austin Road	NA	NA	NA	NA	11.3	B	12.5	B

Notes: CTCA = Richard A. McGee Correctional Training Center Annex; EPAP = Existing plus Approved Projects; LOS = level of service; SPUI = single-point urban interchange; SR = State Route.
Boldface and shading indicates LOS below threshold LOS D or better.
¹ Average delay per vehicle, in seconds.
² Level of service based on worst approach delay for two-way stop-controlled intersections and average delay for all-way stop-controlled intersections.
³ Unsignalized intersection.
Source: Data provided by DKS Associates in 2008

As indicated in the table, the intersection LOS analysis for the project's effects on existing conditions plus approved projects in the area yielded the following determinations:

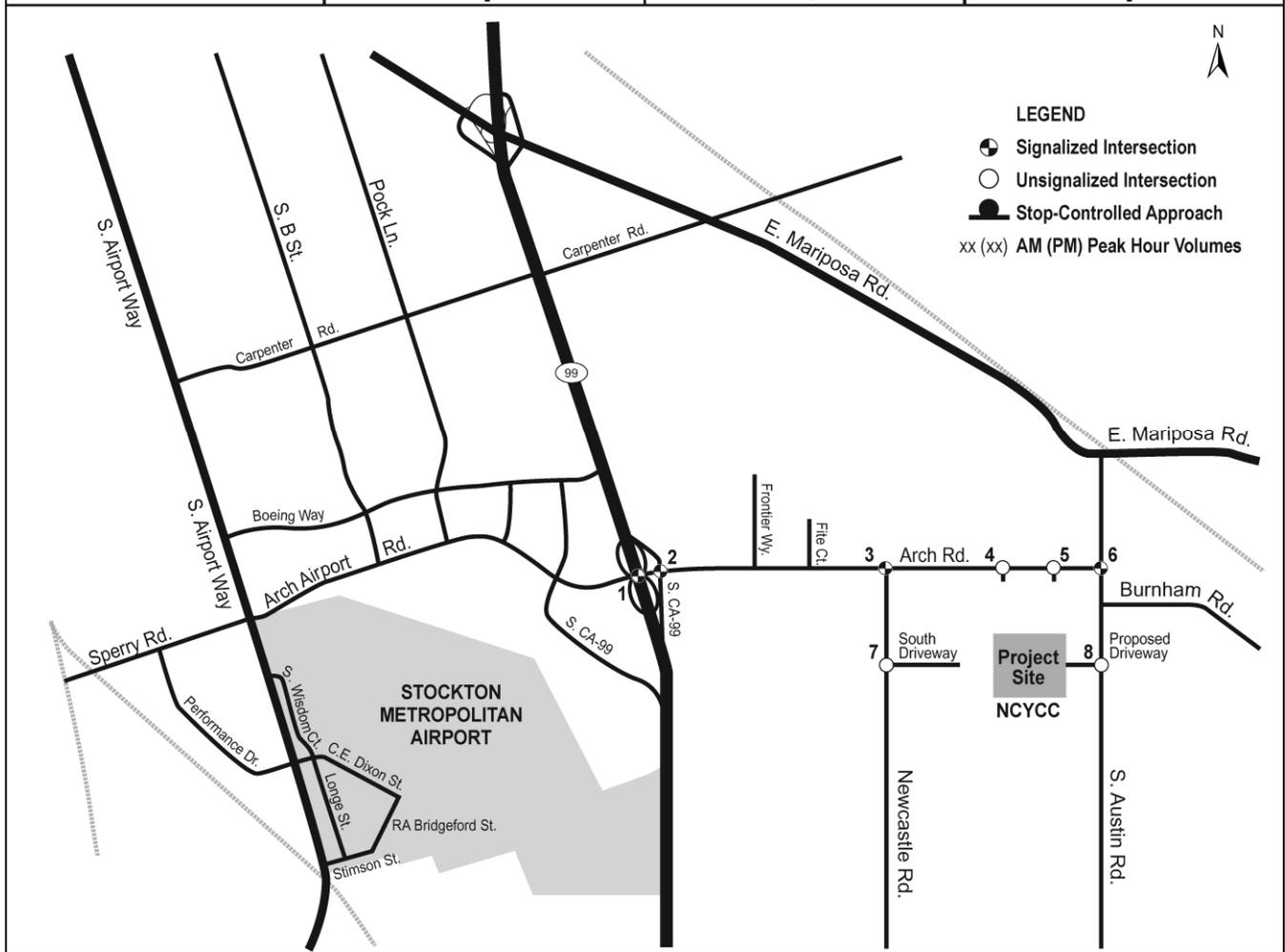
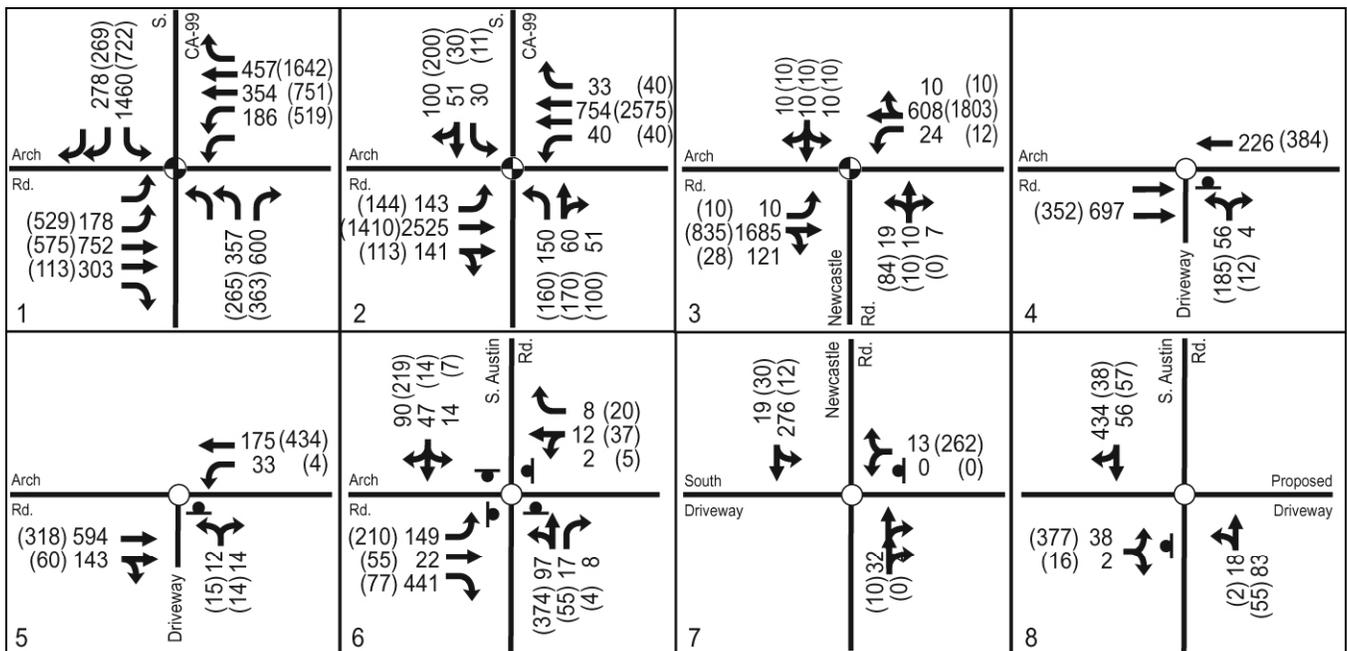
- ▶ The intersection of SR 99 SPUI and Arch Road would remain at LOS C in both a.m. and p.m. peak hours.
- ▶ The intersection of Kingsley Road (Frontage Road) and Arch Road would deteriorate from LOS D to LOS E in the a.m. peak hour and LOS E to LOS F in the p.m. peak hour, which exceeds the threshold for acceptable LOS (D or better).
- ▶ The intersection of Newcastle Road and Arch Road would deteriorate from LOS B to LOS D in the a.m. peak hour and LOS C to LOS E in the PM peak hour, which exceeds the threshold for acceptable LOS (D or better).
- ▶ The CTCA west driveway and Arch Road would operate at LOS C during the a.m. and p.m. peak hours. The CTCA east driveway and Arch Road would operate at LOS B during the a.m. and p.m. peak hours.
- ▶ The intersection of Austin Road and Arch Road would continue to operate at LOS C or better during both the a.m. and p.m. peak hours.
- ▶ The intersection Newcastle Road and NCYCC south driveway would continue to operate at LOS A during the a.m. and p.m. peak hours.
- ▶ The intersection of Austin Road at the proposed project driveway would operate at LOS B in the a.m. and p.m. peak hours.

Exhibit 4.3-6 illustrates the intersection lane geometry and peak-hour traffic volumes for EPAP plus project conditions scenario.

95th Percentile Queues on Arch Road between SR 99 and Kingsley Road

During both peak hours, the westbound queue on Arch Road between the SR 99 SPUI and Kingsley Road is forecast to be 5 cars and 11 cars, respectively. The eastbound queues for the a.m. and p.m. peak hours are forecast to be 64 cars and 17 cars, respectively. The distance between SR 99 SPUI and Kingsley Road is approximately 670 feet (27 cars). HCM assumes an average car length of 25 feet; therefore, the queue of 11 cars on the westbound segment would not significantly affect Kingsley Road/Arch Road. However, the eastbound queue of 64 cars (1,600 feet) would exceed 670 feet and would queue beyond the SR 99 SPUI. Because the intersection of Kingsley Road (Frontage Road)/Arch Road is forecast to operate with unsatisfactory LOS (LOS E in the a.m. peak hour), the project's contribution to the eastbound queue of 64 cars in the a.m. peak hour would substantially affect the intersection. Exhibit 4.3-7 shows the queuing both with and without the proposed project.

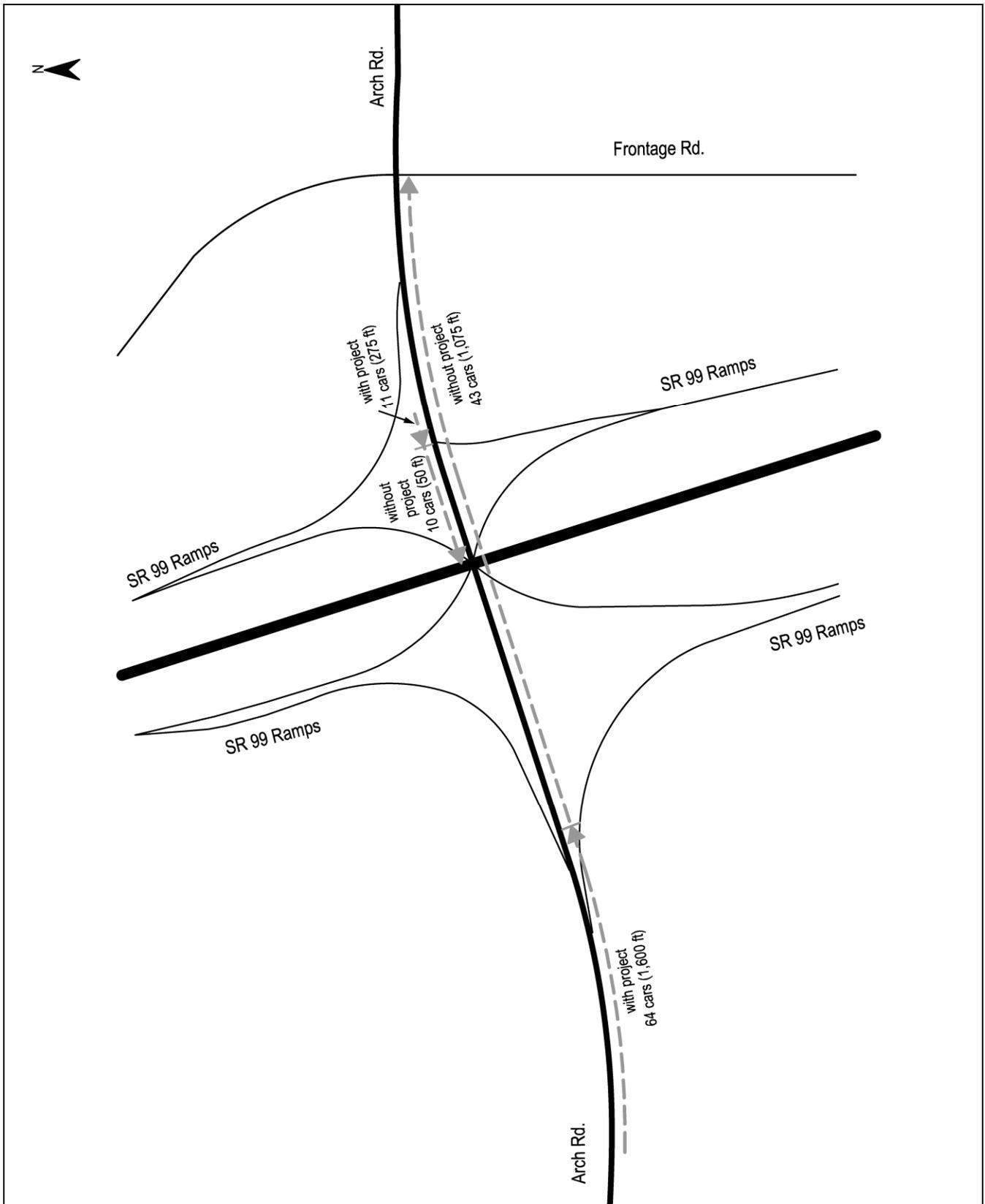
The project, in combination with other approved projects, would deteriorate the intersection of Kingsley Road (Frontage Road) and Arch Road from LOS D to LOS E in the a.m. peak hour and LOS E to LOS F in the p.m. peak hour. Newcastle Road and Arch Road would deteriorate from LOS B to LOS D in the a.m. peak hour and LOS C to LOS E in the p.m. peak hour. Therefore, the proposed project would result in a LOS that exceeds the threshold (LOS D or better); this impact would be significant.



Source: Data provided by DKS Associates in 2008

**EPAP plus Existing plus Project Conditions
Intersection Lane Geometry and Peak-Hour Traffic Volumes**

Exhibit 4.3-6



Data provided by DKS Associates in 2008

95th Percentile Queue: EPAP Scenario

Exhibit 4.3-7

Mitigation Measure(s) for Impact TRAF-4:

- ▶ **Intersection of Kingsley Road (Frontage Road) and Arch Road:** The addition of project-related trips would result in the degradation in LOS from LOS D to LOS E in the a.m. peak hour and LOS E to LOS F in the p.m. peak hour, which would be a significant impact. The project's contribution would be cumulative, in combination with EPAP projects. The project would contribute (20.6%) of the traffic to this intersection. CPR will pay the City of Stockton traffic fee to help fund a fair share of this improvement:
 - change the north-south signal phasing of the intersection from protected left-turn phasing to permissive phasing, convert the southbound left-turn lane to a shared left-through lane;
 - convert the southbound shared through-right-turn lane to a dedicated right-turn lane.
- ▶ **Intersection of Newcastle Road and Arch Road:** The addition of project-related trips would result in the degradation in LOS from LOS C to LOS E in the p.m. peak hour, which would be a significant impact. To offset this impact, CPR will add a westbound through-lane to the approach and return of the intersection. Because the intersection would operate at an acceptable LOS without the proposed project and the project constitutes the major reason why the intersection would deteriorate, CPR will fund this improvement entirely.

Significance after Mitigation

Implementation of the mitigation measures for Impact TRAF-4 would improve the LOS at the intersection of Kingsley Road (Frontage Road) and Arch Road from LOS E to LOS D (44.2 seconds) in the a.m. peak hour, and decrease the delay from 91.6 seconds (LOS F) to 63.1 seconds (LOS E) in the p.m. peak hour. The delay increase between the baseline condition and the mitigated plus project condition would be less than 5.0 seconds, resulting in a less-than-significant impact. This mitigation measure would also improve the operation of the intersection of Newcastle Road and Arch Road from LOS E to LOS A in the p.m. peak hour. The impact to this intersection would be less than significant with the implementation of this mitigation measure. Furthermore, with this mitigation measure, the project's queuing impact would be reduced to a less-than-significant level since the intersection's LOS would improve to satisfactory conditions. With implementation of the mitigation measure for Impact TRAF-4, the impact would be reduced to a less-than-significant level.

However, the mitigation to Kingsley/Arch Road would be funded through the City of Stockton traffic fee/improvement program, and the CPR as lead agency has no control over how this program is implemented. Thus, while the CPR will pay its fair share, which is considered adequate mitigation under CEQA and applicable development law, there is no assurance that the improvements will be implemented in a timely manner. The mitigation is feasible, but if for some reason the City of Stockton is unable to provide the improvement in a timely manner (such as not having collected sufficient funds from other projects due to timing, etc.), the intersection may continue to operate adversely. The impact, under this circumstance, would be significant and unavoidable.

IMPACT TRAF-5 *Potential for Addition of Project Traffic to Result in Substantial Degradation of LOS of Local Roadway Segments under EPAP Conditions. The project would not, under EPAP conditions, degrade LOS at any local roadway segments below LOS D, which is the City of Stockton's LOS standard for roadway segments. (Less than significant)*

The addition of trips associated with the proposed project would increase peak hour traffic on Arch Road between Newcastle Road and the project site. However, the LOS of the roadway segment would remain at an acceptable LOS A under the EPAP plus project conditions scenario. Austin Road between Arch Road and the project site would also experience an increase in volume; however, the LOS on the roadway segment would remain at an acceptable LOS (LOS D). Table 4.3-17 summarizes the estimated roadway segment LOS.

**Table 4.3-17
Roadway Segment Analysis: EPAP plus Project Conditions**

Roadway Segment (Location)	Segment Description	EPAP plus Project			
		A.M. Peak Hour		P.M. Peak Hour	
		Speed (Direction)	LOS	Speed (Direction)	LOS
Arch Road (Newcastle Road to CTCA west driveway)	Two-Lane Arterial (without center left-turn lane)	45 mph (eastbound)	A	44 mph (westbound)	A
Roadway Segment (Location)	Segment Description	Volume (Direction)	LOS	Volume (Direction)	LOS
Austin Road (Arch Road to proposed project driveway)	Two-Lane Arterial (without center left-turn lane)	490 (southbound)	D	433 (northbound)	D

Notes: CTCA = Richard A. McGee Correctional Training Center Annex; LOS = level of service
Source: Data provided by DKS Associates in 2008

Because the study roadway segments would remain an acceptable LOS under EPAP conditions, this impact would be less than significant.

Mitigation Measure(s) for Impact TRAF-5:

No significant impacts would occur, so no mitigation measures are required.

IMPACT TRAF-6 *Substantial Degradation of LOS at Local Intersections under Cumulative Conditions. In combination with traffic generated from buildout under the City of Stockton General Plan 2035, the project would contribute to deterioration of LOS at three of eight study intersections. (Significant and unavoidable)*

Cumulative 2035 City General Plan: No Project Conditions

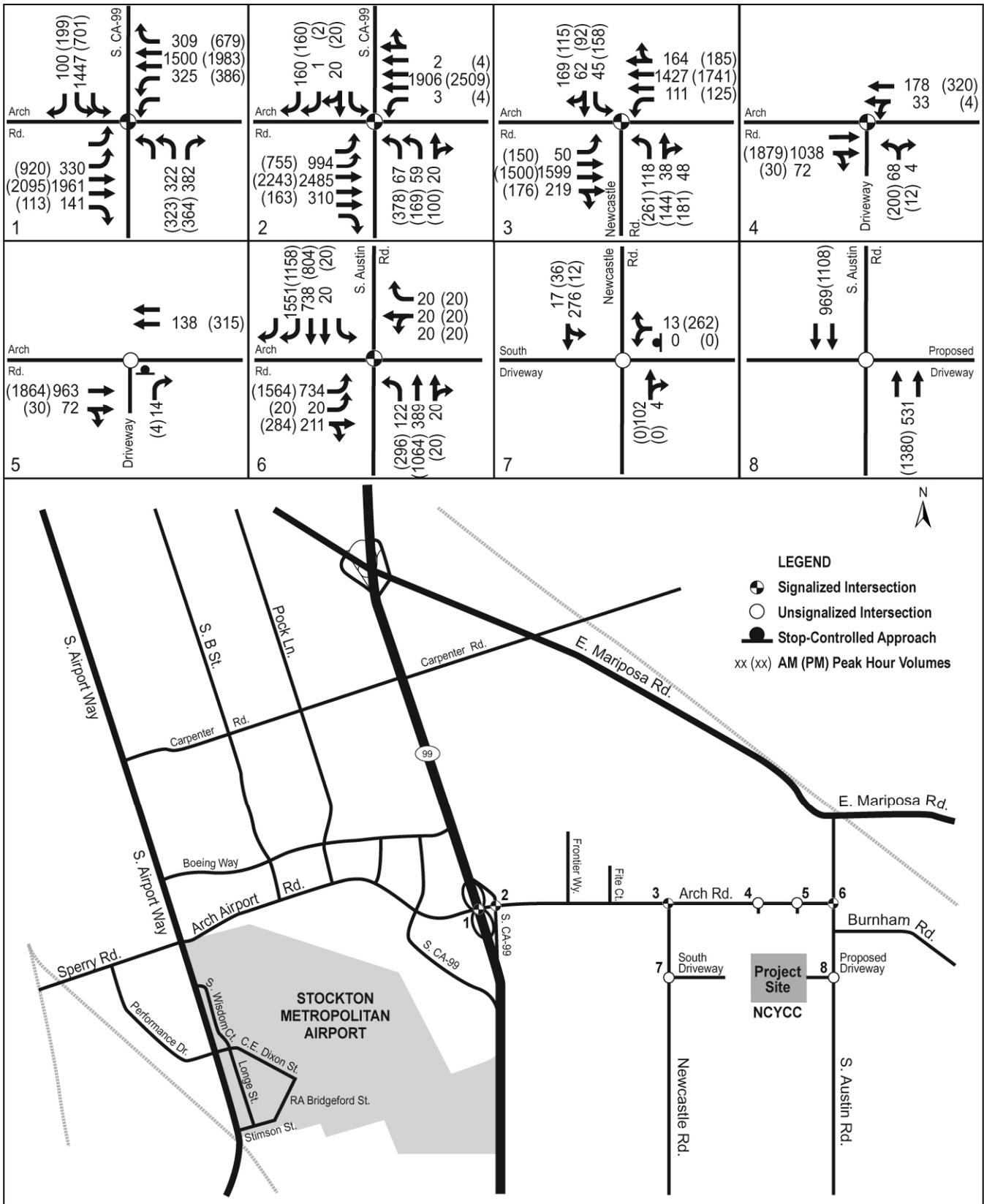
This section describes the traffic operating conditions at the study intersections for the future year of 2035 based on the *City of Stockton General Plan 2035*. In addition, traffic related to the Mariposa Lakes development full buildout was added to the baseline traffic conditions. Based on the 2035 City General Plan buildout, the following roadway improvements were assumed to be implemented, and thus were included in this analysis:

- ▶ Arch Road will be a six-lane road between SR 99 and Newcastle Road and four lanes between Newcastle Road and Austin Road.
- ▶ Lane configurations at intersections 3 and 6 will be modified as shown in Exhibit 4.3-8.

The future intersection configurations and traffic volumes are presented in Exhibit 4.3-8.

According to the City of Stockton intersection LOS standards, one study intersection would operate at a deficient level during the a.m. peak hour, and two study intersections would operate at a deficient level during the p.m. peak hour.

- ▶ The intersection of SR 99 SPUI and Arch Road would operate at LOS F during both the a.m. and p.m. peak hours. The intersection of Kingsley Road (Frontage Road) and Arch Road would operate at LOS B in the a.m. peak hour and at LOS C during the p.m. peak hour.
- ▶ The intersection of Newcastle Road and Arch Road would operate at LOS C or better during both the a.m. and p.m. peak hours.



Source: Data provided by DKS Associates in 2008

**Cumulative 2035 City General Plan:
No Project—Intersection Lane Geometry and Peak-Hour Traffic Volumes**

Exhibit 4.3-8

- ▶ The CTCA west driveway and Arch Road would operate at LOS A during the a.m. peak hour and at LOS B during the p.m. peak hour.
- ▶ The CTCA east driveway and Arch Road would operate at LOS B during the a.m. peak hour and LOS C during the p.m. peak hour.
- ▶ The intersection of Austin Road and Arch Road would operate at LOS D during the a.m. peak hour and at LOS E during the p.m. peak hour.
- ▶ The intersection of Newcastle Road and NCYCC south driveway would operate at LOS A during the a.m. peak hour and LOS B during the p.m. peak hour.

The intersection LOS deterioration in this scenario is a result of the significant area-wide growth in the future, including the Mariposa Lakes development. The intersections and their corresponding levels of service for the 2035 City General Plan buildout scenario without the project are presented in Table 4.3-18.

No.	Intersection	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
		Average Delay ¹	LOS ²	Average Delay ¹	LOS ²
1	SR 99 SPUI and Arch Road	116.6	F	99.4	F
2	Frontage Road/Kingsley Road and Arch Road	19.8	B	29.2	C
3	Newcastle Road and Arch Road	20.9	C	32.5	C
4	CTCA west driveway and Arch Road	6.3	A	14.9	B
5	CTCA east driveway and Arch Road	12.3	B	18.8	C
6	Austin Road and Arch Road	30.2	D	67.0	E
7	NCYCC south driveway and Newcastle Road	8.8	A	10.6	B
8	Proposed project driveway and Austin Road	NA	NA	NA	NA

Notes:
 CTCA = Richard A. McGee Correctional Training Center Annex; LOS = level of service; SPUI = single-point urban interchange; SR = State Route.
Boldface and shading indicates LOS below threshold LOS D or better
¹ Average delay per vehicle, in seconds.
² Level of service based on worst approach delay for two-way stop-controlled intersections and average delay for all-way stop-controlled intersections.
 Source: Data provided by DKS Associates in 2008

95th Percentile Queues on Arch Road between SR 99 and Kingsley Road

During the a.m. and p.m. peak hours, the westbound queue on Arch Road between the SR 99 SPUI and Kingsley Road is forecast to be 32 cars and 56 cars, respectively. The eastbound queue for the a.m. and p.m. peak hours is 13 cars and 16 cars, respectively. The distance between SR 99 SPUI and Kingsley Road is approximately 670 feet (27 cars). HCM assumes an average car length of 25 feet; therefore, the queue of 16 cars on the eastbound segment would not significantly affect Kingsley Road/Arch Road. However, the westbound segment of 56 cars (1,400 feet) would exceed 670 feet and would queue beyond the SR 99 SPUI. Because the SR 99 SPUI/Arch Road intersection is forecast to operate at LOS F, the background queues would have a significant impact on the westbound direction in both peak hours.

Cumulative 2035 City General Plan: With Project Conditions

This section describes the traffic operating conditions at the study intersections for the future year of 2035 with the addition of project-related traffic. Vehicular traffic that would be generated by the project in the neighboring area was added to the future condition turning movement volumes at the study intersections to evaluate the overall 2035 City General Plan plus project cumulative scenario. The intersection lane configurations and traffic volumes are presented in Exhibit 4.3-9.

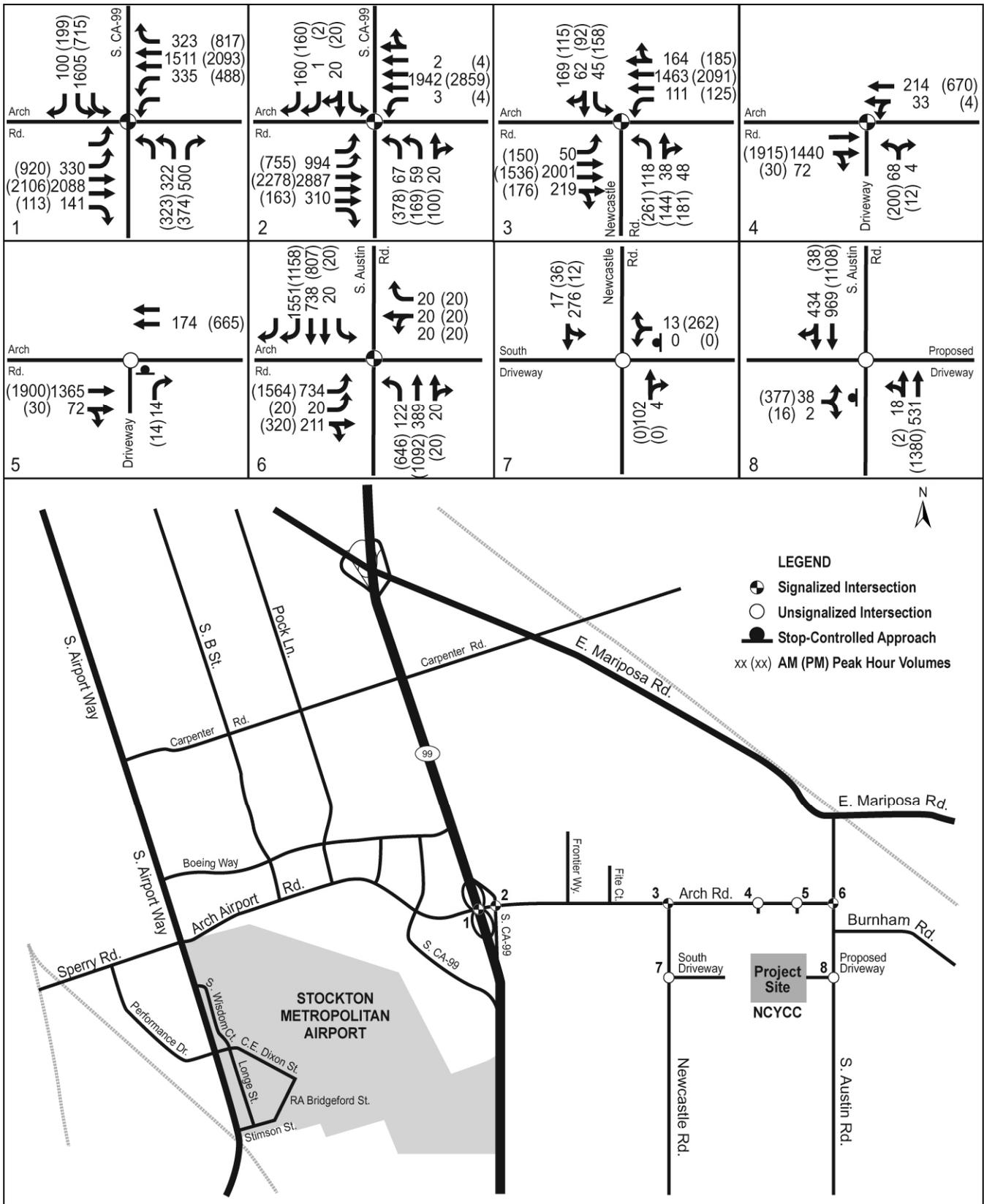
- ▶ The intersection of SR 99 SPUI and Arch Road would continue to operate at LOS F during the a.m. and p.m. peak hours, with a maximum increase in delay of 31.6 seconds, which exceeds the threshold of 5 or more seconds of delay at an intersection already operating at an unacceptable LOS (E or F).
- ▶ The intersection of Kingsley Road (Frontage Road) and Arch Road would operate at LOS B in the a.m. peak hour and LOS C in the p.m. peak hour.
- ▶ The intersection of the CTCA west driveway and Arch Road would operate at LOS A and B during the a.m. and p.m. peak hours, respectively.
- ▶ The intersection of the CTCA east driveway and Arch Road would operate at LOS C during both the a.m. and p.m. peak hours.
- ▶ The intersection of Austin Road and Arch Road would continue to operate at LOS D during a.m. peak hour and would deteriorate from LOS E to LOS F during the p.m. peak hour. The increase in delay during the p.m. peak hour would be 45.5 seconds, which exceeds the threshold of 5 or more seconds of delay at an intersection already operating at an unacceptable LOS (E or F).
- ▶ The proposed project would result in a significant impact at the intersection of Austin Road and proposed project driveway as it would operate at LOS F during both the a.m. and p.m. peak hours.

The remaining study intersections would continue to operate at the same LOS as under the 2035 City General Plan buildout without project scenario. The intersections operating at deficient levels would experience increases in delay of less than 5 seconds; therefore, no additional significant cumulative impacts are anticipated.

- ▶ The intersection of Arch Road at Newcastle Road would operate at LOS C or better during both the a.m. and p.m. peaks.
- ▶ The intersection of Newcastle Road/NCYCC south driveway would operate at LOS A during the a.m. and LOS B during the p.m. peak hours. The study intersections and their corresponding levels of service are summarized in Table 4.3-19.

95th Percentile Queues on Arch Road between SR 99 and Kingsley Road

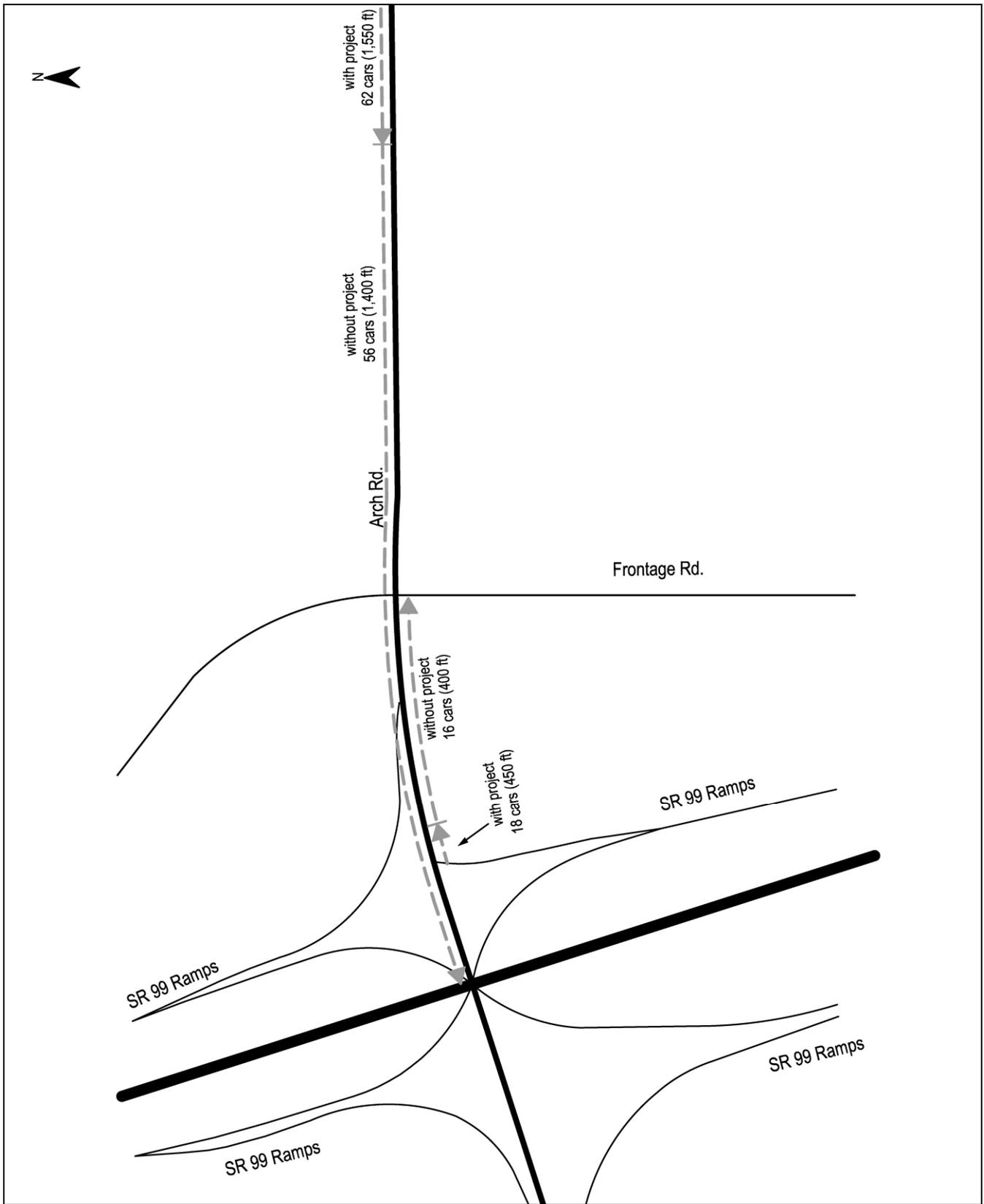
During the a.m. and p.m. peak hours, the westbound queue on Arch Road between the SR 99 SPUI and Kingsley Road is 33 cars and 62 cars, respectively. The eastbound queue for the a.m. and p.m. peak hours is 18 cars and 16 cars, respectively. The distance between SR 99 SPUI and Kingsley Road is approximately 670 feet (27 cars). HCM assumes an average car length of 25 feet and therefore the queuing of 18 cars on the eastbound segment would not substantially affect the SR 99 SPUI/Arch Road intersection. However, the westbound queue of 62 cars (1,550 feet) would exceed 670 feet and queue beyond the Kingsley Road/Arch Road intersection. Since the intersection of SR 99 SPUI and Arch Road is forecast to operate at LOS F in the p.m. peak hour, the addition of project traffic to this queue would be significant. Exhibit 4.3-10 shows the queuing both with and without the proposed project.



Source: Data provided by DKS Associates in 2008

**Cumulative 2035 City General Plan:
With Project—Intersection Lane Geometry and Peak-Hour Traffic Volumes**

Exhibit 4.3-9



Source: Data provided by DKS Associates in 2008

95th Percentile Queue: Cumulative 2035 Scenario

Exhibit 4.3-10

**Table 4.3-19
Intersection Capacity Analysis: 2035 City General Plan: With Project**

No.	Intersection	2035 City General Plan Conditions				2035 City General Plan +Project Conditions			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²
1	SR 99 SPUI and Arch Road	116.6	F	99.4	F	148.2	F	115.2	F
2	Frontage Road/Kingsley Road and Arch Road	19.8	B	29.2	C	19.7	B	32.6	C
3	Newcastle Road and Arch Road	20.9	C	23.5	C	21.0	C	34.6	C
4	CTCA west driveway and Arch Road	6.3	A	14.9	B	5.8	A	14.4	B
5	CTCA east driveway and Arch Road	12.3	B	18.8	C	15.0	C	19.1	C
6	Austin Road at Arch Road	30.2	D	67.0	E	40.5	D	112.5	F
7	NCYCC south driveway and Newcastle Road	8.8	A	10.6	B	8.8	A	10.6	B
8	Proposed project driveway and Austin Road	NA	NA	NA	NA	50.4	F	overflow	F

Notes:

CTCA = Richard A. McGee Correctional Training Center Annex; LOS = level of service; SPUI = single-point urban interchange; SR = State Route.

Boldface and shading indicates LOS below threshold LOS D or better

¹ Average delay per vehicle, in seconds.

² Level of service based on worst approach delay for two-way stop-controlled intersections and average delay for all-way stop-controlled intersections.

Overflow = overflow conditions, when predicted delay is more than 200 seconds and beyond the limit of the analysis equation to accurately calculate a delay.

Source: Data provided by DKS Associates in 2008

Under the cumulative 2035 scenario, the proposed project would contribute to impacts at three of the eight intersections, which are assumed to be constructed to their ultimate widths in 2035. The proposed project would also contribute to a queuing impact in 2035. The project, therefore, would result in a significant impact under 2035 conditions.

Mitigation Measure(s) for Impact TRAF-6:

The fees to be paid by the CPR into the City of Stockton fee program would be intended to cover the fair share of improvements associated with the project’s contribution to cumulative impacts. However, no feasible improvements are available for the following intersections, since they are assumed to be constructed to their ultimate widths and fully improved in 2035:

- ▶ **Intersection of Arch Road and SR 99 Northbound/Southbound Access:** Improvements that would reduce the impact to a less-than-significant impact are not feasible, due to right-of-way constraints, infrastructure, and utilities. The project would contribute 5.6% of the new (cumulative) traffic that affects this intersection.
- ▶ **Intersection of Arch Road and Austin Road:** The addition of an additional eastbound left-turn lane (to create triple eastbound left-turn lanes) and an additional southbound right-turn lane (triple southbound right-turn lanes) would offset the project’s impact in the year 2035. Because of right-of-way constraints and the City’s design standards, these improvements would not be feasible. The project would contribute 11.7% of the new (cumulative) traffic that affects this intersection.

CPR will improve the following intersection as described below.

- ▶ **Intersection of the Proposed Project Driveway and Austin Road:** CPR will install a traffic signal on Austin Road at the proposed project driveway to offset the project’s impact. The project results in this impact and is fully responsible for mitigation.

Significance after Mitigation

- ▶ **Intersection of Arch Road and SR 99 Northbound/Southbound Access:** The addition of project-related trips in the year 2035 would increase delays at the intersection by greater than 5 seconds, which would be a significant impact. Because of right-of-way constraints, infrastructure, and utilities, additional improvements at this intersection are not feasible. Therefore, the project would create a significant and unavoidable cumulative impact at this location in the year 2035. Because the intersection would have a significant and unavoidable impact due to unavailable right-of-way for improvements, the queuing impact in the westbound direction during the p.m. peak hour would also be a significant and unavoidable impact. However, the payment of traffic fees, as discussed, would help fund the ultimate improvement of this intersection to its maximum extent.
- ▶ **Intersection of Arch Road and Austin Road:** Under the cumulative 2035 conditions with no project scenario, the intersection of Arch Road/Austin Road would operate at LOS E with approximately 67 seconds of average delay during the p.m. peak hour. The addition of project-related trips would result in approximately a 45.5 second increase in average delay (112.5 seconds total) to this intersection, which represents a significant impact. The addition of an additional eastbound left-turn lane (to create triple eastbound left-turn lanes) and an additional southbound right-turn lane (triple southbound right-turn lanes) would offset the project’s impact in the year 2035. Because of right-of-way constraints and the City’s design standards, these improvements would not be feasible. Therefore, the proposed project would result in a significant and unavoidable cumulative impact in the year 2035. However, the payment of traffic fees, as discussed, would help fund the ultimate improvement of this intersection to its maximum extent.
- ▶ **Intersection of the Proposed Project Driveway and Austin Road:** Under the cumulative 2035 conditions with no project scenario, the intersection of Austin Road and the proposed project driveway would operate at LOS F during the a.m. and p.m. peak hour. The addition of project-related trips would result in an increase in delay of more than 5 seconds, which represents a significant impact. A traffic signal is recommended at the proposed project driveway to offset the project’s impact. Because this is a significant project impact, the CPR would be required to fully implement this mitigation measure. Application of this mitigation measure to the year 2035 condition would result in the proposed project driveway operating at an acceptable LOS A and C in the a.m. and p.m. peak hours, respectively. The impact would be less than significant with the implementation of the mitigation measure.

IMPACT *Potential for Substantial Degradation of LOS of Local Roadway Segments under Cumulative*
TRAF-7 *Conditions. Under cumulative 2035 conditions, the project would degrade LOS at the roadway segment of Austin Road below LOS D, and would contribute to the unacceptable LOS on the roadway segment of Arch Road. (Significant and unavoidable)*

Cumulative 2035 City General Plan: No Project Conditions

The roadway segments’ peak-hour volume and their corresponding levels of service are presented in Table 4.3-20.

According to the City of Stockton roadway LOS standards, the roadway segments would operate at an acceptable level of service (LOS D or better) for the 2035 City General Plan with no project conditions, with the exception of Arch Road during the p.m. peak hour. This roadway segment is forecast to operate at LOS F.

Table 4.3-20 Roadway Segment Analysis: 2035 City General Plan: No Project					
Roadway Segment (Location)	Segment Description	2035 General Plan No Project Conditions			
		A.M. Peak Hour		P.M. Peak Hour	
		Speed (Direction)	LOS	Speed (Direction)	LOS
Arch Road (Newcastle Road to CTCA west driveway)	Four-Lane Arterial (with center left-turn lane)	30 mph (westbound)	C	12 mph (eastbound)	F
		Volume (Direction)	LOS	Volume (Direction)	LOS
Austin Road (Arch Road to proposed project driveway)	Four-Lane Arterial (with center left-turn lane)	969 (southbound)	D	1,380 (northbound)	D

Notes:
 CTCA = Richard A. McGee Correctional Training Center Annex; LOS = level of service
Boldface and shading indicates LOS below threshold LOS D or better.
 Source: Data provided by DKS Associates in 2008

Cumulative 2035 City General Plan: With Project Conditions

The roadway segments' peak-hour volume and their corresponding levels of service are presented below in Table 4.3-21.

As indicated in Table 4.3-21, the roadway segments in this study would operate at unacceptable levels of service (LOS F) during the p.m. peak hour for the 2035 City General Plan buildout with project conditions scenario, which exceeds the threshold for acceptable LOS (LOS D or better). The project, therefore, would result in a significant impact.

Table 4.3-21 Roadway Segment Analysis: 2035 City General Plan: With Project					
Roadway Segment (Location)	Segment Description	2035 City General Plan plus Project Conditions			
		A.M. Peak Hour		P.M. Peak Hour	
		Speed (Direction)	LOS	Speed (Direction)	LOS
Arch Road (Newcastle Road to CTCA west driveway)	Four-Lane Arterial (with center left-turn lane)	23 mph (westbound)	D	11 mph (eastbound)	F
		Volume (Direction)	LOS	Volume (Direction)	LOS
Austin Road (Arch Road to proposed project driveway)	Four-Lane Arterial (with center left-turn lane)	1,403 (southbound)	D	1,758 (northbound)	F

Notes:
 CTCA = Richard A. McGee Correctional Training Center Annex; LOS = level of service
Boldface and shading indicates LOS below threshold LOS D or better.
 Source: Data provided by DKS Associates in 2008

Mitigation Measure(s) for Impact TRAF-7:

Roadway widening of both Arch Road and Austin Road would be the only mitigation option that would improve LOS and thereby reduce impacts on roadway segments. Because both roadways would be constructed to their ultimate planned widths (four lanes) under 2035 conditions, widening is not feasible without creating potential conflicts with other land uses, such as removal of buildings, etc. Therefore, no feasible mitigation measures are available to reduce the project’s contribution to the significant cumulative impact to a less-than-significant level, and the impact remains significant and unavoidable.

IMPACT TRAF-8 *Substantial Degradation of Mainline Freeway Levels of Service. The project would add sufficient traffic to contribute to degradation of SR 99 mainline below LOS D under existing and cumulative conditions, which is the Caltrans LOS standard for freeways. (Significant and unavoidable)*

In the capacity analysis of SR 99, the freeway was analyzed both in its current four-lane configuration and the planned six-lane configuration for the existing and approved projects scenarios. Because the *City of Stockton General Plan 2035* recommends a 10-lane cross section for SR 99 by 2035, the 2035 City General Plan scenario was analyzed under both a six-lane and a 10-lane configuration.

The freeway was analyzed along two basic segments: north of the Arch Road interchange, and south of the Arch Road interchange. No weaving analysis was required because of spacing of ramps of more than 2,500 feet between Arch Road and French Camp Road, and Arch Road and Mariposa Road. Therefore, for all the scenarios the freeway segment was analyzed as a basic mainline section using the analysis methodologies of the *2000 Highway Capacity Manual* and *Highway Capacity Software (HCS)*.

Facilities under the jurisdiction of Caltrans, including freeway segments, ramps, ramp terminals, signalized and unsignalized intersections, and urban streets, are required to use the current Caltrans standard to determine project impact. Caltrans standards strive to maintain acceptable freeway operations between LOS C and LOS D.

Table 4.3-22 shows the LOS criteria for freeway basic mainline and weaving segments. For this study, a freeway segment exceeding LOS D is considered affected.

Table 4.3-22 Freeway Segments: Level of Service Thresholds		
Level of Service	Maximum V/C	Maximum Density (pvpmpl)
A	0.32	11
B	0.53	18
C	0.74	26
D	0.90	35
E	1.00	45
F	Varies	Varies

Notes:
 pvpmpl = passenger vehicles per mile; V/C = volume-to-capacity ratio.
 Source: Transportation Research Board 2000:23-3 and 23-4

As indicated in Tables 4.3-23 and 4.3-24, under existing conditions, SR 99 operates at an acceptable LOS during the peak hours, with the exception of southbound SR 99 south of Arch Road (LOS E during the p.m. peak hour). Caltrans is planning to widen SR 99 from four to six lanes once funding has been secured. Therefore, all future

scenarios were analyzed both under the current four-lane configuration as well as the planned six-lane configuration.

With implementation of the proposed project and approved projects, under existing conditions, both northbound and southbound SR 99 (north and south of Arch Road) would operate at LOS E or F during the peak hours as a four-lane highway. With the widening of SR 99 from four to six lanes, the freeway segments north and south of Arch Road would operate at an acceptable LOS (LOS C or better).

Under the 2035 with and without project conditions scenarios, SR 99 (north and south of Arch Road) is forecast to operate at LOS F as a six-lane highway. With the widening of SR 99 from a six-lane to a 10-lane highway, the ultimate buildout for this section of SR 99, the freeway segments north and south of Arch Road would operate at an acceptable LOS (LOS D or better), with the exception of northbound SR 99 (north of Arch Road) during the p.m. peak hour. Because SR 99 north of Arch Road would operate below LOS D in the p.m. peak hour, this impact would be significant.

**Table 4.3-23
Summary of Levels of Service for Freeway Segments: No Project Conditions**

Scenario	SR 99 Freeway Segment Location	Total Lanes	Dir.	A.M. Peak Hour			P.M. Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS
				Existing Conditions without Project	North of Arch Road	4	SB	3,335	0.90
			NB	2,600	0.70	C	2,806	0.76	D
	South of Arch Road	4	SB	2,294	0.62	C	3,623	0.98	E
			NB	2,997	0.81	D	2,692	0.73	C
Existing plus Approved without Project	North of Arch Road	4	SB	3,942	1.07	F	3,592	0.97	E
			NB	3,251	0.88	D	3,912	1.06	F
		6	SB	3,942	0.71	C	3,592	0.65	C
			NB	3,251	0.59	C	3,912	0.70	C
	South of Arch Road	4	SB	2,400	0.65	C	3,190	0.86	D
			NB	3,414	0.92	E	2,671	0.72	C
		6	SB	2,400	0.43	B	3,190	0.57	C
			NB	3,414	0.62	C	2,671	0.48	B
2035 Cumulative Conditions without Project	North of Arch Road	6	SB	7,979	1.44	F	6,152	1.11	F
			NB	5,093	0.92	E	8,477	1.53	F
		10	SB	7,979	0.86	D	6,152	0.67	C
			NB	5,093	0.55	C	8,477	0.92	E
	South of Arch Road	6	SB	5,870	1.06	F	5,765	1.04	F
			NB	5,244	0.94	E	6,810	1.23	F
		10	SB	5,870	0.63	C	5,765	0.62	C
			NB	5,244	0.57	C	6,810	0.74	C

Notes:

Boldface and shading indicates a significant impact.

Dir. = direction; LOS = level of service; NB = northbound; SB = southbound; SR = State Route; V/C = volume-to-capacity ratio.

Source: Data provided by DKS Associates in 2008

**Table 4.3-24
Level of Service Summary for Freeway Segments: With-Project Conditions**

Scenario	SR 99 Freeway Segment Location	Total Lanes	Dir.	A.M. Peak Hour			P.M. Peak Hour		
				Volume	V/C	LOS	Volume	V/C	LOS
Existing plus Project	North of Arch Road	4	SB	3,493	0.94	E	3,118	0.84	D
			NB	2,614	0.71	C	2,944	0.80	D
	South of Arch Road	4	SB	4,071	1.10	F	3,725	1.01	F
			NB	3,668	0.99	E	2,702	0.73	C
Existing plus Approved plus Project	North of Arch Road	4	SB	4,100	1.11	F	3,606	0.97	E
			NB	3,265	0.88	D	4,050	1.09	F
		6	SB	4,100	0.74	C	3,606	0.65	C
			NB	3,265	0.59	C	4,050	0.73	C
	South of Arch Road	4	SB	2,410	0.65	C	3,292	0.89	D
			NB	3,532	0.95	E	2,681	0.72	C
		6	SB	2,410	0.43	B	3,292	0.59	C
			NB	3,532	0.64	C	2,681	0.48	B
2035 Cumulative plus Project	North of Arch Road	6	SB	8,137	1.47	F	6,166	1.11	F
			NB	5,107	0.92	E	8,615	1.55	F
		10	SB	8,137	0.88	D	6,166	0.67	C
			NB	5,107	0.55	C	8,615	0.93	E
	South of Arch Road	6	SB	5,880	1.06	F	5,867	1.06	F
			NB	5,362	0.97	E	6,820	1.23	F
		10	SB	5,880	0.64	C	5,867	0.63	C
			NB	5,362	0.58	C	6,820	0.74	C

Notes:

Boldface and shading indicates a significant impact.

Dir. = direction; LOS = level of service; NB = northbound; SB = southbound; SR = State Route; V/C = volume-to-capacity ratio.

Source: Data provided by DKS Associates in 2008

Mitigation Measure(s) for Impact TRAF-8:

Under the cumulative 2035 conditions with no project scenario, the northbound direction of the segment of SR 99, north of Arch Road was forecast to operate at LOS E (0.90 V/C) in the p.m. peak hour with the 2035 City General Plan buildout of mainline freeway lanes (i.e., 10-lane freeway, or five lanes in each direction—one HOV plus four mixed-flow lanes). With addition of traffic from the proposed project, this mainline segment was forecast to continue to operate with unsatisfactory LOS at LOS E (0.92 V/C). Because this mainline segment would be constructed to its ultimate width of 10 lanes, additional mitigation is not available to reduce this impact. The impact would be significant and unavoidable. However, traffic fees paid by the project would assist in improving the freeway to its ultimate right of way.

IMPACT *Potential for Inadequate Parking.* The proposed parking supply (1,913 parking spaces) is anticipated to meet project demand for parking. **TRAF-9** *(Less than significant)*

With the implementation of the proposed project, approximately 1,913 parking spaces would be provided on site. The demand for on-site parking was determined by calculating the number of employees per shift, and the number of visitors and vendors that would access the project site throughout the day. Approximately five employee shifts would occur on site throughout the day, with visitors and vendors accessing the site between 8:00 a.m. and 8:00 p.m. Table 4.3-25 summarizes the parking demand for the project site.

Table 4.3-25 Project Parking Demand						
Time Period	8:00 a.m.– 2:00 p.m.	2:00 p.m.– 5:00 p.m.	5:00 p.m.– 8:00 p.m.	8:00 p.m.– 10:00 p.m.	10:00 p.m.– 6:00 a.m.	6:00 a.m.– 8:00 a.m.
Employee Shift 1 (8 a.m.–5 p.m.)	353	353				
Employee Shift 2 (10 p.m.–6 a.m.)					217	
Employee Shift 3 (6 a.m.–2 p.m.)	586					586
Employee Shift 4 (2 p.m.–10 p.m.)		431	431	431		
Employee Shift 5 (8 a.m.–8 p.m.)	59	59	59			
Delivery	42	42	42	–	–	–
Visitors	232	232	232	–	–	–
Total Parking Demand	1,272	1,117	764	431	217	586
Note: Total parking supply for the proposed project would be 1,913 parking spaces. Source: Data provided by DKS Associates in 2008						

As shown in Table 4.3-25, the peak period at the project site would be between 8:00 a.m. and 2:00 p.m. During this time period, the parking demand would be 1,272 parked vehicles. To provide a conservative estimate, it was assumed that the maximum number of visitors (232 vehicles) and deliveries (42 vehicles) would be on site between 8:00 a.m. and 8:00 p.m. The proposed parking supply (1,913 parking spaces) would therefore be adequate to serve the projected parking demand. This impact would be less than significant.

Mitigation Measure(s) for Impact TRAF-9:

No significant impacts would occur, so no mitigation measures are required.