



DRAFT

ENVIRONMENTAL IMPACT REPORT

FOR THE

TRA VIGNE DEVELOPMENT PROJECT

(SCH: 2016022061)

VOLUME II

P16-0025

APRIL 2018

Prepared for:

City of Stockton
Community Development Department, Planning & Engineering Division
345 N. El Dorado Street
Stockton, CA 95202
(209) 937-8444

Prepared by:

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D e N o v o P l a n n i n g G r o u p

A Land Use Planning, Design, and Environmental Firm



CITY OF STOCKTON
PUBLIC NOTICE OF AVAILABILITY OF THE DRAFT ENVIRONMENTAL IMPACT REPORT

LEAD AGENCY

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PROJECT TITLE: Tra Vigne Development Project

City of Stockton Community Development Department as a Lead Agency has completed, independently reviewed, and analyzed the following draft Environmental Impact Report for Tra Vigne Development Project (P16-0025).

PROJECT LOCATION:

The proposed Project site is located within the northeastern portion of the City of Stockton Metropolitan Area, within the unincorporated area of San Joaquin County. The Project site is immediately southeast of the intersection of West Lane and Eight Mile Road. The Project site is bounded on the north and west by Eight Mile Road and West Lane, which are existing regional arterials, on the east by the Union Pacific Railroad, and on the south by Bear Creek and the associated Bear Creek Levee. The Project site consists largely of active agricultural fields. The Project site includes 15.57-acres of industrial uses in the north-central portion of the Project site (Assessor's Parcel Numbers 120-02-13, and 120-02-14); uses within these industrial lots include Pacific Bell and Bragg Investment Company.

PROJECT DESCRIPTION:

The Project includes development of up to 340 HDR units, up to 1,163 LDR units, up to 101,500 square feet of commercial, an existing 15.57-acre industrial area, establishment of a 14.7-acres K-8 school site, and associated park and utility improvements. The Project is requesting annexation and pre-zoning of 341.17-acres of land into the Stockton city limits, and the subsequent development of 318.82-acres of land. The General Plan Amendment would include maintaining approximately 260.69-acres of LDR uses; maintaining approximately 15.57-acres of I uses; changing approximately 1.5-acres of LDR to C uses; changing approximately 1.03-acres of LDR to HDR uses; and changing 20.36-acres of LDR to OSA. Changes to the Circulation Element would include the removal of a bridge crossing over Bear Creek. Associated Tentative Maps would provide for subdivision of the project site. The project will also include a Development Agreement.

SIGNIFICANT ENVIRONMENTAL EFFECTS:

The Draft EIR has identified the following environmental issue areas as having significant and unavoidable environmental impacts from implementation of the Project: Aesthetics, Agricultural Resources, Air Quality, Greenhouse Gas Emissions and Climate Change, Public Services and Recreation, Transportation and Circulation, and Cumulative Impacts. All other environmental issues were determined to have no impact, less than significant impacts, or less than significant impacts with mitigation measures incorporated into the Project.

PUBLIC REVIEW PERIOD:

A 45-day public review period for the Draft EIR will commence on April 12, 2018 and end by 4:30 PM on May 29, 2018. Any written comments on the Draft EIR must be received at the address below or E-mail within the public review period. Copies of the Draft EIR are available for review at the City of Stockton, 345 N. El Dorado Street, Stockton, CA 95202. A copy of the Draft EIR may be reviewed and/or obtained at the following address or at <http://www.stocktonca.gov/environmental>.

Attn: Brian Millar, Project Planner, E-mail: brian@landlogistics.com
Community Development Department, Planning and Engineering Division
345 North El Dorado Street
Stockton, CA 95202

If we do not receive a response from your agency or organization, we will presume that your agency or organization has no response to make.

DAVID KWONG, DIRECTOR
COMMUNITY DEVELOPMENT DEPARTMENT

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3.12.1 INTRODUCTION

This section describes and evaluates potential impacts associated with the provision of police protection, fire protection and emergency services, parks and recreation, schools, and other public facilities for the proposed Project. The information in this section is primarily derived from the following: *Stockton General Plan 2035* (City of Stockton, 2007), *Stockton General Plan 2035 Environmental Impact Report* (City of Stockton, 2007), and the *City of Stockton 2008 Municipal Service Review Public Review Draft* (City of Stockton, 2014). There was one comment received during the NOP scoping process related to this environmental topic. The Waterloo-Morada Rural Fire District noted concerns regarding the proposed annexation and potential impacts to their staffing levels and budget as a result of Project implementation. This topic is discussed in Impact 3.12-2.

3.12.2 EXISTING CONDITIONS

SAN JOAQUIN COUNTY SERVICES

San Joaquin County Sheriff Department

Law enforcement services for the Project site are currently provided by the San Joaquin County Sheriff's Department, which is based at 7000 Michael Canlis Boulevard in French Camp, California. The Sheriff's Department holds an average response time of 22 minutes per service call overall. The San Joaquin County Sheriff's Department maintains patrol staffing levels of one to two officers in the general Project area at all times.

Waterloo-Morada Rural Fire District

Fire protection for the Project site is currently provided by the Waterloo-Morada Rural Fire District, which serves unincorporated areas north and east of the existing Stockton city limits. The District currently has a cooperative agreement with the City of Stockton to provide emergency response as needed to locations near the boundary of the District. The Waterloo-Morada District maintains Station #1, which is located approximately 3.4 miles southeast of the Project site at 6925 East Foppiano Lane.

San Joaquin County Park Facilities

San Joaquin County operates two regional County park facilities in proximity to the Project site. Micke Grove Park and Zoo is located approximately 1.4 miles north of the Project site on Micke Grove Road. The Micke Grove Park and Zoo includes amenities such as a zoo, golf course, swimming pool, amusement rides, museum, Japanese garden, play areas, and picnic areas. The Oak Grove Regional Park, located approximately 3.7 miles west of the site on Eight Mile Road, is a 180-acre park which includes fishing, paddle boats, disc golf, picnicking, and nature study opportunities. The County has no plans for construction of additional regional parks or other parks

in the vicinity of the Project site. The County General Plan shows no new regional parks are planned in the Stockton vicinity.

CITY OF STOCKTON SERVICES

The City of Stockton receives funds for the provision of public services through development fees, property taxes, and connection and usage fees. As land is developed within the City and annexed into the City of Stockton, these fees apply. The City of Stockton reviews these fee structures on an annual basis to ensure that they provide adequate financing to cover the provision of city services. The City undertakes long-range planning programs to better plan and budget for needed improvements to services and facilities. The City also conducts a visioning process, in which departments identify staffing, technology, and facility needs for a three-year period, as well as savings and efficiency ideas. The City is preparing to develop a formal Long Range Financial Planning process.

An Administrative Draft Report Plan for Services was completed by Berkson Associates in September 2017. The Project would be annexed to the City of Stockton and served by City services and public utilities, in addition to private utility providers. The following public services are expected to be provided to the Project in the future:

- General Government Services: City of Stockton
- Animal Control: City of Stockton
- Road Maintenance: City of Stockton
- Police Protection: Stockton Police Department
- Fire Protection: City of Stockton Fire Department
- Parks and Recreation: City of Stockton
- Schools: Lodi Unified School District (LUSD)
- Libraries: City of Stockton

Stockton Police Department

Law enforcement services for the City of Stockton are provided by the Stockton Police Department. The Stockton Police Department service area covers over 56 square miles. The average response time to in-progress life threatening emergencies is 5 minutes. Depending on the nature of the call, the time of day, the location, and the number of on-duty personnel, response times to non-emergency calls can exceed 25 minutes. The Stockton Police Department serves the area of the City limits, while the San Joaquin County Sheriff's Department serves all adjacent unincorporated areas within the Stockton Sphere of Influence.

As of December 2016, Stockton's Police Department consisted of 420 sworn police officers, 41 police telecommunicators, and 185 civilian staff. The staffing level for the department is determined each year by the Stockton City Council and is subject to change as the Council, City Manager, and Chief of Police determine the needs of the city. Stockton's population in 2014 was

approximately 307,000, which resulted in ratio of 1.256 sworn staff per 1,000 residents. With the 2016 estimated population of approximately 316,000, this equates to a ratio of 1.33 sworn staff. Stockton General Plan Policy PFS-7.2 states that the City shall maintain a ratio of 1.5 sworn officers per 1,000 population. However, staffing levels in the City of Stockton ultimately are determined by the City Council in consultation with the City Manager and Chief of Police.

The City is in the process of rebuilding its Police Department staffing. The City added 40 new officers in fiscal year 14-15 and added an additional 40 new officers in fiscal year 15-16, out of a planned 120 employee increase between fiscal years 14-15, and 16-17. These additions resulted in a total of 445 sworn officers in fiscal year 15-16. With the final addition of another 40 officers anticipated in fiscal year 16-17, the Department's sworn staff will total 485 by the end of the 2017 fiscal year, a ratio of about 1.53 sworn officers per 1,000 population.¹ This ratio exceeds the City's General Plan minimum standard of 1.5 sworn officers per 1,000 residents.²

The Police Department has both traditional and specialized transportation equipment that it uses to conduct patrols, respond to emergencies, and provide programs. The transportation types include bicycle (12 units), marked vehicles (175 units), unmarked vehicles (209 units), motorcycles (30 units), animal control (8 units), and miscellaneous (28 units).

The Stockton Police Department is organized into two bureaus, Logistics and Operations, and five divisions, including Administrative Services, Field Services (including six Policing Districts), Investigations, Special Operations, and Technical Services. Divisions are coordinated out of two facilities: the Main Police Facility and the Stewart/Eberhardt Building.

The Police Department management team consists of the Chief of Police, who oversees the Office of the Chief of Police, Professional Standards, Fiscal Affairs and Planning, and Public Information Sections, and two Deputy Chiefs of Police, each overseeing a bureau, and five Police Captains, each overseeing a division.

The City's goal is to respond to all priority one emergency calls within an average of five-minutes or less. Upon the proposed annexation of the Project site, law enforcement services would be provided by the Stockton Police Department.

Table 3.12-1 shows the recent crime statistics for the City of Stockton between 2013 and 2016. Violent crimes had an increasing trend from 2013 through 2016. However, according to Stockton Police Chief Eric Jones, violent crime is down eight percent, so far, during 2017.³ A number of

¹ According to the Cal. State DOF, Stockton's population 315,592 on January 1, 2016.

² City of Stockton General Plan, Public Facilities and Services Element, PFS-7.2.

³ FOX 40. Stockton Police Encouraged by Dropping Violent Crime Rate. April 24, 2017. Available at: <http://fox40.com/2017/04/24/stockton-police-encouraged-by-dropping-violent-crime-rate/>.

3.12 PUBLIC SERVICES AND RECREATION

factors, including community organizations and neighborhood watch groups, are attributed to the decrease in violent crimes.

TABLE 3.12-1: STOCKTON CRIME STATISTICS (2013-2015)

CATEGORY/CRIME	2013	2014	2015	2016 ¹
Total Violent Crimes	3,622	3,988	4,122	4,316
Homicide	32	49	49	50
Rape	91	134	135	114
Robbery	1,088	1,098	1,144	1,156
Assault	2,411	2,707	2,794	2,996
Total Property Crimes	15,080	13,148	12,998	11,824
Burglary	4,189	3,124	2,891	2,260
Motor Vehicle Theft	2,143	1,942	2,891	1,666
Larceny	8,748	8,082	8,119	7,898
Arson	88	76	103	84

¹ FBI CRIME STATISTICS TABLE 8 DATA FOR 2016 HAVE NOT BEEN RELEASE AS OF SEPTEMBER 15, 2017. THE 2016 DATA PRESENTED IN THE TABLE IS BASED ON FBI CRIME STATISTICS TABLE 4 DATA, WHICH COVERS 2016 JANUARY TO JUNE (I.E. HALF YEAR). THIS DATA WAS MULTIPLIED BY TWO AND IS REPRESENTED AS AN ANTICIPATED TREND FOR 2016 PENDING THE ACTUAL DATA RELEASE.

SOURCE: FBI CRIME STATISTICS, TABLE 8, 2013, 2014, 2015 AND TABLE 4 2016.

City of Stockton Fire Department

The Stockton Fire Department serves the City of Stockton and its surrounding unincorporated area. The Fire Department estimates the total population served is about 336,000. According to the excerpts from the draft Stockton Municipal Service Review Update (February 23, 2017), with 181 line suppression personnel (i.e., firefighters), the ratio of firefighters to population served is 1:1,856. The Department is also supported by 24 civilian employees.

According to the excerpts from the draft Stockton Municipal Service Review Update (February 23, 2017), the Stockton Fire Department has 12 fire stations located throughout the City and relies on approximately 7,000 hydrants in key locations to provide adequate water for the surrounding development. The Stockton Fire Department maintains one engine company at each fire station and a truck company at Stations 2, 3, and 4. The Department has four trucks: three operational and one reserve apparatus that ensures replacement equipment is available to replace front-line equipment. Training and communication services are quartered at Station 2, which serves as the central fire station. Table 3.12-2 lists the location and equipment/division for each fire station.

Other specialized services are staffed as follows:

- Hazardous Materials Unit – Station 3
- Swift Water and Dive Rescue Team – Station 6
- Urban Search and Rescue Team – Station 2

All 178 Stockton firefighters are certified to at least Emergency Medical Technician (EMT) level. As indicated by Table 3.12-2, all engines are staffed with a four-person crew, and all trucks are staffed with a crew of five, except for Truck 7, which only has four personnel. The Department is divided into two battalions, each of which is overseen by one of the two Battalion Chiefs on duty at all

times. The Chief's Operator oversees the Mobile Command Unit and responds to all structure fires, hazardous material incidences, and large-scale emergency medical service (EMS) calls in the city. The Chief's Operator also schedules the daily staffing requirements.

TABLE 3.12-2: FIRE STATIONS, EQUIPMENT, AND SERVICES

<i>STATION</i>	<i>LOCATION</i>	<i>EQUIPMENT/DIVISIONS</i>
2	110 West Sonora Street	1 Engine; 1 Truck; Technical Rescue Unit; USAR; Training; Communications; Battalion Chief; Chief's Operator
3	1116 East First Street	1 Engine; 1 Truck; Hazardous Materials Response Unit; 1 Grass Rig
4	5525 Pacific Avenue	1 Engine; 1 Truck; Battalion Chief
5	3499 Manthey Road	1 Engine; 1 Grass Rig
6	1501 Picardy Lane	1 Engine; Water Rescue Unit; Swift Water & Dive Rescue Team
7	1767 West Hammer Lane	1 Engine; 1 Grass Rig
9	550 East Harding Way	1 Engine
10	2903 West March Lane	1 Engine
11	1211 East Swain Road	1 Engine
12	4010 East Main Street	1 Engine; 1 Grass Rig
13	8891 Bergamo Circle	1 Engine; 1 EMS Rescue
14	3019 McNabb Place	1 Engine; 1 Grass Rig

SOURCE: EXCERPTS FROM THE DRAFT STOCKTON MUNICIPAL SERVICE REVIEW UPDATE (FEBRUARY 23, 2017); STOCKTON FIRE DEPARTMENT; 2016 ([HTTP://WWW.STOCKTONGOV.COM/GOVERNMENT/DEPARTMENTS/FIRE/DEFAULT.HTML](http://www.stocktongov.com/government/departments/fire/default.html)).

The Stockton Fire Department presently receives a Class 1 rating – the highest rating - from the Insurance Services Office (ISO), a private company that provides information on property/casualty insurance risk, including the quality of fire protection services. The City's recommended goal is to respond to all emergency calls in four to six minutes.

Upon annexation, fire protection services would be provided to the Project site by the Stockton Fire Department. The existing Company 14, located on McNabb Street at Thornton Road adjacent to Bear Creek High School, would be the first response team for emergency calls within the Project site. Company 14 is approximately 3.1 miles west of the Project site. According to the Administrative Draft Report Plan for Services completed for the Project (2017), the response time from Company 14 would be within the General Plan Goal for response time of four minutes for 90% of calls.

Company 13, which is located on Hendrix Drive at Holman Road, would be the second response station for emergency calls. Company 13 is approximately 0.6 miles southeast of the Project site. Both stations maintain four fire department employees on duty at all times and are equipped with a water-carrying engine that also has paramedic capabilities. Until the grade separation projects on Eight Mile Road and/or Holman extension to Eight Mile Road are completed, Company 11, located at Tam O'Shanter and Swain, has the least restrictive travel to the Project site.

City of Stockton Parks and Recreation Facilities

Parks and recreation services in the City of Stockton are provided by the Community Service Department, which operates 63 park facilities throughout the City that range in size from 2 to 64

acres. Five community parks include community centers. These parks include both neighborhood and community parks, with each facility providing a range of recreational opportunities that includes picnic areas and sports facilities such as baseball, softball, tennis, handball, horseshoe, soccer, and multi-use courts. The Department also operates several special regional facilities, including the Civic Auditorium, Hebert Field, the new Downtown Arena and Baseball Stadium, Oak Park Ice Area, Pixie Woods Children's Playland, Swenson and Van Buskirk Golf Courses, and the Calaveras River bicycle/jogging path. The City recently completed a new community park facility to the north of McNair High School, immediately southwest of the Project site. The City also recently completed an active sports facility within the San Joaquin Area Flood Control Agency detention basin facility, southeast of the Project site.

In keeping with recent residential development patterns, a majority of the proposed or future park sites are located in the northern portion of the Stockton Planning Area. Several of the proposed recreational facilities are planned as shared facilities with local school districts. These shared facilities include the following:

- William Long Park facility, a shared park adjacent to Great Valley School operated by the Manteca Unified School District.
- Softball and soccer fields at the sports complex at Morada and West Lanes, a shared facility with the LUSD's adjacent high school.

Additionally, the City has plans to construct several additional new facilities and renovate other existing facilities (i.e., Gleason Park), as necessary. However, the likelihood for these various projects to be developed in the future relies heavily on local economic conditions. For example, the operating budget for the Recreation Division of the Parks and Recreation Department has been declared a Special Revenue Fund (RSRF) by the City Council. The RSRF organizes and implements all recreation programs and is funded by an annual contribution from the City's General Fund and revenue generated through activity fees. As a result of this new operating philosophy, the department manages its budget closely and does not allow for any budget overruns. Consequently, there is less flexibility in the allocation of funding for improvements.

Although there are no future parks shown on the City's General Plan within the Project site, the Project would provide traditional park space, non-traditional park space, and open space areas. Approximately 9.5 acres of traditional park space is proposed for Tra Vigne West, consisting of a centrally located 5.8-acre park and a 3.7-acre park in the southwest corner of the Tra Vigne West site. Additionally, a 6.24-acre detention basin area would be located in the southwestern portion of the Project site, adjacent to the 3.7-acre park. While the detention basin areas would provide open space and visual relief, fencing would be constructed around the detention basin areas for safety and security purposes.

Tra Vigne East includes plans for an additional 5.57 acres of traditional park space, located in the southern portion of Tra Vigne East, adjacent to the Bear Creek open space area. Additionally, a

3.75-acre detention basin area would be located in the southwestern portion of the Tra Vigne East within the Project site.

In addition to dedicated parkland within the Project site, 20.36 acres of non-traditional park/open space areas (13.75 acres at Tra Vigne West, and 6.61 acres at Tra Vigne East) are planned along the Bear Creek corridor (19.53 acres) and east of the existing industrial area (0.83 acres).

OTHER AGENCY SERVICES

Lodi Unified School District

The Project site is located within the service boundaries of the LUSD. LUSD provides school services for grades K through 12 within the communities of Lodi, North Stockton, and the communities of Acampo, Clements, Lockeford, Victor, and Woodbridge

According to the California Department of Education, the schools in the LUSD had a 2015-2016 school year enrollment of 30,395 students. This total includes 16,713 (55 percent) K-6 students, 4,711 (15 percent) enrolled in grades 7-8, and 8,971 (30 percent) high school students. About 48 percent of the LUSD student population is from the north Stockton area, north of Hammer Lane. Table 3.12-3 lists the City of Stockton school inventory and enrollment.

LUSD has developed two new elementary schools in response to residential growth in north Stockton. The new Podesta Ranch Elementary School is located within the North Stockton Projects Annexation area, between Davis and Lower Sacramento Roads and north of Bear Creek. The new George Lincoln Mosher Elementary School is located in the Cannery Park development area on Buddy Holly Drive, east of the UPRR and west of Holman Road.

Other elementary and middle schools are tentatively planned. Both a future elementary school and a future middle school are planned to be located between Lower Sacramento Road and West Lane and between Eight Mile Road and Bear Creek. A second future elementary school is planned to be located within the Bear Creek West project, south of Bear Creek, north of Morada Lane and west of West Lane. A third future elementary school is planned to be located within the Bear Creek South project, south of Bear Creek and east of West Lane.⁴

⁴ Personal communication with Vickie Brum, LUSD Planning Analyst. March 3, 2016.

3.12 PUBLIC SERVICES AND RECREATION

TABLE 3.12-3: CITY OF STOCKTON SCHOOL INVENTORY, ENROLLMENT, AND CAPACITY

<i>SCHOOL</i>	<i>CAPACITY (2015/2016)</i>	<i>ENROLLMENT (2015-2016)</i>	<i>EXCESS (SHORTAGE) CAPACITY</i>
<i>ELEMENTARY</i>			
Ansel Adams Elementary	954	764	190
Clairmont Elementary	612	464	148
Creekside Elementary	732	575	157
Davis Elementary	432	353	79
Elkhorn School (grades 4-8)	246	272	(26)
George Lincoln Mosher Elementary	630	560	70
John Muir Elementary	738	642	96
Julia Morgan Elementary	630	531	99
Manlio Silva Elementary	834	861	(27)
Oakwood Elementary	654	492	162
Parklane Elementary	684	507	177
Podesta Ranch Elementary	564	538	26
Sutherland Elementary	438	373	65
Wagner-Holt Elementary	600	516	84
Westwood Elementary	576	545	31
<i>Total Elementary School Excess Capacity</i>			<i>1,331</i>
<i>MIDDLE</i>			
Christa McAuliffe Middle	868	762	106
Delta Sierra Middle	856	600	256
Morada Middle	802	734	68
<i>Total Middle School Excess Capacity</i>			<i>430</i>
<i>HIGH</i>			
Bear Creek High	2,392	1,974	418
Middle College High	N/A	246	N/A
Plaza Robles Continuation High (grades 11-12)	N/A	134	N/A
Ronald McNair High	2,416	1,659	757
<i>Total High School Excess Capacity</i>			<i>1,175</i>

SOURCE: LODI UNIFIED SCHOOL DISTRICT FACILITIES MASTER PLAN (2016).

LUSD completed the Ronald McNair High School, located southwest of the Project site at the northwest corner of Morada and West Lanes. This approximately 50-acre facility was opened in 2005. The school has a current (2015-2016) enrollment of 1,659 students in grades 9-12. The school facility has a current capacity of 2,200 students, but portable classrooms will be added in the future which will allow a total capacity of 2,700 students. The enrollment capacity has not yet been met.

The proposed Project establishes a site for a 14.7-acre K-8 school to be developed by the LUSD, consistent with City and LUSD plans. The K-8 school would be located on the western half of the Project site, surrounded by residential development. The Stockton General Plan 2035 includes policies to encourage location of schools where they are easily accessible by vehicles, bicycles, pedestrian and public transportation, and have a walking radius of approximately 1.5 miles (General Plan Policies PFS-9.1 and PFS-9.4). Since school security is of utmost concern for the LUSD, the school would be designed as a stand-alone facility and sized and fenced accordingly.

The State of California Department of Education recommends a student-to-teacher ratio of 20:1 at the elementary school level. LUSD has adopted this ratio for grades kindergarten through third grade. Students may be bussed to schools on the same calendar in order to obtain this objective.

Library Services

The public library system in San Joaquin County is operated by the City of Stockton and funded jointly by both the City and the County. The system includes the downtown Central Library, three branch libraries that serve the City of Stockton, and other branch libraries that serve other San Joaquin County communities. Capital costs of new library development are met through the City's Public Facilities Fee program.

The Margaret K. Troke branch library is located on West Benjamin Holt Drive. The 14,000 square foot facility was constructed in 1979. It is the largest branch library in Stockton, and it is presently the only branch serving the area of Stockton north of the Calaveras River. The branch was recently renovated with interior remodeling, a new roof, and new signage. This branch, however, is considered deficient in terms of the size of the library in relation to the number of people in its north Stockton service area.

A proposed new regional branch library is planned to be located on the campus of McNair High School, less than 0.5 miles south of the southwest corner of the Project site. The approximately 36,400 square foot facility would offer cooperative programs to both northeast Stockton residents and McNair High School students.

3.12.3 REGULATORY SETTING

STATE

State of California Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000

The Cortese-Knox-Hertzberg Local Government Reorganization Act (Government Code §56000 et. seq.) establishes procedures for local government changes of organization, including setting and adjusting Spheres of Influence (SOIs), city incorporations, annexations to a city or special district, and city and special district consolidations. In approving an annexation, which would be required for the Project, the LAFCo will be required to consider and make determinations in regards to numerous factors, including

- The present and planned land uses in the area, including agricultural and open-space lands;
- The existence of any social or economic communities of interest in the area;
- the need for organized community services;
- the present cost and adequacy of governmental services and controls in the area;
- probable future needs for those services and controls;

- the probable effect of the proposed incorporation, formation, annexation, exclusion and of alternative courses of action on the cost and adequacy of services and controls in the area and adjacent areas;
- the ability of the newly formed or receiving entity to provide the services that are the subject of the application to the area, including the sufficiency of revenues for those services following the proposed boundary change.

In order to address these LAFCo considerations, an Administrative Draft Report Plan for Services was completed by Berkson Associates in September 2017. The Project would be annexed to the City of Stockton and served by City services and public utilities. The following public services are expected to be provided to the Project in the future:

- General Government Services: City of Stockton
- Police Protection: Stockton Police Department
- Fire Protection: City of Stockton Fire Department
- Parks and Recreation: City of Stockton
- Schools: Lodi Unified School District (LUSD)
- Libraries: City of Stockton
- Animal Control: City of Stockton
- Road Maintenance: City of Stockton

Police Protection

There are no federal or state regulations related to police protection services applicable to the proposed Project.

Fire Protection and Emergency Response

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

EMERGENCY RESPONSE/EVACUATION PLANS

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

FIRE PROTECTION

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises. Topics addressed in the Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist first responders, industrial processes, and many other general and specialized fire safety requirements for new existing buildings and premises.

UNIFORM FIRE CODE

The Uniform Fire Code with the State of California Amendments contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The Fire Code contains specialized technical regulations related to fire and life safety.

CALIFORNIA HEALTH AND SAFETY CODE

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

NATIONAL FIRE PROTECTION AGENCY (NFPA) 1710

The NFPA 1710 Standards are applicable to urban areas and where staffing is comprised of career firefighters. According to these guidelines, a career fire department needs to respond within six minutes, 90 percent of the time with a response time measured from the 911 call to the time of arrival of the first responder.

The standards are divided as follows:

- Dispatch time of one (1) minute or less for at least 90 percent of the alarms
- Turnout time of one (1) minute or less for EMS calls (80 seconds for fire and special operations response)
- Fire response travel time of four (4) minutes or less for the arrival of the first arriving engine company at a fire incident and eight (8) minutes or less travel time for the deployment of an initial full alarm assignment at a fire incident

- Eight (8) minutes or less travel time for the arrival of an advanced life support (ALS) (4 minutes or less if provided by the fire department)

Parks/Recreation

QUIMBY ACT

The Quimby Act (California Government Code Section 66477) states that “the legislative body of a city or county may, by ordinance, require the dedication of land or impose a requirement of the payment of fees in lieu thereof, or a combination of both, for park or recreational purposes as a condition to the approval of a tentative or parcel map.” Requirements of the Quimby Act apply only to the acquisition of new parkland and do not apply to the physical development of new park facilities or associated operations and maintenance costs. The Quimby Act seeks to preserve open space needed to develop parkland and recreational facilities; however, the actual development of parks and other recreational facilities is subject to discretionary approval and is evaluated on a case-by-case basis with new residential development. The City collects fees imposed by the park and recreation districts impact fees. The impact fees are collected at the time of building permit and include both capital impacts and land acquisition.

Schools

CALIFORNIA CODE OF REGULATIONS

The California Code of Regulations, Title 5 Education Code, governs all aspects of education within the State.

CALIFORNIA DEPARTMENT OF EDUCATION

The California Department of Education (CDE) School Facilities Planning Division (SFPD) prepared a School Site Selection and Approval Guide that provides criteria for locating appropriate school sites in the State of California. School site and size recommendations were changed by the CDE in 2000 to reflect various changes in educational conditions, such as lowering of class sizes and use of advanced technology. The expanded use of school buildings and grounds for community and agency joint use and concern for the safety of the students and staff members also influenced the modification of the CDE recommendations.

Specific recommendations for school size are provided in the School Site Analysis and Development Guide. This document suggests a ratio of 1:2 between buildings and land. CDE is aware that in a number of cases, primarily in urban settings, smaller sites cannot accommodate this ratio. In such cases, the SFPD may approve an amount of acreage less than the recommended gross site size and building-to-ground ratio.

Certain health and safety requirements for school site selection are governed by state regulations and the policies of the SFPD relating to:

- Proximity to airports, high-voltage power transmission lines, railroads, and major roadways;

- Presence of toxic and hazardous substances;
- Hazardous facilities and hazardous air emissions within one-quarter mile;
- Proximity to high-pressure natural gas lines, propane storage facilities, gasoline lines, pressurized sewer lines, or high-pressure water pipelines;
- Noise;
- Results of geological studies or soil analyses;
- Traffic and school bus safety issues.

LEROY F. GREENE SCHOOL FACILITIES ACT OF 1998 (SB 50)

The “Leroy F. Greene School Facilities Act of 1998,” also known as Senate Bill No. 50 or SB 50 (Chapter 407, Statutes of 1998), governs a school district’s authority to levy school impact fees. This comprehensive legislation, together with the \$9.2 billion education bond act approved by the voters in November 1998 known as “Proposition 1A”, reformed methods of school construction financing in California. SB 50 instituted a new school facility program by which school districts can apply for state construction and modernization funds. It imposed limitations on the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provided the authority for school districts to levy fees at three different levels:

- **Level I** fees are the current statutory fees allowed under Education Code 17620. This code section provides the basic authority for school districts to levy a fee against residential and commercial construction for the purpose of funding school construction or reconstruction of facilities. These fees vary by district for residential construction and commercial construction and are increased biannually.
- **Level II** fees are outlined in Government Code Section 65995.5, allowing school districts to impose a higher fee on residential construction if certain conditions are met. These conditions include having a substantial percentage of students on multi-track year-round scheduling, having an assumed debt equal to 15–30 percent of the district’s bonding capacity (percentage is based on revenue sources for repayment), having at least 20 percent of the district’s teaching stations housed in relocatable classrooms, and having placed a local bond on the ballot in the past four years which received at least 50 percent plus one of the votes cast. A Facility Needs Assessment must demonstrate the need for new school facilities for unhoused pupils is attributable to projected enrollment growth from the construction of new residential units over the next five years.
- **Level III** fees are outlined in Government Code Section 655995.7. If State funding becomes unavailable, this code section authorizes a school district that has been approved to collect Level II fees to collect a higher fee on residential construction. This fee is equal to twice the amount of Level II fees. However, if a district eventually receives State funding, this excess fee may be reimbursed to the developers or subtracted from the amount of state funding.

LOCAL

City of Stockton Municipal Code

The City of Stockton Municipal Code, Section 16.72.060(C), Park Land Dedications and Fees, provides for the dedication of land and/or the payment of fees to the City for park and recreational purposes and/or the construction of park and recreational facilities.

Additionally, Section 17.72.260, Public Facilities Fee, of the Municipal Code includes development impact fees to fund municipally owned public facilities, including but not limited to City office space, fire stations, libraries, police stations, community recreation centers, street improvements, and water and sewage facilities, and to pay for acquisition, enhancement, restoration, maintenance, and/or operation of habitat/open space conservation lands.

City of Stockton General Plan

The following goal and policies of the Stockton General Plan related to public services and recreation are applicable to the proposed Project.

Public Facilities & Services Element

GENERAL PUBLIC FACILITIES AND SERVICES GOAL

- PFS-1. To ensure the provision of adequate facilities and services that maintain service levels are adequately funded and allocated strategically.

GENERAL PUBLIC FACILITIES AND SERVICES POLICY

- PFS-1.1. Maintain Existing Levels of Services. The City shall give priority to providing services to existing urban areas in order to prevent the deterioration of existing levels-of-service.
- PFS-1.4. Development Impacts to Existing Infrastructure. The City shall ensure that proposed developments do not create substantial adverse impacts on existing infrastructure and that the necessary infrastructure will be in place to support the development.
- PFS-1.5. Funding for Public Facilities. The City shall continue to utilize developer fees, the City's public facilities fees, and other methods (i.e., grant funding and assessment districts) to finance public facility design, construction, operation, and maintenance.
- PFS-1.8. Impact Mitigation. The City shall review development proposals for their impacts on infrastructure (i.e., sewer, water, fire stations, libraries, streets) and require appropriate mitigation measures if development reduces service levels.
- PFS-1.9. Conditions of Approval. During the development review process, the City shall not approve new development unless the following conditions are met:
 - The applicant can demonstrate that all necessary infrastructure will be installed or adequately financed;
 - Infrastructure improvements are consistent with City infrastructure plans.

LAW ENFORCEMENT GOAL

- PFS-7. To provide protection to the public through adequate police staffing and related resources, effective law enforcement, and the incorporation of crime prevention features in new development, as approved by the Police Department.

LAW ENFORCEMENT POLICIES

- PFS-7.1. Police Response Time. The City shall maintain an average response time of 5 minutes or less for priority one calls.
- PFS-7.2. Staffing Ratios. The City shall strive to maintain a minimum ratio of 1.5 sworn officers per 1,000 residents served.
- PFS-7.5. Design Features for Crime Prevention and Reduction. The City shall continue to promote the use of building and site design features as a means for crime prevention and reduction.

FIRE PROTECTION GOAL

- PFS-8. To provide protection to the public through effective fire protection services and the incorporation of fire safety features in new development.

FIRE PROTECTION POLICIES

- PFS-8.1. Fire Response Time. The City shall work to maintain a fire response time as indicated in Table 9-1, which shall be used to determine future fire station needs.
- PFS-8.2. Insurance Service Organization (ISO) Rating. The City shall continue to maintain an ISO rating of 1.
- PFS-8.3. Provision of Station Facilities and Equipment. The City should provide fire station facilities, equipment (engines and other apparatus), and staffing necessary to maintain the City's service standards (ISO rating and response time).
- PFS-8.4. Cost Sharing. The City shall require new development to pay all public facility fees (PFF) as a means to provide a fair share of costs to provide fire station facilities and equipment in order to maintain the City's ISO rating of 1. Also, new development may be required to create a Community Facility District (CFD) or other funding mechanisms to pay the costs associated with the operation of a fire station.
- PFS-8.6. Adequate Emergency Access and Routes. The City shall require that new development provide adequate access for emergency vehicles, particularly firefighting equipment, as well as provide evacuation routes.

Recreation & Waterways Element*CITY PARK FACILITIES GOAL*

- RW-2. To provide a variety of recreational facilities to meet the diverse needs of Stockton's residents, workers, and visitors.

CITY PARK FACILITIES POLICY

- RW-2.1. City Park and Recreation Standards. The City shall ensure that park and recreation facilities be provided at a level that meets the standards (net acres/1,000 residents,

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minimum net acres/park, service radius) for neighborhood parks, community parks, and regional parks shown in Table 10-1 [Table 3.12-4].

TABLE 3.12-4: CITY OF STOCKTON PARK STANDARDS

TYPE OF PARK	NET ACRES/1,000 RESIDENTS	MINIMUM NET ACRES/PARK	SERVICE RADIUS
Neighborhood	2	5	Up to 0.5-mile radius
Community	3	15	Up to 1-mile radius
Regional	3	30 and over	Region-wide
Public Golf Courses	1 course/40,000	160-230	Region-wide

SOURCE: CITY OF STOCKTON GENERAL PLAN, TABLE 10-1.

3.12.4 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on public services if it would:

- Result in substantial adverse physical impacts associated with the provisions of new or physically altered government facilities, and/or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
 - Police Protection
 - Fire Protection
 - Parks and Recreation
 - Schools
 - Other public facilities
- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.
- Increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated.

IMPACTS AND MITIGATION MEASURES

The proposed project and five alternatives are analyzed in the following environmental analysis. The alternatives include: No Build Alternative, With Bridge Alternative, General Plan 2035 Alternative, Reduced Project Alternative, and Reduced Intensity/Density Alternative. Each alternative is described in detail in Chapter 5.0.

Impact 3.12-1: The proposed Project would not require the construction of police department facilities which may cause substantial adverse physical environmental impacts. (Less than Significant)*Proposed Project:*

The City's General Plan includes policies and implementation measures to ensure that the Police Department continues to provide adequate staffing levels. Below is a list of relevant policies:

- The City shall give priority to providing services to existing urban areas in order to prevent the deterioration of existing levels-of-service (Policy PFS-1.1).
- The City shall maintain an average response time of 5 minutes or less for priority one calls (Policy PFS-7.1).
- The City shall strive to maintain a minimum ratio of 1.5 sworn officers per 1,000 residents served (Policy PFS-7.2).

Continued growth within the SOI will increase the overall demand on law enforcement services in the city. Growth is expected to generate the typical range of service calls. New police facilities, vehicles, equipment, and personnel will be required to provide adequate response times to serve future growth, particularly in the northern areas within which the city is expected to grow. Therefore, the City's costs to maintain equipment and facilities and to train and equip personnel will also increase. Additional personnel and materials costs will be offset through the increased revenue and fees generated by new development.

As noted previously, the police department currently maintains a ratio of 1.33 sworn staff. With the final addition of another 40 officers anticipated in fiscal year 16-17, the Department's sworn staff will total 485 by the end of the 2017 fiscal year, a ratio of about 1.53 sworn officers per 1,000 population.⁵ This ratio would exceed the City's General Plan minimum standard of 1.5 sworn officers per 1,000 residents.⁶ However, staffing levels in the City of Stockton ultimately are determined by the City Council in consultation with the City Manager and Chief of Police.

Impact fees from new development are collected based upon projected impacts from each development. The adequacy of impact fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the Project, would fund costs associated with police services. The proposed project would not result in new or physically altered facilities, and/or the need for new or physically altered facilities, in order to maintain acceptable service ratios, response times, or other

⁵ According to the Cal. State DOF, Stockton's population 315,592 on January 1, 2016.

⁶ City of Stockton General Plan, Public Facilities and Services Element, PFS-7.2.

performance objectives for any of the following public services. Implementation of the proposed project would have a **less than significant** relative to this topic.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not require the construction of police department facilities which may cause substantial adverse physical environmental impacts. Under this alternative, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the Project site would be developed with similar land use designations and circulation facilities as the proposed Project. Unlike the proposed Project, this alternative would include construction of the bridge crossing over Bear Creek. This alternative also establishes a site for a school. This alternative would result in the same number of HDR units as the proposed Project and would reduce the number of LDR units compared to the proposed Project. This would result in a reduction of seven units when compared to the proposed Project and, thus, would introduce seven fewer structures to the Project site. Additionally, this alternative would dedicate an equal amount of commercial and non-traditional park areas as the proposed Project, and would increase the amount of traditional park area.

Similar to the proposed Project, the With Bridge Alternative will require review by the City and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the With Bridge Alternative applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the With Bridge Alternative, would fund capital and labor costs associated with police services. The With Bridge Alternative would not result in new or physically altered facilities, and/or the need for new or physically altered facilities, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services. Implementation of the With Bridge Alternative would have a **less than significant** relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

Under the General Plan 2035 Alternative, the Project site would be developed with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area and the commercial area would be decreased from as compared to the proposed Project. The balance of the Project site would be developed as proposed under the Project. The Marlette Road extension that is shown on the General Plan 2035 Future Roadways Map would be constructed. A bridge would be constructed across Bear Creek to

extend Marlette Road into the Bear Creek South project and would ultimately connect with Holman Road.

Similar to the proposed Project, the General Plan 2035 Alternative will require review by the City and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the General Plan 2035 Alternative applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the General Plan 2035 Alternative, would fund capital and labor costs associated with police services. The General Plan 2035 Alternative would not result in new or physically altered facilities, and/or the need for new or physically altered facilities, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services. Implementation of the General Plan 2035 Alternative would have a **less than significant** relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, the Project site would be developed with the same components as the proposed Project, but the area utilized for the development would be reduced by approximately 33 percent. The total Project site would be reduced by approximately 100.1 acres, which includes elimination of the existing 15.57-acre industrial area from the Project site. This would result in a reduction of 472 (with or without school) units when compared to the proposed Project. The commercial area in the northwest portion of the Project site would be eliminated, which would in turn would eliminate a 70,000-sf grocery store, 22,000 sf of retail shops, a 3,500-sf quick service restaurant, a 3,500-sf convenience store with attached fueling facility, and a 2,500-sf wine tasting room. This alternative would still establish a site for a K-8 school.

Similar to the proposed Project, the Reduced Project Alternative will require review by the City and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the Reduced Project Alternative applicant, and ongoing revenues that would come from property taxes and other revenues generated by the Reduced Project Alternative, would fund capital and labor costs associated with police services. The Reduced Project Alternative would not result in new or physically altered facilities, and/or the need for new or physically altered facilities, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services. Implementation of the Reduced Project Alternative would have a **less than significant** relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with a reduction in the overall Project intensity/density while maintaining the approximate overall Project footprint. This option considers a 20 percent reduction in the intensity/density of the

Project while maintaining the approximately 318.82-acre Project footprint. Typical residential lots would increase from 5,000 to 6,000 sf to 6,000 to 7,400 sf. This alternative would result in a reduction of 283 (with school) to 301 (without school) units when compared to the proposed Project. The commercial area in the northwest portion of the Project site would be eliminated, which would in turn eliminate a 70,000-sf grocery store, 22,000 sf of retail shops, a 3,500-sf quick service restaurant, a 3,500-sf convenience store with attached fueling facility, and a 2,500-sf wine tasting room. This alternative would still establish a site for K-8 school.

Similar to the proposed Project, the Reduced Intensity/Density Alternative will require review by the City and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the Reduced Intensity/Density Alternative applicant, and ongoing revenues that would come from property taxes and other revenues generated by the Reduced Intensity/Density Alternative, would fund capital and labor costs associated with police services. The Reduced Intensity/Density Alternative would not result in new or physically altered facilities, and/or the need for new or physically altered facilities, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services. Implementation of the Reduced Intensity/Density Alternative would have a **less than significant** relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 3.12-2: The proposed Project would not require the construction of fire department facilities which may cause substantial adverse physical environmental impacts. (Less than Significant)

Proposed Project:

The City of Stockton General Plan includes policies and implementation measures to ensure that the Fire Department continues to provide adequate facilities and staffing levels. Below is a list of relevant policies:

- The City shall review development proposals for their impacts on infrastructure (i.e., sewer, water, fire stations, libraries, streets) and require appropriate mitigation measures if development reduces service levels (Policy PFS-1.8).
- The City shall work to maintain a fire response time as indicated in Table 9-1, which shall be used to determine future fire station needs (Policy PFS-8.1).
- The City shall continue to maintain an ISO rating of 1 (Policy PFS-8.2).
- The City should provide fire station facilities, equipment (engines and other apparatus), and staffing necessary to maintain the City's service standards (ISO rating and response time) (Policy PFS-8.3).
- The City shall require new development to pay all public facility fees (PFF) as a means to provide a fair share of costs to provide fire station facilities and equipment in order to maintain the City's ISO rating of 1. Also, new development may be required to create a

Community Facility District (CFD) or other funding mechanisms to pay the costs associated with the operation of a fire station (Policy PFS-8.4).

Continued growth within the SOI will increase the overall demand on fire protection services in the city. Growth in accordance with buildout of the SOI is expected to generate the typical range of service calls, including structure fires, car fires, electrical fires, emergency medical response and others. According to the current (2007) Stockton Municipal Service Review, new fire facilities, vehicles, equipment, and personnel will be required to maintain adequate response times to serve future growth as continued growth in the SOI occurs. Any new facilities would require environmental review once a location and design of such facility is developed.

The City's costs to maintain equipment and facilities and to train and equip personnel will also increase. Growth in rural areas and fire districts will also increase the demand for fire protection services in those areas. City growth will also impact the adjoining rural fire districts including the Waterloo-Morada Rural Fire District. Upon annexation of the Project site, fire protection services would be provided to the Project site by the Stockton Fire Department.

Fire Chief Erik Newman has indicated that the most effective response would be from Station 14. The Fire Chief did not indicate that there would be a need for the proposed Project to construct a new fire station or physically alter a fire station, in order to maintain acceptable service ratios, response times, or other performance objectives for public services. Implementation of the proposed project would have a **less than significant** relative to this topic.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not require the construction of fire department facilities which may cause substantial adverse physical environmental impacts. Under this alternative, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Similar to the proposed Project, the With Bridge Alternative will require review by the City and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the With Bridge Alternative applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the With Bridge Alternative, would fund capital and labor costs associated with fire services.

The With Bridge Alternative would not require the construction of a new or physically altered facilities, and/or need for new or physically altered facilities, in order to maintain acceptable

service ratios, response times, or other performance objectives for any of the following public services. Implementation of the With Bridge Alternative would have a **less than significant** relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

Similar to the proposed Project, the General Plan 2035 Alternative will require review by the City and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the General Plan 2035 Alternative applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the General Plan 2035 Alternative, would fund capital and labor costs associated with fire services. The General Plan 2035 Alternative would not require the construction of a new or physically altered facilities, and/or need for new or physically altered facilities, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services. Implementation of the General Plan 2035 Alternative would have a **less than significant** relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

Similar to the proposed Project, the Reduced Project Alternative will require review by the City and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the Reduced Project Alternative applicant, and ongoing revenues that would come from property taxes and other revenues generated by the Reduced Project, would fund capital and labor costs associated with fire services. The Reduced Project Alternative would not require the construction of a new or physically altered facilities, and/or need for new or physically altered facilities, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services. Implementation of the Reduced Project Alternative would have a **less than significant** relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Similar to the proposed Project, the Reduced Intensity/Density Alternative will require review by the City and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the Reduced Intensity/Density Alternative applicant, and ongoing revenues that would come from property taxes and other revenues generated by the Reduced Intensity/Density, would fund capital and labor costs associated with fire services. The Reduced Intensity/Density Alternative would not require the construction of a new or physically altered facilities, and/or need for new or physically altered facilities, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services. Implementation of the Reduced Intensity/Density Alternative would have a **less than significant** relative to this topic.

Impact 3.12-3: The proposed Project would require the construction of school facilities which may cause substantial adverse physical environmental impacts. (Significant and Unavoidable)

Proposed Project:

The proposed Project is located within the service boundaries of the LUSD. LUSD provides school services for grades K through 12 within the communities of Lodi, North Stockton, and the communities of Acampo, Clements, Lockeford, Victor, and Woodbridge. Within the City of Stockton, there are 10 elementary schools, one middle school, and one high school. According to the California Department of Education, the schools in the LUSD had a 2015-2016 school year enrollment of 30,395 students. This total includes 16,713 (55 percent) K-6 students, 4,711 (15 percent) enrolled in grades 7-8, and 8,971 (30 percent) high school students. About 48 percent of the LUSD student population is from the north Stockton area, north of Hammer Lane.

The proposed Project includes residential units that would directly increase the student population in the area. The Project may indirectly increase the number of persons in the area as a result of employment potential; however, it is not possible to determine at this time whether employment opportunities would be utilized by the existing population with existing students in the schools or if employees would be recruited from outside the region, bringing new students to Stockton.

The proposed Project would include the development of up to 1,503 single family dwelling units, which would directly cause population growth and increase enrollment in the local school districts. Potential future student generation, based on the maximum potential of 1,503 residential units

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(without the school site) and student generation factors used by LUSD, are presented in Table 3.12-5 below.

TABLE 3.12-5: PROPOSED PROJECT STUDENT GENERATION (WITHOUT SCHOOL SITE)

LEVEL	GENERATION RATE	NUMBER OF STUDENTS
Transitional Kindergarten	0.005 students/unit	8
Elementary School (K-6)	0.276 students/unit	415
Middle School (7-8)	0.080 students/unit	120
High School (9-12)	0.162 students/unit	243
Total		786

SOURCE: VICKIE BRUM, LUSD, PERSONAL COMMUNICATION, 2016.

As shown in the table, the proposed Project would generate a maximum of 786 students without the school site. The development of a K-8 school within the Project site is the discretionary decision of the LUSD, and while the proposed Project has planned for a school at this location, it will be determined by the LUSD at a later date through their decision-making process. If the K-8 school is not built on-site, the students generated as a result of the Project would attend an existing elementary school which has excess capacity within the City of Stockton. It is noted that the Tra Vigne West portion of the proposed Project is included in the LUSD's Long-Range Facilities Master Plan future residential development considerations (referenced as "Bear Creek East" in the Long-Range Facilities Master Plan). Additionally, as noted previously in Table 3.12-3, the LUSD elementary schools, middle schools, and high schools within the City of Stockton currently have excess capacity.

Potential future student generation, based on the maximum potential of 1,413 residential units (with the school site) and student generation factors used by LUSD, are presented in Table 3.12-6 below. As shown in the table, the proposed Project would generate a maximum of 739 students with the school site.

TABLE 3.12-6: PROPOSED PROJECT STUDENT GENERATION (WITH SCHOOL SITE)

LEVEL	GENERATION RATE	NUMBER OF STUDENTS
Transitional Kindergarten	0.005 students/unit	7
Elementary School (K-6)	0.276 students/unit	390
Middle School (7-8)	0.080 students/unit	113
High School (9-12)	0.162 students/unit	229
Total		739

SOURCE: VICKIE BRUM, LUSD, PERSONAL COMMUNICATION, 2016.

Build-out of the Project would contribute to growth-related demands for new schools within LUSD. The Project has reserved a site for a future K-8 school within the Project site, intended for acquisition by the LUSD. The planned K-8 school capacity would be about 750 students. As a result, the proposed school would accommodate the 503 K-8 grade students generated by the Project (with the school site); excess capacity could be used to meet other needs generated within the district.

To assist in meeting school site acquisition and construction costs, residential construction within the Project site would be required to pay established developer fees, as identified in Section 3.12.2, Regulatory Setting, above. Developer fees account for approximately 50 percent of new school funding; the State of California provides the remaining 50 percent from state-wide school bonds, subject to voter approval. In the event that bond funding is not available, the LUSD can increase non-contracted developer fees to meet construction cost needs and would assess fees per square foot of residential development. The Project would reserve the remaining necessary portion of a 14.7-acre (total) site for a planned K-8 school.

To assist in meeting school construction costs, the LUSD collects developer fees. The Project is not currently under a fee agreement with LUSD; consequently, fees would be assessed at a rate per square foot of construction, which is subject to periodic increase. The current rate for residential construction is \$3.48 per square foot. Commercial properties would be subject to developer fees of \$0.56 per square foot of new construction. Applicable fees would be collected at such time as future tentative map are approved and building permit applications are processed.

The LUSD collects impact fees from new developments under the provisions of SB 50. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from taxes, would fund capital and labor costs associated with school services. The adequacy of fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. The City will review future projects on an individual basis and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the Project, would fund improvements associated with school services.

The proposed project anticipates the construction of a new school facility, which would have physical environmental impacts. The location of the new school facility is contained within the boundary of the project site and the environmental impacts of the new facility are analyzed throughout Chapter 3.0 of this EIR. It has been determined that construction of the proposed project, including the construction of the school facility, would have significant and unavoidable environmental impacts under certain environmental topics including: aesthetics, agricultural resources, and air quality. For all other environmental topics, the potential impact is either less than significant or it can be mitigated to a less than significant level. Construction of the school facility is a contributing factor to the environmental impacts on aesthetics, agricultural resources, and air quality, which have been determined to be **significant and unavoidable**.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. The No Build Alternative would not result in an increase in population to the area. Implementation of the No Build Alternative would not require the construction of school facilities which may cause substantial adverse physical environmental

impacts. Under this alternative, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Similar to the proposed Project, the With Bridge Alternative is located within the service boundaries of the LUSD and would establish a school site for a K-8 school. Additionally, because the With Bridge Alternative would maintain the commercial portion of the Project, the alternative would indirectly increase the number of persons in the area as a result of employment potential. This alternative would result in the same number of HDR units as the proposed Project (340 units), and would reduce the number of LDR units from 1,073 under the proposed Project to 1,066 units, for a total of 1,406 units. If the LUSD decides to not pursue building a school at this site then the site would be developed for residential in accordance with the General Plan land use designation which would result in the construction an additional 90 units in place of the school. Under this variation, the total residential units would increase from 1,406 to 1,496 units.

Potential future student generation, based on the maximum potential of 1,496 residential units (without the school site) and student generation factors used by LUSD, are presented in Table 3.12-7 below. As shown in the table, the With Bridge Alternative would generate a maximum of 782 students without the school site. The With Bridge Alternative would add four fewer students to the LUSD system as compared to the proposed Project, assuming the school is not built.

TABLE 3.12-7: WITH BRIDGE ALTERNATIVE STUDENT GENERATION (WITHOUT SCHOOL SITE)

LEVEL	GENERATION RATE	NUMBER OF STUDENTS
Transitional Kindergarten	0.005 students/unit	7
Elementary School (K-6)	0.276 students/unit	413
Middle School (7-8)	0.080 students/unit	120
High School (9-12)	0.162 students/unit	242
Total		782

SOURCE: VICKIE BRUM, LUSD, PERSONAL COMMUNICATION, 2016.

Potential future student generation, based on the maximum potential of 1,406 residential units (with the school site) and student generation factors used by LUSD, are presented in Table 3.12-8 below. As shown in the table, the With Bridge Alternative would generate a maximum of 507 students with the school site. The With Bridge Alternative would add 232 fewer students to the LUSD system as compared to the proposed Project, assuming the school is built.

TABLE 3.12-8: WITH BRIDGE ALTERNATIVE STUDENT GENERATION (WITH SCHOOL SITE)

LEVEL	GENERATION RATE	NUMBER OF STUDENTS
Transitional Kindergarten	0.005 students/unit	7
Elementary School (K-6)	0.276 students/unit	388
Middle School (7-8)	0.080 students/unit	112
High School (9-12)	0.162 students/unit	228
Total		507

SOURCE: VICKIE BRUM, LUSD, PERSONAL COMMUNICATION, 2016.

Similar to the proposed Project, payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from taxes, would fund capital and labor costs associated with school services. The adequacy of fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. The City will review future projects on an individual basis and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the With Bridge Alternative, would fund improvements associated with school services. Because the With Bridge Alternative would result in four to 232 fewer students to the LUSD system as compared to the proposed Project, the Alternative would be required to pay fewer fees than the proposed Project.

The With Bridge Alternative anticipates the construction of a new school facility, which would have physical environmental impacts. The location of the new school facility is contained within the boundary of the project site and the environmental impacts of the new facility are analyzed throughout Chapter 3.0 of this EIR. It has been determined that construction of the school facility would have significant and unavoidable environmental impacts under certain environmental topics including: aesthetics, agricultural resources, and air quality. For all other environmental topics, the potential impact is either less than significant or it can be mitigated to a less than significant level. Construction of the school facility is a contributing factor to the environmental impacts on aesthetics, agricultural resources, and air quality, which have been determined to be **significant and unavoidable**. Compared to the proposed Project, this alternative is slightly superior relative to this topic.

General Plan 2035 Alternative:

Under the General Plan 2035 Alternative, the entire 318.82-acre Project site would be developed with residential and commercial land uses. The General Plan 2035 Alternative would not establish a site for a K-8 school to be developed by the LUSD.

Similar to the proposed Project, the General Plan 2035 Alternative is located within the service boundaries of the LUSD. Additionally, the General Plan 2035 Alternative may indirectly increase the number of persons in the area as a result of employment potential; however, it is not possible to determine at this time whether employment opportunities would be utilized by the existing population with existing students in the schools or if employees would be recruited from outside the region, bringing new students to Stockton.

3.12 PUBLIC SERVICES AND RECREATION

The General Plan 2035 Alternative would include the development of 1,978 to 2,776 dwelling units, which would directly cause population growth and increase enrollment in the local school districts. Potential future student generation, based on the maximum potential of 2,776 residential units and student generation factors used by LUSD, are presented in Table 3.12-9 below. As shown in the table, the General Plan 2035 Alternative would generate a maximum of 1,452 students. Depending on whether the school is built under the proposed Project, the General Plan 2035 Alternative would add 248 to 295 more students to the LUSD system as compared to the proposed Project.

TABLE 3.12-9: GENERAL PLAN 2035 ALTERNATIVE STUDENT GENERATION

LEVEL	GENERATION RATE	NUMBER OF STUDENTS
Transitional Kindergarten	0.005 students/unit	14
Elementary School (K-6)	0.276 students/unit	766
Middle School (7-8)	0.080 students/unit	222
High School (9-12)	0.162 students/unit	450
Total		1,452

SOURCE: VICKIE BRUM, LUSD, PERSONAL COMMUNICATION, 2016.

Similar to the proposed Project, payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from taxes, would fund capital and labor costs associated with school services. The adequacy of fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. The City will review future projects on an individual basis and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the General Plan 2035 Alternative, would fund improvements associated with school services. Because the General Plan 2035 Alternative would add 666 to 739 more students to the LUSD system as compared to the proposed Project, the Alternative would be required to pay more fees than the proposed Project.

The General Plan 2035 Alternative anticipates the construction of a new school facility, which would have physical environmental impacts. The location of the new school facility is contained within the boundary of the project site and the environmental impacts of the new facility are analyzed throughout Chapter 3.0 of this EIR. It has been determined that construction of the school facility would have significant and unavoidable environmental impacts under certain environmental topics including: aesthetics, agricultural resources, and air quality. For all other environmental topics, the potential impact is either less than significant or it can be mitigated to a less than significant level. Construction of the school facility is a contributing factor to the environmental impacts on aesthetics, agricultural resources, and air quality, which have been determined to be **significant and unavoidable**. Compared to the proposed Project, this alternative is slightly inferior relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

Similar to the proposed Project, the Reduced Project Alternative is located within the service boundaries of the LUSD. Unlike the proposed Project, because the Reduced Project Alternative would eliminate the commercial portion of the Project, the alternative would not indirectly increase the number of persons in the area as a result of employment potential. The Reduced Project Alternative would include the development of up to 941 units (with school) to 1,031 units (without school), which would directly cause population growth and increase enrollment in the local school districts. Potential future student generation, based on the maximum potential of 1,031 residential units (without the school site) and student generation factors used by LUSD, are presented in Table 3.12-10 below. As shown in the table, the Reduced Project Alternative would generate a maximum of 539 students without the school site. The Reduced Project Alternative would add 247 fewer students to the LUSD system as compared to the proposed Project, assuming the school site is not built.

TABLE 3.12-10: REDUCED PROJECT ALTERNATIVE STUDENT GENERATION (WITHOUT SCHOOL SITE)

LEVEL	GENERATION RATE	NUMBER OF STUDENTS
Transitional Kindergarten	0.005 students/unit	5
Elementary School (K-6)	0.276 students/unit	285
Middle School (7-8)	0.080 students/unit	82
High School (9-12)	0.162 students/unit	167
Total		539

SOURCE: VICKIE BRUM, LUSD, PERSONAL COMMUNICATION, 2016.

Potential future student generation, based on the maximum potential of 941 residential units (with the school site) and student generation factors used by LUSD, are presented in Table 3.12-11 below. As shown in the table, the Reduced Project Alternative would generate a maximum of 492 students with the school site. The Reduced Project Alternative would add 247 fewer students to the LUSD system as compared to the proposed Project, assuming the school site is built.

TABLE 3.12-11: REDUCED PROJECT ALTERNATIVE STUDENT GENERATION (WITH SCHOOL SITE)

LEVEL	GENERATION RATE	NUMBER OF STUDENTS
Transitional Kindergarten	0.005 students/unit	5
Elementary School (K-6)	0.276 students/unit	260
Middle School (7-8)	0.080 students/unit	75
High School (9-12)	0.162 students/unit	152
Total		492

SOURCE: VICKIE BRUM, LUSD, PERSONAL COMMUNICATION, 2016.

Similar to the proposed Project, payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from taxes, would fund capital and labor costs associated

with school services. The adequacy of fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. The City will review future projects on an individual basis and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the Reduced Project Alternative, would fund improvements associated with school services. Because the Reduced Project Alternative would result in 247 fewer students to the LUSD system as compared to the proposed Project, the Alternative would be required to pay fewer fees than the proposed Project.

The Reduced Project Alternative anticipates the construction of a new school facility, which would have physical environmental impacts. The location of the new school facility is contained within the boundary of the project site and the environmental impacts of the new facility are analyzed throughout Chapter 3.0 of this EIR. It has been determined that construction of the school facility would have significant and unavoidable environmental impacts under certain environmental topics including: aesthetics, agricultural resources, and air quality. For all other environmental topics, the potential impact is either less than significant or it can be mitigated to a less than significant level. Construction of the school facility is a contributing factor to the environmental impacts on aesthetics, agricultural resources, and air quality, which have been determined to be **significant and unavoidable**. Compared to the proposed Project, this alternative is slightly superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Similar to the proposed Project, the Reduced Intensity/Density Alternative is located within the service boundaries of the LUSD. Unlike the proposed Project, because the Reduced Intensity/Density Alternative would eliminate the commercial portion of the Project, the alternative would not indirectly increase the number of persons in the area as a result of employment potential. The Reduced Intensity/Density Alternative would include the development of up to 1,130 units (with school) to 1,202 units (without school), which would directly cause population growth and increase enrollment in the local school districts. Potential future student generation, based on the maximum potential of 1,202 residential units (without the school site) and student generation factors used by LUSD, are presented in Table 3.12-10 below. As shown in the table, the Reduced Intensity/Density Alternative would generate a maximum of 629 students without the school site. The Reduced Intensity/Density Alternative would add 157 fewer students to the LUSD system as compared to the proposed Project, assuming the school site is not built.

TABLE 3.12-12: REDUCED INTENSITY/DENSITY ALTERNATIVE STUDENT GENERATION (WITHOUT SCHOOL SITE)

LEVEL	GENERATION RATE	NUMBER OF STUDENTS
Transitional Kindergarten	0.005 students/unit	6
Elementary School (K-6)	0.276 students/unit	332
Middle School (7-8)	0.080 students/unit	96
High School (9-12)	0.162 students/unit	195
Total		629

SOURCE: VICKIE BRUM, LUSD, PERSONAL COMMUNICATION, 2016.

Potential future student generation, based on the maximum potential of 1,130 residential units (with the school site) and student generation factors used by LUSD, are presented in Table 3.12-13 below. As shown in the table, the Reduced Intensity/Density Alternative would generate a maximum of 591 students with the school site. The Reduced Intensity/Density Alternative would add 148 fewer students to the LUSD system as compared to the proposed Project, assuming the school is built.

TABLE 3.12-13: REDUCED INTENSITY/DENSITY ALTERNATIVE STUDENT GENERATION (WITH SCHOOL SITE)

LEVEL	GENERATION RATE	NUMBER OF STUDENTS
Transitional Kindergarten	0.005 students/unit	6
Elementary School (K-6)	0.276 students/unit	312
Middle School (7-8)	0.080 students/unit	90
High School (9-12)	0.162 students/unit	183
Total		591

SOURCE: VICKIE BRUM, LUSD, PERSONAL COMMUNICATION, 2016.

Similar to the proposed Project, payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from taxes, would fund capital and labor costs associated with school services. The adequacy of fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. The City will review future projects on an individual basis and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the Reduced Intensity/Density Alternative, would fund improvements associated with school services. Because the Reduced Intensity/Density Alternative would result in 148 to 157 fewer students to the LUSD system as compared to the proposed Project, the Alternative would be required to pay fewer fees than the proposed Project.

The Reduced Intensity/Density Alternative anticipates the construction of a new school facility, which would have physical environmental impacts. The location of the new school facility is contained within the boundary of the project site and the environmental impacts of the new facility are analyzed throughout Chapter 3.0 of this EIR. It has been determined that construction of the school facility would have significant and unavoidable environmental impacts under certain environmental topics including: aesthetics, agricultural resources, and air quality. For all other environmental topics, the potential impact is either less than significant or it can be mitigated to a less than significant level. Construction of the school facility is a contributing factor to the environmental impacts on aesthetics, agricultural resources, and air quality, which have been

determined to be **significant and unavoidable**. Compared to the proposed Project, this alternative is slightly superior relative to this topic.

Impact 3.12-4: The proposed Project would not have effects on other public facilities. (Less than Significant)

Proposed Project:

The proposed Project will bring residents and possibly employees to the area, which may require the use of other public services such as libraries, etc. The City collects impact fees from new development based upon projected impacts from each development, including impacts on other public services. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with services provided. The City will review future projects on an individual basis and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the Project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would fund capital and labor costs associated with these other public services.

The proposed Project does not trigger the need for new facilities associated with other public services. Consequently, new facilities for other public services are not proposed at this time. The proposed Project would not result in the need for new facilities for other public services, thus it will have a **less than significant** impact relative to this topic.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. As discussed above, the No Build Alternative would not result in an increase in population to the area. Implementation of the No Build Alternative would not increase demand for other public facilities. Under this alternative, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Similar to the proposed Project, the With Bridge Alternative will bring residents and could bring employees to the area which may require the use of other public services such as libraries, etc. The City collects impact fees from new development based upon projected impacts from each development, including impacts on other public services. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with services provided. The City will review future projects on an individual basis and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the project

applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would fund capital and labor costs associated with these other public services.

The With Bridge Alternative does not trigger the need for new facilities associated with other public services. Consequently, new facilities for other public services are not proposed at this time. The With Bridge Alternative would not result in the need for new facilities for other public services. Under this alternative, impacts related to other public facilities would be **less than significant**. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

Under the General Plan 2035 Alternative, the entire 318.82-acre Project site would be developed with residential and commercial land uses.

Similar to the proposed Project, the General Plan 2035 Alternative will bring residents and could bring employees to the area which may require the use of other public services such as libraries, etc. The City collects impact fees from new development based upon projected impacts from each development, including impacts on other public services. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with services provided. The City will review future projects on an individual basis and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would fund capital and labor costs associated with these other public services.

The General Plan 2035 Alternative does not trigger the need for new facilities associated with other public services. Consequently, new facilities for other public services are not proposed at this time. The General Plan 2035 Alternative would not result in the need for new facilities for other public services. Under this alternative, impacts related to other public facilities would be **less than significant**. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site.

Similar to the proposed Project, the Reduced Project Alternative will bring residents to the area which may require the use of other public services such as libraries, etc. The City collects impact fees from new development based upon projected impacts from each development, including impacts on other public services. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with services provided. The City will review future projects on an individual basis and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the project applicant, and ongoing

revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would fund capital and labor costs associated with these other public services.

The Reduced Project Alternative does not trigger the need for new facilities associated with other public services. Consequently, new facilities for other public services are not proposed at this time. The Reduced Project Alternative would not result in the need for new facilities for other public services. Under this alternative, impacts related to other public facilities would be **less than significant**. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site.

Similar to the proposed Project, the Reduced Intensity/Density Alternative will bring residents to the area which may require the use of other public services such as libraries, etc. The City collects impact fees from new development based upon projected impacts from each development, including impacts on other public services. The City also reviews the adequacy of impact fees on an annual basis to ensure that the fee is commensurate with services provided. The City will review future projects on an individual basis and will require City compliance with requirements (e.g., impact fees) in effect. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would fund capital and labor costs associated with these other public services.

The Reduced Intensity/Density Alternative does not trigger the need for new facilities associated with other public services. Consequently, new facilities for other public services are not proposed at this time. The Reduced Intensity/Density Alternative would not result in the need for new facilities for other public services. Under this alternative, impacts related to other public facilities would be **less than significant**. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 3.12-5: The proposed Project would require the construction of park and recreational facilities which may cause substantial adverse physical environmental impacts. (Significant and Unavoidable)

Proposed Project:

The Project directly increases the number of persons in the area as a result of employment potential, and residential uses. The proposed Project has the potential to directly add up to 4,765 people within the Project site. Although there are no future parks shown on the City's General Plan within the Project site, the Project would reserve 15.07 acres of traditional parkland. In addition to dedicated parkland within the Project site, 20.36 acres of non-traditional park/open space areas

(13.75 acres at Tra Vigne West, and 6.61 acres at Tra Vigne East) are planned along the Bear Creek corridor (19.53 acres) and east of the existing industrial area (0.83 acres).

Two park areas are proposed within Tra Vigne West including a centrally located 5.8-acre park and a 3.7-acre park in the southwest corner of the Tra Vigne West site. Additionally, a 6.24-acre detention basin area would be located in the southwestern portion of the Project site, adjacent to the 3.7-acre park. Tra Vigne East includes plans for an additional 5.57 acres of traditional park space. One traditional park area, totaling 5.57 acres, would be located in the southern portion of Tra Vigne East, adjacent to the Bear Creek open space area. Additionally, a 3.75-acre detention basin area would be located in the southwestern portion of the Tra Vigne East within the Project site.

The environmental effects of construction of the Project's proposed parks and recreation components is addressed through the environmental analysis of the proposed Project in the relevant sections of this EIR (aesthetics, air quality, agriculture, biological resources, cultural resources, geology/soils, hazards, hydrology/water quality, land use, noise, transportation, utilities, etc.).

Under standards adopted as part of the Stockton Municipal Code, the proposed Project would be required to dedicate 13.4 acres of parkland with the school site, and 14.3 acres of parkland without the school site. As noted above, the Project would reserve 15.07 acres of traditional park space, and 20.36 acre of non-traditional park space (which includes 19.53 acres of open space along the north Bear Creek levee). Therefore, the proposed Project meets the parkland requirement set forth in Section 16.72.060(C) of the Municipal Code.

The City collects park land dedication fees from new development based upon the number of dwelling units expected in a subdivision. The City will review the proposed Project and will require City compliance with Section 16.72.060(C) of the Municipal Code. Payment of the park land dedication fee by the Project applicant would fund development of new park or recreation facilities or rehabilitation of existing park or recreation facilities. Future use of the fees to develop a new park or recreation facility would be subject to future environmental review to ensure adverse environmental impacts do not occur or are mitigated to a less than significant level.

The proposed Project would dedicate 15.07 acres of traditional park space, 20.36 acres of non-traditional park space, and would pay fees to the City for park and recreational purposes.

The proposed Project would result in the construction of a new park and open space facilities, which would have physical environmental impacts. The location of the new park and open space facilities is contained within the boundary of the project site and the environmental impacts of the new facilities are analyzed throughout Chapter 3.0 of this EIR. It has been determined that construction would have significant and unavoidable environmental impacts under certain environmental topics including: aesthetics, agricultural resources, and air quality. For all other environmental topics, the potential impact is either less than significant or it can be mitigated to a

less than significant level. Construction of the new park facilities is a contributing factor to the environmental impacts on aesthetics, agricultural resources, and air quality, which have been determined to be **significant and unavoidable**.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. The No Build Alternative would not result in an increase in population to the area. Implementation of the No Build Alternative would not require the construction of park and recreational facilities which may cause substantial adverse physical environmental impacts. Under this alternative, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the Project site would be developed with similar land use designations and circulation facilities as the proposed Project. Unlike the proposed Project, this alternative would include construction of the bridge crossing over Bear Creek. This alternative also establishes a site for a 14.7-acre K-8 school to be developed by the LUSD at their discretion. This alternative would result in the same number of HDR units as the proposed Project (340 units), and would reduce the number of LDR units from 1,073 under the proposed Project to 1,066 units, for a total of 1,406 units. This would result in a reduction of seven units when compared to the proposed Project. Additionally, this alternative would dedicate an equal amount of commercial and non-traditional park areas as the proposed Project, and would increase the amount of traditional park area from 15.07 acres under the proposed Project to 15.37 acres. The anticipated commercial uses and utility improvements under the With Bridge Alternative would be similar to the proposed Project.

The With Bridge Alternative directly increases the number of persons in the area as a result of employment potential, and residential uses. The With Bridge Alternative has the potential to directly add 4,743 people within the Project site. The With Bridge Alternative would include park space to serve the community and surrounding area. Under standards adopted as part of the Stockton Municipal Code, the With Bridge Alternative would be required to dedicate 13.4 acres of parkland with the school site, and 14.2 acres of parkland without the school site.

As noted previously, the City collects park land dedication fees from new development based upon the number of dwelling units expected in a subdivision. Similar to the proposed Project, the City will review the With Bridge Alternative and will require City compliance with Section 16.72.060(C) of the Municipal Code. Payment of the park land dedication fee by the project applicant would fund development of new park or recreation facilities or rehabilitation of existing park or recreation facilities.

The With Bridge Alternative would result in the construction of a new park and open space facilities, which would have physical environmental impacts. The location of the new park and open space facilities is contained within the boundary of the project site and the environmental impacts of the new facilities are analyzed throughout Chapter 3.0 of this EIR. It has been determined that construction would have significant and unavoidable environmental impacts under certain environmental topics including: aesthetics, agricultural resources, and air quality. For all other environmental topics, the potential impact is either less than significant or it can be mitigated to a less than significant level. Construction of the new park facilities is a contributing factor to the environmental impacts on aesthetics, agricultural resources, and air quality, which have been determined to be **significant and unavoidable**. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

Under the General Plan 2035 Alternative, the entire 318.82-acre Project site would be developed with residential and commercial land uses.

The General Plan 2035 Alternative directly increases the number of persons in the area as a result of employment potential, and residential uses. The General Plan 2035 Alternative has the potential to directly add up to 8,800 people within the Project site. The General Plan 2035 Alternative would include park space to serve the community and surrounding area. Under standards adopted as part of the Stockton Municipal Code, the General Plan 2035 Alternative would be required to dedicate up to 44 acres of parkland.

As noted previously, the City collects park land dedication fees from new development based upon the number of dwelling units expected in a subdivision. Similar to the proposed Project, the City will review the General Plan 2035 Alternative and will require City compliance with Section 16.72.060(C) of the Municipal Code. Payment of the park land dedication fee by the project applicant would fund development of new park or recreation facilities or rehabilitation of existing park or recreation facilities.

The General Plan 2035 Alternative would result in the construction of a new park and open space facilities, which would have physical environmental impacts. The location of the new park and open space facilities is contained within the boundary of the project site and the environmental impacts of the new facilities are analyzed throughout Chapter 3.0 of this EIR. It has been determined that construction would have significant and unavoidable environmental impacts under certain environmental topics including: aesthetics, agricultural resources, and air quality. For all other environmental topics, the potential impact is either less than significant or it can be mitigated to a less than significant level. Construction of the new park facilities is a contributing factor to the environmental impacts on aesthetics, agricultural resources, and air quality, which have been determined to be **significant and unavoidable**. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent acres of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site.

The Reduced Project Alternative directly increases the number of persons in the area as a result of residential uses. The Reduced Project Alternative has the potential to directly add up to 3,268 people within the Project site. The Reduced Project Alternative would include park space to serve the community and surrounding area. Under standards adopted as part of the Stockton Municipal Code, the Reduced Project Alternative would be required to dedicate 8.9 acres of parkland with the school site, and 9.8 acres of parkland without the school site.

As noted previously, the City collects park land dedication fees from new development based upon the number of dwelling units expected in a subdivision. Similar to the proposed Project, the City will review the Reduced Project Alternative and will require City compliance with Section 16.72.060(C) of the Municipal Code. Payment of the park land dedication fee by the project applicant would fund development of new park or recreation facilities or rehabilitation of existing park or recreation facilities.

The Reduced Project Alternative would result in the construction of a new park and open space facilities, which would have physical environmental impacts. The location of the new park and open space facilities is contained within the boundary of the project site and the environmental impacts of the new facilities are analyzed throughout Chapter 3.0 of this EIR. It has been determined that construction would have significant and unavoidable environmental impacts under certain environmental topics including: aesthetics, agricultural resources, and air quality. For all other environmental topics, the potential impact is either less than significant or it can be mitigated to a less than significant level. Construction of the new park facilities is a contributing factor to the environmental impacts on aesthetics, agricultural resources, and air quality, which have been determined to be **significant and unavoidable**. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site.

The Reduced Intensity/Density Alternative directly increases the number of persons in the area as a result of residential uses. The Reduced Project Alternative has the potential to directly add up to 3,810 people within the Project site. The Reduced Intensity/Density Alternative would include park space to serve the community and surrounding area. Under standards adopted as part of the Stockton Municipal Code, the Reduced Intensity/Density Alternative would be required to dedicate 10.7 acres of parkland with the school site, and 11.4 acres of parkland without the school site.

As noted previously, the City collects park land dedication fees from new development based upon the number of dwelling units expected in a subdivision. Similar to the proposed Project, the City will review the Reduced Intensity/Density Alternative and will require City compliance with Section 16.72.060(C) of the Municipal Code. Payment of the park land dedication fee by the project applicant would fund development of new park or recreation facilities or rehabilitation of existing park or recreation facilities.

The Reduced Intensity/Density Alternative would result in the construction of a new park and open space facilities, which would have physical environmental impacts. The location of the new park and open space facilities is contained within the boundary of the project site and the environmental impacts of the new facilities are analyzed throughout Chapter 3.0 of this EIR. It has been determined that construction would have significant and unavoidable environmental impacts under certain environmental topics including: aesthetics, agricultural resources, and air quality. For all other environmental topics, the potential impact is either less than significant or it can be mitigated to a less than significant level. Construction of the new park facilities is a contributing factor to the environmental impacts on aesthetics, agricultural resources, and air quality, which have been determined to be **significant and unavoidable**. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 3.12-6: The Project would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated. (Less than Significant)

Proposed Project:

As stated previously, the Project will directly, and may indirectly increase the number of persons in the area as a result of employment potential and visitor-serving uses. It is not anticipated that the proposed Project would result in a significant increase in the use of existing neighborhood and regional parks or other recreational facilities from people associated with the employment potential and visitor-serving uses. The Project does, however, include construction of 15.07 acres of traditional park space, and 20.36 acre of non-traditional park space (which includes 19.53 acres of open space along the north Bear Creek levee). The extensive new park and open space areas for the community and residents within the Project site would more than offset any new demand for parks or recreational facilities that could result from the employment potential and residential uses.

The proposed Project would not significantly increase the use of an existing park, or other recreational facility. Therefore, it is not anticipated that any substantial physical deterioration of existing facilities would occur or be accelerated. As such, the proposed Project would have a **less than significant** impact relative to this topic.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. The No Build Alternative would not result in an increase in population to the area. Implementation of the No Build Alternative would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated. Under this alternative, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Similar to the proposed Project, the With Bridge Alternative will directly, and may indirectly increase the number of persons in the area as a result of employment potential and visitor-serving uses. It is not anticipated that the With Bridge Alternative would result in a significant increase in the use of existing neighborhood and regional parks or other recreational facilities from people associated with the employment potential and visitor-serving uses. The With Bridge Alternative does, however, include construction of park areas within the residential areas. The new park areas for the community and residents within the Project site would offset any new demand for parks or recreational facilities that could result from the employment potential and residential uses.

The With Bridge Alternative would not significantly increase the use of an existing park, or other recreational facility. Therefore, it is not anticipated that any substantial physical deterioration of existing facilities would occur or be accelerated. Under this alternative, a **less than significant** impact would result relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

Under the General Plan 2035 Alternative, the entire 318.82-acre Project site would be developed with residential and commercial land uses.

Similar to the proposed Project, the General Plan 2035 Alternative will directly, and may indirectly increase the number of persons in the area as a result of employment potential and visitor-serving uses. It is not anticipated that the General Plan 2035 Alternative would result in a significant increase in the use of existing neighborhood and regional parks or other recreational facilities from people associated with the employment potential and visitor-serving uses. The General Plan 2035 Alternative does, however, include construction of park areas within the residential areas. The new park areas for the community and residents within the Project site would offset any new

demand for parks or recreational facilities that could result from the employment potential and residential uses.

The General Plan 2035 Alternative would not significantly increase the use of an existing park, or other recreational facility. Therefore, it is not anticipated that any substantial physical deterioration of existing facilities would occur or be accelerated. Under this alternative, a **less than significant** impact would result relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

Unlike the proposed Project, the Reduced Project Alternative would not include employment-generating or and visitor-serving uses. It is not anticipated that the Reduced Project Alternative would result in a significant increase in the use of existing neighborhood and regional parks or other recreational facilities from people associated with the residential uses. The Reduced Project Alternative does, however, include construction of park areas within the residential areas. The new park areas for the community and residents within the Project site would offset any new demand for parks or recreational facilities that could result from the residential uses.

The Reduced Project Alternative would not significantly increase the use of an existing park, or other recreational facility. Therefore, it is not anticipated that any substantial physical deterioration of existing facilities would occur or be accelerated. Under this alternative, a **less than significant** impact would result relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Unlike the proposed Project, the Reduced Intensity/Density Alternative would not include employment-generating or and visitor-serving uses. It is not anticipated that the Reduced Intensity/Density Alternative would result in a significant increase in the use of existing neighborhood and regional parks or other recreational facilities from people associated with the residential uses. The Reduced Intensity/Density Alternative does, however, include construction of

park areas within the residential areas. The new park areas for the community and residents within the Project site would offset any new demand for parks or recreational facilities that could result from the residential uses.

The Reduced Intensity/Density Alternative would not significantly increase the use of an existing park, or other recreational facility. Therefore, it is not anticipated that any substantial physical deterioration of existing facilities would occur or be accelerated. Under this alternative, a **less than significant** impact would result relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

3.13.1 INTRODUCTION

This section of the environmental impact report (EIR) analyzes the potential impacts of the proposed Tra Vigne Development Project (proposed Project) on the surrounding transportation system including roadways, bicycle/pedestrian facilities, rail, and transit facilities/services. This section identifies the significant impacts of the proposed Project and recommends mitigation measures to lessen their significance. This section is based on the technical analysis completed by KDAnderson & Associates, Inc. in August 2017. All technical calculations can be found in Appendix K. Two comments were received during the NOP comment period regarding transportation and circulation (listed below). Full comments received are included in Appendix A.

Comments relevant to transportation and circulation include:

1. San Joaquin Council of Governments (SJCOG); and
2. San Joaquin County Department of Public Works.

In the SJCOG comment letter, SCJOG notes that the Project site is located near various roadways included in the 2016 Regional Congestion Management Program (RGMP). In the San Joaquin County Department of Public Works comment letter, the County notes that Eight Mile Road from the railroad to West Land and West Lane from Bear Creek to Eight Mile Road must be annexed into the City. Additionally, the County lists various traffic engineering requirements for the Project.

3.13.2 ENVIRONMENTAL SETTING

PROJECT LOCATION

The 318.82-acre Project site is located north of the City of Stockton in San Joaquin County, south of Eight Mile Road and east of West Lane. Access to the Project would be provided by connections to Eight Mile Road and West Lane. Figure 3.13-1 displays the regional location of the Project site. Figure 3.13-2 displays the Project site relative to the surrounding transportation system. Figure 3.13-3 presents the proposed Project site plan. Figure 3.13-4 presents the commercial site portion of the proposed Project site plan, which is on the southeast corner of the intersection of Eight Mile Road and West Lane.

STUDY AREA ROADWAYS AND INTERSECTIONS

The following describes the key roadways in the study area. Portions of the information presented below are from the City of Stockton General Plan Background Report (City of Stockton, 2004a).

Interstate 5 (I-5) is a major north-south freeway that traverses the western U.S., originating in southern California and continuing north towards Sacramento and beyond. It is aligned through the western portion of the City, generally providing four travel lanes in each direction through the central portion of Stockton (between Charter Way and Country Club Drive) and three lanes in each direction along the remaining segments. Twelve interchanges are provided along the 14-mile

stretch of I-5 within and adjacent to the City limits. The portion of I-5 in the North Stockton area was recently improved. As a result, the number of travel lanes, speed limit, and traffic volume varied as the active construction portion changed over time. In the recent past, the average daily traffic (ADT) volumes on I-5 in the vicinity of the Project site were between 76,000 and 94,000. Current ADT volumes are between 63,000 and 74,000. The speed limit on I-5 in the past has been 70 miles per hour (mph) north of Eight Mile Road, and 65 mph south of Eight Mile Road.

State Route 99 (SR 99) traverses the Central Valley, connecting Sacramento and points north with numerous Central Valley cities, including Modesto, Merced, Fresno and Bakersfield. Three travel lanes are provided in each direction north of Wilson Way, while the segments south of Wilson Way include two lanes per direction. Twelve interchanges are provided along the 12-mile length of SR 99 within and adjacent to the City limits. Average daily traffic volumes on SR 99 range between 75,000 and 81,000 in the vicinity of the Project site. The speed limit on SR 99 is 65 mph in the vicinity of the proposed Project site.

SR 99 East Frontage Road and SR 99 West Frontage Road are undivided 2-lane frontage roads located immediately east and west of SR 99. The northern termini of the frontage roads are north of Eight Mile Road. The southern termini are at an overcrossing of SR 99, approximately one-mile south of Hammer Lane. The frontage roadways are designed to intercept, collect, and distribute traffic crossing, entering, or leaving the freeway, and to furnish access to property that otherwise would be isolated as a result of the controlled access freeway. SR 99 East Frontage Road and SR 99 West Frontage Road provide direct access to light industrial, commercial, and residential development. SR 99 on-ramps and off-ramps form “hook ramp” intersections with the frontage roads at the SR 99 interchanges at Eight Mile Road and Morada Lane. The speed limit on SR 99 East Frontage Road is 45 mph. The curved portions of SR 99 West Frontage Road are signed for 30 mph and 40 mph; the speed limit on other portions is unsigned.

Eight Mile Road is an east-west roadway north of the Project site. In the vicinity of the proposed Project site, the majority of Eight Mile Road is two lanes wide. However, some portions of Eight Mile Road are four-lanes wide. In the vicinity of the Project site, the posted speed limit along Eight Mile Road is 45 mph. Eight Mile Road has access to SR 99 at an interchange that includes a two-lane overcrossing of SR 99. A project study report (PSR) has been prepared for proposed improvements to this interchange. Eight Mile Road also has access to I-5 at an interchange that includes an undercrossing of I-5. Grade-separated crossings of railroad tracks are located at the northeast corner of the Project site, and approximately 1.6 miles west of the Project site.

Morada Lane is a discontinuous east-west two-lane roadway. A portion of Morada Lane has a western terminus at Lower Sacramento Road and an eastern terminus at the Union Pacific Railroad tracks. This portion of Morada Lane has a 25-mph speed limit. Another portion of Morada Lane has a western terminus at a signalized intersection with McNair Lane, west of West Lane, and an eastern terminus approximately one mile east of SR 99. This portion of Morada Lane has 30 mph and 35 mph speed limits. Morada Lane has access to SR 99 at an interchange that includes a

two-lane overcrossing of SR 99. A PSR has been prepared for proposed improvements to this interchange.

Hammer Lane is a major east-west arterial in the vicinity of the proposed Project site. It has a western terminus west of I-5, and an eastern terminus east of SR 99. Hammer Lane has access to both of these freeways via interchanges. The interchange on SR 99 was recently reconstructed. West of Thornton Road, Hammer Lane is four lanes wide. Between Thornton Road and SR 99, portions of Hammer Lane are six-, seven-, and eight-lanes wide. West of Holman Road, Hammer Lane has a 35-mph speed limit. East of Holman Road, it has a 45-mph speed limit.

Thornton Road is a roadway with a northern terminus at the Sacramento County line and, as Pacific Avenue, has a southern terminus in downtown Stockton. Thornton Road generally has a north-south alignment. However, a portion south of Eight Mile Road has a northwest-southeast alignment. North of Eight Mile Road, Thornton Road is two lanes wide. In the vicinity of the proposed Project site, the majority of Thornton Road is four lanes wide, with a portion northwest of Davis Road being two lanes wide. The speed limit on Thornton Road is 55 mph north of Eight Mile Road, 45 mph between Eight Mile Road and Davis Road, and 40 mph south of Davis Road.

Davis Road is north-south roadway with a northern terminus at the Mokelumne River, northwest of Lodi, and a southern terminus at Thornton Road. The majority of Davis Road is two lanes wide, with portions north of Thornton Road being three lanes wide and four lanes wide. In the vicinity of the proposed Project site, the speed limit is 45 mph.

Lower Sacramento Road is a roadway with a northern terminus at the Sacramento County line and a southern terminus at Rivara Road, south of Hammer Lane. Lower Sacramento Road generally has a north-south alignment. However, a portion immediately south of Eight Mile Road has a northeast-southwest alignment. North of Armor Drive, Lower Sacramento Road is two lanes wide. South of Armor Drive, it is four lanes wide. The speed limit on Lower Sacramento Road is 55 mph north of Armor Drive, 50 mph between Armor Drive and Katherine Way, and 40 mph south of Katherine Way.

West Lane/ Airport Way is a north-south arterial roadway with a northern terminus in the City of Lodi and a southern terminus in downtown Stockton. Portions of West Lane are divided by a raised median. In the vicinity of the proposed Project site, some portions of West Lane are four-lanes wide, other portions are six-lanes wide. Portions of West Lane away from the Project site are as narrow as two-lanes wide. West Lane is controlled by signalization at major intersections.

Holman Road is a north-south arterial roadway with a northern terminus north of a signalized intersection at Morada Lane. Holman Road is planned to be extended north to the intersection of Eight Mile Road and Micke Grove Road. In the vicinity of the proposed Project site, Holman Road is four-lanes to six-lanes wide. However, portions of Holman Road south of Hammer Lane are two-lanes wide. The speed limit on Holman Road is 40 mph.

Ham Lane is a north-south two-lane roadway with a northern terminus at Armstrong Road, and a southern terminus at Eight Mile Road. Ham Lane is planned to be extended south of Eight Mile Road to Morada Lane, connecting with the intersection of Morada Lane and Cherbourg Way.

Micke Grove Road is a two-lane north-south roadway with a northern terminus at Armstrong Road, and a current southern terminus at a “T” intersection at Eight Mile Road. Holman Road is planned to be extended north to Eight Mile Road and form the southern leg of the intersection of Eight Mile Road and Micke Grove Road. The speed limit on Micke Grove Road is 35 mph.

Marlette Road (Lieutenant Colonel Mark Taylor Street) is a discontinuous roadway on both sides of Lower Sacramento Road. A short, two-lane substandard roadway is present east of Lower Sacramento Road. Marlette Road has been recently extended to the northwest to intersect with Eight Mile Road, and is planned to be extended to the east to intersect with West Lane, Ham Lane, and Holman Road. A portion of the eastern extension is named Lieutenant Colonel (Lt. Col.) Mark Taylor Street. The portion of this roadway west of West Lane is planned to be named Marlette Road, and the portion east of West Lane is planned to be named Lt. Col. Mark Taylor Street. A short portion of Lt. Col. Mark Taylor Street is present east of the Project site, intersecting with Holman Road.

Armstrong Road is a two-lane east-west roadway. The western terminus of Armstrong Road is at DeVries Road, near Thornton Road. The eastern terminus is east of SR 99. The speed limit on Armstrong Road is unsigned west of West Lane, 55 mph east of West Lane, and 35 mph in the vicinity of SR 99.

West Lane Frontage Road consists of undivided 2-lane frontage roads located immediately east and west of West Lane. The northern termini of the frontage roads are south of Morada Lane. The southern termini are just south of a short perpendicular road that crosses West Lane at a signalized intersection. The intersection of West Lane and the short perpendicular roadway is referred to as the intersection of West Lane and West Lane Frontage Road.

Knickerbocker Drive is an east-west two-lane roadway with a western terminus at Tam O’Shanter Drive and an eastern terminus at Grenoble Way. Knickerbocker Drive provides access to West Lane at a signalized intersection.

PEDESTRIAN AND BICYCLE FACILITIES

The generally level terrain and mild weather make bicycling and walking viable forms of transportation in Stockton. The City of Stockton has an extensive network of bicycle facilities, including off-street trails and paths, as well as on-street bicycle lanes and routes. Many of these facilities also support pedestrian travel. According to Caltrans guidelines, bicycle facilities are generally divided into three categories:

- **Class I Bikeway (Bike Path).** A completely separate facility designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized.

- Class II Bikeway (Bike Lane). A striped lane designated for the use of bicycles on a street or highway. Vehicle parking and vehicle/pedestrian cross-flow are permitted at designated locations.
- Class III Bikeway (Bike Route). A route designated by signs or pavement markings for bicyclists within the vehicular travel lane (i.e., shared use) of a roadway.

Existing Facilities

Pedestrian and bicycle facilities currently do not exist along the Project frontage. In the vicinity of the Project site, sidewalks exist on the west side of West Lane, south of Bear Creek. Discontinuous sidewalks are also present on both sides of Eight Mile Road on the grade-separated railroad crossing adjacent to the northeast corner of the Project site.

Bicycle facilities in the Project vicinity consist of a Class I bike path (off-street) on Atherton Drive and a Class II bike lane (on-street with appropriate signage and striping) on Airport Way south of Atherton Drive.

Planned Facilities

Figure 3.13-5 shows the future bikeway network presented in the *City of Stockton Bicycle Master Plan* (City of Stockton, 2007a). The *City of Stockton Bicycle Master Plan* presents a description of future bicycle facilities in the vicinity of the proposed Project site. Future Class I facilities are shown:

- Along Bear Creek;
- On a north-south roadway west of West Lane; and
- On existing Morada Lane east of Lower Sacramento Road.

Future Class II facilities are shown on:

- El Dorado Street south of Morada Lane;
- Tam O'Shanter Drive south of Morada Lane; and
- Cherbourg Lane south of Morada Lane.

Future Class III facilities are shown on:

- Lower Sacramento Road between Eight Mile Road and Hammer Lane;
- Eight Mile Road from I-5 to SR 99;
- West Lane north of Morada Lane;
- Morada Lane from west of Tam O'Shanter Drive to east of Cherbourg Way; and
- Holman Road north of Lt. Col. Mark Taylor Street.

TRANSIT SERVICE

The San Joaquin Regional Transit District (SJRTD) is the primary provider of public transportation service in San Joaquin County, providing services to the Stockton metropolitan area, as well as inter-city, inter-regional, and rural transit service. SJRTD provides fixed-route, flexible fixed-route, and dial-a-ride services in Stockton. Each service is described in more detail below.

- Stockton Metropolitan Area Fixed Route Service operates 40 fixed routes within the Stockton metropolitan area, and seven Saturday and Sunday routes.
- Intercity Fixed Route Service is provided by a route between Stockton and the Lodi Station in downtown Lodi connecting with Lodi Grapeline, Calaveras Transit, Delta Breeze, Sacramento South County Transit (SCT)/LINK buses.
- Interregional Commuter Service is a subscription commuter bus service. A total of eight routes connect San Joaquin County to Sacramento, the San Francisco Bay Area, and the Bay Area Rapid Transit (BART) system.
- SJRTD operates two Dial-a-Ride services. General Public Dial-A-Ride is a curb-to-curb service in areas not currently being served by RTD or other local transportation providers. Passengers are required to use other public transportation options currently available in their area. Stockton Metro Area Dial-A-Ride (SMA-ADA) is a curb-to-curb service operating within Stockton Metropolitan Area for passengers with an Americans with Disabilities Act (ADA) Certification.
- Hopper Service is a deviated fixed-route service connecting Stockton, Tracy, Lodi, Manteca, Ripon, and Lathrop. The Metro Hopper provides eight routes. The County Hopper provides four routes.

The following description of existing and planned SJRTD transit service in the vicinity of the Project site is from SJRTD staff (Knodt and Galvan, Pers. Comm.):

- Currently, route number 23 extends along West Lane in a north-south direction from Stockton to Lodi.
- Currently, route number 93 extends along Lower Sacramento Road in a north-south direction from Stockton to Lodi.
- Currently, routes 23 and 93 are on a seven-days per week schedule from 6:00 a.m. until 7:30 p.m. Routes 23 and 93 have headways of approximately 30 minutes to one hour.
- Currently, routes 23 and 93 are served by the smaller (35 to 39 feet) diesel/electric hybrid busses. SJRTD is planning to increase the number of these types of buses.
- Currently, there are no bus stops on West Lane adjacent to the Project site.

Future SJRTD planning includes:

- More frequent service schedules would be provided for both route 23 and 93 between Stockton and Lodi.
- Routes 23 and 93 would be served by larger buses (45-feet).

- Future routes would include a “loop” design to accommodate additional bus stops and increase the service area in the northeast section of Stockton.

Figure 3.13-6 shows the future transit system presented in the City’s General Plan (City of Stockton, 2007b).

CARPOOLING AND VANPOOLING

Commute Connection is a Regional Rideshare Agency and a program of the SJCOG. Commute Connection is an employer-based Travel Demand Management (TDM) program serving the three northern regions of the San Joaquin Valley, San Joaquin County since 1978, Stanislaus County since 1987, and Merced County since 2010. The program is designed to help commuters make the transition from driving alone to a convenient ridesharing option such as carpooling, vanpooling, bicycling/walking or riding transit. The program includes free services such as commuter ridematching, Guaranteed Ride Home and Employer Services. (Commute Connection, 2016)

PARK AND RIDE FACILITIES

Park and Ride lots are free parking facilities for commuters to use as a convenient meeting place for carpools, transit, and vanpools. Park and Ride lots in the Stockton area are listed below (Commute Connection, 2016).

- The **Calvary First Church on Kelley Drive north of Hammer Lane** lot provides a transit connection to the SJRTD Inter-Regional Bus. The lot provides 40 parking spaces and a bicycle locker.
- The **Lifesong Church, 3034 Michigan Avenue** lot provides a transit connection to the SJRTD Inter-Regional Bus. The lot provides 45 parking spaces.
- The **I-5 at Benjamin Holt Drive; Marina Shopping Center** lot provides a transit connection to the SJRTD Inter-Regional Bus. The lot provides 45 parking spaces.
- The **Super Walmart Center, Hammer Lane and Sampson Street** lot provides 50 parking spaces.
- The **Morada Ranch Shopping Center** lot is at SR 99 and Morada Lane. The lot provides 35 parking spaces.

3.13.3 ANALYSIS METHODS

The following describes the analysis methods used in this section of the EIR.

INTERSECTION LEVEL OF SERVICE

Level of service (LOS) analysis provides a basis for describing existing traffic conditions and for evaluating the significance of Project-related traffic impacts. LOS measures the quality of traffic flow and is represented by letter designations from A to F, with a grade of A referring to the best

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conditions, and F representing the worst conditions. The characteristics associated with the various LOS for intersections are presented in Table 3.13-1.

LOS at both signalized and unsignalized intersections was analyzed using methods presented in the *Highway Capacity Manual*. Methods described in the *Highway Capacity Manual* were used to provide a basis for describing traffic conditions and for evaluating the significance of Project traffic impacts. As specified by City of Stockton staff, methods from the *Highway Capacity Manual 2000* (Transportation Research Board, 2000) were used to analyze local roadway intersections. As specified in the *City of Stockton Transportation Impact Analysis Guidelines* (City of Stockton, 2003), the Traffix software analysis package was used to analyze local roadway intersections.

TABLE 3.13-1: LEVEL OF SERVICE DEFINITIONS - INTERSECTIONS

LEVEL OF SERVICE	SIGNALIZED INTERSECTIONS	UNSIGNALIZED INTERSECTIONS
A	Vehicle progression is exceptionally favorable or the cycle length is very short. Delay ≤ 10.0 seconds/vehicle	Little or no delay. Delay ≤ 10 seconds/vehicle
B	Vehicle progression is highly favorable or the cycle length is short. Delay > 10 seconds/vehicle and ≤ 20 seconds/vehicle	Short traffic delays. Delay > 10 seconds/vehicle and ≤ 15 seconds/vehicle
C	Vehicle progression is favorable or the cycle length is moderate. Individual cycle failures may begin to appear at this level. Delay > 20 seconds/vehicle and ≤ 35 seconds/vehicle	Average traffic delays. Delay > 15 seconds/vehicle and ≤ 25 seconds/vehicle
D	Vehicle progression is ineffective or the cycle length is long. Many vehicles stop and the individual cycle failures are noticeable. Delay > 35 seconds/vehicle and ≤ 55 seconds/vehicle	Long traffic delays. Delay > 25 seconds/vehicle and ≤ 35 seconds/vehicle
E	Vehicle progression is unfavorable and the cycle length is long. Individual cycle failures are frequent. Delay > 55 seconds/vehicle and ≤ 80 seconds/vehicle	Very long traffic delays, failure, extreme congestion. Delay > 35 seconds/vehicle and ≤ 50 seconds/vehicle
F	Vehicle progression is very poor and the cycle length is long. Most cycles fail to clear the vehicle queue. Delay > 80 seconds/vehicle	Intersection blocked by external causes. Delay > 50 seconds/vehicle

SOURCE: TRANSPORTATION RESEARCH BOARD 2000, AND TRANSPORTATION RESEARCH BOARD 2010.

Caltrans District 10 recommends use of the *Highway Capacity Manual 2010* (Transportation Research Board, 2010) and the Synchro software package (Trafficware, 2016). Therefore, as specified by City of Stockton staff, freeway ramp intersections were analyzed using *Highway Capacity Manual 2010* methods and the Synchro software package.

The lengths of vehicle queues were also analyzed for this section of the EIR. Methods presented in the *Highway Capacity Manual 2000* and *Highway Capacity Manual 2010* were used to analyze

queuing. 95th percentile queue length values are presented in this section of this EIR. The calculation of vehicles queues are shown in Appendix K.

Worksheets and output reports for the calculation of LOS and vehicles queues are presented in Appendix K.

SIGNAL WARRANTS PROCEDURES

Traffic signal warrants are a series of standards which provide guidelines for determining if a traffic signal is appropriate. Signal warrant analyses are typically conducted at intersections of uncontrolled major streets and stop sign-controlled minor streets. If one or more signal warrants are met, signalization of the intersection may be appropriate. However, a signal should not be installed if none of the warrants are met, because installation of signals would increase delays on the previously-uncontrolled major street, resulting in an undesirable increase in overall vehicle delay at the intersection. Signalization may also increase the occurrence of certain types of accidents. Therefore, if signals are installed where signal warrants are not met, the detriment of increased accidents and overall delay may be greater than the benefit in traffic operating conditions on the single worst movement at the intersection. Signal warrants, then, provide an industry-standard basis for identifying when the adverse effect on the worst movement is substantial enough to warrant signalization.

For the analysis conducted for this section of the EIR, available data at unsignalized intersections are limited to a.m. and p.m. peak hour volumes. Thus, unsignalized intersections were evaluated using the Peak Hour Warrant (Warrant Number 3) from the California Department of Transportation document *California Manual on Uniform Traffic Control Devices* (California Department of Transportation, 2014). This warrant was applied where the minor street experiences long delays in entering or crossing the major street for at least one hour of the day. The Peak Hour Warrant itself includes several components. Some of the components involve comparison of traffic volumes and vehicle delay to a series of standards. Another component involves comparison of traffic volumes to a nomograph.

Even if the peak hour warrant is met, a more detailed signal warrant study is recommended before a signal is installed. The more detailed study should consider volumes during the eight highest hours of the day, volumes during the four highest hours of the day, pedestrian traffic, and accident histories.

Signal warrant analysis worksheets for all stop sign-controlled intersections are presented in Appendix K.

ROADWAY SEGMENT LEVEL OF SERVICE

Roadway segment LOS was analyzed for this section of the EIR based on methods used in the City of Stockton General Plan Update analysis. These methods are described in a technical memorandum that documents analysis methods used by City of Stockton General Plan traffic

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analysis consultants (Henry and Morgan, Pers. Comm.). These methods set maximum daily traffic volume thresholds for each LOS designation. The thresholds are shown in Table 3.13-2.

As shown in Table 3.13-2, the roadway segment LOS analysis method sets separate thresholds for:

- Different types of facilities (i.e., freeways, arterials, and collectors);
- Different number of lanes; and
- Different area types (i.e., new versus existing).

TABLE 3.13-2: CITY OF STOCKTON GENERAL PLAN ROADWAY SEGMENT LEVEL OF SERVICE CRITERIA

FACILITY CLASS	NUMBER OF LANES	AREA TYPE	LEVEL OF SERVICE				
			A	B	C	D	E
Freeway	4	All Areas	27,600	45,200	63,600	77,400	86,400
	6	All Areas	41,400	67,800	95,400	116,100	129,600
	8	All Areas	55,200	90,400	127,200	154,800	172,800
	10	All Areas	69,000	113,000	159,000	193,500	216,000
Arterial	2	Existing	8,400	9,300	11,800	14,700	17,200
	2	New	10,000	11,100	14,000	17,500	20,600
	4	Existing	18,600	20,600	26,000	32,500	38,200
	4	New	23,300	25,800	32,600	40,700	47,900
	6	Existing	28,800	32,000	40,300	50,400	59,300
	6	New	33,300	37,000	46,600	58,300	68,600
	8	Existing	38,100	42,300	53,300	66,600	78,400
	8	New	41,100	45,700	57,600	72,000	84,700
Collector	2	Existing	6,400	7,100	9,000	11,300	13,200
	2	New	6,400	7,100	9,000	11,300	13,200
	4	Existing	17,600	19,600	24,700	30,900	36,300
	4	New	21,100	23,500	29,600	37,000	43,500

NOTE: THE STOCKTON GENERAL PLAN DOES NOT PROVIDE THRESHOLDS FOR LOCAL ROADS.

SOURCE: STOCKTON GENERAL PLAN UPDATE DRAFT ENVIRONMENTAL IMPACT REPORT (CITY OF STOCKTON, 2006A).

As described by the City of Stockton traffic analysis consultants:

“Thresholds for arterials and collectors were based on Highway Capacity Manual calculations and were developed in conjunction with City staff. The arterial thresholds distinguish between roads in the existing urbanized area and those in new development areas; because arterials in new development areas can be designed to higher standards, with medians, exclusive turn lanes, and controlled access from adjacent uses, the capacities are higher than those in previously-developed areas. Thresholds for freeways were based on Highway Capacity Manual procedures relating levels of service to vehicle density ranges.”

As specified in Henry and Morgan, Personal Communication, the “Existing” area is generally located between I-5 and SR 99, south of Eight Mile Road. Eight Mile Road itself is considered a “New” arterial due to the lack of existing development in the area.

FREEWAY RAMP JUNCTION LEVEL OF SERVICE

Freeway ramp junctions are areas where freeway on-ramps merge into freeways, and where freeway off-ramps diverge from freeways. Freeway ramp junctions which are considered to be potentially affected by Project-related traffic were analyzed for this section of the EIR.

Freeway ramp junction areas were analyzed for this section of this EIR using methods described in Chapters 12 and 13 of the *Highway Capacity Manual 2010* (Transportation Research Board, 2010). The Synchro software package does not analyze freeway ramp junction LOS. Therefore, the McTrans HCS+ Highway Capacity Software package was used to perform the ramp junction LOS calculations for this section of the EIR.

The *Highway Capacity Manual 2010* methods were used to analyze two types of freeway facilities: on-ramp junctions (merge), and off-ramp junctions (diverge) areas. The analysis of both types of facilities involves calculating the density of vehicles on a freeway facility, expressed as passenger cars per mile per lane (pcpmpl). The LOS designation is based on the vehicle density. Table 3.13-3 presents the relationship of vehicle density to LOS for ramp junction areas.

TABLE 3.13-3: LEVEL OF SERVICE CRITERIA FOR FREEWAY RAMP MERGE AND DIVERGE AREAS

LEVEL OF SERVICE	FREEWAY RAMP MERGE AND DIVERGE	
	VEHICLE DENSITY	OPERATING CHARACTERISTICS
A	Less than or equal to 10.	LOS A represents unrestricted operations. Density is low enough to permit smooth merging and diverging, with very little turbulence in the traffic stream.
B	Greater than 10. Less than or equal to 20.	At LOS B, merging and diverging maneuvers become noticeable to through drivers, and minimal turbulence occurs.
C	Greater than 20. Less than or equal to 28.	At LOS C, speed within the influence area begins to decline as turbulence levels become much more noticeable. Both ramp and freeway vehicles begin to adjust their speeds to accomplish smooth transitions.
D	Greater than 28. Less than or equal to 35.	At LOS D, turbulence levels in the influence area become intrusive, and virtually all vehicles slow to accommodate merging and diverging. Some ramp queues may form at heavily used on-ramps, but freeway operation remains stable.
E	Greater than 35.	LOS E represents conditions approaching or at capacity. Small changes in demand or disruptions within the traffic stream can cause both ramp and freeway queues to form.
F	$\dagger V/C > 1$	LOS F defines operating conditions within queues that form on both the ramp and the freeway mainline when capacity is exceeded by demand.

NOTES: VEHICLE DENSITY IS EXPRESSED AS PASSENGER CAR EQUIVALENTS PER MILE PER LANE. \dagger = VOLUME EXCEEDS CAPACITY. THEREFORE, THE LOS IS F. V/C RATIO SHOWN IN LIEU OF DENSITY.

SOURCE: TRANSPORTATION RESEARCH BOARD, 2010.

Freeway ramp operating conditions depend on traffic volumes and the ramp characteristics. These characteristics include the length and type of acceleration and deceleration lanes, the free-flow speed of ramps, the number of lanes, grade, and the types of facilities connected to the ramps.

The *Highway Capacity Manual 2010* reports LOS A through E for ramps in terms of density. When the volume using the facility exceeds capacity, the volume-to capacity (V/C) ratio is greater than 1, and the *Highway Capacity Manual 2010* identifies the facility as overcapacity. While a density is not stated when the facility is over capacity, the V/C ratio for the facility is documented. For this section of the EIR, the V/C ratio is identified for all facilities where capacity has been exceeded.

TRAVEL FORECASTING

As part of the City of Stockton General Plan Update process, the City developed a series of travel demand forecasting simulation models (City of Stockton, 2004b). Several different travel models were developed to simulate different background conditions. Travel models of the following two conditions were used to develop forecasts of future year traffic volumes for this section of the EIR:

- Existing Plus Approved Projects (EPAP); and
- 2035 Conditions with the Updated General Plan Preferred Alternative.

The travel model for the Updated General Plan Preferred Alternative was updated for analysis of the most recent Stockton Public Facility Fee (PFF) Projects program. This updated travel model is the version used in this section of the EIR. This version of the travel model is the latest version available, and is the version of the model approved by City staff to prepare traffic volume forecasts for CEQA environmental documents.

The current version of the City's travel model produces forecasts of daily traffic volumes. The forecasts of daily volumes generated by the City's travel model are adequate for use in the analysis of roadway segment LOS, and are used for daily volume forecasts in this section of the EIR. However, the daily volumes generated by the traffic model are not, by themselves, adequate for use in the peak hour LOS analysis of study intersections.

Two methods were used to develop forecasts of future year peak hour intersection turning movement traffic volumes for this section of this EIR:

Method #1 was used at existing intersections that would not have legs added to the intersection in the future, and would not experience substantial unbalanced increases in traffic volumes (substantial increases in traffic volumes on some legs of the intersection, but not on other legs of the intersection). At these intersections, existing turning movement count data are available, and can be increased by application of model-generated growth factors. The intersection of Hammer Lane and West Lane is an example of an intersection in this category.

Method #2 was used at new intersections, intersections that would have added legs in the future, or would experience substantial unbalanced increases in traffic

volumes. At these intersections, existing turning movement count data are not available, or cannot be validly increased by application of model-generated growth factors. The intersection Eight Mile Road and Holman Road is an example of an intersection in this category.

Method #1

In Method #1, daily traffic volumes from the travel models were used to generate growth factors. These growth factors were applied to existing peak hour intersection turning movement traffic volumes. The development of future year intersection turning movement traffic volumes requires that the turning movements at each intersection “balance”. To achieve the balance, inbound traffic volumes must equal the outbound traffic volumes, and the volumes must be distributed among the various left-turn, through, and right-turn movements at each intersection. The “balancing” of future year intersection turning movement traffic volumes was conducted using methods described in the Transportation Research Board’s (TRB’s) National Cooperative Highway Research Program (NCHRP) Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design* (Transportation Research Board, 1982). The NCHRP 255 method applies the desired peak hour directional volumes to the intersection turning movement volumes, using an iterative process to balance and adjust the resulting forecasts to match the desired peak hour directional volumes.

Method #2

Method #1 cannot be applied where existing turning movement traffic volumes for each leg of the intersection are not available. Also, at some intersections, the traffic model forecasts growth factors that are substantially different on each intersection leg. In these cases, the NCHRP 255 method by itself is not able to develop valid “balanced” turning movement forecast. In these cases, Method #2 was applied. Method #2 involves three steps:

- Applying peak hour ratios to convert travel model-generated daily volumes into peak hour volumes;
- Applying directional ratios to estimate, separately for each peak hour, how many vehicles travel in each direction; and
- Applying the NCHRP 255 method to balance intersection turning movement volumes.

Traffic count data from 11 locations in the already-urbanized portion of the North Stockton area (e.g., along Hammer Lane) were used to determine the percent of daily traffic that travels during the a.m. peak hour, and during the p.m. peak hour. These measured percentages were applied to the City’s model-estimated daily traffic volume to estimate, separately, a.m. peak hour volumes and p.m. peak hour volumes.

Measured traffic count data from 25 locations in the already urbanized portion of the North Stockton area were used to determine the direction of travel in each of the two peak hours. The count data were used to determine the “directional split”, that is, the percent of traffic traveling in

one direction as opposed to the other. Eastbound versus westbound directional splits, and northbound versus southbound directional splits, were determined separately for the a.m. peak hour and the p.m. peak hour.

The NCHRP 255 method was then applied to “balance” the directional peak hour traffic volumes at the intersection.

In some cases, manual adjustment of the forecasted peak hour volumes was needed to develop reasonable intersection turning movement volumes. Adjustments were made, for example, at intersections where left-turn movements will be prohibited, and in the immediate vicinity of McNair High School.

In general, Method #1 was applied to develop peak hour forecasts for the EPAP background conditions, and Method #2 was applied to develop peak hour forecasts for the Cumulative General Plan background conditions.

ANALYSIS SCENARIOS

This section of the EIR presents an analysis of the transportation and circulation impacts of the proposed Project. In addition, an analysis of the transportation and circulation impacts of a series of Project alternatives is presented. The following Project alternatives were analyzed at a level of detail equal to the proposed Project:

- No Build Alternative;
- With Bridge Alternative;
- General Plan 2035 Alternative;
- Reduced Project Alternative; and
- Reduced Intensity/Density Alternative.

As shown in Figure 3.13-3, the Project site plan includes a school site. However, based on discussions with staff of the Lodi Unified School District, it is not known at this time if the District will construct a school on the Project site. If in the future it is determined the District will not construct a school on the Project site, low density residential units will be built on what would have been the school site. In consultation with City of Stockton staff (McDowell pers. comm.), land use for the traffic analysis of the proposed Project presented in this EIR includes both the school and the residential units on what would have been the school site. This approach of including both the school and the residential units conservatively overstates impacts.

As specified in the *City of Stockton Transportation Impact Analysis Guidelines* (City of Stockton, 2003), the impacts of the proposed Project and the Project alternatives were analyzed using two sets of background conditions:

- Near-term future **EPAP** conditions are a background condition which includes existing traffic levels, and traffic associated with approved land use development projects in vicinity of the Project site.
- Long-term future **Cumulative** conditions with the City of Stockton General Plan are a background condition with future year traffic forecasts, based on development of surrounding land uses and the roadway network. As a Cumulative background condition, this set of scenarios assumes land use development and roadway improvements throughout the City. This set of scenarios assumes 2035 conditions with future development consistent with the City of Stockton General Plan. That is, this set of scenarios assume land use development and roadway improvements throughout the City. The General Plan defines a level of development throughout the City for the year 2035, and this set of scenarios is consistent with the General Plan assumptions. In this set of scenarios, the level of development assumed for the project site varies for each of the project alternatives. This approach allows the direct comparison of impacts for each of the project alternatives.

Using methods specified in the *City of Stockton Transportation Impact Analysis Guidelines*, the impacts of the proposed Project and the Project alternatives are identified by comparing “plus Project” or “plus alternative” conditions to “no Project” conditions. EPAP No Project conditions assume no development of the Project site. Conversely, as specified by the *City of Stockton Transportation Impact Analysis Guidelines*, Cumulative No Project conditions assume “General Plan Build Out Conditions” on the Project site (City of Stockton, 2003). Therefore, EPAP No Project conditions represent EPAP Plus No Build Alternative conditions, and Cumulative No Project conditions represent Cumulative Plus General Plan 2035 Alternative conditions. To identify the impacts of each project alternative, transportation conditions assuming each project alternative are compared to conditions under the No Project condition. The difference between the project alternative condition and the No Project condition is a direct result of that project alternative.

With the combination of background conditions, and development of proposed Project and Project alternative land uses on the Project site, the transportation system was analyzed for the following scenarios:

- Existing;
- EPAP No Project (No Build Alternative);
- EPAP Plus Project (the Project as proposed);
- EPAP Plus With Bridge Alternative;
- EPAP Plus General Plan 2035 Alternative;
- EPAP Plus Reduced Project Alternative;
- EPAP Plus Reduced Intensity/Density Alternative;
- Cumulative No Project (General Plan 2035 Alternative);
- Cumulative Plus Project (as proposed);

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- Cumulative Plus No Build Alternative;
- Cumulative Plus With Bridge Alternative;
- Cumulative Plus Reduced Project Alternative; and
- Cumulative Plus Reduced Intensity/Density Alternative.

These scenarios provide for a transportation impact analysis that supports a Project-level environmental review of the proposed Project. Additional information regarding the assumptions for each of the scenarios is included in this section. Table 3.13-4 shows which scenarios to compare to identify the impacts of each project alternative under each background scenario condition.

TABLE 3.13-4: COMPARISON OF ANALYSIS SCENARIOS

<i>TO IDENTIFY THE IMPACTS OF...</i>	<i>COMPARE THE PROJECT ALTERNATIVE SCENARIO BELOW...</i>	<i>TO THE NO PROJECT SCENARIO BELOW</i>
Proposed Project With EPAP Background Conditions	EPAP Plus Project (as proposed)	EPAP No Project (No Build Alternative)
With Bridge Alternative With EPAP Background Conditions	EPAP Plus With Bridge Alternative	EPAP No Project (No Build Alternative)
General Plan 2035 Alternative With EPAP Background Conditions	EPAP Plus General Plan 2035 Alternative	EPAP No Project (No Build Alternative)
Reduced Project Alternative With EPAP Background Conditions	EPAP Plus Reduced Project Alternative	EPAP No Project (No Build Alternative)
Reduce Intensity/Density Alternative With EPAP Background Conditions	EPAP Plus Reduce Intensity/Density Alternative	EPAP No Project (No Build Alternative)
Proposed Project With Cumulative Background Conditions	Cumulative Plus Project (as proposed)	Cumulative No Project (General Plan 2035 Alternative)
No Build Alternative With Cumulative Background Conditions	Cumulative Plus No Build Alternative	Cumulative No Project (General Plan 2035 Alternative)
With Bridge Alternative With Cumulative Background Conditions	Cumulative Plus With Bridge Alternative	Cumulative No Project (General Plan 2035 Alternative)
Reduced Project Alternative With Cumulative Background Conditions	Cumulative Plus Reduced Project Alternative	Cumulative No Project (General Plan 2035 Alternative)
Reduce Intensity/Density Alternative With Cumulative Background Conditions	Cumulative Plus Reduce Intensity/Density Alternative	Cumulative No Project (General Plan 2035 Alternative)

SOURCE: KD ANDERSON & ASSOCIATES.

STUDY FACILITIES

This section of the EIR presents analysis of the transportation and circulation impacts of the proposed Project on three types of facilities:

- Intersections;
- Roadway segments; and
- Freeway ramp junctions.

The facilities analyzed for this section of the EIR are described below.

Study Area Intersections

The traffic-related effects of the proposed Project were assessed for this section of the EIR by analyzing traffic operations at intersections that would serve Project-related travel. The following intersections were selected for analysis in consultation with City of Stockton staff.

1. Eight Mile Road & the I-5 Southbound Ramps
2. Eight Mile Road & the I-5 Northbound Ramps
3. Eight Mile Road & Thornton Road
4. Eight Mile Road & Davis Road
5. Eight Mile Road & Lower Sacramento Road
6. West Lane & Armstrong Road
7. West Lane & Ham Lane
8. Eight Mile Road & West Lane
9. Eight Mile Road & Ham Lane
10. Eight Mile Road & Leach Road/Street G
11. Eight Mile Road & Micke Grove Road/Holman Road
12. Eight Mile Road & State Route (SR) 99 West Frontage Road
13. Eight Mile Road & SR 99 East Frontage Road
14. SR 99 West Frontage Road & SR 99 Southbound Ramps (Eight Mile Road)
15. SR 99 East Frontage Road & SR 99 Northbound Ramps (Eight Mile Road)
16. West Lane & Lt. Col. Mark Taylor Street/Marlette Road
17. Holman Road & Lt. Col. Mark Taylor Street
18. Morada Lane & West Lane
19. Morada Lane & Holman Road
20. SR 99 West Frontage Road & SR 99 Southbound Ramps (Morada Lane)
21. SR 99 East Frontage Road & SR 99 Northbound Ramps (Morada Lane)
22. Morada Lane & SR 99 West Frontage Road
23. Morada Lane & SR 99 East Frontage Road
24. West Lane & West Lane Frontage Road
25. West Lane & Knickerbocker Drive
26. West Lane & Hammer Lane
27. Hammer Lane & Holman Road

The following intersections would only be present under long-term future Cumulative background conditions:

41. Eight Mile Road & SR 99 Southbound Ramps
42. Eight Mile Road & SR 99 Northbound Ramps
43. Morada Lane & SR 99 Southbound Ramps
44. Lt. Col. Mark Taylor Street & Ham Lane (North)
45. Lt. Col. Mark Taylor Street & Ham Lane (South)
46. Lt. Col. Mark Taylor Street & Ham Lane

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The following intersections would only be present with construction of the proposed Project. As a result, these intersections were only analyzed under development conditions that included the proposed Project:

51. Eight Mile Road & Commercial Site Driveway #1
52. Eight Mile Road & Commercial Site Driveway #2
53. Eight Mile Road & Street C
54. West Lane & Commercial Site Driveway #3
55. West Lane & Commercial Site Driveway #4
56. West Lane & Street A
57. Eight Mile Road & High Density Residential Driveway #1
58. Eight Mile Road & High Density Residential Driveway #2
60. Eight Mile Road & Industrial Site Driveway #1
61. Eight Mile Road & Industrial Site Driveway #2

The locations of study intersections under near-term conditions are presented in Figure 3.13-7. The locations of study intersections under long-term future conditions are presented in Figure 3.13-8. The location of study intersections that provide access to the Project site are presented in Figure 3.13-9. The numbers listed above correspond to the intersection numbers on these figures.

Study Area Roadway Segments

In addition to analyzing intersections, the traffic-related effects of the proposed Project on roadway segments were assessed for this section of the EIR. Major roadways adjacent to the Project site, and roadways that would serve as major access routes, were analyzed. The following roadway segments were selected for analysis in consultation with City of Stockton staff:

- I-5 north of Eight Mile Road
- I-5 south of Eight Mile Road
- Eight Mile Road west of Lower Sacramento Road
- Eight Mile Road between Lower Sacramento Road and West Lane
- West Lane north of Eight Mile Road
- Eight Mile Road west of Micke Grove Road/Holman Road
- West Lane north of Morada Lane
- Morada Lane west of West Lane
- West Lane south of Morada Lane
- Morada Lane east of West Lane
- SR 99 north of Eight Mile Road
- SR 99 between Eight Mile Road and Morada Lane
- SR 99 south of Morada Lane

The study roadway segments are specific to certain locations on the roadway network. However, in some cases, a roadway segment represents larger portions of roadway segments. For example,

analysis results for the roadway segment Eight Mile Road west of Lower Sacramento Road apply to Eight Mile Road between Davis Road Lower Sacramento Road. The descriptions of locations listed above and used in this section of the EIR are as specific as possible to minimize ambiguity.

Study Area Freeway Ramp Junctions

In addition to analyzing intersections and roadway segments, the traffic-related effects of the proposed Project on freeway ramp junctions were assessed for this section of the EIR. Ramp junctions that would serve as major access routes, and would be affected by Project-related traffic, were analyzed. The following ramp junctions were selected for analysis in consultation with City of Stockton staff:

- SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Existing)
- SR 99 Southbound Merge from Eight Mile Road On-Ramp (Existing)
- SR 99 Northbound Merge from Eight Mile Road On-Ramp (Existing)
- SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Existing)
- SR 99 Southbound Diverge to Morada Lane Off-Ramp (Existing)
- SR 99 Southbound Merge from Morada Lane On-Ramp (Existing)
- SR 99 Northbound Merge from Morada Lane On-Ramp
- SR 99 Northbound Diverge to Morada Lane Off-Ramp
- SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Future)
- SR 99 Southbound Merge from Eight Mile Road On-Ramp (Future)
- SR 99 Northbound Merge from Eight Mile Road On-Ramp (Future)
- SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Future)
- SR 99 Southbound Diverge to Morada Lane Off-Ramp (Future)
- SR 99 Southbound Merge from Morada Lane On-Ramp (Future)

DATA COLLECTION

As described below, traffic volume count data were collected for the analysis presented in this section of the EIR.

Intersections

Intersection turning movement count data at the study intersections were collected for this section of the EIR. Traffic count data collected for this section of this EIR are presented in Appendix K. The peak period intersection turning movement count data were collected on Wednesday May 6, 2015 and Thursday May 7, 2015 during the 7:00 a.m. to 9:00 a.m. period, and the 4:00 p.m. to 6:00 p.m. period. Volumes during the highest one-hour period were used for this section of the EIR.

To determine the validity of traffic count data collected for this EIR, updated traffic count data were collected in November 2017. For the following five locations, the most recent traffic volume

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data available from the Caltrans *Traffic Census Program* internet website (<http://www.dot.ca.gov/trafficops/census/>) were collected:

- I-5 - Eight Mile Road to SR 12;
- I-5 - Eight Mile Road to Hammer Lane;
- SR 99 - Eight Mile Road to Armstrong Road;
- SR 99 - Eight Mile Road to Morada Lane; and
- SR 99 - Morada Lane to Hammer Lane.

For each of the following three locations, new 24-hour traffic volume count data were collected:

- Eight Mile Road - Lower Sacramento Road to West Lane;
- Eight Mile Road - West Lane to Micke Grove Road/Holman Road; and
- West Lane - Morada Lane to Eight Mile Road.

For each of the three locations listed above, new data were collected on four days:

- November 15, 2017;
- November 16, 2017;
- November 29, 2017; and
- November 30, 2017.

For each of the five locations on I-5 and SR 99, Caltrans reports no changes in traffic volumes. That is, the data reported by Caltrans in November 2017 are the same as traffic volumes shown in this EIR.

The following is a summary of the updated traffic volume count data collected for four days:

- For the roadway segment of Eight Mile Road between Lower Sacramento Road and West Lane, updated traffic volume data showed an average 13.4 percent decrease in traffic volumes, compared to the volumes shown in this EIR.
- For the roadway segment of Eight Mile Road between West Lane and Micke Grove Road/Holman Road, updated traffic volume data showed an average 0.6 percent decrease in traffic volumes, compared to the volumes shown in this EIR.
- For the roadway segment of West Lane between Morada Lane and Eight Mile Road, updated traffic volume data showed an average 1.8 percent increase in traffic volumes, compared to the volumes shown in this EIR.

The average of the changes in traffic volume for the three locations listed above is a 4.1 percent decrease in traffic volumes, compared to the volumes shown in this EIR. For these reasons, continued use of the traffic volume data collected in 2015 is considered valid and appropriate.

Figure 3.13-10 presents the existing lane configurations and existing a.m. peak hour and p.m. peak hour traffic volumes at the existing study intersections.

Roadway Segments

Roadway segment traffic volumes were collected for a 24-hour period at the study roadway segments on Tuesday May 5, 2015. Table 3.13-5 presents the existing 24-hour daily traffic volumes at the study roadway segments.

Freeways

Traffic volumes for freeways were collected from the Caltrans internet website (California Department of Transportation 2017).

Table 3.13-5 presents the existing ADT traffic volumes on study freeways.

TABLE 3.13-5: ROADWAY SEGMENT LEVEL OF SERVICE – EXISTING CONDITIONS

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Interstate 5 Eight Mile Road to State Route 12	6	63,000	B
Interstate 5 Eight Mile Road to Hammer Lane	6	74,000	C
Eight Mile Road Lower Sacramento Road to Davis Road	2	17,151	D
Eight Mile Road Lower Sacramento Road to West Lane	2	21,321	F
West Lane Eight Mile Road to Ham Lane	4	12,314	A
Eight Mile Road West Lane to Micke Grove Rd/Holman Rd	2	12,208	C
West Lane Morada Lane to Eight Mile Road	4	17,023	A
Morada Lane West of West Lane	2	2,824	A
West Lane Morada Lane to Knickerbocker Drive	4	21,472	C
Morada Lane East of West Lane	2	13,827	D
State Route 99 Eight Mile Road to Armstrong Road	6	81,000	C
State Route 99 Eight Mile Road & Morada Lane	6	81,000	C
State Route 99 Morada Lane to Hammer Lane	6	75,000	C

SOURCE: KD ANDERSON & ASSOCIATES.

3.13.4 LEVEL OF SERVICE SIGNIFICANCE THRESHOLDS

In this section of the EIR, the significance of the proposed Project's impact on traffic operating conditions is based on a determination of whether resulting intersection, roadway segment or ramp junction LOS is considered acceptable by the City of Stockton. A Project's impact on traffic conditions is considered significant if implementation of the Project would result in LOS changing

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from levels considered acceptable to levels considered unacceptable, or if the Project would substantially worsen already unacceptable LOS.

As noted in the *City of Stockton Transportation Impact Analysis Guidelines* (City of Stockton, 2003):

“The City of Stockton’s General Plan has a LOS ‘D’ standard for its roadway system. Intersections and roadway segments operating at LOS ‘A’, ‘B’, ‘C’, or ‘D’ conditions are considered acceptable, while those operating at LOS ‘E’ or ‘F’ conditions are considered unacceptable.

“For a City intersection, a transportation impact for a project is considered significant if the addition of project traffic would cause an intersection that would function at LOS ‘D’ or better without the Project to function at LOS ‘E’ or ‘F’.

“For City intersections with a LOS ‘E’ or ‘F’ conditions without the project, a transportation impact for a project is considered significant if the addition of project traffic causes an increase of greater than 5 seconds in the average delay for the intersection.”

Portions of the City’s guidelines do not specifically address significance thresholds for roadway segments or ramps junctions. For this section of the EIR, the City’s significance thresholds described above are also applied to roadway segments and ramp junctions. As shown in Table 3.13-1, Table 3.13-2, and Table 3.13-3, LOS at intersections is measured in seconds of delay, LOS on roadway segments is measured in traffic volume, and LOS at ramp junctions is measured in density. Therefore, for roadway segments and ramps already at LOS E or F, an increase of greater than five seconds of delay cannot be identified. Because roadway segment LOS is measured in traffic volumes, rather than seconds of delay, an increase in traffic volumes is used in this section of this EIR, in lieu of the threshold of five seconds of delay. At ramps where the demand exceeds capacity, an increase in density is not identified; however, the densities of each are based upon the volume to capacity ratio. For this section of the EIR, if a roadway segment or ramp junction operates at LOS E or F without the Project, an impact is considered significant if the addition of Project traffic causes an increase of greater than five percent in traffic volumes or V/C ratios, respectively.

The City of Stockton *Goals & Policies Report – Stockton General Plan 2035* (City of Stockton, 2007b) notes:

“To assist in ensuring efficient traffic operating conditions, evaluating the effects of new development, determining mitigation measures and impact fees, and developing capital improvement programs, the City shall require that Level of Service (LOS) D or better be maintained for both daily and peak hour conditions, with the following exceptions:”

This section of the *Goals & Policies Report* lists more than 20 facilities as exceptions to the LOS D policy standard, and lists the applicable standard. The following five facilities are in the study area for this section of this EIR:

- “b. Eight Mile Road, Trinity Parkway to I-5 – LOS E
- “c. Eight Mile Road, Lower Sacramento Road to West Lane – LOS E
- “i. Hammer Lane, West Lane to Holman Road – LOS E
- “q. SR 99, Morada Lane to SR 4 (Crosstown Freeway) – LOS E (with the exception of the segments from Hammer Lane to March Lane and from Waterloo Road to SR 4, where the standard will be LOS F)
- “t. West Lane, Hammer Lane to Morada Lane – LOS E”

Consistent with the *Goals & Policies Report*, an LOS E standard is applied in this section of the EIR to the following study facilities under long-term Cumulative conditions:

- the intersection of Lower Sacramento Road & Eight Mile Road,
- the intersection of West Lane & Eight Mile Road,
- the intersection of West Lane & Morada Lane,
- the intersection of West Lane & West Lane Frontage Road,
- the intersection of West Lane & Knickerbocker Drive,
- the intersection of West Lane & Hammer Lane,
- the intersection of Holman Road & Hammer Lane,
- Eight Mile Road between Lower Sacramento Road and West Lane, and
- West Lane between Morada Lane and Knickerbocker Drive.

For the facilities listed above, LOS E or better is considered acceptable, and LOS F is considered unacceptable under long-term Cumulative conditions.

Under near-term EPAP conditions, an LOS E standard is applied to the facilities listed above only if the facility is considered built out to its ultimate size, or would be built out with implementation of expansion measures.

SR 99 is a facility under the jurisdiction of Caltrans. While the *Goals & Policies Report* identifies LOS E and LOS F as standards for portions of the I-5 and SR 99 corridors, Caltrans has set an LOS D standard (Dumas, Pers. Comm.). At the direction of City staff, because SR 99 is under the jurisdiction of Caltrans, LOS D is used as the LOS standard for the I-5 and SR 99 corridors in this section of this EIR; LOS E and F are considered unacceptable. In this section of the EIR, the Caltrans LOS D standard is applied to both mainline freeway LOS, and to LOS at freeway interchange intersections.

In this section of the EIR, a project’s impact will be considered significant if:

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- the project would result in traffic operating conditions changing from an acceptable LOS to an unacceptable LOS, or
- when LOS without the project is already unacceptable, the project would result in a substantial degradation of traffic operating conditions (e.g., an increase of more than five seconds of delay at an intersection, an increase of more than five percent in traffic volume on a roadway segment, or an increase of more than five percent in V/C ratio on a ramp junction.

3.13.5 EXISTING TRANSPORTATION CONDITIONS

The following is a description of existing transportation conditions in the study area.

EXISTING INTERSECTION OPERATIONS

Table 3.13-6 presents a summary of existing a.m. peak hour and p.m. peak hour LOS at the 25 existing study intersections. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-6: INTERSECTION LEVEL OF SERVICE – EXISTING CONDITIONS

#	STUDY INTERSECTIONS	INTERSECTIONS CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
1	Eight Mile Road & the I-5 SB Ramps	Signal	--	B	12.5	B	15.4
2	Eight Mile Road & the I-5 NB Ramps	Signal	--	C	26.7	B	18.9
3	Eight Mile Road & Thornton Road	Signal	--	C	32.1	C	31.8
4	Eight Mile Road & Davis Road	Signal	--	C	29.4	C	25.1
5	Eight Mile Road & Lower Sacramento Road	Signal	--	D	37.5	D	40.0
6	West Lane & Armstrong Road	Signal	--	C	31.2	C	30.9
7	West Lane & Hammer Lane	Signal	--	A	9.3	A	5.6
8	Eight Mile Road & West Lane	Signal	--	D	36.0	D	39.6
9	Eight Mile Road & Ham Lane	Unsig	No	C	16.4	C	18.6
10	Eight Mile Road & Leach Road / Street G	Unsig	No	A	0.2	A	0.2
11	Eight Mile Road & Micke Grove Road / Holman Road	Unsig	No	A	0.5	A	1.1
12	Eight Mile Road & SR 99 West Frontage Road	AWSC	No	E	43.8	F	54.1
13	Eight Mile Road & SR 99 East Frontage Road	AWSC	No	C	16.8	D	32.3
14	SR 99 W Frontage Rd & SR 99 SB Ramps (Eight Mile)	Unsig	No	A	6.7	A	6.4
15	SR 99 E Frontage Rd & SR 99 NB Ramps (Eight Mile)	Unsig	No	A	4.2	A	7.1
16	West Lane & Lt. Col. Mark Taylor Street/Marlette Rd	--	--	--	--	--	--
17	Holman Road & Lt. Col. Mark Taylor Street	--	--	--	--	--	--
18	Morada Lane & West Lane	Signal	--	C	32.3	C	29.2
19	Morada Lane & Holman Road	Signal	--	C	33.3	C	31.8
20	SR 99 W. Frontage Road & SR 99 SB Ramps (Morada)	Unsig	No	A	8.0	A	9.0
21	SR 99 E. Frontage Road & SR 99 NB Ramps (Morada)	Unsig	No	A	6.8	A	8.4

#	STUDY INTERSECTIONS	INTERS. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
22	Morada Lane & SR 99 West Frontage Road	Signal	--	C	28.2	C	26.0
23	Morada Lane & SR 99 East Frontage Road	AWSC	Yes	F	55.5	E	48.1
24	West Lane & West Lane Frontage Road	Signal	--	C	21.1	B	19.8
25	West Lane & Knickerbocker Drive	Signal	--	C	25.5	C	24.8
26	West Lane & Hammer Lane	Signal	--	C	32.7	D	35.5
27	Hammer Lane & Holman Road	Signal	--	C	30.2	C	32.2
41	Eight Mile Road & SR 99 SB Ramps	--	--	--	--	--	--
42	Eight Mile Road & SR 99 NB Ramps	--	--	--	--	--	--
43	Morada Lane & SR 99 SB Ramps	--	--	--	--	--	--
44	Lt. Col. Mark Taylor Street & Ham Lane (North)	--	--	--	--	--	--
45	Lt. Col. Mark Taylor Street & Ham Lane (South)	--	--	--	--	--	--
46	Lt. Col. Mark Taylor Street & Ham Lane	--	--	--	--	--	--
51	Eight Mile Road & Commercial Site Driveway #1	--	--	--	--	--	--
52	Eight Mile Road & Commercial Site Driveway #2	--	--	--	--	--	--
53	Eight Mile Road & Street C	--	--	--	--	--	--
54	West Lane & Commercial Site Driveway #3	--	--	--	--	--	--
55	West Lane & Commercial Site Driveway #4	--	--	--	--	--	--
56	West Lane & Street A	--	--	--	--	--	--
57	Eight Mile Road & High Density Residential Driveway #1	--	--	--	--	--	--
58	Eight Mile Road & High Density Residential Driveway #2	--	--	--	--	--	--
60	Eight Mile Road & Industrial Site Driveway #1	--	--	--	--	--	--
61	Eight Mile Road & Industrial Site Driveway #2	--	--	--	--	--	--

NOTES: SIGNAL = SIGNALIZED LIGHT CONTROL. UNSIG = UNSIGNALIZED STOP-SIGN CONTROL. AWSC = ALL-WAY STOP-SIGN CONTROL. DASHES (- -) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Twenty-three of the 25 existing study intersections operate at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 23 intersections to achieve acceptable LOS. The following describes the two study intersections that operate at unacceptable LOS under Existing conditions.

The following also describes recommended improvements at study facilities that operate at unacceptable LOS under Existing conditions. The recommended improvements identify actions that would be needed to achieve acceptable LOS. Recommended improvements are also identified in the EPAP No Project Traffic Impact Analysis section and the Cumulative No Project Traffic Impact Analysis section of this EIR. Identifying recommended improvements provides a

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baseline, establishing the magnitude of roadway improvements needed, even without additional growth.

In addition to describing improvements already currently needed, recommended improvements for Existing conditions can also be compared to improvements needed to achieve acceptable LOS in future conditions. This comparison allows an identification of the magnitude of incremental improvements required because of future increases in traffic volumes. Without an identification of recommended improvement for Existing conditions, it would not be possible to know how much improvements needed in the future are already required, and how much are required because of future increases in traffic volumes.

As noted above, this EIR also identifies recommended improvements for EPAP No Project and Cumulative No Project conditions. These recommended improvements identify roadway improvements that would be needed in the future to achieve acceptable LOS. In addition, recommended improvements for "No Project" conditions can also be compared to mitigation measures needed under "Plus Project" conditions. This comparison allows an identification of the magnitude of incremental improvements required because of Project-related traffic volumes. Without an identification of recommended improvement for No Project conditions, it would not be possible to know how much mitigation would be required even without the Project, and how much is required because of increases in traffic volumes due to the proposed Project.

#12 Eight Mile Road and SR 99 West Frontage Road

Under Existing conditions, this intersection operates at LOS E with 43.8 seconds of delay during the a.m. peak hour, and at LOS F with 54.1 seconds of delay during the p.m. peak hour. LOS E and F are considered unacceptable. The following improvement is recommended:

Recommended Improvement 1. Signalize the intersection.

A summary of LOS with recommended improvements is presented in Table 3.13-7. With this recommended improvement, this intersection would operate at LOS A with 7.0 seconds of delay during the a.m. peak hour, and at LOS A with 8.0 seconds of delay during the p.m. peak hour. LOS A is considered acceptable.

TABLE 3.13-7: INTERSECTION LEVEL OF SERVICE – EXISTING CONDITIONS WITH RECOMMENDED IMPROVEMENTS

STUDY INTERSECTIONS		AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
12	Eight Mile Road & SR 99 West Frontage Road	A	7.0	A	8.0
23	Morada Lane & SR 99 East Frontage Road	A	8.1	A	7.1

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DELAY IS MEASURED IN SECONDS PER VEHICLE. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

#23 Morada Lane and SR 99 East Frontage Road

Under Existing conditions, this intersection operates at LOS F with 55.5 seconds of delay during the a.m. peak hour, and at LOS E with 48.1 seconds of delay during the p.m. peak hour. LOS E and F are considered unacceptable. The following improvement is recommended:

Recommended Improvement 2. Signalize the intersection.

A summary of intersection LOS with recommended improvements is presented in Table 3.13-7. With this recommended improvement, this intersection would operate at LOS A with 8.1 seconds of delay during the a.m. peak hour, and at LOS A with 7.1 seconds of delay during the p.m. peak hour. LOS A is considered acceptable.

EXISTING ROADWAY SEGMENT OPERATIONS

Table 3.13-5 presents a summary of existing LOS on the 13 existing study roadway segments. Twelve of the roadway segments operate at acceptable LOS D or better. No improvements are needed on these 12 roadway segments to achieve acceptable LOS. The following describes the study roadway segment that operates at unacceptable LOS under Existing conditions.

Eight Mile Road – Lower Sacramento Road to West Lane

Under Existing conditions, this roadway segment operates at LOS F. LOS F is considered unacceptable. The following improvement is recommended:

Recommended Improvement 3. Widen the roadway segment from two lanes to four lanes.

A summary of roadway segment LOS with recommended improvements is presented in Table 3.13-8. With this recommended improvement, this roadway segment would operate at LOS A. LOS A is considered acceptable.

TABLE 3.13-8: ROADWAY SEGMENT LEVEL OF SERVICE – EXISTING CONDITIONS WITH RECOMMENDED IMPROVEMENTS

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Eight Mile Lower Sacramento Road to West Land	4	21,321	A

SOURCE: KD ANDERSON & ASSOCIATES.

EXISTING RAMP JUNCTION OPERATIONS

Table 3.13-9 presents a summary of existing a.m. peak hour and p.m. peak hour LOS at the eight existing ramp junctions. All of the ramp junctions operate at acceptable LOS D or better. No improvements are needed at these ramp junctions to achieve acceptable LOS.

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TABLE 3.13-9: STATE ROUTE 99 RAMP MERGE AND DIVERGE LEVEL OF SERVICE – EXISTING CONDITIONS

RAMP JUNCTION	AM PEAK HOUR				PM PEAK HOUR			
	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Existing)	2,923	251	21.9	C	1,990	287	16.3	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp (Existing)	2,923	293	21.1	C	1,990	220	15.6	B
SR 99 Northbound Merge from Eight Mile Road On-Ramp (Existing)	1,708	305	15.1	B	2,861	194	20.1	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Existing)	1,708	122	13.7	B	2,861	264	20.9	C
SR 99 Southbound Diverge to Morada Lane Off-Ramp (Existing)	2,986	251	20.9	C	2,033	323	15.3	B
SR 99 Southbound Merge from Morada Lane On-Ramp (Existing)	2,986	683	24.9	C	2,033	267	16.4	B
SR 99 Northbound Merge from Morada Lane On-Ramp	1,795	194	14.9	B	3,007	169	21.0	C
SR 99 Northbound Diverge to Morada Lane Off-Ramp	1,795	257	14.0	B	3,007	556	22.0	C

NOTES: LOS = LEVEL OF SERVICE. SR = STATE ROUTE. DENSITY IS EXPRESSED IN PASSENGER CARS PER MILE PER LANE.

SOURCE: KD ANDERSON & ASSOCIATES.

3.13.6 TRAVEL CHARACTERISTICS OF THE PROPOSED PROJECT AND PROJECT ALTERNATIVES

Implementation of the proposed Project or Project alternatives would generate vehicle trips. These trips would be distributed over the roadway network, potentially affecting traffic operations at study facilities. The following describes the generation and distribution of trips that would be generated by the proposed Project and the Project alternatives.

TRIP GENERATION

The number of vehicle trips that are expected to be generated by development of the proposed Project and Project alternatives has been estimated using typical trip generation rates that have been developed based on the nature and size of Project land uses.

Data compiled by the Institute of Transportation Engineers (ITE) and presented in the publication *Trip Generation, 9th Edition* (Institute of Transportation Engineers 2012) is the primary source of trip generation rates. In addition, in consultation with City of Stockton staff (McDowell, Pers comm.), trip generation rates for industrial uses are based on rates specifically developed for the City of Stockton.

Proposed Project

The trip generation rates used in this section of the EIR for the proposed Project are presented in Table 3.13-10. The trip generation rates are applied to the amount of Project-related land uses. As specified in the *City of Stockton Transportation Impact Analysis Guidelines* (City of Stockton, 2003), regression equations, rather than average rates from *Trip Generation, 9th Edition* are used when indicated by statistical confidence. The resulting trip generation estimates for the proposed Project are presented in Table 3.13-11.

TABLE 3.13-10: TRIP GENERATION RATES FOR TRA VIGNE PROJECT

LAND USE CATEGORY AND ITE LAND USE CODE	INDEPENDENT VARIABLE	VEHICLE TRIP RATES						
		DAILY	AM PEAK HOUR			PM PEAK HOUR		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Single Family Detached Housing - 210	DU	8.63	0.18	0.53	0.71	0.52	0.30	0.82
Apartment - 220	DU	6.42	0.10	0.40	0.50	0.12	0.48	0.60
Commercial - 820	KSF	67.56	0.60	0.36	0.96	2.86	3.10	5.96
K-8 / Elementary School - 520	Students	1.29	0.25	0.20	0.45	0.07	0.08	0.15
Industrial	KSF	3.42	0.15	0.03	0.18	0.05	0.17	0.22

NOTES: DU = DWELLING UNITS. KSF = 1,000 SF. TOTALS MAY NOT EQUAL THE SUM OF THE COMPONENTS DUE TO ROUNDING. INDUSTRIAL LAND USE TRIP GENERATION RATES ARE FROM McDOWELL PERS. COMM. ALL OTHER TRIP GENERATION RATES ARE FROM INSTITUTE OF TRANSPORTATION ENGINEERS 2012. ITE TRIP GENERATION 9TH EDITION. EQUATIONS, RATHER THAN AVERAGE RATES, ARE USED WHEN INDICATED BY STATISTICAL CONFIDENCE.

SOURCE: KD ANDERSON & ASSOCIATES.

As shown in Table 3.13-11, the trip generation estimate has been adjusted to reflect:

- trips retained internally within the Project site, made between the Project's mixed land use components, and
- pass-by trips to the commercial site on the southeast corner of the intersection of West Lane and Eight Mile Road, drawn from the flow of background (not Project-related) traffic.

The mixed land use internal trip adjustment was made using methods specified in Chapter 7, Mixed Use Development, of the ITE document *Trip Generation Handbook, 2nd Edition* (Institute of Transportation Engineers 2004). The use of these methods in this section of the EIR was approved by City of Stockton staff. Worksheets presenting the assumptions and calculations used in estimating the mixed land use internal trip adjustment are presented in Appendix K.

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TABLE 3.13-11: TRIP GENERATION ESTIMATES FOR TRA VIGNE PROJECT

LAND USE CATEGORY AND ITE LAND USE CODE	AMOUNT OF LAND USE	VEHICLE TRIP RATES						
		DAILY	AM PEAK HOUR			PM PEAK HOUR		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Single Family Detached Housing - 210	1,163 DU	10,037	209	616	826	605	349	954
Apartment - 220	340 DU	2,183	34	136	170	41	163	204
Commercial - 820	101.5 KSF	6,857	61	37	97	290	315	605
K-8 / Elementary School - 520	750 Students	968	188	150	338	53	60	113
Industrial	21.40 KSF	73	3	1	4	1	4	5
Unadjusted Subtotal		20,118	495	940	1,435	990	891	1,881
Mixed Land Use Internal Trip Reduction		-1,372	-6	-6	-12	-64	-64	-128
Pass-By Trip Reduction		-926	-9	-5	-14	-90	-94	-184
Adjusted Total		17,820	480	929	1,409	836	733	1,569

NOTES: DU = DWELLING UNITS. KSF = 1,000 SF. TOTALS MAY NOT EQUAL THE SUM OF THE COMPONENTS DUE TO ROUNDING.

MIXED LAND USE INTERNAL TRIP CALCULATION BASED ON INSTITUTE OF TRANSPORTATION ENGINEERS 2012. PASS-BY PERCENTAGES BASED ON INSTITUTE OF TRANSPORTATION ENGINEERS 2012 AND CALTRANS 2002.

SOURCE: KD ANDERSON & ASSOCIATES.

The pass-by trip adjustment was made using methods specified in the ITE document *Trip Generation Handbook, 2nd Edition* (Institute of Transportation Engineers 2004), and the Caltrans document *Guide for the Preparation of Traffic Impact Studies* (California Department of Transportation 2002). The *Trip Generation Handbook* specifies the methods used in applying pass-by adjustments. These methods were approved by City of Stockton staff for use in this section of the EIR.

As shown in Table 3.13-11, the proposed Project would generate an estimated 17,820 vehicle trips per day, with 1,409 trips during the a.m. peak hour and 1,569 trips during the p.m. peak hour.

No Build Alternative

Methods used to estimate trips generated by the proposed Project were also applied to the No Build Alternative. The trip generation rates used in this section of the EIR for the No Build Alternative are presented in Table 3.13-12. The resulting trip generation estimates for the No Build Alternative are presented in Table 3.13-13. The No Build Alternative would generate an estimated 73 vehicle trips per day, with 4 trips during the a.m. peak hour and 5 trips during the p.m. peak hour.

TABLE 3.13-12: TRIP GENERATION RATES FOR NO BUILD ALTERNATIVE

LAND USE CATEGORY AND ITE LAND USE CODE	INDEPENDENT VARIABLE	VEHICLE TRIP RATES						
		DAILY	AM PEAK HOUR			PM PEAK HOUR		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Industrial	KSF	3.42	0.15	0.03	0.18	0.05	0.17	0.22

NOTES: DU = DWELLING UNITS. KSF = 1,000 SF. TOTALS MAY NOT EQUAL THE SUM OF THE COMPONENTS DUE TO ROUNDING.

INDUSTRIAL LAND USE TRIP GENERATION RATES ARE FROM McDOWELL PERS. COMM.

SOURCE: KD ANDERSON & ASSOCIATES.

TABLE 3.13-13: TRIP GENERATION ESTIMATES FOR NO BUILD ALTERNATIVE

LAND USE CATEGORY AND ITE LAND USE CODE	AMOUNT OF LAND USE	VEHICLE TRIP RATES						
		DAILY	AM PEAK HOUR			PM PEAK HOUR		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Industrial	21.40 KSF	73	3	1	4	1	4	5
Total		73	3	1	4	1	4	5

NOTES: DU = DWELLING UNITS. KSF = 1,000 SF. TOTALS MAY NOT EQUAL THE SUM OF THE COMPONENTS DUE TO ROUNDING.

SOURCE: KD ANDERSON & ASSOCIATES.

With Bridge Alternative

Methods used to estimate trips generated by the proposed Project were also applied to the With Bridge Alternative. The trip generation rates used in this section of the EIR for the With Bridge Alternative are presented in Table 3.13-14. The resulting trip generation estimates for the With Bridge Alternative are presented in Table 3.13-15. The With Bridge Alternative would generate an estimated 17,759 vehicle trips per day, with 1,404 trips during the a.m. peak hour and 1,563 trips during the p.m. peak hour.

TABLE 3.13-14: TRIP GENERATION RATES FOR WITH BRIDGE ALTERNATIVE

LAND USE CATEGORY AND ITE LAND USE CODE	INDEPENDENT VARIABLE	VEHICLE TRIP RATES						
		DAILY	AM PEAK HOUR			PM PEAK HOUR		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Single Family Detached Housing - 210	DU	8.63	0.18	0.53	0.71	0.52	0.30	0.82
Apartment - 220	DU	6.42	0.10	0.40	0.50	0.12	0.48	0.60
Commercial - 820	KSF	67.56	0.60	0.36	0.96	2.86	3.10	5.96
K-8 / Elementary School - 520	Students	1.29	0.25	0.20	0.45	0.07	0.08	0.15
Industrial	KSF	3.42	0.15	0.03	0.18	0.05	0.17	0.22

NOTES: DU = DWELLING UNITS. KSF = 1,000 SF. TOTALS MAY NOT EQUAL THE SUM OF THE COMPONENTS DUE TO ROUNDING.

INDUSTRIAL LAND USE TRIP GENERATION RATES ARE FROM McDOWELL PERS. COMM. ALL OTHER TRIP GENERATION RATES ARE FROM INSTITUTE OF TRANSPORTATION ENGINEERS 2012. ITE TRIP GENERATION 9TH EDITION. EQUATIONS, RATHER THAN AVERAGE RATES, ARE USED WHEN INDICATED BY STATISTICAL CONFIDENCE.

SOURCE: KD ANDERSON & ASSOCIATES.

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TABLE 3.13-15: TRIP GENERATION ESTIMATES FOR WITH BRIDGE ALTERNATIVE

LAND USE CATEGORY AND ITE LAND USE CODE	AMOUNT OF LAND USE	VEHICLE TRIP RATES						
		DAILY	AM PEAK HOUR			PM PEAK HOUR		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Single Family Detached Housing - 210	1,156 DU	9,976	208	613	821	601	347	948
Apartment - 220	340 DU	2,183	34	136	170	41	163	204
Commercial - 820	101.5 KSF	6,857	61	37	97	290	315	605
K-8 / Elementary School - 520	750 Students	968	188	150	338	53	60	113
Industrial	21.40 KSF	73	3	1	4	1	4	5
Unadjusted Subtotal		20,057	494	937	1,430	986	889	1,875
Mixed Land Use Internal Trip Reduction		-1,372	-6	-6	-12	-64	-64	-128
Pass-By Trip Reduction		-926	-9	-5	-14	-90	-94	-184
Adjusted Total		17,759	479	926	1,404	832	731	1,563

NOTES: DU = DWELLING UNITS. KSF = 1,000 SF. TOTALS MAY NOT EQUAL THE SUM OF THE COMPONENTS DUE TO ROUNDING. MIXED LAND USE INTERNAL TRIP CALCULATION BASED ON INSTITUTE OF TRANSPORTATION ENGINEERS 2012. PASS-BY PERCENTAGES BASED ON INSTITUTE OF TRANSPORTATION ENGINEERS 2012 AND CALTRANS 2002. SOURCE: KD ANDERSON & ASSOCIATES.

General Plan 2035 Alternative

Methods used to estimate trips generated by the proposed Project were also applied to the General Plan 2035 Alternative. The trip generation rates used in this section of the EIR for the General Plan 2035 Alternative are presented in Table 3.13-16. The resulting trip generation estimates for the General Plan 2035 Alternative are presented in Table 3.13-17. The General Plan 2035 Alternative would generate an estimated 27,994 vehicle trips per day, with 1,978 trips during the a.m. peak hour and 2,421 trips during the p.m. peak hour.

TABLE 3.13-16: TRIP GENERATION RATES FOR GENERAL PLAN 2035 ALTERNATIVE

LAND USE CATEGORY AND ITE LAND USE CODE	INDEPENDENT VARIABLE	VEHICLE TRIP RATES						
		DAILY	AM PEAK HOUR			PM PEAK HOUR		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Single Family Detached Housing - 210	DU	8.14	0.18	0.53	0.70	0.48	0.28	0.76
Apartment - 220	DU	6.59	0.10	0.41	0.51	0.41	0.22	0.63
Commercial - 820	KSF	61.84	0.60	0.36	0.96	2.63	2.85	5.48
Industrial	KSF	3.42	0.15	0.03	0.18	0.05	0.17	0.22

NOTES: DU = DWELLING UNITS. KSF = 1,000 SF. TOTALS MAY NOT EQUAL THE SUM OF THE COMPONENTS DUE TO ROUNDING. INDUSTRIAL LAND USE TRIP GENERATION RATES ARE FROM McDOWELL PERS. COMM. ALL OTHER TRIP GENERATION RATES ARE FROM INSTITUTE OF TRANSPORTATION ENGINEERS 2012. ITE TRIP GENERATION 9TH EDITION. EQUATIONS, RATHER THAN AVERAGE RATES, ARE USED WHEN INDICATED BY STATISTICAL CONFIDENCE. SOURCE: KD ANDERSON & ASSOCIATES.

TABLE 3.13-17: TRIP GENERATION ESTIMATES FOR GENERAL PLAN 2035 ALTERNATIVE

LAND USE CATEGORY AND ITE LAND USE CODE	AMOUNT OF LAND USE	VEHICLE TRIP RATES						
		DAILY	AM PEAK HOUR			PM PEAK HOUR		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Single Family Detached Housing - 210	2,420 DU	19,699	436	1,283	1,694	1,162	678	1,839
Apartment - 220	232 DU	1,529	23	95	118	95	51	146
Commercial - 820	130.68 KSF	8,081	78	47	125	344	372	716
Industrial	406.94	1,392	61	12	73	20	69	90
Unadjusted Subtotal		30,701	598	1,437	2,010	1,621	1,170	2,791
Mixed Land Use Internal Trip Reduction		-1,616	-7	-7	-14	-76	-76	-152
Pass-By Trip Reduction		-1,091	-11	-7	-18	-106	-111	-218
Adjusted Total		27,994	580	1,423	1,978	1,439	983	2,421

NOTES: DU = DWELLING UNITS. KSF = 1,000 SF. TOTALS MAY NOT EQUAL THE SUM OF THE COMPONENTS DUE TO ROUNDING. MIXED LAND USE INTERNAL TRIP CALCULATION BASED ON INSTITUTE OF TRANSPORTATION ENGINEERS 2012. PASS-BY PERCENTAGES BASED ON INSTITUTE OF TRANSPORTATION ENGINEERS 2012 AND CALTRANS 2002.

SOURCE: KD ANDERSON & ASSOCIATES.

Reduced Project Alternative

Methods used to estimate trips generated by the proposed Project were also applied to the Reduced Project Alternative. The trip generation rates used in this section of the EIR for the Reduced Project Alternative are presented in Table 3.13-18. The resulting trip generation estimates for the Reduced Project Alternative are presented in Table 3.13-19. The Reduced Project Alternative would generate an estimated 9,171 vehicle trips per day, with 992 trips during the a.m. peak hour and 897 trips during the p.m. peak hour.

TABLE 3.13-18: TRIP GENERATION RATES FOR REDUCED PROJECT ALTERNATIVE

LAND USE CATEGORY AND ITE LAND USE CODE	INDEPENDENT VARIABLE	VEHICLE TRIP RATES						
		DAILY	AM PEAK HOUR			PM PEAK HOUR		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Single Family Detached Housing - 210	DU	8.78	0.18	0.53	0.71	0.53	0.31	0.84
Elementary School - 520	Students	1.29	0.25	0.20	0.45	0.07	0.08	0.15

NOTES: DU = DWELLING UNITS. KSF = 1,000 SF. TOTALS MAY NOT EQUAL THE SUM OF THE COMPONENTS DUE TO ROUNDING. TRIP GENERATION RATES ARE FROM INSTITUTE OF TRANSPORTATION ENGINEERS 2012. ITE TRIP GENERATION 9TH EDITION. EQUATIONS, RATHER THAN AVERAGE RATES, ARE USED WHEN INDICATED BY STATISTICAL CONFIDENCE.

SOURCE: KD ANDERSON & ASSOCIATES.

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TABLE 3.13-19: TRIP GENERATION ESTIMATES FOR REDUCED PROJECT ALTERNATIVE

LAND USE CATEGORY AND ITE LAND USE CODE	AMOUNT OF LAND USE	VEHICLE TRIP RATES						
		DAILY	AM PEAK HOUR			PM PEAK HOUR		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Single Family Detached Housing - 210	938 DU	8,236	169	497	666	497	291	788
Elementary School - 520	725 Students	935	181	145	326	51	58	109
Total		9,171	350	642	992	548	349	897

NOTES: DU = DWELLING UNITS. KSF = 1,000 SF. TOTALS MAY NOT EQUAL THE SUM OF THE COMPONENTS DUE TO ROUNDING.

SOURCE: KD ANDERSON & ASSOCIATES.

Reduced Intensity/Density Alternative

Methods used to estimate trips generated by the proposed Project were also applied to the Reduced Intensity/Density Alternative. The trip generation rates used in this section of the EIR for the Reduced Intensity/Density Alternative are presented in Table 3.13-20. The resulting trip generation estimates for the Reduced Intensity/Density Alternative are presented in Table 3.13-21. The Reduced Intensity/Density Alternative would generate an estimated 10,446 vehicle trips per day, with 1,105 trips during the a.m. peak hour and 1,020 trips during the p.m. peak hour.

TABLE 3.13-20: TRIP GENERATION RATES FOR REDUCED INTENSITY/DENSITY ALTERNATIVE

LAND USE CATEGORY AND ITE LAND USE CODE	INDEPENDENT VARIABLE	VEHICLE TRIP RATES						
		DAILY	AM PEAK HOUR			PM PEAK HOUR		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Single Family Detached Housing - 210	DU	8.67	0.18	0.53	0.71	0.53	0.31	0.84
Elementary School - 520	Students	1.29	0.25	0.20	0.45	0.07	0.08	0.15

NOTES: DU = DWELLING UNITS. KSF = 1,000 SF. TOTALS MAY NOT EQUAL THE SUM OF THE COMPONENTS DUE TO ROUNDING.

TRIP GENERATION RATES ARE FROM INSTITUTE OF TRANSPORTATION ENGINEERS 2012. ITE TRIP GENERATION 9TH EDITION.

EQUATIONS, RATHER THAN AVERAGE RATES, ARE USED WHEN INDICATED BY STATISTICAL CONFIDENCE.

SOURCE: KD ANDERSON & ASSOCIATES.

TABLE 3.13-21: TRIP GENERATION ESTIMATES FOR REDUCED INTENSITY/DENSITY ALTERNATIVE

LAND USE CATEGORY AND ITE LAND USE CODE	AMOUNT OF LAND USE	VEHICLE TRIP RATES						
		DAILY	AM PEAK HOUR			PM PEAK HOUR		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Single Family Detached Housing - 210	1,097 DU	9,511	197	581	779	570	340	911
Elementary School - 520	725 Students	935	181	145	326	51	58	109
Total		10,446	378	726	1,105	621	398	1,020

NOTES: DU = DWELLING UNITS. KSF = 1,000 SF. TOTALS MAY NOT EQUAL THE SUM OF THE COMPONENTS DUE TO ROUNDING.

SOURCE: KD ANDERSON & ASSOCIATES.

TRIP DISTRIBUTION

Project-related trips were geographically distributed over the study area roadway network. The geographical distribution of trips is based on the relative attractiveness or utility of possible destinations. Trip distribution percentages applied in this section of this EIR are presented in Table 3.13-22. Figure 3.13-11, Figure 3.13-12, Figure 3.13-13, and Figure 3.13-14 graphically show the trip distribution percentages presented in Table 3.13-22.

TABLE 3.13-22: TRIP DISTRIBUTION PERCENTAGES

DIRECTION OF TRAVEL	EPAP WITHOUT BEAR CREEK BRIDGE			EPAP WITH BEAR CREEK BRIDGE			CUMULATIVE WITHOUT BEAR CREEK BRIDGE			CUMULATIVE WITH BEAR CREEK BRIDGE		
	AM PEAK HOUR	PM PEAK HOUR	DAILY	AM PEAK HOUR	PM PEAK HOUR	DAILY	AM PEAK HOUR	PM PEAK HOUR	DAILY	AM PEAK HOUR	PM PEAK HOUR	DAILY
North on Interstate 5	2	2	2	2	2	2	2	2	2	2	2	2
South on Interstate 5	1	1	1	1	1	1	1	1	1	1	1	1
North on Thornton Road	--	--	--	--	--	--	2	2	2	1	1	1
North on Davis Road	--	--	--	--	--	--	1	1	1	1	1	1
North on Lower Sacramento Road	2	2	2	2	2	2	2	2	2	2	2	2
North on West Lane	4	4	4	4	4	4	7	7	7	6	6	6
North on Ham Lane	--	--	--	--	--	--	5	5	5	5	5	5
North on Holman Road	7	7	7	5	5	5	5	5	5	4	4	4
North on State Route 99	2	2	2	2	2	2	4	4	4	4	4	4
West on Eight Mile Road	3	3	3	2	2	2	2	2	2	2	2	2
East on Eight Mile Road	1	3	2	2	2	2	1	2	1	1	2	1
West on Marlette Road	--	--	--	--	--	--	--	--	--	5	5	5
East on Lt. Col. Mark Taylor Street	--	--	--	7	7	7	--	--	--	12	13	13
South on Thornton Road	1	1	1	1	1	1	1	1	1	1	1	1
South on Davis Road	3	3	3	3	3	3	2	2	2	2	2	2
South on Lower Sacramento Road	8	8	8	5	5	5	5	5	5	3	3	3
Morada Lane West of West Lane	1	2	1	1	2	1	--	1	1	--	1	--
Morada Lane East of West Lane	3	3	3	2	2	2	2	2	2	--	--	--
South on West Lane	29	32	31	29	33	31	26	29	28	17	20	19

3.13 TRANSPORTATION AND CIRCULATION

DIRECTION OF TRAVEL	EPAP WITHOUT BEAR CREEK BRIDGE			EPAP WITH BEAR CREEK BRIDGE			CUMULATIVE WITHOUT BEAR CREEK BRIDGE			CUMULATIVE WITH BEAR CREEK BRIDGE		
	AM PEAK HOUR	PM PEAK HOUR	DAILY	AM PEAK HOUR	PM PEAK HOUR	DAILY	AM PEAK HOUR	PM PEAK HOUR	DAILY	AM PEAK HOUR	PM PEAK HOUR	DAILY
Holman Rd – Eight Mile Rd to Morada Ln	5	5	5	3	3	3	9	10	9	3	3	3
South on Cherbourg Way	--	--	--	--	--	--	1	1	1	5	5	5
South on Holman Road	2	2	2	7	7	7	2	2	2	3	3	3
South on State Route 99	18	20	19	14	17	16	12	14	13	12	14	13
On-Site K-8 School	6	--	3	6	--	3	6	--	3	6	--	3
McNair High School	2	--	1	2	--	1	2	--	1	2	--	1
Total	100	100	100	100	100	100	100	100	100	100	100	100

NOTE: ALL VALUES ROUNDED TO THE NEAREST WHOLE PERCENTAGE. DASHES ("--") INDICATE VALUE IS LESS THAN ONE PERCENT.
SOURCE: CITY OF STOCKTON 2004 AND KD ANDERSON & ASSOCIATES.

The City's travel demand model (City of Stockton, 2004b) was used to estimate trip distribution percentages. The travel demand model is considered to be a valid source for the trip distribution percentages because it directly addresses:

- the location of destinations of Project-related trips,
- the magnitude of land uses that would attract Project-related trips, and
- the quality of access to the destinations via the roadway network.

This section of the EIR includes analysis of scenarios based on four different background development conditions:

- EPAP without a new bridge over Bear Creek,
- EPAP with a new bridge over Bear Creek,
- 2035 Cumulative Conditions without a new bridge over Bear Creek, and
- 2035 Cumulative Conditions with a new bridge over Bear Creek.

The City's travel demand model for each of these four scenarios was used to estimate trip distribution percentages. Background (non-Project) land uses are assumed to be different in the EPAP and 2035 Cumulative travel demand models. The different land uses result in different geographic distributions of travel. Construction of a new bridge over Bear Creek would provide an additional travel route for some drivers. As a result, the trip distribution percentages are different for each of the four background development conditions. Table 3.13-22 presents the trip distribution percentages for each of the four background development scenarios.

A "select link" analysis was conducted using each of the four travel demand models to determine the geographic distribution of Project-related travel. The select link analysis identifies vehicle trips

associated with the proposed Project site, and identifies the direction of travel to and from the Project site.

Adjustment of the raw results from the travel demand models was needed, in particular to appropriately distribute trips to schools. As shown in Table 3.13-22, trips were distributed to schools in the a.m. peak hour. However, the p.m. peak hour analyzed in this section of this EIR (between 4:00 p.m. and 6:00 p.m.) occurs after classes have ended. Therefore, trips were not distributed to schools in the p.m. peak hour. In the a.m. peak hour, the following trip distribution percentages for schools were used:

- 6% of trips for the on-site K-8 school, and
- 2% of trips for high schools.

The trip distribution methodology described above was developed in consultation with City of Stockton staff. Raw, pre-adjustment, traffic model results used in the development of trip distribution percentages are presented in Appendix K.

SCHOOL SITE

As shown in Figure 3.13-3, the Project site plan includes a proposed school site. However, at this time, a plan for the school site itself is not available.

The analysis presented in this EIR quantitatively includes vehicle travel associated with the proposed school sites. However, because a school site plan was not available, it was not possible to conduct site-specific analysis of the school. For example, it is not known where the school driveways would be located, and how much on-site parking would be provided.

When a school site plan is available, the City and the Lodi Unified School District may consider conducting site-specific analysis, including assessment of vehicle circulation around the school site, pick-up and drop-off areas, on-site parking adequacy, off-site parking impacts, pedestrian circulation, bus circulation, and on-site vehicle circulation.

ON-SITE CIRCULATION

As described in Section 2.0, Project Description, on-site intersection traffic control and traffic calming would be implemented through a system of:

- stop signs,
- yield signs,
- intersections with bulb-outs,
- raised crosswalks,
- intersections with textured pavement,
- intersections with high-visibility crosswalks, and
- center island narrowing.

3.13.7 REGULATORY SETTING

Existing transportation policies, laws, and regulations that would apply to the proposed Project are summarized below. This information provides a context for the impact discussion related to the Project's consistency with applicable regulatory conditions and development of significance criteria for evaluating Project impacts.

FEDERAL AND STATE REGULATIONS

Caltrans is responsible for planning, designing, constructing, operating, and maintaining all state-owned roadways in California. Federal Highway standards are implemented in California by Caltrans. Any improvements or modifications to the state highway system within the City of Stockton need to be approved by Caltrans. The City of Stockton does not have the ability to unilaterally make improvements to the state highway system.

LOCAL REGULATIONS

City of Stockton General Plan

The City of Stockton 2035 General Plan sets forth goals and policies to guide development within the City, including policies regarding the operation of the road system. The following goal and policies of the Stockton General Plan related to transportation and circulation are applicable to the proposed Project.

Transportation & Circulation Element

GENERAL GOAL

- TC-1. To develop an integrated transportation system that provides for the safe and efficient movement of people and goods.

GENERAL POLICIES

- TC-1.2. Integrated Transportation System. The City shall continue to work cooperatively with the various local, State, and Federal transportation agencies (i.e., San Joaquin County, SJCOG, Caltrans, San Joaquin Regional Transit District, the Altamont Commuter Express, and Amtrak) to maintain a multimodal transportation system that is well-integrated and interconnected in terms of service, scheduling, and capacity, and that effectively accommodates planned land uses and related transportation needs, and that promotes the safe movement of people and goods and the efficient use of limited public resources.
- TC-1.3. Multi-Modal Network. The City shall work with its transportation partners to create and maintain a transportation system as a multi-modal network design to effectively accommodate planned land uses and related transportation needs.

- TC-1.4. Transportation Improvement Financing. The City shall continue to utilize the City's capital improvement program, developer dedications and the City's public facilities fees and other mechanisms to finance transportation needs and improvements.
- TC-1.7. Road Improvements. Land use planning and transportation decisions shall be correlated so that planned land uses are supported by the appropriate types of circulation service, levels of service, and the timing of transportation improvements. Wherever practicable, road improvements shall complement regional needs and initiatives. The City's highest priority for road improvement funding shall be regional and local roads servicing infill development, existing community areas, and other areas shown on the General Plan for urban development, which are designed to achieve the City's regional housing allocation and affordable housing goals.
- TC-1.8. Improvement of Existing Roadways. The City shall prioritize improvements to the roadway system, ensuring that allocation of funding for transportation, maintenance and improvement projects serving anticipated growth areas as specified by applicable environmental documents.
- TC-1.9. Demand Reduction and Capacity Expansion. Strategies to reduce vehicle demand on City roadways shall be given consideration in conjunction with planned vehicle capacity expansion projects where they are demonstrated to achieve the same or similar outcome. The City shall plan and consider financial assistance for Bus Rapid Transit and other non-auto related circulation systems as a way to address peak hour congestion within the City. The City shall ensure that all planned arterial and regional road capacity projects (including lane widening) are justified based on environmental documentation in compliance with CEQA and cost efficiency.
- TC-1.10. Provision of Transportation Infrastructure and Cost Sharing. All new development projects shall be required to pay their fair share of the cost of constructing needed transportation and transit facilities, and contributing to ongoing operations and services. This shall include costs associated with mitigating new development impacts on the capacity of existing transportation facilities and services. All essential facilities and services will be installed prior to or concurrent with such new development or phased as specified in the applicable environmental documents. This requirement shall be made a condition of project approval.

STREETS AND HIGHWAYS GOAL

- TC-2. To develop a street and highway system that promotes safe, efficient and reliable movement of people and goods by multiple transportation modes and routes, and that reduces air quality impacts.

STREETS AND HIGHWAYS POLICIES

- TC-2.1. Level-of-Service Standards. To assist in ensuring efficient traffic operating conditions, evaluating the effects of new development, determining mitigation measures

and impact fees, and developing capital improvement programs, the City shall require that Level of Service (LOS) D or better be maintained for both daily and peak hour conditions.

- TC-2.3. Roadway Standards. The City shall require City-maintained streets and roads to be designed and constructed according to the standards set out in this General Plan and City of Stockton Standard Plans and Specifications.
- TC-2.4. Dual Access. The City shall require at least two (2) independent access routes for all major development areas.
- TC-2.5. Multiple Transportation Modes. The City shall require that significant trip-generating land uses be served by roadways and transit connections adequate to provide efficient access by multiple transportation modes with a minimum of delay.
- TC-2.10. Freeway Interchanges. The City shall seek to improve freeway interchanges along State Route 99, State Route 4, and Interstate 5 to current design standards as required by the traffic demands of new development, within funding constraints.
- TC-2.13. Environmental Impacts of Roadway Projects. The City shall ensure that construction of new roadways and expansion of existing streets mitigates impacts on air quality, noise, historic resources, sensitive biological areas, and other resources.
- TC-2.14. Roadway Dedications. The City shall require right-of-way dedications for major public streets and highways, highway interchanges, and other major roadway improvements (i.e., arterial and collector streets and related bridges or railroad crossings) at the initial stage of development.
- TC-2. 20. Parking Supply. The City shall require a sufficient supply of off-street parking for all land uses in order to reduce congestion, improve overall operation, and ensure land use compatibility.
- TC-2.21. Shared Parking. To minimize land consumption and paving, the City shall promote shared parking among land uses whose demand for parking peaks at different times.

San Joaquin County Regional Transportation Plan

In June 2014, the SJCOG adopted the *2014 Regional Transportation Plan / Sustainable Communities Strategy* (RTP/SCS). This document outlines countywide transportation expenditures based on funding from sources like the federal government, the State of California, and locally collected funds. The RTP contains several proposed improvements that would benefit the regional roadway network within the study area.

San Joaquin County Congestion Management Plan

SJCOG operates a RCMP, which monitors cumulative transportation impacts of growth on the regional roadway system, identifies deficient roadways, and develops plans to mitigate the deficiencies. The RCMP considers LOS E or F operations to be deficient.

San Joaquin County Regional Traffic Impact Fee (RTIF)

SJCOG has implemented a regional traffic impact fee that is assessed on new developments throughout San Joaquin County. The RTIF capital project list provides funding for various freeway

and local road widening.¹ The RTIF capital project began in 2005, and has generated nearly \$30 million in funding for project delivery. For fiscal year 2012, the fee schedule for new residential development is approximately \$2,987 for single-family units and \$1,792 for multi-family units.² RTIF funds are expended on regionally significant capital improvements.

Measure K

Measure K is the half-cent sales tax dedicated to transportation projects in San Joaquin County. Measure K was passed in November 1990, and began collecting funds for a system of improved highways and local streets, new passenger rail service, regional and inter-regional bus routes, park-and-ride lots, new bicycle facilities, and railroad crossings. On November 7, 2006, San Joaquin County voters decided to extend Measure K for an additional 30 years. The renewal of Measure K is estimated to generate \$2.552 billion for the transportation programs identified in the Measure K Expenditure Plan.

Vehicle Miles Traveled and the California Environmental Quality Act

California Senate Bill (SB) 743 (Steinberg, 2013) mandates a change in the way that public agencies evaluate transportation impacts of projects under CEQA. SB 743 mandates the use of vehicle miles traveled (VMT) to determine the significance of transportation impacts. In response, the State of California and local agencies have been considering how to implement the mandates of SB 743. At this time, most local agencies, including the City of Stockton, have not adopted significance thresholds to apply to VMT data. That is, while VMT estimates can be developed, it is not possible to identify whether a certain amount of VMT is considered a significant impact. Nevertheless, for informational purposes, an estimate of VMT has been developed for this EIR.

Based on results of the California Emissions Estimated Model (CalEEMod) described in the Section 3.3, Air Quality of this EIR:

- The proposed Project is estimated to result in 43,285,645 VMT per year (mitigated)³, which is equivalent to approximately 24.89 VMT per capita per day.⁴
- The With Bridge Alternative is estimated to result in 43,124,335 VMT per year (mitigated), which is equivalent to approximately 24.92 VMT per capita per day.
- The General Plan 2035 Alternative is estimated to result in 48,822,226 VMT per year (mitigated), which is equivalent to approximately 15.20 VMT per capita per day.

¹ Available at: <http://www.sanjoaquincountytimf.com>

² Available at: <http://www.sjcog.org/AgendaCenter/ViewFile/Agenda/01102013-166>

³ Note: For a description of the VMT-related mitigation measures assumed in the VMT per year estimates, see Impact 3.3-2 in Section 3.3, Air Quality.

⁴ Note: For a description of the population growth used to calculate the VMT per capita per day, see Impact 3.10-4 in Section 3.10, Land Use and Population.

- The Reduced Project Alternative is estimated to result in 23,670,648 VMT per year (mitigated), which is equivalent to approximately 19.84 VMT per capita per day.
- The Reduced Intensity/Density Alternative is estimated to result in 27,313,397 VMT per year (mitigated), which is equivalent to approximately 19.64 VMT per capita per day.

As a point of comparison, the SJCOG 2018-2040 RTP/SCS shows the countywide average for San Joaquin County is 27.15 VMT per capita per day. It is noted that SJCOG is in the process of updating their RTP/SCS. SJCOG has released the draft 2018 RTP/SCS for public review and comment. The public review and comment period begins on March 2, 2018 and ends April 26, 2018.

To determine whether VMT impacts are significant, the Governor's Office of Planning and Research (OPR) generally recommends a threshold of 15% below the VMT per capita of the surrounding region and/or city. OPR acknowledges that this was intended to achieve general consistency with both the Caltrans statewide target for VMT reduction (15% by 2020) and the urban regional targets for greenhouse gas (GHG) emissions reductions established under SB 375 (13 to 16% for passenger vehicles by 2035). As stated above, most local agencies, including the City of Stockton, have not adopted significance thresholds to apply to VMT data.

3.13.8 NEAR-TERM FUTURE EXISTING PLUS APPROVED PROJECTS IMPACTS AND MITIGATION MEASURES

EPAP NO PROJECT TRAFFIC IMPACT ANALYSIS

EPAP No Project conditions represent a near-term future background condition. Development of land uses and roadway improvements associated with previously-approved projects are assumed in this condition. This scenario does not include development of the proposed site. The EPAP No Project condition, therefore, serves as the baseline condition used to assess the significance of near-term Project-related traffic impacts.

Traffic Volume Forecasts

As previously described in the *Travel Forecasting* section of this EIR, the City of Stockton Travel Demand Model (City of Stockton, 2004b) was used to develop forecasts of background increases in traffic volumes under near-term EPAP conditions. The increases in traffic volumes reflect development of near-term previously-approved projects in Stockton.

In some cases, travel model forecasts for individual roadways are unrealistic. In consultation with and with the approval of City staff, screenlines were used to prepare EPAP forecasts, resulting in forecasts considered realistic (McDowell, Pers. Comm.). Screenlines are grouping of individual roadways that serve similar vehicle movements. For example, one screenline includes north-south roadways north of Eight Mile Road. This screenline includes vehicle entering and leaving the study area to and from the north. Documentation of the screenline data is included in Appendix K.

Application of these methods results in the a.m. peak hour and p.m. peak hour traffic volumes presented in Figure 3.13-15, and the daily traffic volumes presented in Table 3.13-23.

TABLE 3.13-23: ROADWAY SEGMENT LEVEL OF SERVICE – EPAP NO PROJECT CONDITIONS

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Interstate 5 Eight Mile Road to State Route 12	6	69,300	C
Interstate 5 Eight Mile Road to Hammer Lane	6	44,400	B
Eight Mile Road Lower Sacramento Road to Davis Road	4	25,554	B
Eight Mile Road Lower Sacramento Road to West Lane	2	31,768	F
West Lane Eight Mile Road to Ham Lane	4	13,546	A
Eight Mile Road West Lane to Micke Grove Rd/Holman Rd	2	18,190	E
West Lane Morada Lane to Eight Mile Road	4	20,428	B
Morada Lane West of West Lane	2	3,134	A
West Lane Morada Lane to Knickerbocker Drive	4	25,766	C
Morada Lane East of West Lane	2	15,348	E
State Route 99 Eight Mile Road to Armstrong Road	6	89,100	C
State Route 99 Eight Mile Road & Morada Lane	6	97,200	D
State Route 99 Morada Lane to Hammer Lane	6	90,000	C

SOURCE: KD ANDERSON & ASSOCIATES.

Roadway Improvements

The EPAP No Project condition assumes roadway improvements associated with previously-approved development projects. In the vicinity of the proposed Project site, these include roadway improvements associated with the Cannery Park Project, the LaMorada Project, and the group of projects known collectively as the North Stockton Projects. The North Stockton Projects include Elkhorn Country Club, Waterford Estates West and East, Beck Ranch, Beck Estates, Fairway Greens, Windmill Park, and Meadowlands. The City of Stockton's internet website provides more detailed information on previously-approved projects.⁵

⁵ Available at: <http://www.stocktongov.com/government/departments/communityDevelop/cdPlanEnv.html>

3.13 TRANSPORTATION AND CIRCULATION

In consultation with City of Stockton staff, near-term roadway improvements were assumed for EPAP No Project conditions. The improvements include:

- The construction of Morada Lane between Lower Sacramento Road and West Lane, which is listed in the City's Public Facility Fees program (City of Stockton, 2006b). This improvement includes expansion of the intersection of West Lane and Morada Lane. At the direction of City of Stockton staff, this improvement also includes an extension of El Dorado Street from its current northern terminus to the intersection of Lower Sacramento Road and Grider Way (Whistler Way), and an extension of Morada Lane from its current western terminus at McNair Lane to El Dorado Street.
- City Capital Improvement Program projects, such as: the Lower Sacramento Road bridge over Bear Creek; and the Davis Road bridge south of Eight Mile Road.

Other specific roadway improvements assumed for EPAP No Project conditions include:

- Construction of Morada Lane between Lower Sacramento Road and McNair Lane;
- Extension of Holman Road to the intersection of Eight Mile Road and Micke Grove Road;
- Signalization of the intersection of Eight Mile Road and SR 99 West Frontage Road;
- Signalization of the intersection of Eight Mile Road and SR 99 East Frontage Road;
- Signalization of the intersection of Morada Lane and SR 99 East Frontage Road;
- Widening of portions of Eight Mile Road west of Lower Sacramento Road;
- Widening of Eight Mile Road from west of Golfview Road to east of Micke Grove Road;
- Signalization of the intersection of Eight Mile Road and Micke Grove Road; and
- Modifying the control of the intersection of SR 99 SR 99 West Frontage Road and the SR 99 Southbound Ramps (Morada Lane).

City of Stockton staff provided specific lane geometrics for EPAP No Project conditions for the intersection of Eight Mile Road and Davis Road.

The resulting intersection lane geometrics assumed for EPAP No Project conditions are shown in Figure 3.13-15. The resulting number of travel lanes assumed for study roadway segments are shown in Table 3.13-23.

Planned roadway improvements include some changes in the number of lanes along roadways. Along a single roadway, the number of lanes may vary in response to varying levels of forecasted travel volumes on different segments of the roadway. Where a reduction in the number of lanes occurs at an intersection, this section of the EIR assumes a travel lane becoming a turn lane (sometimes referred to as a "trap lane") at the intersection.

Maximum Feasible Roadway Improvements

This section of the EIR identifies traffic operating conditions that would result from background development of land use not related to the proposed Project, and would result from development

of the proposed Project. In some cases, this development would result in unacceptable LOS. If unacceptable LOS is forecasted, feasible mitigation measures needed to achieve acceptable LOS are identified.

For this section of the EIR, maximum feasible sizes of roadway facilities have been established. For intersections, the maximum feasible size is considered to be seven approach lanes on each leg of an intersection. For example, two left-turn lanes, four through lanes, and a right-turn lane (a total of seven lanes) is considered to be the maximum feasible size on an intersection approach. Existing land use development, physical or right-of-way constraints, and the relative benefits of additional roadway improvements in some cases result in a smaller approach being considered the maximum feasible size.

As specified by City of Stockton staff, triple left-turn lanes are only considered at a limited number of intersections. They are considered only at the intersection of two major arterial roadways, where it would be feasible and would not require substantial acquisition of adjacent structures.

For freeways, ten lanes (five in each direction) is considered to be the maximum feasible size.

It is technically possible to construct roadway facilities larger than the maximum feasible sizes applied in this section of this EIR. However, for the following reasons, this section of this EIR considers these sizes to be not feasible.

- **Pedestrian Safety** – The amount of time required by pedestrians to walk across an intersection leg with more than seven approach lanes is considered excessive. The possibility of signal lights changing before pedestrians are able to exit the intersection is considered unacceptably high.
- **Vehicle Safety** – When a vehicle enters an intersection on the yellow light, the amount of time required for this subject vehicle to depart overly-large intersections is considered excessive. The possibility of other vehicles on conflicting movements entering the intersection before the subject vehicle has departed is considered unacceptably high.
- **Intersection Efficiency** – The timing of signal lights may be modified to provide protection for pedestrians and vehicles at overly-large intersections. However, the amount of time needed for pedestrians and vehicles to exit an overly-large intersection becomes excessive. This results in the intersection operating with an unacceptable degree of inefficiency.
- **Engineering Constraints** – Overhead structures and equipment are required to traverse both intersection approaches and freeway lanes. Overhead structures involve primarily overcrossing roadways. Equipment includes signal light support structures, power lines, and signs. With larger facilities, the size and resulting cost of these structures and equipment becomes unacceptable.

3.13 TRANSPORTATION AND CIRCULATION

Intersection Levels of Service

Table 3.13-24 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under EPAP No Project conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-24: INTERSECTION LEVEL OF SERVICE – EPAP NO PROJECT CONDITIONS

#	STUDY INTERSECTIONS	INTER- CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
1	Eight Mile Road & the I-5 SB Ramps	Signal	--	B	13.3	C	29.1
2	Eight Mile Road & the I-5 NB Ramps	Signal	--	C	23.8	C	31.2
3	Eight Mile Road & Thornton Road	Signal	--	E	57.2	D	42.4
4	Eight Mile Road & Davis Road	Signal	--	C	34.4	C	29.0
5	Eight Mile Road & Lower Sacramento Road	Signal	--	D	40.9	D	41.4
6	West Lane & Armstrong Road	Signal	--	C	32.3	C	33.0
7	West Lane & Ham Lane	Signal	--	A	8.7	A	4.2
8	Eight Mile Road & West Lane	Signal	--	E	60.6	F	107.0
9	Eight Mile Road & Ham Lane	Unsig	No	D	32.6	A	0.6
10	Eight Mile Road & Leach Road / Street G	Unsig	No	D	27.5	A	0.3
11	Eight Mile Road & Micke Grove Road / Holman Road	Signal	--	A	1.3	A	2.7
12	Eight Mile Road & SR 99 West Frontage Road	Signal	--	C	23.9	C	25.7
13	Eight Mile Road & SR 99 East Frontage Road	Signal	--	F	157.1	F	483.3
14	SR 99 W Frontage Rd & SR 99 SB Ramps (Eight Mile)	Unsig	No	A	7.0	A	6.7
15	SR 99 E Frontage Rd & SR 99 NB Ramps (Eight Mile)	Unsig	No	A	5.1	B	10.5
16	West Lane & Lt. Col. Mark Taylor Street/Marlette Rd	--	--	--	--	--	--
17	Holman Road & Lt. Col. Mark Taylor Street	Signal	--	C	30.0	C	29.1
18	Morada Lane & West Lane	Signal	--	C	28.2	C	26.3
19	Morada Lane & Holman Road	Signal	--	C	35.0	C	32.1
20	SR 99 W. Frontage Road & SR 99 SB Ramps (Morada)	Unsig	Yes	A	8.7	B	10.9
21	SR 99 E. Frontage Road & SR 99 NB Ramps (Morada)	Unsig	Yes	E	37.6	B	12.2
22	Morada Lane & SR 99 West Frontage Road	Signal	--	D	50.7	F	104.6
23	Morada Lane & SR 99 East Frontage Road	Signal	--	A	9.1	B	16.8
24	West Lane & West Lane Frontage Road	Signal	--	C	21.0	B	19.6
25	West Lane & Knickerbocker Drive	Signal	--	C	25.3	C	24.8
26	West Lane & Hammer Lane	Signal	--	C	32.8	D	35.8
27	Hammer Lane & Holman Road	Signal	--	D	37.9	D	39.8
41	Eight Mile Road & SR 99 SB Ramps	--	--	--	--	--	--
42	Eight Mile Road & SR 99 NB Ramps	--	--	--	--	--	--
43	Morada Lane & SR 99 SB Ramps	--	--	--	--	--	--
44	Lt. Col. Mark Taylor Street & Ham Lane (North)	--	--	--	--	--	--

#	STUDY INTERSECTIONS	INTERS. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
45	Lt. Col. Mark Taylor Street & Ham Lane (South)	--	--	--	--	--	--
46	Lt. Col. Mark Taylor Street & Ham Lane	--	--	--	--	--	--
51	Eight Mile Road & Commercial Site Driveway #1	--	--	--	--	--	--
52	Eight Mile Road & Commercial Site Driveway #2	--	--	--	--	--	--
53	Eight Mile Road & Street C	--	--	--	--	--	--
54	West Lane & Commercial Site Driveway #3	--	--	--	--	--	--
55	West Lane & Commercial Site Driveway #4	--	--	--	--	--	--
56	West Lane & Street A	--	--	--	--	--	--
57	Eight Mile Road & High Density Residential Driveway #1	--	--	--	--	--	--
58	Eight Mile Road & High Density Residential Driveway #2	--	--	--	--	--	--
60	Eight Mile Road & Industrial Site Driveway #1	--	--	--	--	--	--
61	Eight Mile Road & Industrial Site Driveway #2	--	--	--	--	--	--

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. NB = NORTHBOUND. SB = SOUTHBOUND. INTERS. CONTROL = TYPE OF INTERSECTION CONTROL. SIGNAL = SIGNALIZED LIGHT CONTROL. UNSIG = UNSIGNALIZED STOP-SIGN CONTROL. AWSC = ALL-WAY STOP-SIGN CONTROL DASHES (--) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Traffic volumes under EPAP No Project conditions would be generally higher than under Existing conditions and, as a result, vehicle delay at study intersections under EPAP No Project conditions would be higher than under Existing conditions.

Under EPAP No Project conditions, LOS at 21 of the 26 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 21 intersections to achieve acceptable LOS. The following describes the study intersections that would operate at unacceptable LOS under EPAP No Project conditions.

Under the No Project scenario, roadway improvements are recommended when needed to improve traffic operations that are considered unacceptable. Similarly, under conditions with project alternatives, mitigation measures are identified when needed to reduce impacts on traffic operating conditions. The recommended improvements and mitigation measures were identified by incrementally testing the size and combinations of improvements and measures. Improvement and measures needed to achieve acceptable operating conditions or reduce an impact to a less than significant level are those identified in this EIR.

Recommended improvements are identified in this EIR to allow the reader to compare the magnitude of recommended improvements under No Project scenarios to the magnitude of mitigation measures under scenarios with project alternatives. This allows an identification of the incremental improvements needed because of project alternatives.

3.13 TRANSPORTATION AND CIRCULATION

#3 – EIGHT MILE ROAD AND THORNTON ROAD

Under EPAP No Project conditions, this intersection would operate at LOS E with 57.2 seconds of delay during the a.m. peak hour, and LOS D with 42.4 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. The following improvement is recommended:

Recommended Improvement 4. Split the southbound combined through/right-turn lane into an exclusive southbound through lane, and an exclusive southbound-to-westbound right-turn lane.

A summary of LOS with recommended improvements is presented in Table 3.13-25. With this recommended improvement, this intersection would operate at LOS D with 53.7 seconds of delay during the a.m. peak hour and LOS D with 36.9 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

TABLE 3.13-25: INTERSECTION LEVEL OF SERVICE – EPAP NO PROJECT CONDITIONS WITH RECOMMENDED IMPROVEMENTS

#	STUDY INTERSECTIONS	INTERS. CONTROL	AM PEAK		PM PEAK	
			LOS	DELAY	LOS	DELAY
3	Eight Mile Road & Thornton Road	Signal	D	53.7	D	36.9
8	Eight Mile Road & West Lane	Signal	D	38.1	D	53.0
13	Eight Mile Road & SR 99 East Frontage Road	Signal	D	41.6	D	53.6
21	SR 99 E. Frontage Road & SR 99 NB Ramps (Morada)	Unsig	C	20.9	--	--
22	Morada Lane & SR 99 West Frontage Road	Signal	--	--	D	46.5

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. NB = NORTHBOUND. SB = SOUTHBOUND. INTERS. CONTROL = TYPE OF INTERSECTION CONTROL. SIGNAL = SIGNALIZED LIGHT CONTROL. UNSIG = UNSIGNALIZED STOP-SIGN CONTROL. AWSC = ALL-WAY STOP-SIGN CONTROL DASHES (- -) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

#8 – EIGHT MILE ROAD AND WEST LANE

Under EPAP No Project conditions, this intersection would operate at LOS E with 60.6 seconds of delay during the a.m. peak hour, and LOS F with 107.0 seconds of delay during the p.m. peak hour. LOS E and F are considered unacceptable. The following improvement is recommended:

Recommended Improvement 5. Make the following improvements to the intersection:

- Add a second northbound-to-westbound left-turn lane.
- Add a second eastbound-to-northbound left-turn lane.

A summary of LOS with recommended improvements is presented in Table 3.13-25. With these recommended improvement, this intersection would operate at LOS D with 38.1 seconds of delay during the a.m. peak hour and LOS D with 53.0 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

#13 – EIGHT MILE ROAD AND SR 99 EAST FRONTAGE ROAD

Under EPAP No Project conditions, this intersection would operate at LOS F with 157.1 seconds of delay during the a.m. peak hour, and LOS F with 483.3 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. The following improvement is recommended:

Recommended Improvement 6. Make the following improvements to the intersection:

- Change the lanes on the northbound approach. Change the approach lanes from a northbound combined through/left-turn lane and an exclusive northbound-to-eastbound right-turn lane, to an exclusive northbound-to-westbound left-turn lane and a northbound combined through/right-turn lane.
- Set the north-south signal phasing to be split phasing.

A summary of LOS with recommended improvements is presented in Table 3.13-25. With these recommended improvement, this intersection would operate at LOS D with 41.6 seconds of delay during the a.m. peak hour and LOS D with 53.6 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

Control of this intersection is not entirely within the City of Stockton. Therefore, implementing these recommended improvements would require approval by the County of San Joaquin and Caltrans. If the improvements are approved by the County and Caltrans, and constructed, the unacceptable LOS would be improved to an acceptable LOS. If the improvements are not approved by the County and Caltrans, the LOS would remain unacceptable and unavoidable.

#21 – SR 99 EAST FRONTAGE ROAD AND SR 99 NORTHBOUND RAMPS (MORADA LANE)

Under EPAP No Project conditions, this intersection would operate at LOS E with 37.6 seconds of delay during the a.m. peak hour, and LOS B with 12.2 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. The following improvement is recommended:

Recommended Improvement 7. Add a 200-feet long left-turn lane on the SR 99 northbound off-ramp.

A summary of LOS with recommended improvements is presented in Table 3.13-25. With these recommended improvement, this intersection would operate at LOS C with 20.9 seconds of delay during the a.m. peak hour. LOS C is considered acceptable.

#22 – MORADA LANE AND SR 99 WEST FRONTAGE ROAD

Under EPAP No Project conditions, this intersection would operate at LOS D with 50.7 seconds of delay during the a.m. peak hour, and LOS F with 104.6 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. The following improvement is recommended:

Recommended Improvement 8. Add overlap phasing on the southbound-to-westbound right-turn movement, and re-time the signal.

3.13 TRANSPORTATION AND CIRCULATION

A summary of LOS with recommended improvements is presented in Table 3.13-25. With these recommended improvement, this intersection would operate at LOS D with 46.5 seconds of delay during the p.m. peak hour. LOS D is considered acceptable.

Roadway Segment Levels of Service

Table 3.13-23 presents a summary of LOS on the 13 study roadway segments under EPAP No Project conditions. Ten of the roadway segments would operate at acceptable LOS D or better. No improvements are needed on these 10 roadway segments to achieve acceptable LOS. The roadway segments that would operate at unacceptable LOS are discussed below.

EIGHT MILE ROAD – LOWER SACRAMENTO ROAD TO WEST LANE

Under EPAP No Project conditions, this roadway segment would operate at LOS F. LOS F is considered unacceptable. The following improvement is recommended:

Recommended Improvement 9. Widen the roadway segment from two lanes to four lanes. This is the same as the recommended improvement at this roadway segment under Existing conditions.

A summary of roadway segment LOS with recommended improvements is presented in Table 3.13-26. With this recommended improvement, this roadway segment would operate at LOS C. LOS C is considered acceptable.

TABLE 3.13-26: ROADWAY SEGMENT LEVEL OF SERVICE – EPAP NO PROJECT CONDITIONS WITH RECOMMENDED IMPROVEMENTS

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Eight Mile Rd Lower Sacramento Rd to West Ln	4	31,768	C
Eight Mile Rd West Lane to Micke Grove Rd/Holman Rd	4	18,190	A
Morada Ln East of West Ln	4	15,348	A

SOURCE: KD ANDERSON & ASSOCIATES.

EIGHT MILE ROAD – WEST LANE TO MICKE GROVE ROAD/HOLMAN ROAD

Under EPAP No Project conditions, this roadway segment would operate at LOS E. LOS E is considered unacceptable. The following improvement is recommended:

Recommended Improvement 10. Widen the roadway segment from two lanes to four lanes.

A summary of roadway segment LOS with recommended improvements is presented in Table 3.13-26. With this recommended improvement, this roadway segment would operate at LOS A. LOS A is considered acceptable.

MORADA LANE – EAST OF WEST LANE

Under EPAP No Project conditions, this roadway segment would operate at LOS E. LOS E is considered unacceptable. The following improvement is recommended:

Recommended Improvement 11. Widen the roadway segment from two lanes to four lanes.

A summary of roadway segment LOS with recommended improvements is presented in Table 3.13-26. With this recommended improvement, this roadway segment would operate at LOS A. LOS A is considered acceptable.

Ramp Junction Level of Service

Table 3.13-27 presents a summary of a.m. peak hour and p.m. peak hour LOS at the eight existing ramp junctions under EPAP No Project conditions. All of the ramp junctions operate at acceptable LOS D or better. No improvements are needed at these ramp junctions to achieve acceptable LOS.

TABLE 3.13-27: STATE ROUTE 99 RAMP MERGE AND DIVERGE LEVEL OF SERVICE – EPAP NO PROJECT CONDITIONS

RAMP JUNCTION	AM PEAK HOUR				PM PEAK HOUR			
	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Existing)	3,106	301	23.0	C	2,114	344	17.2	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp (Existing)	3,106	352	22.5	C	2,114	264	16.6	B
SR 99 Northbound Merge from Eight Mile Road On-Ramp (Existing)	1,815	366	16.1	B	3,041	233	21.4	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Existing)	1,815	146	14.5	B	3,041	317	22.2	C
SR 99 Southbound Diverge to Morada Lane Off-Ramp (Existing)	3,387	301	23.2	C	2,306	388	17.1	B
SR 99 Southbound Merge from Morada Lane On-Ramp (Existing)	3,387	820	28.1	D	2,306	320	18.3	B
SR 99 Northbound Merge from Morada Lane On-Ramp	1,991	233	16.2	B	3,336	203	23.0	C
SR 99 Northbound Diverge to Morada Lane Off-Ramp	1,991	308	15.4	B	3,336	667	24.1	C

NOTES: LOS = LEVEL OF SERVICE. SR = STATE ROUTE. DENSITY IS EXPRESSED IN PASSENGER CARS PER MILE PER LANE.

SOURCE: KD ANDERSON & ASSOCIATES.

EPAP PLUS PROJECT TRAFFIC IMPACT ANALYSIS

Traffic Volume Forecasts

Traffic that would be generated by the proposed Project was added to EPAP No Project volumes. Figure 3.13-16 displays the Project-related-only traffic volumes for each study intersection in the a.m. peak hour and p.m. peak hour. Figure 3.13-17 displays the resulting EPAP Plus Tra Vigne traffic volumes anticipated for each study intersection in the peak hours.

Roadway Improvements

Implementation of the proposed Project would result in roadway improvements needed to provide access to the Project site. Improvements to Project site access points are shown in the proposed Project site plans. These improvements are assumed in the analysis of EPAP Plus Project conditions.

In addition to site access improvements, improvements to major roadways adjacent to the Project site were also assumed in the analysis of EPAP Plus Project conditions. These adjacent major roadway improvements include widening of Eight Mile Road and West Lane adjacent to the Project site. The frontage improvements along Eight Mile Road would result in widening of the eastbound and westbound approaches to the intersection of Eight Mile Road and West Lane.

Figure 3.13-17 displays the resulting EPAP Plus Project intersection lane geometrics for each study intersection. The resulting number of travel lanes assumed for study roadway segments are shown in Table 3.13-28.

TABLE 3.13-28: ROADWAY SEGMENT LEVEL OF SERVICE – EPAP PLUS PROJECT CONDITIONS

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Interstate 5 Eight Mile Road to State Route 12	6	69,656	C
Interstate 5 Eight Mile Road to Hammer Lane	6	88,978	C
Eight Mile Road Lower Sacramento Road to Davis Road	4	27,336	C
Eight Mile Road Lower Sacramento Road to West Lane	2	35,332	F
West Lane Eight Mile Road to Ham Lane	4	14,108	A
Eight Mile Road West Lane to Micke Grove Rd/Holman Rd	4	24,425	B
West Lane Morada Lane to Eight Mile Road	4	27,203	D
Morada Lane West of West Lane	2	3,490	A
West Lane Morada Lane to Knickerbocker Drive	4	31,291	D
Morada Lane East of West Lane	2	16,611	E

<i>ROADWAY SEGMENT</i>	<i>NUMBER OF LANES</i>	<i>DAILY VOLUME</i>	<i>LEVEL OF SERVICE</i>
State Route 99 Eight Mile Road to Armstrong Road	6	89,456	C
State Route 99 Eight Mile Road & Morada Lane	6	100,014	D
State Route 99 Morada Lane to Hammer Lane	6	93,386	C

SOURCE: KD ANDERSON & ASSOCIATES.

Intersection Levels of Service

Table 3.13-29 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under EPAP Plus Project conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-29: INTERSECTION LEVEL OF SERVICE – EPAP PLUS PROJECT CONDITIONS

#	STUDY INTERSECTIONS	INTERS. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
1	Eight Mile Road & the I-5 SB Ramps	Signal	--	B	14.0	C	30.8
2	Eight Mile Road & the I-5 NB Ramps	Signal	--	C	24.7	D	38.2
3	Eight Mile Road & Thornton Road	Signal	--	E	60.6	D	44.1
4	Eight Mile Road & Davis Road	Signal	--	D	36.0	C	30.5
5	Eight Mile Road & Lower Sacramento Road	Signal	--	D	53.9	E	57.7
6	West Lane & Armstrong Road	Signal	--	C	32.3	C	33.1
7	West Lane & Ham Lane	Signal	--	A	9.1	A	5.1
8	Eight Mile Road & West Lane	Signal	--	E	55.8	E	72.3
9	Eight Mile Road & Ham Lane	Unsig	No	A	0.1	A	0.1
10	Eight Mile Road & Leach Road / Street G	Signal	--	B	12.8	B	12.6
11	Eight Mile Road & Micke Grove Road / Holman Road	Signal	--	A	9.0	B	10.9
12	Eight Mile Road & SR 99 West Frontage Road	Signal	--	C	27.3	C	29.2
13	Eight Mile Road & SR 99 East Frontage Road	Signal	--	F	237.9	F	742.3
14	SR 99 W Frontage Rd & SR 99 SB Ramps (Eight Mile)	Unsig	No	A	7.5	A	7.2
15	SR 99 E Frontage Rd & SR 99 NB Ramps (Eight Mile)	Unsig	Yes	A	8.7	D	32.2
16	West Lane & Lt. Col. Mark Taylor Street/Marlette Rd	Signal	--	B	16.6	B	11.2
17	Holman Road & Lt. Col. Mark Taylor Street	Signal	--	C	30.3	C	29.5
18	Morada Lane & West Lane	Signal	--	C	29.1	C	27.2
19	Morada Lane & Holman Road	Signal	--	D	35.3	C	32.4
20	SR 99 W. Frontage Road & SR 99 SB Ramps (Morada)	Unsig	Yes	A	8.7	B	10.9
21	SR 99 E. Frontage Road & SR 99 NB Ramps (Morada)	Unsig	Yes	E	39.4	B	14.9

3.13 TRANSPORTATION AND CIRCULATION

#	STUDY INTERSECTIONS	INTERS. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
22	Morada Lane & SR 99 West Frontage Road	Signal	--	D	53.1	F	102.9
23	Morada Lane & SR 99 East Frontage Road	Signal	--	A	9.1	B	16.8
24	West Lane & West Lane Frontage Road	Signal	--	C	20.5	B	18.9
25	West Lane & Knickerbocker Drive	Signal	--	C	23.3	C	23.2
26	West Lane & Hammer Lane	Signal	--	C	32.6	D	35.7
27	Hammer Lane & Holman Road	Signal	--	D	38.2	D	39.8
41	Eight Mile Road & SR 99 SB Ramps	--	--	--	--	--	--
42	Eight Mile Road & SR 99 NB Ramps	--	--	--	--	--	--
43	Morada Lane & SR 99 SB Ramps	--	--	--	--	--	--
44	Lt. Col. Mark Taylor Street & Ham Lane (North)	--	--	--	--	--	--
45	Lt. Col. Mark Taylor Street & Ham Lane (South)	--	--	--	--	--	--
46	Lt. Col. Mark Taylor Street & Ham Lane	--	--	--	--	--	--
51	Eight Mile Road & Commercial Site Driveway #1	Unsig	No	A	0.0	A	0.2
52	Eight Mile Road & Commercial Site Driveway #2	Unsig	No	A	0.0	A	0.4
53	Eight Mile Road & Street C	Signal	--	B	12.4	B	12.4
54	West Lane & Commercial Site Driveway #3	Unsig	No	A	0.0	A	0.2
55	West Lane & Commercial Site Driveway #4	Unsig	No	A	0.0	A	0.1
56	West Lane & Street A	Unsig	No	A	0.4	A	0.2
57	Eight Mile Road & High Density Residential Driveway #1	Unsig	No	A	0.5	A	0.5
58	Eight Mile Road & High Density Residential Driveway #2	Unsig	No	A	0.5	A	0.5
60	Eight Mile Road & Industrial Site Driveway #1	Unsig	No	A	0.0	A	0.2
61	Eight Mile Road & Industrial Site Driveway #2	Unsig	No	A	0.0	A	0.2

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. NB = NORTHBOUND. SB = SOUTHBOUND. INTERS. CONTROL = TYPE OF INTERSECTION CONTROL. SIGNAL = SIGNALIZED LIGHT CONTROL. UNSIG = UNSIGNALIZED STOP-SIGN CONTROL. AWSC = ALL-WAY STOP-SIGN CONTROL DASHES (- -) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Traffic volumes under EPAP Plus Project conditions would be generally higher than under EPAP No Project conditions and, as a result, vehicle delay at study intersections under EPAP Plus Project conditions would be higher than under EPAP No Project conditions.

Under EPAP Plus Project conditions, LOS at 31 of the 37 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 31 intersections to achieve acceptable LOS.

At the following four intersections, LOS under EPAP Plus Project conditions would be unacceptable LOS E or F. However, compared to LOS under EPAP No Project conditions, the Project-related

increase in vehicle delay would not be greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these four intersections is considered less than significant:

- #3 Eight Mile Road & Thornton Road
- #8 Eight Mile Road & West Lane
- #21 SR 99 East Frontage Rd & SR 99 Northbound Ramps (Morada Lane)
- #22 Morada Lane & SR 99 West Frontage Road

The following describes the study intersections that would operate at unacceptable LOS under EPAP Plus Project conditions and, compared to EPAP No Project conditions, would experience a Project-related increase in vehicle delay greater than five seconds.

Impact 3.13-1: Under EPAP Plus Project conditions, the proposed Project may result in a significant impact at the Eight Mile Road & Lower Sacramento Road intersection. (Less than Significant with Mitigation)

Proposed Project:

Under EPAP Plus Project conditions, the Eight Mile Road & Lower Sacramento Road intersection would operate at LOS D with 53.9 seconds of delay during the a.m. peak hour, and LOS E with 57.7 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered **potentially significant**. Improvements that would be needed at this intersection include: setting the northbound-to-eastbound right-turn lane to “overlap” phasing, and prohibiting westbound-to-eastbound U-turns. With these improvements, this intersection would operate at LOS D with 39.2 seconds of delay during the a.m. peak hour and LOS D with 44.9 seconds of delay during the p.m. peak hour. This LOS is considered acceptable. This improvement is included in the Stockton PFF with a 2021-2022 completion year. The improvement is also in the SJCOG RTP (RTIF 917, ID 27). The proposed project’s contribution to the impact would be 16.5%. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level.

MITIGATION MEASURE

Mitigation Measure 3.13-1: *The Project applicant shall construct the following improvements to the Eight Mile Road & Lower Sacramento Road intersection:*

- *Set the northbound-to-eastbound right-turn lane to “overlap” phasing.*
- *Prohibit westbound-to-eastbound U-turns.*

These improvements shall be reflected on the Project improvement plans. The project applicant shall construct the improvements at the time the significant impact occurs.

3.13 TRANSPORTATION AND CIRCULATION

RESULTING LEVEL OF SIGNIFICANCE

A summary of the mitigated LOS is presented in Table 3.13-30. With this mitigation measure, this intersection would operate at LOS D with 39.2 seconds of delay during the a.m. peak hour and LOS D with 44.9 seconds of delay during the p.m. peak hour. This LOS is considered acceptable. With implementation of the mitigation measure outlined above, the impact would be reduced to a **less than significant** level.

TABLE 3.13-30: INTERSECTION LEVEL OF SERVICE – EPAP PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES

#	STUDY INTERSECTIONS	AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
5	Eight Mile Road & Lower Sacramento Road	D	39.2	D	44.9
13	Eight Mile Road & SR 99 East Frontage Road	C	30.2	C	33.7

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Impact 3.13-2: Under EPAP Plus Project conditions, the proposed Project would result in a significant impact at the Eight Mile Road & SR 99 East Frontage Road intersection. (Significant and Unavoidable)

Proposed Project:

Under EPAP Plus Project conditions, the Eight Mile Road & SR 99 East Frontage Road intersection would operate at LOS F with 237.9 seconds of delay during the a.m. peak hour, and LOS F with 742.0 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered **potentially significant**.

Interim improvements that could improve operations at this intersection include:

- Change the lanes on the northbound approach. Change the approach lanes from a northbound combined through/left-turn lane and an exclusive northbound-to-eastbound right-turn lane, to an exclusive northbound-to-westbound left-turn lane and a northbound combined through/right-turn lane; and
- Set the north-south signal phasing to be split phasing.

These improvements are the same as those recommended for EPAP No Project conditions, meaning the improvements are warranted with or without the proposed Project. With these improvements this intersection would operate at LOS C with 30.2 seconds of delay during the a.m. peak hour and LOS C with 33.7 seconds of delay during the p.m. peak hour. The proposed Project's contribution to this impact is 10.7%.

This intersection is not within the City of Stockton, and the City has no jurisdictional authority to make improvements at this intersection. This intersection is located within Morada, which is considered an independent “Urban Community” by the County of San Joaquin. Morada is not located within the City of Stockton SOI. Therefore, implementation would require approval by both the County of San Joaquin and Caltrans. It is noted that these improvements would only be interim because Caltrans is in the initial stages of the Project Approval and Environmental Document (PA&ED) Phase for a full interchange improvement at SR 99/Eight Mile Road. Caltrans is studying the effects of major improvements to the interchange of SR 99/Eight Mile Road. Project components for the interchange project may include reconstructing the interchange and realigning the frontage roads. According to Caltrans⁶, the purpose of the project is to:

- Maximize the efficiency of the interchange;
- Prevent degradation of the freeway ramp operations;
- Reduce traffic congestion and delay at the interchange;
- Improve traffic operations and safety;
- Improve City and County roadway operation;
- Improve pedestrian, bicycle and transit access; and
- Accommodate forecasted travel demand anticipated through the year 2035.

The interim improvements are not recommended for the following reasons:

- The intersection location is not controlled by the City or applicant, which makes any future approvals uncertain;
- The intersection warrants improvements without the project, meaning the need is based on regional traffic demands;
- Caltrans is in the early stages of designing a full interchange improvement to accommodate the regional traffic demand at this intersection;
- Any interim improvement would be demolished once the full interchange improvement is completed, meaning that the funds would be wasted in the long-term.

Given that Caltrans is developing a long-term solution to this traffic impact, it is recommended that the City forego an interim improvement at this location. The Project applicant would pay traffic impact fees (PFF fees) that would contribute a fair share toward the ultimate interchange improvements. As such, there will be a **significant and unavoidable** impact.

⁶ Available at: <http://www.dot.ca.gov/dist10/d10projects/eightmileroad/index.htm>

Roadway Segment Levels of Service

Table 3.13-28 presents a summary of LOS on the 13 study roadway segments under EPAP Plus Project conditions. Eleven of the roadway segments would operate at acceptable LOS D or better. No improvements are needed on these 11 roadway segments to achieve acceptable LOS. The roadway segments that would operate at unacceptable LOS are discussed below.

Impact 3.13-3: Under EPAP Plus Project conditions, the proposed Project would result in a significant impact on the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane. (Significant and Unavoidable)

Proposed Project:

Under EPAP Plus Project conditions, the Eight Mile Road from Lower Sacramento Road to West Lane roadway segment would operate at LOS F. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered **potentially significant**. Improvements that would be needed along this segment include: widening of the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane from two-lanes wide to four lanes wide. This improvement is warranted under Existing conditions and under EPAP No Project conditions, meaning it is warranted with or without the proposed Project. A summary of the mitigated LOS is presented in Table 3.13-31.

TABLE 3.13-31: ROADWAY SEGMENT LEVEL OF SERVICE – EPAP PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Eight Mile Road Lower Sacramento Road to West Lane	4	35,332	D

SOURCE: KD ANDERSON & ASSOCIATES.

This roadway segment is located within San Joaquin County. The land surrounding this segment is designated for General Agricultural uses by the San Joaquin County General Plan (2017). Additionally, expansion of this area would not be consistent with the adopted SJCOG RTP/SCS (adopted in 2014). As such, the urban growth within the vicinity of this roadway segment that would be required in order to support such a roadway widening would not occur in the future.

The improvement is not under the City's jurisdiction and would require land acquisition within San Joaquin County. This improvement is included in the SJCOG RTP (SJ11-3047) given that it is a regional facility; however, it is not programed for funding at this time. Additionally, this improvement is not funded/programed by the San Joaquin County. The proposed Project's contribution to this impact would be 9.3%, and the Project applicant would pay traffic impact fees (PFF fees) that would contribute a fair share toward the improvement.

The right-of-way is not controlled by the City or applicant and the feasibility of such improvements would be in question. Also, the improvements are regionally serving and are warranted with or

without the project. The City will require the developer to pay traffic impact fees that will contribute a fair share toward the improvement; however, it will not require the individual project to design and build a regional improvement that is currently warranted under existing conditions. The City will continue to work with SJCOG to move this improvement from Tier 2 in the 2014 RTP to a Tier 1 with funding to ensure that the impact fees (PFF fees) paid by the project go towards the long-term solution at this location. As such, this will be a **significant and unavoidable** impact.

Impact 3.13-4: Under EPAP Plus Project conditions, the proposed Project would result in a significant impact on the roadway segment of Morada Lane east of West Lane. (Significant and Unavoidable)

Proposed Project:

Under EPAP Plus Project conditions, the Morada Lane East of West Lane roadway segment would operate at LOS E. LOS E is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered potentially significant.

Widening the roadway segment of Morada Lane east of West Lane from two-lanes to four lanes would improve LOS conditions at this roadway segment. The widening of this segment would be required over approximately 4,700 feet to fully mitigate the unacceptable LOS E. This improvement is not included in the City of Stockton PFF and, as such, is not currently planned or funded by the City. This improvement is included in the SJCOG RTIF capital project list; however, no specific data for widening of this roadway segment is provided in the RTIF, and no funding is currently programmed in order to construct this improvement. The County does not have any future plans to widen this segment of the roadway.⁷ This roadway segment is, however, in an area which fronts a pending development project (the Bear Creek South Project) and the ultimate buildout of this roadway is anticipated to be associated with that project given that it would be the frontage roadway.

The widening of Morada Lane is warranted for EPAP No Project conditions, meaning it is warranted with or without the proposed project. A summary of the mitigated LOS is presented in Table 3.13-32. The proposed Project's contribution to the impacts on the roadway segment of Morada Lane east of West Lane is 10.5%.

⁷ Personal communication with David Mendoza, San Joaquin County Engineering Services Manager. November 20, 2017.

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TABLE 3.13-32: ROADWAY SEGMENT LEVEL OF SERVICE – EPAP PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Morada Lane East of West Lane	4	16,611	A

SOURCE: KD ANDERSON & ASSOCIATES 2017.

Morada Lane east of the Union Pacific Railroad (UPRR) tracks is already wider than two lanes under existing conditions, therefore, the EIR roadway segment of Morada Lane east of West Lane applies to the portion of Morada Lane between West Lane and the UPRR tracks. For the following reasons, the flow of traffic along Morada Lane between West Lane and the UPRR tracks is subject to a low level of constraints or “friction” in both the eastbound and westbound directions:

- The eastbound flow of traffic on Morada Lane between West Lane and the UPRR tracks is not constrained by any stop signs or intersection signals lights. In addition, this portion of Morada Lane is subject to relatively few points of conflicting traffic flow; there are three unsignalized intersections and only two driveways approaching Morada Lane from the south. Except for when a train is using the tracks, the eastbound flow of traffic does not stop at any point along this roadway segment.
- There is no land use development along the north side of this portion of Morada Lane and, therefore, no driveways adjacent to the westbound flow of traffic. Exclusive westbound-to-southbound left-turn lanes are present at all three intersections along this roadway segment. As a result, the westbound flow of traffic is subject to no constraints, except for the western terminus of the roadway segment: the signalized intersection of Morada Lane & West Lane.

For the reasons described above, the flow of traffic along Morada Lane between West Lane and the UPRR tracks is subject to an unusually low level of constraint. The only substantial constraint is at the west end of this roadway segment– as westbound traffic on Morada Lane approaches the West Lane intersection. The signal light at this intersection results in westbound vehicles stopping at the intersection. That is, the factor constraining traffic flow on Morada Lane between West Lane and the UPRR tracks is not actually along the roadway segment. Rather, the factor constraining traffic flow is the intersection of Morada Lane & West Lane and, in particular the westbound approach to this intersection.

An interim solution to the full widening of Morada Lane from two lanes to four lanes would be to add an exclusive westbound-to-northbound right-turn lane at the intersection of Morada Lane & West Lane. The turn lane would be approximately 500 feet long, including the taper. This measure would improve the capacity of the westbound approach by:

- Providing a separate lane for the 30 to 35 percent of vehicles making a right-turn; and

- Allowing the combined left/through/right-turn lane to be changed to a combined through/left-turn lane, which would allow this lane to serve more vehicles making left-turns and through movements.

Adding the exclusive westbound-to-northbound right-turn lane would be an effective way to improve traffic flow and reduce congestion along this portion of Morada Lane, and would be an effective interim measure to mitigate the proposed Project's 10.5% contribution to traffic on this roadway segment. The interim measure would improve operations of the westbound approach to the intersection of Morada Lane and West Lane; the measure would:

- Reduce vehicle delay 30-35 percent.
- Reduce vehicle queuing 50 to 55 percent.

It is anticipated that the long-term solution of adding the two additional lanes would be carried out in the future once the Bear Creek South project moves forward, however, the timing of that improvement is not yet defined. The following mitigation measure is intended to be an interim improvement to improve traffic condition and reduce traffic impacts to the extent feasible.

MITIGATION MEASURE

Mitigation Measure 3.13-2: *The Project applicant shall construct an exclusive westbound-to-northbound right-turn lane along Morada Lane east of West Lane in accordance with design standards that account for the speed and capacity of the roadway segment (estimated to be 500 feet with the taper). This improvement shall be reflected on the Project improvement plans. According to criteria presented in the Level of Service Significance Threshold section of this EIR, a 5 percent increase in traffic volumes on a roadway segment is defined as a significant impact if the LOS on the roadway segment is operating at an unacceptable level without the project. The project applicant shall construct the improvements at the time the significant impact occurs.*

RESULTING LEVEL OF SIGNIFICANCE

The above measure would improve traffic congestion along Morada Lane and at the Morada Lane/West Lane intersection by adding a right turn lane designed to accept decelerating traffic that will ultimately turn right at the intersection. This improvement would increase the storage capacity to the 4700-foot roadway segment. This additional turn lane and storage capacity would improve overall operations of the roadway segment and intersection by providing a separate lane for the 30 to 35 percent of vehicles making a right-turn. However, it is only an interim solution and this roadway will ultimately require widening from two lanes to four lanes. Until the full buildout of the roadway occurs, the impact would be significant and unavoidable. It is not known when the full buildout of this segment of Morada Lane will occur. The proposed project will pay their fair share of the improvements through the appropriate impact fees (PFF fees). Once the final widening occurs the impact would be reduced to a less than significant level. In the interim, the impact would remain **significant and unavoidable**.

Impact 3.13-5: Impacts related to ramp junction levels of service under EPAP Plus Project conditions. (Less than Significant)

Proposed Project:

Table 3.13-33 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under EPAP Plus Project conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

Traffic volumes under EPAP Plus Project conditions would be generally higher than under EPAP No Project conditions and, as a result, vehicle density at study ramp junctions under EPAP Plus Project conditions would generally be higher than under EPAP No Project conditions.

Under EPAP Plus Project conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. This impact is considered **less than significant**. No mitigation measures are needed at these ramp junctions to achieve acceptable LOS.

TABLE 3.13-33: STATE ROUTE 99 RAMP MERGE AND DIVERGE LEVEL OF SERVICE – EPAP PLUS PROJECT CONDITIONS

RAMP JUNCTION	AM PEAK HOUR				PM PEAK HOUR			
	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Existing)	3,106	311	23.0	C	2,114	361	17.3	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp (Existing)	3,106	471	23.5	C	2,114	389	17.6	B
SR 99 Northbound Merge from Eight Mile Road On-Ramp (Existing)	1,815	385	16.3	B	3,041	248	21.5	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Existing)	1,815	204	14.6	B	3,041	446	22.5	C
SR 99 Southbound Diverge to Morada Lane Off-Ramp (Existing)	3,506	301	23.9	C	2,431	388	17.9	B
SR 99 Southbound Merge from Morada Lane On-Ramp (Existing)	3,506	869	29.2	D	2,431	342	19.1	B
SR 99 Northbound Merge from Morada Lane On-Ramp	2,049	233	16.5	B	3,465	203	23.6	C
SR 99 Northbound Diverge to Morada Lane Off-Ramp	2,049	336	15.8	B	3,465	705	24.8	C

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DENSITY EXPRESSED IN PASSENGER CARS PER MILE.

SOURCE: KD ANDERSON & ASSOCIATES.

Impact 3.13-6: Impacts related to an increase in demand for transit. (Less than Significant)

Proposed Project:

Implementation of the proposed Project would result in an increase in demand for public transit service. Currently, there is limited direct public transit service to the Project site, and the

development of urban uses would result in an increase in demand. The frequency and proximity of future transit service is not known at this time and, as a result, demand for transit cannot be quantified. However, it is expected that SJRTD can accommodate the additional passengers the Project would generate. This is considered a **less-than-significant** impact. No mitigation measures are required.

Impact 3.13-7: Impacts related to an increase in demand for bicycle and pedestrian facilities. (Less than Significant)

Proposed Project:

Implementation of the proposed Project would result in an increase in demand for bicycle and pedestrian facilities. Implementation of the proposed Project includes improvements to the Project site frontage along Eight Mile Road and West Lane. These improvements include curb, gutter, sidewalk, and street lighting. These improvements would improve the safety and convenience of bicycle and pedestrian travel along Eight Mile Road and West Lane. On-site intersection traffic control and traffic calming would be implemented through a system of:

- stop signs,
- yield signs,
- intersections with bulb-outs,
- raised crosswalks,
- intersections with textured pavement,
- intersections with high-visibility crosswalks, and
- center island narrowing.

These traffic calming measures would improve the safety and convenience of bicycle and pedestrian travel within the Project site. Therefore, the increase in demand for facilities is considered a **less-than-significant** impact. No mitigation measures would be required.

Impact 3.13-8: Impacts related to an increase in the demand for park-and-ride facilities. (Less than Significant with Mitigation)

Proposed Project:

Implementation of the proposed Project would result in an increase in demand for park-and-ride facilities. The SCJOG assessed both the demand for, and availability of, park-and-ride facilities in the document *Final Report – Park-and-Ride Lot Master Plan* (San Joaquin Council of Governments, 2007). In the document's forecast of future demand for park-and-ride facilities, it notes, "The assessment of future demand indicated a rate of increase of roughly one additional park-and-ride space for every 110 new housing units. This ratio provides a useful indicator of how many new spaces should be provided for a new development . . ." The SJCOG report also notes the availability of transit service is an important factor in demand for park-and-ride facilities.

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As shown in Table 3.13-11, the proposed Project would result in up to 1,503 dwelling units. Based on the SJCOG ratio of one additional park-and-ride space for every 110 new housing units, this would result in demand for up to 14 additional park-and-ride spaces. This is considered a **potentially significant** impact.

MITIGATION MEASURE

Mitigation Measure 3.13-3: *Prior to approval of improvements plans, the following improvements shall be shown on the plans: provide park-and-ride facilities in those areas of the proposed Project that would generate relatively concentrated demand for park-and-ride spaces, which include:*

- *West Lane, and*
- *Eight Mile Road.*

Facilities may include joint use parking spaces, particularly in the vicinity of planned transit facilities. The improvement plans shall be subject to review and approval by the Stockton Public Works Department.

RESULTING LEVEL OF SIGNIFICANCE

Implementation of this mitigation measure would facilitate the provision of park-and-ride facilities to residents within the Project site, and reduce this impact to a **less-than-significant** level.

EPAP PLUS WITH BRIDGE ALTERNATIVE TRAFFIC IMPACT ANALYSIS

Traffic Volume Forecasts

Traffic that would be generated by the With Bridge Alternative was added to EPAP No Project volumes. Figure 3.13-18 displays the With Bridge Alternative-related-only traffic volumes for each study intersection in the a.m. peak hour and p.m. peak hour. Figure 3.13-19 displays the resulting EPAP Plus With Bridge Alternative traffic volumes anticipated for each study intersection in the peak hours.

Roadway Improvements

Implementation of the With Bridge Alternative would result in roadway improvements needed to provide access to the Project site. These improvements include a bridge over Bear Creek, which is along the southeast portion of the Project site. These improvements are assumed in the analysis of EPAP Plus With Bridge Alternative conditions.

In addition to site access improvements, improvements to major roadways adjacent to the Project site were also assumed in the analysis of EPAP Plus With Bridge Alternative conditions. These adjacent major roadway improvements include widening of Eight Mile Road and West Lane adjacent to the Project site. The frontage improvements along Eight Mile Road would result in widening of the eastbound and westbound approaches to the intersection of Eight Mile Road and West Lane. Figure 3.13-19 displays the resulting EPAP Plus With Bridge Alternative intersection

lane geometrics for each study intersection. The resulting number of travel lanes assumed for study roadway segments are shown in Table 3.13-34.

TABLE 3.13-34: ROADWAY SEGMENT LEVEL OF SERVICE – EPAP PLUS WITH BRIDGE ALTERNATIVE CONDITIONS

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Interstate 5 Eight Mile Road to State Route 12	6	69,655	C
Interstate 5 Eight Mile Road to Hammer Lane	6	88,978	C
Eight Mile Road Lower Sacramento Road to Davis Road	4	27,152	C
Eight Mile Road Lower Sacramento Road to West Lane	2	34,609	F
West Lane Eight Mile Road to Ham Lane	4	14,106	A
Eight Mile Road West Lane to Micke Grove Rd/Holman Rd	4	24,418	B
West Lane Morada Lane to Eight Mile Road	4	27,087	D
Morada Lane West of West Lane	2	3,489	A
West Lane Morada Lane to Knickerbocker Drive	4	28,273	D
Morada Lane East of West Lane	2	16,516	E
State Route 99 Eight Mile Road to Armstrong Road	6	89,455	C
State Route 99 Eight Mile Road & Morada Lane	6	99,564	D
State Route 99 Morada Lane to Hammer Lane	6	92,841	C

SOURCE: KD ANDERSON & ASSOCIATES.

Intersection Levels of Service

Table 3.13-35 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under EPAP Plus With Bridge Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-35: INTERSECTION LEVEL OF SERVICE – EPAP PLUS WITH BRIDGE ALTERNATIVE CONDITIONS

#	STUDY INTERSECTIONS	INTERS. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
1	Eight Mile Road & the I-5 SB Ramps	Signal	--	B	14.0	C	30.2
2	Eight Mile Road & the I-5 NB Ramps	Signal	--	C	24.5	D	37.6
3	Eight Mile Road & Thornton Road	Signal	--	E	60.0	D	43.8
4	Eight Mile Road & Davis Road	Signal	--	D	36.0	C	30.4
5	Eight Mile Road & Lower Sacramento Road	Signal	--	D	49.2	D	52.2
6	West Lane & Armstrong Road	Signal	--	C	32.3	C	32.9
7	West Lane & Ham Lane	Signal	--	A	9.1	A	5.2

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#	STUDY INTERSECTIONS	INTERSECTIONS CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
8	Eight Mile Road & West Lane	Signal	--	D	53.6	E	69.2
9	Eight Mile Road & Ham Lane	Unsig	No	A	0.2	A	0.2
10	Eight Mile Road & Leach Road / Street G	Signal	--	B	11.8	B	11.7
11	Eight Mile Road & Micke Grove Road / Holman Road	Signal	--	A	9.6	B	12.9
12	Eight Mile Road & SR 99 West Frontage Road	Signal	--	C	26.9	C	29.6
13	Eight Mile Road & SR 99 East Frontage Road	Signal	--	F	215.8	F	703.3
14	SR 99 W Frontage Rd & SR 99 SB Ramps (Eight Mile)	Unsig	No	A	7.3	A	7.1
15	SR 99 E Frontage Rd & SR 99 NB Ramps (Eight Mile)	Unsig	Yes	A	7.6	D	26.7
16	West Lane & Lt. Col. Mark Taylor Street/Marlette Rd	Signal	--	C	21.1	B	14.9
17	Holman Road & Lt. Col. Mark Taylor Street	Signal	--	C	31.5	C	30.8
18	Morada Lane & West Lane	Signal	--	C	28.1	C	25.4
19	Morada Lane & Holman Road	Signal	--	D	35.2	C	32.4
20	SR 99 W. Frontage Road & SR 99 SB Ramps (Morada)	Unsig	Yes	A	9.0	B	10.9
21	SR 99 E. Frontage Road & SR 99 NB Ramps (Morada)	Unsig	Yes	E	38.9	B	14.4
22	Morada Lane & SR 99 West Frontage Road	Signal	--	D	52.4	F	103.2
23	Morada Lane & SR 99 East Frontage Road	Signal	--	A	9.1	B	16.8
24	West Lane & West Lane Frontage Road	Signal	--	C	20.5	B	18.8
25	West Lane & Knickerbocker Drive	Signal	--	C	23.2	C	23.1
26	West Lane & Hammer Lane	Signal	--	C	32.6	D	35.8
27	Hammer Lane & Holman Road	Signal	--	D	38.5	D	39.7
41	Eight Mile Road & SR 99 SB Ramps	--	--	--	--	--	--
42	Eight Mile Road & SR 99 NB Ramps	--	--	--	--	--	--
43	Morada Lane & SR 99 SB Ramps	--	--	--	--	--	--
44	Lt. Col. Mark Taylor Street & Ham Lane (North)	--	--	--	--	--	--
45	Lt. Col. Mark Taylor Street & Ham Lane (South)	--	--	--	--	--	--
46	Lt. Col. Mark Taylor Street & Ham Lane	--	--	--	--	--	--
51	Eight Mile Road & Commercial Site Driveway #1	Unsig	No	A	0.0	A	0.2
52	Eight Mile Road & Commercial Site Driveway #2	Unsig	No	A	0.0	A	0.4
53	Eight Mile Road & Street C	Signal		B	12.9	B	12.3
54	West Lane & Commercial Site Driveway #3	Unsig	No	A	0.0	A	0.2
55	West Lane & Commercial Site Driveway #4	Unsig	No	A	0.0	A	0.0
56	West Lane & Street A	Unsig	No	A	0.3	A	0.1
57	Eight Mile Road & High Density Residential Driveway #1	Unsig	No	A	0.5	A	0.5
58	Eight Mile Road & High Density Residential Driveway #2	Unsig	No	A	0.5	A	0.5
60	Eight Mile Road & Industrial Site Driveway #1	Unsig	No	A	0.0	A	0.0

#	STUDY INTERSECTIONS	INTER. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
61	Eight Mile Road & Industrial Site Driveway #2	Unsig	No	A	0.0	A	0.0

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. NB = NORTHBOUND. SB = SOUTHBOUND. INTERS. CONTROL = TYPE OF INTERSECTION CONTROL. SIGNAL = SIGNALIZED LIGHT CONTROL. UNSIG = UNSIGNALIZED STOP-SIGN CONTROL. AWSC = ALL-WAY STOP-SIGN CONTROL DASHES (- -) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Traffic volumes under EPAP Plus With Bridge Alternative conditions would be generally higher than under EPAP No Project conditions and, as a result, vehicle delay at study intersections under EPAP Plus With Bridge Alternative conditions would be higher than under EPAP No Project conditions.

Under EPAP Plus With Bridge Alternative conditions, LOS at 32 of the 37 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 32 intersections to achieve acceptable LOS.

At the following four intersections, LOS under EPAP Plus With Bridge Alternative conditions would be unacceptable LOS E or F. However, compared to LOS under EPAP No Project conditions, the Project-related increase in vehicle delay would not be greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these two intersections is considered less than significant:

- #3 Eight Mile Road & Thornton Road
- #8 Eight Mile Road & West Lane
- #21 SR 99 East Frontage Rd & SR 99 Northbound Ramps (Morada Lane)
- #22 Morada Lane & SR 99 West Frontage Road

The following describes the study intersection that would operate at unacceptable LOS under EPAP Plus With Bridge Alternative conditions and, compared to EPAP No Project conditions, would experience a Project-related increase in vehicle delay greater than five seconds.

Impact 3.13-9: Under EPAP Plus With Bridge Alternative conditions, the With Bridge Alternative would result in a significant impact at the Eight Mile Road & SR 99 East Frontage Road intersection. (Significant and Unavoidable)

With Bridge Alternative:

Under EPAP Plus With Bridge Alternative conditions, the Eight Mile Road & SR 99 East Frontage Road intersection would operate at LOS F with 215.8 seconds of delay during the a.m. peak hour, and LOS F with more than 703.3 seconds of delay during the p.m. peak hour. LOS F is considered

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unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & SR 99 East Frontage Road intersection:

- *Change the lanes on the northbound approach. Change the approach lanes from a northbound combined through/left-turn lane and an exclusive northbound-to-eastbound right-turn lane, to an exclusive northbound-to-westbound left-turn lane and a northbound combined through/right-turn lane.*
- *Set the north-south signal phasing to be split phasing.*

Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

These measures are the same as recommended for EPAP No Project conditions.

A summary of the mitigated LOS is presented in Table 3.13-36. With this mitigation measure, this intersection would operate at LOS C with 29.2 seconds of delay during the a.m. peak hour and LOS C with 31.6 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

Control of this intersection is not entirely within the City of Stockton. Therefore, implementing this mitigation measure would require approval by the County of San Joaquin and Caltrans. If the mitigation measure is approved by the County and Caltrans, and constructed, the unacceptable LOS would be improved to an acceptable LOS, and the impact would be reduced to a less-than-significant level. If the improvements are not approved by the County and Caltrans, the LOS would remain unacceptable and the impact would be **significant and unavoidable**.

TABLE 3.13-36: INTERSECTION LEVEL OF SERVICE – EPAP PLUS WITH BRIDGE ALTERNATIVE CONDITIONS WITH MITIGATION MEASURES

#	STUDY INTERSECTIONS	AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
13	Eight Mile Road & SR 99 East Frontage Road	C	29.2	C	31.6

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DELAY IS MEASURED IN SECONDS PER VEHICLE. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Impact 3.13-10: Impacts related to roadway segment levels of service under the EPAP Plus With Bridge Alternative conditions. (Less than Significant)*With Bridge Alternative:*

Table 3.13-34, summarized previously, presents a summary of LOS on the 13 study roadway segments under EPAP Plus With Bridge Alternative conditions. Eleven of the 13 roadway segments would operate at acceptable LOS D or better. No improvements are needed on these 11 roadway segments to achieve acceptable LOS. The roadway segments that would operate at unacceptable LOS are discussed below.

Impact 3.13-11: Under EPAP Plus With Bridge Alternative conditions, the With Bridge Alternative would result in a significant impact on the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane. (Significant and Unavoidable)*With Bridge Alternative:*

Under EPAP Plus With Bridge Alternative conditions, the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane would operate at LOS F. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane: widen this roadway segment from two-lanes wide to four lanes wide. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

This improvement is warranted under Existing conditions and under EPAP No Project conditions, meaning it is warranted with or without the With Bridge Alternative. A summary of the mitigated LOS is presented in Table 3.13-37. With this mitigation measure, this roadway segment would operate at LOS D. This LOS is considered acceptable. This roadway segment is located within San Joaquin County. The land surrounding this segment is designated for General Agricultural uses by the San Joaquin County General Plan (2017). Additionally, expansion of this area would not be consistent with the adopted SJCOG RTP/SCS (adopted in 2014). As such, the urban growth within

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the vicinity of this roadway segment that would be required in order to support such a roadway widening would not occur in the future.

The improvement is not under the City's jurisdiction and would require land acquisition within San Joaquin County. This improvement is included in the SJCOG RTP (SJ11-3047) given that it is a regional facility; however, it is not programed for funding at this time. Additionally, this improvement is not funded/programed by the San Joaquin County. Payment of traffic impact fees (PFF fees) would contribute a fair share toward the improvement.

The right-of-way is not controlled by the City or applicant and the feasibility of such improvements would be in question. Also, the improvements are regionally serving and are warranted with or without the project. The City will require the developer to pay traffic impact fees that will contribute a fair share toward the improvement; however, it will not require the individual project to design and build a regional improvement that is currently warranted under existing conditions. The City will continue to work with SJCOG to move this improvement from Tier 2 in the 2014 RTP to a Tier 1 with funding to ensure that the impact fees (PFF fees) paid by the project go towards the long-term solution at this location. As such, this will be a **significant and unavoidable** impact.

TABLE 3.13-37: ROADWAY SEGMENT LEVEL OF SERVICE – EPAP PLUS WITH BRIDGE ALTERNATIVE CONDITIONS WITH MITIGATION MEASURES

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Eight Mile Road Lower Sacramento Road to West Lane	4	34,609	D
Morada Lane East of West Lane	4	16,516	C

SOURCE: KD ANDERSON & ASSOCIATES.

Impact 3.13-12: Under EPAP Plus With Bridge Alternative conditions, the With Bridge Alternative would result in a significant impact on the roadway segment of Morada Lane east of West Lane. (Significant and Unavoidable)

With Bridge Alternative:

Under EPAP Plus With Bridge Alternative conditions, the roadway segment of Morada Lane East of West Lane would operate at LOS E. LOS E is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the roadway segment of Morada Lane East of West Lane: widen this roadway segment from two-lanes wide to four lanes wide. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

A summary of the mitigated LOS is presented in Table 3.13-37. With this mitigation measure, this roadway segment would operate at LOS A. This LOS is considered acceptable.

This improvement is not included in the City of Stockton PFF and, as such, is not currently planned or funded by the City. This improvement is included in the SJCOG RTIF capital project list; however, no specific data for widening of this roadway segment is provided in the RTIF, and no funding is currently programmed in order to construct this improvement. The County does not have any future plans to widen this segment of the roadway.⁸ This roadway segment is, however, in an area which fronts a pending development project (the Bear Creek South Project) and the ultimate buildout of this roadway is anticipated to be associated with that project given that it would be the frontage roadway.

Morada Lane east of the UPRR tracks is already wider than two lanes under existing conditions, therefore, the EIR roadway segment of Morada Lane east of West Lane applies to the portion of Morada Lane between West Lane and the UPRR tracks. For the same reasons as described previously, the flow of traffic along Morada Lane between West Lane and the UPRR tracks is subject to a low level of constraints or “friction” in both the eastbound and westbound directions.

An interim solution to the full widening of Morada Lane from two lanes to four lanes would be to add an exclusive westbound-to-northbound right-turn lane at the intersection of Morada Lane & West Lane. The turn lane would be approximately 500 feet long, including the taper. It is anticipated that the long-term solution of adding the two additional lanes would be carried out in the future once the Bear Creek South project moves forward, however, the timing of that improvement is not yet defined.

However, it is only an interim solution and this roadway will ultimately require widening from two lanes to four lanes. Until the full buildout of the roadway occurs, the impact would be significant and unavoidable. It is not known when the full buildout of this segment of Morada Lane will occur. The With Bridge Alternative would pay their fair share of the improvements through the appropriate impact fees (PFF fees). Once the final widening occurs the impact would be reduced to a less than significant level. In the interim, the impact would remain **significant and unavoidable**.

⁸ Personal communication with David Mendoza, San Joaquin County Engineering Services Manager. November 20, 2017.

Impact 3.13-13: Impacts related to ramp junction levels of service under EPAP Plus With Bridge Alternative conditions. (Less than Significant)

With Bridge Alternative:

Table 3.13-38 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under EPAP Plus With Bridge Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-38: STATE ROUTE 99 RAMP MERGE AND DIVERGE LEVEL OF SERVICE – EPAP PLUS WITH BRIDGE ALTERNATIVE CONDITIONS

RAMP JUNCTION	AM PEAK HOUR				PM PEAK HOUR			
	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Existing)	3,106	311	23.0	C	2,114	361	17.3	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp (Existing)	3,106	443	23.3	C	2,114	370	17.5	B
SR 99 Northbound Merge from Eight Mile Road On-Ramp (Existing)	1,816	385	16.3	B	3,043	248	21.5	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Existing)	1,816	191	14.6	B	3,043	426	22.5	C
SR 99 Southbound Diverge to Morada Lane Off-Ramp (Existing)	3,480	301	23.7	C	2,413	388	17.8	B
SR 99 Southbound Merge from Morada Lane On-Ramp (Existing)	3,480	856	28.9	D	2,413	338	19.0	B
SR 99 Northbound Merge from Morada Lane On-Ramp	2,037	232	16.5	B	3,448	203	23.6	C
SR 99 Northbound Diverge to Morada Lane Off-Ramp	2,037	331	15.7	B	3,448	699	24.7	C

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DENSITY IS EXPRESSED IN PASSENGER CARS PER MILE.

SOURCE: KD ANDERSON & ASSOCIATES.

Traffic volumes under EPAP Plus With Bridge Alternative conditions would be generally higher than under EPAP No Project conditions and, as a result, vehicle density at study ramp junctions under EPAP Plus With Bridge Alternative conditions would generally be higher than under EPAP No Project conditions.

Under EPAP Plus With Bridge Alternative conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. This impact is considered **less than significant**. No mitigation measures are needed at these ramp junctions to achieve acceptable LOS. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 3.13-14: Impacts related to an increase in demand for transit under the With Bridge Alternative. (Less than Significant)*With Bridge Alternative:*

Similar to the proposed Project, implementation of the With Bridge Alternative would result in an increase in demand for public transit service. Currently, there is limited direct public transit service to the Project site, and the development of urban uses would result in an increase in demand. The frequency and proximity of future transit service is not known at this time and, as a result, demand for transit cannot be quantified. However, it is expected that SJRTD can accommodate the additional passengers the With Bridge Alternative would generate. This is considered a **less-than-significant** impact. No mitigation measures are required. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 3.13-15: Impacts related to an increase in demand for bicycle and pedestrian facilities under the With Bridge Alternative. (Less than Significant)*With Bridge Alternative:*

Similar to the proposed Project, implementation of the With Bridge Alternative would result in an increase in demand for bicycle and pedestrian facilities. Implementation of the With Bridge Alternative includes improvements to the Project site frontage along Eight Mile Road and West Lane. These improvements include curb, gutter, sidewalk, and street lighting. These improvements would improve the safety and convenience of bicycle and pedestrian travel along Eight Mile Road and West Lane. Similar to the proposed Project, traffic controls and traffic calming measures would improve the safety and convenience of bicycle and pedestrian travel within the Project site. Therefore, the increase in demand for facilities is considered a **less-than-significant** impact. No mitigation measures would be required. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 3.13-16: Impacts related to an increase in the demand for park-and-ride facilities under the With Bridge Alternative. (Less than Significant with Mitigation)*With Bridge Alternative:*

Similar to the proposed Project, implementation of the With Bridge Alternative would result in an increase in demand for park-and-ride facilities. The SJCOG assessed both the demand for, and availability of, park-and-ride facilities in the document *Final Report – Park-and-Ride Lot Master Plan* (SJCOG 2007). In the document's forecast of future demand for park-and-ride facilities, it notes, "The assessment of future demand indicated a rate of increase of roughly one additional park-and-ride space for every 110 new housing units. This ratio provides a useful indicator of how many new spaces should be provided for a new development . . ." The SJCOG report also notes the availability of transit service is an important factor in demand for park-and-ride facilities.

The With Bridge Alternative would result in up to 1,496 dwelling units. Based on the SJCOG ratio of one additional park-and-ride space for every 110 new housing units, this would result in demand for 14 additional park-and-ride spaces. This is considered a significant impact.

Implementation of mitigation would facilitate the provision of park-and-ride facilities to residents within the Project site, and reduce the impact to a **less than significant** level. Compared to the proposed Project, this alternative is inferior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

Prior to approval of improvements plans, the following improvements shall be shown on the plans: provide park-and-ride facilities in those areas of the Project site that would generate relatively concentrated demand for park-and-ride spaces. These areas are along planned transit corridors, which include:

- *West Lane, and*
- *Eight Mile Road.*

Facilities may include joint use parking spaces, particularly in the vicinity of planned transit facilities. The improvement plans shall be subject to review and approval by the Stockton Public Works Department.

EPAP PLUS GENERAL PLAN 2035 ALTERNATIVE TRAFFIC IMPACT ANALYSIS

Traffic Volume Forecasts

Traffic that would be generated by the General Plan 2035 Alternative was added to EPAP No Project volumes. Figure 3.13-20 displays the General Plan 2035 Alternative-related-only traffic volumes for each study intersection in the a.m. peak hour and p.m. peak hour. Figure 3.13-21 displays the resulting EPAP Plus General Plan 2035 Alternative traffic volumes anticipated for each study intersection in the peak hours.

Roadway Improvements

Implementation of the General Plan 2035 Alternative would result in roadway improvements needed to provide access to the Project site. These improvements are assumed in the analysis of EPAP Plus General Plan 2035 Alternative conditions.

In addition to site access improvements, improvements to major roadways adjacent to the Project site were also assumed in the analysis of EPAP Plus General Plan 2035 Alternative conditions. These adjacent major roadway improvements include widening of Eight Mile Road and West Lane

adjacent to the Project site. The frontage improvements along Eight Mile Road would result in widening of the eastbound and westbound approaches to the intersection of Eight Mile Road and West Lane.

Figure 3.13-21 displays the resulting EPAP Plus General Plan 2035 Alternative intersection lane geometrics for each study intersection. The resulting number of travel lanes assumed for study roadway segments are shown in Table 3.13-39.

TABLE 3.13-39: ROADWAY SEGMENT LEVEL OF SERVICE – EPAP PLUS GENERAL PLAN 2035 ALTERNATIVE CONDITIONS

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Interstate 5 Eight Mile Road to State Route 12	6	69,860	C
Interstate 5 Eight Mile Road to Hammer Lane	6	89,080	C
Eight Mile Road Lower Sacramento Road to Davis Road	4	28,354	C
Eight Mile Road Lower Sacramento Road to West Lane	2	37,368	F
West Lane Eight Mile Road to Ham Lane	4	14,430	A
Eight Mile Road West Lane to Micke Grove Rd/Holman Rd	4	28,944	C
West Lane Morada Lane to Eight Mile Road	4	30,392	D
Morada Lane West of West Lane	2	3,694	A
West Lane Morada Lane to Knickerbocker Drive	4	34,444	E
Morada Lane East of West Lane	2	16,072	E
State Route 99 Eight Mile Road to Armstrong Road	6	89,660	C
State Route 99 Eight Mile Road & Morada Lane	6	102,520	D
State Route 99 Morada Lane to Hammer Lane	6	95,320	C

SOURCE: KD ANDERSON & ASSOCIATES.

Intersection Levels of Service

Table 3.13-40 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under EPAP Plus General Plan 2035 Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-40: INTERSECTION LEVEL OF SERVICE – EPAP PLUS GENERAL PLAN 2035 ALTERNATIVE CONDITIONS

#	STUDY INTERSECTIONS	INTERS. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
1	Eight Mile Road & the I-5 SB Ramps	Signal	--	B	14.0	C	34.2

3.13

TRANSPORTATION AND CIRCULATION

#	STUDY INTERSECTIONS	INTERS. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
2	Eight Mile Road & the I-5 NB Ramps	Signal	--	C	25.3	D	35.6
3	Eight Mile Road & Thornton Road	Signal	--	E	62.5	D	45.2
4	Eight Mile Road & Davis Road	Signal	--	D	36.9	C	31.3
5	Eight Mile Road & Lower Sacramento Road	Signal	--	E	60.2	E	72.5
6	West Lane & Armstrong Road	Signal	--	C	32.3	C	33.1
7	West Lane & Ham Lane	Signal	--	A	9.2	A	5.3
8	Eight Mile Road & West Lane	Signal	--	E	73.7	F	84.2
9	Eight Mile Road & Ham Lane	Signal	--	C	31.0	F	85.8
10	Eight Mile Road & Leach Road / Street G	Signal	--	B	17.3	B	14.3
11	Eight Mile Road & Micke Grove Road / Holman Road	Signal	--	B	10.5	B	16.0
12	Eight Mile Road & SR 99 West Frontage Road	Signal	--	C	33.2	C	34.5
13	Eight Mile Road & SR 99 East Frontage Road	Signal	--	F	329.1	F	>999
14	SR 99 W Frontage Rd & SR 99 SB Ramps (Eight Mile)	Unsig	No	A	8.0	A	7.4
15	SR 99 E Frontage Rd & SR 99 NB Ramps (Eight Mile)	Unsig	Yes	C	16.4	F	112.9
16	West Lane & Lt. Col. Mark Taylor Street/Marlette Rd	Unsig	No	A	0.0	A	0.0
17	Holman Road & Lt. Col. Mark Taylor Street	Signal	--	C	30.2	C	29.2
18	Morada Lane & West Lane	Signal	--	C	27.2	C	26.0
19	Morada Lane & Holman Road	Signal	--	D	35.1	C	32.3
20	SR 99 W. Frontage Road & SR 99 SB Ramps (Morada)	Unsig	Yes	A	8.7	B	10.9
21	SR 99 E. Frontage Road & SR 99 NB Ramps (Morada)	Unsig	Yes	E	37.6	B	12.2
22	Morada Lane & SR 99 West Frontage Road	Signal	--	D	50.7	F	104.6
23	Morada Lane & SR 99 East Frontage Road	Signal	--	A	9.1	B	16.8
24	West Lane & West Lane Frontage Road	Signal	--	C	20.7	B	18.7
25	West Lane & Knickerbocker Drive	Signal	--	C	22.5	C	22.5
26	West Lane & Hammer Lane	Signal	--	C	32.5	D	35.8
27	Hammer Lane & Holman Road	Signal	--	D	38.3	D	39.8
41	Eight Mile Road & SR 99 SB Ramps	--	--	--	--	--	--
42	Eight Mile Road & SR 99 NB Ramps	--	--	--	--	--	--
43	Morada Lane & SR 99 SB Ramps	--	--	--	--	--	--
44	Lt. Col. Mark Taylor Street & Ham Lane (North)	--	--	--	--	--	--
45	Lt. Col. Mark Taylor Street & Ham Lane (South)	--	--	--	--	--	--
46	Lt. Col. Mark Taylor Street & Ham Lane	--	--	--	--	--	--
51	Eight Mile Road & Commercial Site Driveway #1	--	--	--	--	--	--
52	Eight Mile Road & Commercial Site Driveway #2	--	--	--	--	--	--

#	STUDY INTERSECTIONS	INTERSECTIONS CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
53	Eight Mile Road & Street C	--	--	--	--	--	--
54	West Lane & Commercial Site Driveway #3	--	--	--	--	--	--
55	West Lane & Commercial Site Driveway #4	--	--	--	--	--	--
56	West Lane & Street A	--	--	--	--	--	--
57	Eight Mile Road & High Density Residential Driveway #1	--	--	--	--	--	--
58	Eight Mile Road & High Density Residential Driveway #2	--	--	--	--	--	--
60	Eight Mile Road & Industrial Site Driveway #1	--	--	--	--	--	--
61	Eight Mile Road & Industrial Site Driveway #2	--	--	--	--	--	--

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. NB = NORTHBOUND. SB = SOUTHBOUND. INTERS. CONTROL = TYPE OF INTERSECTION CONTROL. SIGNAL = SIGNALIZED LIGHT CONTROL. UNSIG = UNSIGNALIZED STOP-SIGN CONTROL. AWSC = ALL-WAY STOP-SIGN CONTROL DASHES (- -) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Traffic volumes under EPAP Plus General Plan 2035 Alternative conditions would be generally higher than under EPAP No Project conditions and, as a result, vehicle delay at study intersections under EPAP Plus General Plan 2035 Alternative conditions would be higher than under EPAP No Project conditions.

Under EPAP Plus General Plan 2035 Alternative conditions, LOS at 19 of the 27 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 19 intersections to achieve acceptable LOS.

At the following two intersections, LOS under EPAP Plus General Plan 2035 Alternative conditions would be unacceptable LOS E or F. However, compared to LOS under EPAP No Project conditions, the Project-related increase in vehicle delay would not be greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these two intersections is considered less than significant:

- #21 SR 99 East Frontage Rd & SR 99 Northbound Ramps (Morada Lane)
- #22 Morada Lane & SR 99 West Frontage Road

The following describes the study intersections that would operate at unacceptable LOS under EPAP Plus General Plan 2035 Alternative conditions and, compared to EPAP No Project conditions, would experience a Project-related increase in vehicle delay greater than five seconds.

Impact 3.13-17: Under EPAP Plus General Plan 2035 Alternative conditions, the General Plan 2035 Alternative may result in a significant impact at the Eight Mile Road & Thornton Road intersection. (Less than Significant with Mitigation)

General Plan 2035 Alternative:

Under EPAP Plus General Plan 2035 Alternative conditions, the Eight Mile Road & Thornton Road intersection would operate at LOS E with 62.5 seconds of delay during the a.m. peak hour, and LOS D with 45.2 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is inferior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & Thornton Road intersection:

- *Split the southbound combined through/right-turn lane into an exclusive southbound through lane, and an exclusive southbound-to-westbound right-turn lane.*
- *Set the southbound-to-westbound right-turn lane to “overlap” phasing.*
- *Prohibit eastbound-to-westbound U-turns.*

Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

The first of the three measures above is the same as recommended for EPAP No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-41. With this mitigation measure, this intersection would operate at LOS D with 38.3 seconds of delay during the a.m. peak hour and LOS C with 26.4 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

TABLE 3.13-41: INTERSECTION LEVEL OF SERVICE – EPAP PLUS GENERAL PLAN 2035 ALTERNATIVE CONDITIONS WITH MITIGATION MEASURES

#	STUDY INTERSECTIONS	AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
3	Eight Mile Road & Thornton Road	D	38.3	C	26.4
5	Eight Mile Road & Lower Sacramento Road	D	40.1	D	48.0
8	Eight Mile Road & West Lane	D	52.2	D	50.4
9	Eight Mile Road & Ham Lane	C	28.6	D	51.8
13	Eight Mile Road & SR 99 East Frontage Road	D	42.4	D	46.1
15	SR 99 E Frontage Rd & SR 99 NB Ramps (Eight Mile)	--	--	B	10.9

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Impact 3.13-18: Under EPAP Plus General Plan 2035 Alternative conditions, the General Plan 2035 Alternative may result in a significant impact at the Eight Mile Road & Lower Sacramento Road intersection. (Less than Significant with Mitigation)

General Plan 2035 Alternative:

Under EPAP Plus General Plan 2035 Alternative conditions, the Eight Mile Road & Lower Sacramento Road intersection would operate at LOS E with 60.2 seconds of delay during the a.m. peak hour, and LOS E with 72.5 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is inferior relative to this topic.

MITIGATION MEASURE

The following improvement would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & Lower Sacramento Road intersection: add a second westbound-to-southbound left-turn lane. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

A summary of the mitigated LOS is presented in Table 3.13-41. With this mitigation measure, this intersection would operate at LOS D with 40.1 seconds of delay during the a.m. peak hour and LOS D with 48.0 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

Impact 3.13-19: Under EPAP Plus General Plan 2035 Alternative conditions, the General Plan 2035 Alternative may result in a significant impact at the Eight Mile Road & West Lane intersection. (Less than Significant with Mitigation)

General Plan 2035 Alternative:

Under EPAP Plus General Plan 2035 Alternative conditions, the Eight Mile Road & West Lane intersection would operate at LOS E with 73.7 seconds of delay during the a.m. peak hour, and LOS F with 84.2 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is inferior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & West Lane intersection: add a second northbound-to-westbound left-turn lane. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

This mitigation measure is a part of the recommended improvements for EPAP No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-41. With this mitigation measure, this intersection would operate at LOS D with 52.2 seconds of delay during the a.m. peak hour and LOS D with 50.4 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

Impact 3.13-20: Under EPAP Plus General Plan 2035 Alternative conditions, the General Plan 2035 Alternative may result in a significant impact at the Eight Mile Road & Ham Lane intersection. (Less than Significant with Mitigation)

General Plan 2035 Alternative:

Under EPAP Plus General Plan 2035 Alternative conditions, the Eight Mile Road & Ham Lane intersection would operate at LOS C with 31.0 seconds of delay during the a.m. peak hour, and LOS F with 85.8 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is inferior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & Ham Lane intersection: split the eastbound combined through/right-turn lane into an exclusive eastbound through lane, and an exclusive eastbound-to-southbound right-turn lane. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

A summary of the mitigated LOS is presented in Table 3.13-41. With this mitigation measure, this intersection would operate at LOS C with 28.6 seconds of delay during the a.m. peak hour and LOS D with 51.8 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

Impact 3.13-21: Under EPAP Plus General Plan 2035 Alternative conditions, the General Plan 2035 Alternative would result in a significant impact at the Eight Mile Road & SR 99 East Frontage Road intersection. (Significant and Unavoidable)

General Plan 2035 Alternative:

Under EPAP Plus General Plan 2035 Alternative conditions, the Eight Mile Road & SR 99 East Frontage Road intersection would operate at LOS F with 329.1 seconds of delay during the a.m. peak hour, and LOS F with more than 999 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is inferior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & SR 99 East Frontage Road intersection:

- *Change the lanes on the northbound approach. Change the approach lanes from a northbound combined through/left-turn lane and an exclusive northbound-to-eastbound right-turn lane, to an exclusive northbound-to-westbound left-turn lane and a northbound combined through/right-turn lane.*
- *Set the north-south signal phasing to be split phasing.*

Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

These measures are the same as recommended for EPAP No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-41. With this mitigation measure, this intersection would operate at LOS D with 42.4 seconds of delay during the a.m. peak hour and LOS D with 46.1 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

Control of this intersection is not entirely within the City of Stockton. Therefore, implementing this mitigation measure would require approval by the County of San Joaquin and Caltrans. If the mitigation measure is approved by the County and Caltrans, and constructed, the unacceptable LOS would be improved to an acceptable LOS, and the impact would be reduced to a less-than-significant level. If the improvements are not approved by the County and Caltrans, the LOS would remain unacceptable and the impact would be **significant and unavoidable**.

Impact 3.13-22: Under EPAP Plus General Plan 2035 Alternative conditions, the General Plan 2035 Alternative may result in a significant impact at the SR 99 East Frontage Road & SR 99 Northbound Ramp (Eight Mile Road) Intersection. (Less than Significant with Mitigation)

General Plan 2035 Alternative:

Under EPAP Plus General Plan 2035 Alternative conditions, the SR 99 East Frontage Road & SR 99 Northbound Ramp (Eight Mile Road) would operate at LOS C with 16.4 seconds of delay during the a.m. peak hour, and LOS F with 112.9 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is inferior relative to this topic.

MITIGATION MEASURE

The following improvement would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the SR 99 East Frontage Road & SR 99 Westbound Ramp (Eight Mile Road) intersection: signalize the intersection. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

A summary of the mitigated LOS is presented in Table 3.13-41. With this mitigation measure, this intersection would operate at LOS B with 10.9 seconds of delay during the p.m. peak hour. This LOS is considered acceptable.

Impact 3.13-23: Impacts related to roadway segment levels of service under EPAP Plus General Plan 2035 Alternative conditions. (Less than Significant)General Plan 2035 Alternative:

Table 3.13-39 presents a summary of LOS on the 13 study roadway segments under EPAP Plus General Plan 2035 Alternative conditions. Ten of the 13 roadway segments would operate at acceptable LOS D or better. No improvements are needed on these 10 roadway segments to achieve acceptable LOS.

The roadway segment of Morada Lane east of West Lane would operate at unacceptable LOS E. However, the Project-related increase in traffic volumes would not exceed five percent. Therefore, this impact is considered **less than significant**, and no mitigation measures are required. Compared to the proposed Project, this alternative is equal relative to this topic.

The roadway segments that would operate at unacceptable LOS are discussed below.

Impact 3.13-24: Under EPAP Plus General Plan 2035 Alternative conditions, the General Plan 2035 Alternative would result in a significant impact on the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane. (Significant and Unavoidable)General Plan 2035 Alternative:

Under EPAP Plus General Plan 2035 Alternative conditions, the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane would operate at LOS F. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS. Compared to the proposed Project, this alternative is inferior relative to this topic.

MITIGATION MEASURE

The following improvement would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane: widen this roadway segment from two-lanes wide to four lanes wide. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

This measure is also recommended for EPAP No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-42. With this mitigation measure, this roadway segment would operate at LOS D. This LOS is considered acceptable.

3.13 TRANSPORTATION AND CIRCULATION

TABLE 3.13-42: ROADWAY SEGMENT LEVEL OF SERVICE – EPAP PLUS GENERAL PLAN 2035 ALTERNATIVE CONDITIONS WITH MITIGATION MEASURES

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Eight Mile Road Lower Sacramento Road to West Lane	4	37,368	D
West Lane Morada Lane to Knickerbocker Drive	6	34,444	C

SOURCE: KD ANDERSON & ASSOCIATES.

This roadway segment is located within San Joaquin County. The land surrounding this segment is designated for General Agricultural uses by the San Joaquin County General Plan (2017). Additionally, expansion of this area would not be consistent with the adopted SJCOG RTP/SCS (adopted in 2014). As such, the urban growth within the vicinity of this roadway segment that would be required in order to support such a roadway widening would not occur in the future.

The improvement is not under the City's jurisdiction and would require land acquisition within San Joaquin County. This improvement is included in the SJCOG RTP (SJ11-3047) given that it is a regional facility; however, it is not programed for funding at this time. Additionally, this improvement is not funded/programed by the San Joaquin County. Payment of traffic impact fees (PFF fees) would contribute a fair share toward the improvement.

The right-of-way is not controlled by the City or applicant and the feasibility of such improvements would be in question. Also, the improvements are regionally serving and are warranted with or without the project. The City will require the developer to pay traffic impact fees that will contribute a fair share toward the improvement; however, it will not require the individual project to design and build a regional improvement that is currently warranted under existing conditions. The City will continue to work with SJCOG to move this improvement from Tier 2 in the 2014 RTP to a Tier 1 with funding to ensure that the impact fees (PFF fees) paid by the project go towards the long-term solution at this location. As such, this will be a **significant and unavoidable** impact.

Impact 3.13-25: Under EPAP Plus General Plan 2035 Alternative conditions, the General Plan 2035 Alternative may result in a significant impact on the roadway segment of West Lane from Morada Lane to Knickerbocker Drive. (Less than Significant with Mitigation)

General Plan 2035 Alternative:

Under EPAP Plus General Plan 2035 Alternative conditions, the roadway segment of West Lane from Morada Lane to Knickerbocker Drive would operate at LOS E. LOS E is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is inferior relative to this topic.

MITIGATION MEASURE

The following improvement would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the roadway segment of West Lane from Morada Lane to Knickerbocker Drive: widen this roadway segment from four-lanes wide to six lanes wide. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

A summary of the mitigated LOS is presented in Table 3.13-42 above. With this mitigation measure, this roadway segment would operate at LOS C. This LOS is considered acceptable.

Impact 3.13-26: Impacts related to ramp junction levels of service under EPAP Plus General Plan 2035 Alternative conditions. (Less than Significant)

General Plan 2035 Alternative:

Table 3.13-43 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under EPAP Plus General Plan 2035 Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-43: STATE ROUTE 99 RAMP MERGE AND DIVERGE LEVEL OF SERVICE – EPAP PLUS GENERAL PLAN 2035 ALTERNATIVE CONDITIONS

RAMP JUNCTION	AM PEAK HOUR				PM PEAK HOUR			
	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Existing)	3,106	313	23.0	C	2,114	373	17.3	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp (Existing)	3,106	608	24.7	C	2,114	461	18.2	B
SR 99 Northbound Merge from Eight Mile Road On-Ramp (Existing)	1,815	394	16.4	B	3,041	253	21.6	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Existing)	1,815	250	14.7	B	3,041	605	22.8	C
SR 99 Southbound Diverge to Morada Lane Off-Ramp (Existing)	3,643	301	24.6	C	2,503	388	18.3	B
SR 99 Southbound Merge from Morada Lane On-Ramp (Existing)	3,643	820	29.5	D	2,503	320	19.3	B
SR 99 Northbound Merge from Morada Lane On-Ramp	2,095	233	16.8	B	3,624	203	24.5	C
SR 99 Northbound Diverge to Morada Lane Off-Ramp	2,095	308	16.0	B	3,624	667	25.6	C

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DENSITY IS EXPRESSED IN PASSENGER CARS PER MILE.

SOURCE: KD ANDERSON & ASSOCIATES.

Traffic volumes under EPAP Plus General Plan 2035 Alternative conditions would be generally higher than under EPAP No Project conditions and, as a result, vehicle density at study ramp junctions under EPAP Plus General Plan conditions would generally be higher than under EPAP No Project conditions.

Under EPAP Plus General Plan 2035 Alternative conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. This impact is considered **less than significant**. No mitigation measures are needed at these ramp junctions to achieve acceptable LOS. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 3.13-27: Impacts related to an increase in demand for transit under the General Plan 2035 Alternative. (Less than Significant)

General Plan 2035 Alternative:

Similar to the proposed Project, implementation of the General Plan 2035 Alternative would result in an increase in demand for public transit service. Currently, there is limited direct public transit service to the Project site, and the development of urban uses would result in an increase in demand. The frequency and proximity of future transit service is not known at this time and, as a result, demand for transit cannot be quantified. However, it is expected that SJRTD can accommodate the additional passengers the General Plan 2035 Alternative would generate. This is considered a **less-than-significant** impact. No mitigation measures are required. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 3.13-28: Impacts related to an increase in demand for bicycle and pedestrian facilities under the General Plan 2035 Alternative. (Less than Significant)

General Plan 2035 Alternative:

Similar to the proposed Project, implementation of the General Plan 2035 Alternative would result in an increase in demand for bicycle and pedestrian facilities. Implementation of the General Plan 2035 Alternative includes improvements to the Project site frontage along Eight Mile Road and West Lane. These improvements include curb, gutter, sidewalk, and street lighting. These improvements would improve the safety and convenience of bicycle and pedestrian travel along Eight Mile Road and West Lane. Therefore, the increase in demand for facilities is considered a **less-than-significant** impact. No mitigation measures would be required. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 3.13-29: Impacts related to an increase in the demand for park-and-ride facilities under the General Plan 2035 Alternative. (Less than Significant with Mitigation)General Plan 2035 Alternative:

Similar to the proposed Project, implementation of the General Plan 2035 Alternative would result in an increase in demand for park-and-ride facilities. The SJCOG assessed both the demand for, and availability of, park-and-ride facilities in the document *Final Report – Park-and-Ride Lot Master Plan* (SJCOG 2007). In the document’s forecast of future demand for park-and-ride facilities, it notes, “The assessment of future demand indicated a rate of increase of roughly one additional park-and ride space for every 110 new housing units. This ratio provides a useful indicator of how many new spaces should be provided for a new development . . .” The SJCOG report also notes the availability of transit service is an important factor in demand for park-and-ride facilities.

The General Plan 2035 Alternative would result in up to 2,652 dwelling units. Based on the SJCOG ratio of one additional park-and-ride space for every 110 new housing units, this would result in demand for 24 additional park-and-ride spaces. This is considered a significant impact.

Implementation of mitigation would facilitate the provision of park-and-ride facilities to residents within the Project site, and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is inferior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

Prior to approval of improvements plans, the following improvements shall be shown on the plans: provide park-and-ride facilities in those areas of the Project site that would generate relatively concentrated demand for park-and-ride spaces. These areas are along planned transit corridors, which include:

- *West Lane, and*
- *Eight Mile Road.*

Facilities may include joint use parking spaces, particularly in the vicinity of planned transit facilities. The improvement plans shall be subject to review and approval by the Stockton Public Works Department.

EPAP PLUS REDUCED PROJECT ALTERNATIVE TRAFFIC IMPACT ANALYSIS

Traffic Volume Forecasts

Traffic that would be generated by the Reduced Project Alternative was added to EPAP No Project volumes. Figure 3.13-22 displays the Reduced Project Alternative-related-only traffic volumes for each study intersection in the a.m. peak hour and p.m. peak hour. Figure 3.13-23 displays the resulting EPAP Plus Reduced Project Alternative traffic volumes anticipated for each study intersection in the peak hours.

Roadway Improvements

Implementation of the Reduced Project Alternative would result in roadway improvements needed to provide access to the Project site. These improvements are assumed in the analysis of EPAP Plus Reduced Project Alternative conditions.

In addition to site access improvements, improvements to major roadways adjacent to the Project site were also assumed in the analysis of EPAP Plus Reduced Project Alternative conditions. These adjacent major roadway improvements include widening of Eight Mile Road and West Lane adjacent to the Project site. The frontage improvements along Eight Mile Road would result in widening of the eastbound and westbound approaches to the intersection of Eight Mile Road and West Lane.

Figure 3.13-23 displays the resulting EPAP Plus Reduced Project Alternative intersection lane geometrics for each study intersection. The resulting number of travel lanes assumed for study roadway segments are shown in Table 3.13-44.

TABLE 3.13-44: ROADWAY SEGMENT LEVEL OF SERVICE – EPAP PLUS REDUCED PROJECT ALTERNATIVE CONDITIONS

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Interstate 5 Eight Mile Road to State Route 12	6	69,484	C
Interstate 5 Eight Mile Road to Hammer Lane	6	88,892	C
Eight Mile Road Lower Sacramento Road to Davis Road	4	26,472	C
Eight Mile Road Lower Sacramento Road to West Lane	2	33,604	F
West Lane Eight Mile Road to Ham Lane	4	13,902	A
Eight Mile Road West Lane to Micke Grove Rd/Holman Rd	4	21,056	A
West Lane Morada Lane to Eight Mile Road	4	24,354	C
Morada Lane West of West Lane	2	3,318	A

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
West Lane Morada Lane to Knickerbocker Drive	4	28,612	D
Morada Lane East of West Lane	2	16,244	E
State Route 99 Eight Mile Road to Armstrong Road	6	89,284	C
State Route 99 Eight Mile Road & Morada Lane	6	98,344	D
State Route 99 Morada Lane to Hammer Lane	6	91,744	C

SOURCE: KD ANDERSON & ASSOCIATES.

Intersection Levels of Service

Table 3.13-45 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under EPAP Plus Reduced Project Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-45: INTERSECTION LEVEL OF SERVICE – EPAP PLUS REDUCED PROJECT ALTERNATIVE CONDITIONS

#	STUDY INTERSECTIONS	INTERSECTIONS CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
1	Eight Mile Road & the I-5 SB Ramps	Signal	--	B	14.0	C	30.9
2	Eight Mile Road & the I-5 NB Ramps	Signal	--	C	24.4	C	32.5
3	Eight Mile Road & Thornton Road	Signal	--	E	59.5	D	43.1
4	Eight Mile Road & Davis Road	Signal	--	D	35.5	C	29.7
5	Eight Mile Road & Lower Sacramento Road	Signal	--	D	49.6	D	50.0
6	West Lane & Armstrong Road	Signal	--	C	32.3	C	33.0
7	West Lane & Ham Lane	Signal	--	A	8.6	A	4.2
8	Eight Mile Road & West Lane	Signal	--	E	57.2	E	64.8
9	Eight Mile Road & Ham Lane	Unsig	No	A	0.5	A	0.5
10	Eight Mile Road & Leach Road / Street G	Signal	--	A	8.3	A	8.4
11	Eight Mile Road & Mickle Grove Road / Holman Road	Signal	--	A	7.2	A	8.1
12	Eight Mile Road & SR 99 West Frontage Road	Signal	--	C	25.1	C	27.6
13	Eight Mile Road & SR 99 East Frontage Road	Signal	--	F	216.0	F	624.1
14	SR 99 W Frontage Rd & SR 99 SB Ramps (Eight Mile)	Unsig	No	A	7.3	A	6.9
15	SR 99 E Frontage Rd & SR 99 NB Ramps (Eight Mile)	Unsig	No	A	7.2	C	18.6
16	West Lane & Lt. Col. Mark Taylor Street/Marlette Rd	--	--	--	--	--	--
17	Holman Road & Lt. Col. Mark Taylor Street	Signal	--	C	30.1	C	29.2
18	Morada Lane & West Lane	Signal	--	C	29.1	C	27.2
19	Morada Lane & Holman Road	Signal	--	C	35.0	C	32.2
20	SR 99 W. Frontage Road & SR 99 SB Ramps (Morada)	Unsig	No	A	8.7	B	10.9
21	SR 99 E. Frontage Road & SR 99 NB Ramps (Morada)	Unsig	Yes	E	39.0	B	14.9

3.13 TRANSPORTATION AND CIRCULATION

#	STUDY INTERSECTIONS	INTERSECTIONS CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
22	Morada Lane & SR 99 West Frontage Road	Signal	--	D	52.7	F	102.9
23	Morada Lane & SR 99 East Frontage Road	Signal	--	A	9.1	B	16.8
24	West Lane & West Lane Frontage Road	Signal	--	C	20.5	B	19.1
25	West Lane & Knickerbocker Drive	Signal	--	C	23.8	C	23.7
26	West Lane & Hammer Lane	Signal	--	C	32.7	D	35.7
27	Hammer Lane & Holman Road	Signal	--	D	38.1	D	39.8
41	Eight Mile Road & SR 99 SB Ramps	--	--	--	--	--	--
42	Eight Mile Road & SR 99 NB Ramps	--	--	--	--	--	--
43	Morada Lane & SR 99 SB Ramps	--	--	--	--	--	--
44	Lt. Col. Mark Taylor Street & Ham Lane (North)	--	--	--	--	--	--
45	Lt. Col. Mark Taylor Street & Ham Lane (South)	--	--	--	--	--	--
46	Lt. Col. Mark Taylor Street & Ham Lane	--	--	--	--	--	--
51	Eight Mile Road & Commercial Site Driveway #1	--	--	--	--	--	--
52	Eight Mile Road & Commercial Site Driveway #2	--	--	--	--	--	--
53	Eight Mile Road & Street C	--	--	--	--	--	--
54	West Lane & Commercial Site Driveway #3	--	--	--	--	--	--
55	West Lane & Commercial Site Driveway #4	--	--	--	--	--	--
56	West Lane & Street A	--	--	--	--	--	--
57	Eight Mile Road & High Density Residential Driveway #1	--	--	--	--	--	--
58	Eight Mile Road & High Density Residential Driveway #2	--	--	--	--	--	--
60	Eight Mile Road & Industrial Site Driveway #1	--	--	--	--	--	--
61	Eight Mile Road & Industrial Site Driveway #2	--	--	--	--	--	--

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. NB = NORTHBOUND. SB = SOUTHBOUND. INTERSECTIONS CONTROL = TYPE OF INTERSECTION CONTROL. SIGNAL = SIGNALIZED LIGHT CONTROL. UNSIG = UNSIGNALIZED STOP-SIGN CONTROL. AWSC = ALL-WAY STOP-SIGN CONTROL DASHES (- -) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Traffic volumes under EPAP Plus Reduced Project Alternative conditions would be generally higher than under EPAP No Project conditions and, as a result, vehicle delay at study intersections under EPAP Plus Reduced Project Alternative conditions would be higher than under EPAP No Project conditions.

Under EPAP Plus Reduced Project Alternative conditions, LOS at 21 of the 26 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 21 intersections to achieve acceptable LOS.

At the following four intersections, LOS under EPAP Plus Reduced Project Alternative conditions would be unacceptable LOS E or F. However, compared to LOS under EPAP No Project conditions, the Reduced Project Alternative-related increase in vehicle delay would not be greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these four intersections is considered less than significant:

- #3 Eight Mile Road & Thornton Road
- #8 Eight Mile Road & West Lane
- #21 SR 99 East Frontage Rd & SR 99 Northbound Ramps (Morada Lane)
- #22 Morada Lane & SR 99 West Frontage Road

The following describes the study intersection that would operate at unacceptable LOS under EPAP Plus Reduced Project Alternative conditions and, compared to EPAP No Project conditions, would experience a Project-related increase in vehicle delay greater than five seconds.

Impact 3.13-30: Under EPAP Plus Reduced Project Alternative conditions, the Reduced Project Alternative would result in a significant impact at the Eight Mile Road & SR 99 East Frontage Road intersection. (Significant and Unavoidable)

Reduced Project Alternative:

Under EPAP Plus Reduced Project Alternative conditions, the Eight Mile Road & SR 99 East Frontage Road intersection would operate at LOS F with 216.0 seconds of delay during the a.m. peak hour, and LOS F with 624.1 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & SR 99 East Frontage Road intersection:

- *Change the lanes on the northbound approach. Change the approach lanes from a northbound combined through/left-turn lane and an exclusive northbound-to-eastbound right-turn lane, to an exclusive northbound-to-westbound left-turn lane and a northbound combined through/right-turn lane.*
- *Set the north-south signal phasing to be split phasing.*

3.13 TRANSPORTATION AND CIRCULATION

Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

This measure is the same as that recommended for EPAP No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-46. With this mitigation measure, this intersection would operate at LOS D with 35.5 seconds of delay during the a.m. peak hour and LOS C with 29.9 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

Control of this intersection is not entirely within the City of Stockton. Therefore, implementing this mitigation measure would require approval by the County of San Joaquin and Caltrans. If the mitigation measure is approved by the County and Caltrans, and constructed, the unacceptable LOS would be improved to an acceptable LOS, and the impact would be reduced to a less-than-significant level. If the improvements are not approved by the County and Caltrans, the LOS would remain unacceptable and the impact would be **significant and unavoidable**.

TABLE 3.13-46: INTERSECTION LEVEL OF SERVICE – EPAP PLUS REDUCED PROJECT ALTERNATIVE CONDITIONS WITH MITIGATION MEASURES

#	STUDY INTERSECTIONS	AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
13	Eight Mile Road & SR 99 East Frontage Road	D	35.5	C	29.9

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Roadway Segment Levels of Service

Table 3.13-44 presents a summary of LOS on the 13 study roadway segments under EPAP Plus Reduced Project Alternative conditions. Eleven of the roadway segments would operate at acceptable LOS D or better. No improvements are needed on these 11 roadway segments to achieve acceptable LOS. The roadway segments that would operate at unacceptable LOS are discussed below.

Impact 3.13-31: Under EPAP Plus Reduced Project Alternative conditions, the Reduced Project Alternative would result in a significant impact on the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane. (Significant and Unavoidable)

Reduced Project Alternative:

Under EPAP Plus Reduced Project Alternative conditions, the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane would operate at LOS F. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to

achieve acceptable LOS. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane: widen this roadway segment from two-lanes wide to four lanes wide. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

This measure is also recommended for EPAP No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-47. With this mitigation measure, this roadway segment would operate at LOS D. This LOS is considered acceptable.

TABLE 3.13-47: ROADWAY SEGMENT LEVEL OF SERVICE – EPAP PLUS REDUCED PROJECT ALTERNATIVE CONDITIONS WITH MITIGATION MEASURES

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Eight Mile Road Lower Sacramento Road to West Lane	4	33,604	D
Morada Lane East of West Lane	4	16,244	A

SOURCE: KD ANDERSON & ASSOCIATES.

This roadway segment is located within San Joaquin County. The land surrounding this segment is designated for General Agricultural uses by the San Joaquin County General Plan (2017). Additionally, expansion of this area would not be consistent with the adopted SJCOG RTP/SCS (adopted in 2014). As such, the urban growth within the vicinity of this roadway segment that would be required in order to support such a roadway widening would not occur in the future.

The improvement is not under the City's jurisdiction and would require land acquisition within San Joaquin County. This improvement is included in the SJCOG RTP (SJ11-3047) given that it is a regional facility; however, it is not programed for funding at this time. Additionally, this improvement is not funded/programed by the San Joaquin County. Payment of traffic impact fees (PFF fees) would contribute a fair share toward the improvement.

The right-of-way is not controlled by the City or applicant and the feasibility of such improvements would be in question. Also, the improvements are regionally serving and are warranted with or without the project. The City will require the developer to pay traffic impact fees that will contribute a fair share toward the improvement; however, it will not require the individual project to design and build a regional improvement that is currently warranted under existing conditions. The City will continue to work with SJCOG to move this improvement from Tier 2 in the 2014 RTP

to a Tier 1 with funding to ensure that the impact fees (PFF fees) paid by the project go towards the long-term solution at this location. As such, this will be a **significant and unavoidable** impact.

Impact 3.13-32: Under EPAP Plus Reduced Project Alternative conditions, the Reduced Project Alternative would result in a significant impact on the roadway segment of Morada Lane East of West Lane. (Significant and Unavoidable)

Reduced Project Alternative:

Under EPAP Plus Reduced Project Alternative conditions, the roadway segment of Morada Lane East of West Lane would operate at LOS E. LOS E is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the roadway segment of Morada Lane East of West Lane: widen this roadway segment from two-lanes wide to four lanes wide. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

This measure is also recommended for EPAP No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-47. With this mitigation measure, this roadway segment would operate at LOS A. This LOS is considered acceptable.

This improvement is not included in the City of Stockton PFF and, as such, is not currently planned or funded by the City. This improvement is included in the SJCOG RTIF capital project list; however, no specific data for widening of this roadway segment is provided in the RTIF, and no funding is currently programmed in order to construct this improvement. The County does not have any future plans to widen this segment of the roadway.⁹ This roadway segment is, however, in an area which fronts a pending development project (the Bear Creek South Project) and the ultimate buildout of this roadway is anticipated to be associated with that project given that it would be the frontage roadway.

⁹ Personal communication with David Mendoza, San Joaquin County Engineering Services Manager. November 20, 2017.

Morada Lane east of the UPRR tracks is already wider than two lanes under existing conditions, therefore, the EIR roadway segment of Morada Lane east of West Lane applies to the portion of Morada Lane between West Lane and the UPRR tracks. For the same reasons as described previously, the flow of traffic along Morada Lane between West Lane and the UPRR tracks is subject to a low level of constraints or “friction” in both the eastbound and westbound directions.

An interim solution to the full widening of Morada Lane from two lanes to four lanes would be to add an exclusive westbound-to-northbound right-turn lane at the intersection of Morada Lane & West Lane. The turn lane would be approximately 500 feet long, including the taper. It is anticipated that the long-term solution of adding the two additional lanes would be carried out in the future once the Bear Creek South project moves forward, however, the timing of that improvement is not yet defined.

However, it is only an interim solution and this roadway will ultimately require widening from two lanes to four lanes. Until the full buildout of the roadway occurs, the impact would be significant and unavoidable. It is not known when the full buildout of this segment of Morada Lane will occur. The Reduced Project Alternative would pay their fair share of the improvements through the appropriate impact fees (PFF fees). Once the final widening occurs the impact would be reduced to a less than significant level. In the interim, the impact would remain **significant and unavoidable**.

Impact 3.13-33: Impacts related to ramp junction levels of service under EPAP Plus Reduced Project Alternative conditions. (Less than Significant)

Reduced Project Alternative:

Table 3.13-48 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under EPAP Plus Reduced Project Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

Traffic volumes under EPAP Plus Reduced Project Alternative conditions would be generally higher than under EPAP No Project conditions and, as a result, vehicle density at study ramp junctions under EPAP Plus Reduced Project Alternative conditions would generally be higher than under EPAP No Project conditions.

Under EPAP Plus Reduced Project Alternative conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. This impact is considered **less than significant**. No mitigation measures are needed at these ramp junctions to achieve acceptable LOS. Compared to the proposed Project, this alternative is superior relative to this topic.

3.13 TRANSPORTATION AND CIRCULATION

TABLE 3.13-48: STATE ROUTE 99 RAMP MERGE AND DIVERGE LEVEL OF SERVICE – EPAP PLUS REDUCED PROJECT ALTERNATIVE CONDITIONS

RAMP JUNCTION	AM PEAK HOUR				PM PEAK HOUR			
	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Existing)	3,106	308	23.0	C	2,114	355	17.2	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp (Existing)	3,106	425	23.1	C	2,114	309	17.0	B
SR 99 Northbound Merge from Eight Mile Road On-Ramp (Existing)	1,815	379	16.2	B	3,041	240	21.5	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Existing)	1,815	183	14.5	B	3,041	389	22.4	C
SR 99 Southbound Diverge to Morada Lane Off-Ramp (Existing)	3,460	301	23.6	C	2,351	388	17.4	B
SR 99 Southbound Merge from Morada Lane On-Ramp (Existing)	3,460	862	28.9	D	2,351	345	18.7	B
SR 99 Northbound Merge from Morada Lane On-Ramp	2,028	233	16.4	B	3,408	203	23.3	C
SR 99 Northbound Diverge to Morada Lane Off-Ramp	2,028	334	15.7	B	3,408	705	24.5	C

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DENSITY IS EXPRESSED IN PASSENGER CARS PER MILE.

SOURCE: KD ANDERSON & ASSOCIATES.

Impact 3.13-34: Impacts related to an increase in demand for transit under the Reduced Project Alternative. (Less than Significant)

Reduced Project Alternative:

Similar to the proposed Project, implementation of the Reduced Project Alternative would result in an increase in demand for public transit service. Currently, there is limited direct public transit service to the Project site, and the development of urban uses would result in an increase in demand. The frequency and proximity of future transit service is not known at this time and, as a result, demand for transit cannot be quantified. However, it is expected that SJRTD can accommodate the additional passengers the Reduced Project Alternative would generate. This is considered a **less-than-significant** impact. No mitigation measures are required. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 3.13-35: Impacts related to an increase in demand for bicycle and pedestrian facilities under the Reduced Project Alternative. (Less than Significant)

Reduced Project Alternative:

Similar to the proposed Project, implementation of the Reduced Project Alternative would result in an increase in demand for bicycle and pedestrian facilities. Implementation of the Reduced Project Alternative includes improvements to the Project site frontage along Eight Mile Road and West Lane. These improvements include curb, gutter, sidewalk, and street lighting. These improvements would improve the safety and convenience of bicycle and pedestrian travel along

Eight Mile Road and West Lane. Therefore, the increase in demand for facilities is considered a **less-than-significant** impact. No mitigation measures would be required. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 3.13-36: Impacts related to an increase in the demand for park-and-ride facilities under the Reduced Project Alternative. (Less than Significant with Mitigation)

Reduced Project Alternative:

Similar to the proposed Project, implementation of the Reduced Project Alternative would result in an increase in demand for park-and-ride facilities. The SJCOG assessed both the demand for, and availability of, park-and-ride facilities in the document *Final Report – Park-and-Ride Lot Master Plan* (SJCOG 2007). In the document’s forecast of future demand for park-and-ride facilities, it notes, “The assessment of future demand indicated a rate of increase of roughly one additional park-and ride space for every 110 new housing units. This ratio provides a useful indicator of how many new spaces should be provided for a new development . . .” The SJCOG report also notes the availability of transit service is an important factor in demand for park-and-ride facilities.

The Reduced Project Alternative would result in up to 984 dwelling units. Based on the SJCOG ratio of one additional park-and-ride space for every 110 new housing units, this would result in demand for 9 additional park-and-ride spaces. This is considered a significant impact.

Implementation of mitigation would facilitate the provision of park-and-ride facilities to residents within the Project site, and reduce the impact to a **less than significant** level. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

Prior to approval of improvements plans, the following improvements shall be shown on the plans: provide park-and-ride facilities in those areas of the Project site that would generate relatively concentrated demand for park-and-ride spaces. These areas are along planned transit corridors, which include:

- *West Lane, and*
- *Eight Mile Road.*

Facilities may include joint use parking spaces, particularly in the vicinity of planned transit facilities. The improvement plans shall be subject review and approval by the Stockton Public Works Department.

EPAP PLUS REDUCED INTENSITY/DENSITY ALTERNATIVE TRAFFIC IMPACT ANALYSIS

Traffic Volume Forecasts

Traffic that would be generated by the Reduced Intensity/Density Alternative was added to EPAP No Project volumes. Figure 3.13-24 displays the Reduced Intensity/Density Alternative-related-only traffic volumes for each study intersection in the a.m. peak hour and p.m. peak hour. Figure 3.13-25 displays the resulting EPAP Plus Reduced Intensity/Density Alternative traffic volumes anticipated for each study intersection in the peak hours.

Roadway Improvements

Implementation of the Reduced Intensity/Density Alternative would result in roadway improvements needed to provide access to the Project site. These improvements are assumed in the analysis of EPAP Plus Reduced Intensity/Density Alternative conditions.

In addition to site access improvements, improvements to major roadways adjacent to the Project site were also assumed in the analysis of EPAP Plus Reduced Intensity/Density Alternative conditions. These adjacent major roadway improvements include widening of Eight Mile Road and West Lane adjacent to the Project site. The frontage improvements along Eight Mile Road would result in widening of the eastbound and westbound approaches to the intersection of Eight Mile Road and West Lane.

Figure 3.13-25 displays the resulting EPAP Plus Reduced Intensity/Density Alternative intersection lane geometrics for each study intersection. The resulting number of travel lanes assumed for study roadway segments are shown in Table 3.13-49.

TABLE 3.13-49: ROADWAY SEGMENT LEVEL OF SERVICE – EPAP PLUS REDUCED INTENSITY/DENSITY ALTERNATIVE CONDITIONS

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Interstate 5 Eight Mile Road to State Route 12	6	69,510	C
Interstate 5 Eight Mile Road to Hammer Lane	6	88,904	C
Eight Mile Road Lower Sacramento Road to Davis Road	4	26,600	C
Eight Mile Road Lower Sacramento Road to West Lane	2	33,860	F
West Lane Eight Mile Road to Ham Lane	4	13,950	A
Eight Mile Road West Lane to Micke Grove Rd/Holman Rd	4	21,480	A
West Lane Morada Lane to Eight Mile Road	4	24,882	C
Morada Lane West of West Lane	2	3,344	A

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
West Lane Morada Lane to Knickerbocker Drive	4	29,010	D
Morada Lane East of West Lane	2	16,348	E
State Route 99 Eight Mile Road to Armstrong Road	6	89,310	C
State Route 99 Eight Mile Road & Morada Lane	6	98,520	D
State Route 99 Morada Lane to Hammer Lane	6	91,988	C

SOURCE: KD ANDERSON & ASSOCIATES.

Intersection Levels of Service

Table 3.13-50 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under EPAP Plus Reduced Intensity/Density Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-50: INTERSECTION LEVEL OF SERVICE – EPAP PLUS REDUCED INTENSITY/DENSITY ALTERNATIVE CONDITIONS

#	STUDY INTERSECTIONS	INTERS. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
1	Eight Mile Road & the I-5 SB Ramps	Signal	--	B	14.0	C	31.2
2	Eight Mile Road & the I-5 NB Ramps	Signal	--	C	24.5	C	32.8
3	Eight Mile Road & Thornton Road	Signal	--	E	59.8	D	43.3
4	Eight Mile Road & Davis Road	Signal	--	D	35.6	C	29.9
5	Eight Mile Road & Lower Sacramento Road	Signal	--	D	50.8	D	51.4
6	West Lane & Armstrong Road	Signal	--	C	32.3	C	33.0
7	West Lane & Ham Lane	Signal	--	A	8.6	A	4.2
8	Eight Mile Road & West Lane	Signal	--	E	59.0	E	66.4
9	Eight Mile Road & Ham Lane	Unsig	No	A	0.5	A	0.5
10	Eight Mile Road & Leach Road / Street G	Signal	--	A	9.5	A	9.1
11	Eight Mile Road & Micke Grove Road / Holman Road	Signal	--	A	7.6	A	8.8
12	Eight Mile Road & SR 99 West Frontage Road	Signal	--	C	27.0	C	27.8
13	Eight Mile Road & SR 99 East Frontage Road	Signal	--	F	221.1	F	646.6
14	SR 99 W Frontage Rd & SR 99 SB Ramps (Eight Mile)	Unsig	No	A	7.3	A	6.9
15	SR 99 E Frontage Rd & SR 99 NB Ramps (Eight Mile)	Unsig	No	A	7.5	C	20.6
16	West Lane & Lt. Col. Mark Taylor Street/Marlette Rd	--	--	--	--	--	--
17	Holman Road & Lt. Col. Mark Taylor Street	Signal	--	C	30.1	C	29.2
18	Morada Lane & West Lane	Signal	--	C	29.0	C	27.3
19	Morada Lane & Holman Road	Signal	--	C	35.0	C	32.2
20	SR 99 W. Frontage Road & SR 99 SB Ramps (Morada)	Unsig	Yes	A	8.7	B	10.9

3.13 TRANSPORTATION AND CIRCULATION

#	STUDY INTERSECTIONS	INTERSECTIONS CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
21	SR 99 E. Frontage Road & SR 99 NB Ramps (Morada)	Unsig	Yes	E	39.4	C	15.2
22	Morada Lane & SR 99 West Frontage Road	Signal	--	D	53.0	F	102.8
23	Morada Lane & SR 99 East Frontage Road	Signal	--	A	9.1	B	16.8
24	West Lane & West Lane Frontage Road	Signal	--	C	20.5	B	19.0
25	West Lane & Knickerbocker Drive	Signal	--	C	23.7	C	23.6
26	West Lane & Hammer Lane	Signal	--	C	32.7	D	35.6
27	Hammer Lane & Holman Road	Signal	--	D	38.1	D	39.8
41	Eight Mile Road & SR 99 SB Ramps	--	--	--	--	--	--
42	Eight Mile Road & SR 99 NB Ramps	--	--	--	--	--	--
43	Morada Lane & SR 99 SB Ramps	--	--	--	--	--	--
44	Lt. Col. Mark Taylor Street & Ham Lane (North)	--	--	--	--	--	--
45	Lt. Col. Mark Taylor Street & Ham Lane (South)	--	--	--	--	--	--
46	Lt. Col. Mark Taylor Street & Ham Lane	--	--	--	--	--	--
51	Eight Mile Road & Commercial Site Driveway #1	--	--	--	--	--	--
52	Eight Mile Road & Commercial Site Driveway #2	--	--	--	--	--	--
53	Eight Mile Road & Street C	--	--	--	--	--	--
54	West Lane & Commercial Site Driveway #3	--	--	--	--	--	--
55	West Lane & Commercial Site Driveway #4	--	--	--	--	--	--
56	West Lane & Street A	--	--	--	--	--	--
57	Eight Mile Road & High Density Residential Driveway #1	--	--	--	--	--	--
58	Eight Mile Road & High Density Residential Driveway #2	--	--	--	--	--	--
60	Eight Mile Road & Industrial Site Driveway #1	--	--	--	--	--	--
61	Eight Mile Road & Industrial Site Driveway #2	--	--	--	--	--	--

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. NB = NORTHBOUND. SB = SOUTHBOUND. INTERSECTIONS CONTROL = TYPE OF INTERSECTION CONTROL. SIGNAL = SIGNALIZED LIGHT CONTROL. UNSIG = UNSIGNALIZED STOP-SIGN CONTROL. AWSC = ALL-WAY STOP-SIGN CONTROL DASHES (- -) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Traffic volumes under EPAP Plus Reduced Intensity/Density Alternative conditions would be generally higher than under EPAP No Project conditions and, as a result, vehicle delay at study intersections under EPAP Plus Reduced Intensity/Density Alternative conditions would be higher than under EPAP No Project conditions.

Under EPAP Plus Reduced Intensity/Density Alternative conditions, LOS at 21 of the 26 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 21 intersections to achieve acceptable LOS.

At the following four intersections, LOS under EPAP Plus Reduced Intensity/Density Alternative conditions would be unacceptable LOS E or F. However, compared to LOS under EPAP No Project conditions, the Reduced Intensity/Density Alternative-related increase in vehicle delay would not be greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these four intersections is considered less than significant:

- #3 Eight Mile Road & Thornton Road
- #8 Eight Mile Road & West Lane
- #21 SR 99 East Frontage Rd & SR 99 Northbound Ramps (Morada Lane)
- #22 Morada Lane & SR 99 West Frontage Road

The following describes the study intersection that would operate at unacceptable LOS under EPAP Plus Reduced Intensity/Density Alternative conditions and, compared to EPAP No Project conditions, would experience a Project-related increase in vehicle delay greater than five seconds.

Impact 3.13-37: Under EPAP Plus Reduced Intensity/Density Alternative conditions, the Reduced Intensity/Density Alternative would result in a significant impact at the Eight Mile Road & SR 99 East Frontage Road intersection. (Significant and Unavoidable)

Reduced Intensity/Density Alternative:

Under EPAP Plus Reduced Intensity/Density Alternative conditions, the Eight Mile Road & SR 99 East Frontage Road would operate at LOS F with 221.1 seconds of delay during the a.m. peak hour, and LOS F with 646.6 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & SR 99 East Frontage Road intersection:

- *Change the lanes on the northbound approach. Change the approach lanes from a northbound combined through/left-turn lane and an exclusive northbound-to-eastbound right-turn lane, to an exclusive northbound-to-westbound left-turn lane and a northbound combined through/right-turn lane.*
- *Set the north-south signal phasing to be split phasing.*

3.13 TRANSPORTATION AND CIRCULATION

Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

This measure is the same as that recommended for EPAP No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-51. With this mitigation measure, this intersection would operate at LOS D with 35.6 seconds of delay during the a.m. peak hour and LOS C with 30.8 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

Control of this intersection is not entirely within the City of Stockton. Therefore, implementing this mitigation measure would require approval by the County of San Joaquin and Caltrans. If the mitigation measure is approved by the County and Caltrans, and constructed, the unacceptable LOS would be improved to an acceptable LOS, and the impact would be reduced to a less-than-significant level. If the improvements are not approved by the County and Caltrans, the LOS would remain unacceptable and the impact would be **significant and unavoidable**.

TABLE 3.13-51: INTERSECTION LEVEL OF SERVICE – EPAP PLUS REDUCED INTENSITY/DENSITY ALTERNATIVE CONDITIONS WITH MITIGATION MEASURES

#	STUDY INTERSECTIONS	AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
13	Eight Mile Road & SR 99 East Frontage Road	D	35.6	C	30.8

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Roadway Segment Levels of Service

Table 3.13-49 presents a summary of LOS on the 13 study roadway segments under EPAP Plus Reduced Intensity/Density Alternative conditions. Eleven of the roadway segments would operate at acceptable LOS D or better. No improvements are needed on these 11 roadway segments to achieve acceptable LOS. The roadway segments that would operate at unacceptable LOS are discussed below.

Impact 3.13-38: Under EPAP Plus Reduced Intensity/Density Alternative conditions, the Reduced Intensity/Density Alternative may result in a significant impact on the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane. (Significant and Unavoidable)

Reduced Intensity/Density Alternative:

Under EPAP Plus Reduced Intensity/Density Alternative conditions, the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane would operate at LOS F. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to

achieve acceptable LOS. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane: widen this roadway segment from two-lanes wide to four lanes wide. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

This measure is also recommended for EPAP No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-52. With this mitigation measure, this roadway segment would operate at LOS D. This LOS is considered acceptable.

**TABLE 3.13-52: ROADWAY SEGMENT LEVEL OF SERVICE – EPAP PLUS REDUCED INTENSITY/DENSITY
ALTERNATIVE CONDITIONS WITH MITIGATION MEASURES**

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Eight Mile Road Lower Sacramento Road to West Lane	4	33,860	D
Morada Lane East of West Lane	4	16,348	A

SOURCE: KD ANDERSON & ASSOCIATES.

This roadway segment is located within San Joaquin County. The land surrounding this segment is designated for General Agricultural uses by the San Joaquin County General Plan (2017). Additionally, expansion of this area would not be consistent with the adopted SJCOG RTP/SCS (adopted in 2014). As such, the urban growth within the vicinity of this roadway segment that would be required in order to support such a roadway widening would not occur in the future.

The improvement is not under the City's jurisdiction and would require land acquisition within San Joaquin County. This improvement is included in the SJCOG RTP (SJ11-3047) given that it is a regional facility; however, it is not programed for funding at this time. Additionally, this improvement is not funded/programed by the San Joaquin County. Payment of traffic impact fees (PFF fees) would contribute a fair share toward the improvement.

The right-of-way is not controlled by the City or applicant and the feasibility of such improvements would be in question. Also, the improvements are regionally serving and are warranted with or without the project. The City will require the developer to pay traffic impact fees that will contribute a fair share toward the improvement; however, it will not require the individual project to design and build a regional improvement that is currently warranted under existing conditions. The City will continue to work with SJCOG to move this improvement from Tier 2 in the 2014 RTP

to a Tier 1 with funding to ensure that the impact fees (PFF fees) paid by the project go towards the long-term solution at this location. As such, this will be a **significant and unavoidable** impact.

Impact 3.13-39: Under EPAP Plus Reduced Intensity/Density Alternative conditions, the Reduced Intensity/Density Alternative would result in a significant impact on the roadway segment of Morada Lane East of West Lane. (Significant and Unavoidable)

Reduced Intensity/Density Alternative:

Under EPAP Plus Reduced Intensity/Density Alternative conditions, the roadway segment of Morada Lane East of West Lane would operate at LOS E. LOS E is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvement would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the roadway segment of Morada Lane East of West Lane: widen this roadway segment from two-lanes wide to four lanes wide. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

This measure is also recommended for EPAP No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-52. With this mitigation measure, this roadway segment would operate at LOS A. This LOS is considered acceptable.

This improvement is not included in the City of Stockton PFF and, as such, is not currently planned or funded by the City. This improvement is included in the SJCOG RTIF capital project list; however, no specific data for widening of this roadway segment is provided in the RTIF, and no funding is currently programmed in order to construct this improvement. The County does not have any future plans to widen this segment of the roadway.¹⁰ This roadway segment is, however, in an area which fronts a pending development project (the Bear Creek South Project) and the ultimate buildout of this roadway is anticipated to be associated with that project given that it would be the frontage roadway.

¹⁰ Personal communication with David Mendoza, San Joaquin County Engineering Services Manager. November 20, 2017.

Morada Lane east of the UPRR tracks is already wider than two lanes under existing conditions, therefore, the EIR roadway segment of Morada Lane east of West Lane applies to the portion of Morada Lane between West Lane and the UPRR tracks. For the same reasons as described previously, the flow of traffic along Morada Lane between West Lane and the UPRR tracks is subject to a low level of constraints or “friction” in both the eastbound and westbound directions.

An interim solution to the full widening of Morada Lane from two lanes to four lanes would be to add an exclusive westbound-to-northbound right-turn lane at the intersection of Morada Lane & West Lane. The turn lane would be approximately 500 feet long, including the taper. It is anticipated that the long-term solution of adding the two additional lanes would be carried out in the future once the Bear Creek South project moves forward, however, the timing of that improvement is not yet defined.

However, it is only an interim solution and this roadway will ultimately require widening from two lanes to four lanes. Until the full buildout of the roadway occurs, the impact would be significant and unavoidable. It is not known when the full buildout of this segment of Morada Lane will occur. The Reduced Intensity/Density Alternative would pay their fair share of the improvements through the appropriate impact fees (PFF fees). Once the final widening occurs the impact would be reduced to a less than significant level. In the interim, the impact would remain **significant and unavoidable**.

Impact 3.13-40: Impacts related to ramp junction levels of service under EPAP Plus Reduced Intensity/Density Alternative conditions. (Less than Significant)

Table 3.13-53 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under EPAP Plus Reduced Intensity/Density Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

Traffic volumes under EPAP Plus Reduced Intensity/Density Alternative conditions would be generally higher than under EPAP No Project conditions and, as a result, vehicle density at study ramp junctions under EPAP Plus Reduced Intensity/Density Alternative conditions would generally be higher than under EPAP No Project conditions.

Under EPAP Plus Reduced Intensity/Density Alternative conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. This impact is considered **less than significant**. Compared to the proposed Project, this alternative is superior relative to this topic. No mitigation measures are needed at these ramp junctions to achieve acceptable LOS.

3.13 TRANSPORTATION AND CIRCULATION

TABLE 3.13-53: STATE ROUTE 99 RAMP MERGE AND DIVERGE LEVEL OF SERVICE – EPAP PLUS REDUCED INTENSITY/DENSITY ALTERNATIVE CONDITIONS

RAMP JUNCTION	AM PEAK HOUR				PM PEAK HOUR			
	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Existing)	3,106	309	23.0	C	2,114	356	17.2	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp (Existing)	3,106	436	23.2	C	2,114	316	17.0	B
SR 99 Northbound Merge from Eight Mile Road On-Ramp (Existing)	1,815	381	16.2	B	3,041	241	21.5	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Existing)	1,815	186	14.5	B	3,041	400	22.4	C
SR 99 Southbound Diverge to Morada Lane Off-Ramp (Existing)	3,471	301	23.7	C	2,358	388	17.5	B
SR 99 Southbound Merge from Morada Lane On-Ramp (Existing)	3,471	867	29.0	D	2,358	348	18.8	B
SR 99 Northbound Merge from Morada Lane On-Ramp	2,031	233	16.4	B	3,419	203	23.4	C
SR 99 Northbound Diverge to Morada Lane Off-Ramp	2,031	336	15.7	B	3,419	709	24.6	C

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DENSITY IS EXPRESSED IN PASSENGER CARS PER MILE.

SOURCE: KD ANDERSON & ASSOCIATES.

Impact 3.13-41: Impacts related to an increase in demand for transit under the Reduced Intensity/Density Alternative. (Less than Significant)

Reduced Intensity/Density Alternative:

Similar to the proposed Project, implementation of the Reduced Intensity/Density Alternative would result in an increase in demand for public transit service. Currently, there is limited direct public transit service to the Project site, and the development of urban uses would result in an increase in demand. The frequency and proximity of future transit service is not known at this time and, as a result, demand for transit cannot be quantified. However, it is expected that SJRTD can accommodate the additional passengers the Reduced Intensity/Density Alternative would generate. This is considered a **less-than-significant** impact. No mitigation measures are required. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 3.13-42: Impacts related to an increase in demand for bicycle and pedestrian facilities under the Reduced Intensity/Density Alternative. (Less than Significant)

Reduced Intensity/Density Alternative:

Similar to the proposed Project, implementation of the Reduced Intensity/Density Alternative would result in an increase in demand for bicycle and pedestrian facilities. Implementation of the Reduced Intensity/Density Alternative includes improvements to the Project site frontage along Eight Mile Road and West Lane. These improvements include curb, gutter, sidewalk, and street lighting. These improvements would improve the safety and convenience of bicycle and

pedestrian travel along Eight Mile Road and West Lane. Therefore, the increase in demand for facilities is considered a **less-than-significant** impact. No mitigation measures would be required. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 3.13-43: Impacts related to an increase in the demand for park-and-ride facilities under the Reduced Intensity/Density Alternative. (Less than Significant with Mitigation)

Reduced Intensity/Density Alternative:

Similar to the proposed Project, implementation of the Reduced Intensity/Density Alternative would result in an increase in demand for park-and-ride facilities. The SJCOG assessed both the demand for, and availability of, park-and-ride facilities in the document *Final Report – Park-and-Ride Lot Master Plan* (SJCOG 2007). In the document’s forecast of future demand for park-and-ride facilities, it notes, “The assessment of future demand indicated a rate of increase of roughly one additional park-and ride space for every 110 new housing units. This ratio provides a useful indicator of how many new spaces should be provided for a new development . . .” The SJCOG report also notes the availability of transit service is an important factor in demand for park-and-ride facilities.

The Reduced Intensity/Density Alternative would result in up to 1,147 dwelling units. Based on the SJCOG ratio of one additional park-and-ride space for every 110 new housing units, this would result in demand for 10 additional park-and-ride spaces. This is considered a significant impact.

Implementation of mitigation would facilitate the provision of park-and-ride facilities to residents within the Project site, and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

Prior to approval of improvements plans, the following improvements shall be shown on the plans: provide park-and-ride facilities in those areas of the Project site that would generate relatively concentrated demand for park-and-ride spaces. These areas are along planned transit corridors, which include:

- *West Lane, and*
- *Eight Mile Road.*

Facilities may include joint use parking spaces, particularly in the vicinity of planned transit facilities. The improvement plans shall be subject review and approval by the Stockton Public Works Department.

3.13.9 LONG-TERM FUTURE CUMULATIVE IMPACTS AND MITIGATION MEASURES

CUMULATIVE NO PROJECT TRAFFIC IMPACT ANALYSIS

Cumulative No Project conditions represent a long-term future background condition. Development of land uses and roadway improvements associated with the City of Stockton General Plan in the year 2035 are assumed in this condition. The Cumulative No Project condition, therefore, serves as the baseline condition used to assess the significance of long-term Project-related traffic impacts associated with the proposed Project and the Project alternatives.

The Cumulative No Project condition assumes 2035 conditions with future development consistent with the City of Stockton General Plan. This scenario assumes future land use development and roadway improvements throughout the City and on the project site. The General Plan defines a level of development throughout the City for the year 2035, and this scenario is consistent with the General Plan assumptions. In this scenario, the level of development assumed for the project site and the City as a whole is consistent with the level of development assumed in the City General Plan. The sources of information on the land use and roadway improvements assumed in the analysis of Cumulative No Project condition are:

- The City of Stockton internet website for the General Plan Update;¹¹
- Documentation of the City's travel demand model, in particular the General Plan Update Preferred Alternative 2035 model (City of Stockton, 2004b); and
- Consultation with City of Stockton staff, providing clarification, updates, and details on assumed roadway widths.

Traffic Volume Forecasts

As previously described in the *Travel Forecasting* section of this section of this EIR, the City of Stockton Travel Demand Model (City of Stockton, 2004b) was used to develop forecasts of background increases in traffic volumes under Cumulative No Project conditions. The increases in traffic volumes reflect development of land uses throughout the Stockton area, consistent with the City of Stockton General Plan.

In addition, as previously noted in the *Analysis Scenarios* section of this EIR, the *City of Stockton Transportation Impact Analysis Guidelines* specify that Cumulative No Project conditions assume "General Plan Build Out Conditions" (City of Stockton, 2003). Therefore, Cumulative No Project conditions assume development of the Project site consistent with General Plan land use designations. In this EIR, implementation of the General Plan 2035 Alternative is assumed under

¹¹ Available at: <http://www.stocktongov.com/government/departments/communityDevelop/cdPlanGen.html>

Cumulative No Project conditions. Figure 3.13-26 displays the General Plan 2035 Alternative-related-only traffic volumes for each study intersection in the a.m. peak hour and p.m. peak hour.

Application of the methods described in the *Travel Forecasting* section of this EIR and the methods described above results in the Cumulative No Project a.m. peak hour and p.m. peak hour traffic volumes presented in Figure 3.13-27, and the daily traffic volumes presented in Table 3.13-54.

TABLE 3.13-54: ROADWAY SEGMENT LEVEL OF SERVICE – CUMULATIVE NO PROJECT CONDITIONS

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Interstate 5 Eight Mile Road to State Route 12	8	119,682	C
Interstate 5 Eight Mile Road to Hammer Lane	10	155,832	C
Eight Mile Road Lower Sacramento Road to Davis Road	8	55,390	C
Eight Mile Road Lower Sacramento Road to West Lane	8	74,296	E
West Lane Eight Mile Road to Ham Lane	4	35,632	D
Eight Mile Road West Lane to Micke Grove Rd/Holman Rd	8	61,164	D
West Lane Morada Lane to Eight Mile Road	8	47,000	C
Morada Lane West of West Lane	4	20,012	B
West Lane Morada Lane to Knickerbocker Drive	8	58,966	D
Morada Lane East of West Lane	6	17,466	A
State Route 99 Eight Mile Road to Armstrong Road	10	152,942	C
State Route 99 Eight Mile Road & Morada Lane	10	180,580	D
State Route 99 Morada Lane to Hammer Lane	10	201,564	E

SOURCE: KD ANDERSON & ASSOCIATES.

Roadway Improvements

The analysis of Cumulative No Project conditions assumes roadway improvements consistent with the City of Stockton General Plan. For example, the General Plan assumes urban land uses north of Eight Mile Road. Roadway network improvements needed to support the additional land use development is also assumed.

Improvements to the Eight Mile Road and Morada Lane interchanges on SR 99 are being considered by the City of Stockton and Caltrans. Project Study Reports (PSRs) have been prepared for these improvements. Improvements to these interchanges have been assumed in the analysis of Cumulative No Project conditions. The most recent available interchange configurations, including the ramp intersection lane geometrics, have been assumed.

3.13 TRANSPORTATION AND CIRCULATION

The roadway assumptions also include implementation of the following:

- Eight Mile Road Specific Plan from I-5 to State Route 99;
- Hammer Lane Preliminary Design from Aksland Drive to State Route 99;
- West Lane/Airport Way Preliminary Design from Morada Lane to Charter Way; and
- Thornton Road Preliminary Design from Bear Creek Bridge to Rivara Road.

At some locations, City of Stockton staff directed use of specific roadway improvement assumptions. In these cases, City staff direction was considered to be more up-to-date than the plans described above, and were applied in the traffic analysis.

In some cases, the roadway improvements described above include intersection improvements. The resulting intersection lane geometrics assumed for Cumulative No Project conditions are shown in Figure 3.13-27. The resulting number of travel lanes assumed for study roadway segments are shown in Table 3.13-54.

Intersection Levels of Service

Table 3.13-55 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under Cumulative No Project conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-55: INTERSECTION LEVEL OF SERVICE – CUMULATIVE NO PROJECT CONDITIONS

#	STUDY INTERSECTIONS	INTERS. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
1	Eight Mile Road & the I-5 SB Ramps	Signal	--	B	17.7	D	48.5
2	Eight Mile Road & the I-5 NB Ramps	Signal	--	C	23.2	E	63.4
3	Eight Mile Road & Thornton Road	Signal	--	D	36.8	F	93.7
4	Eight Mile Road & Davis Road	Signal	--	C	34.6	D	48.5
5	Eight Mile Road & Lower Sacramento Road	Signal	--	C	34.9	F	82.4
6	West Lane & Armstrong Road	Signal	--	E	67.8	F	144.6
7	West Lane & Ham Lane	Signal	--	B	13.6	B	15.6
8	Eight Mile Road & West Lane	Signal	--	D	43.8	F	94.6
9	Eight Mile Road & Ham Lane	Signal	--	D	39.7	E	71.1
10	Eight Mile Road & Leach Road / Street G	Signal	--	B	10.5	A	7.9
11	Eight Mile Road & Micke Grove Road / Holman Road	Signal	--	C	29.2	C	35.0
12	Eight Mile Road & SR 99 West Frontage Road	Signal	--	C	25.0	C	32.6
13	Eight Mile Road & SR 99 East Frontage Road	Signal	--	A	5.1	A	3.9
14	SR 99 W Frontage Rd & SR 99 SB Ramps (Eight Mile)	--	--	--	--	--	--
15	SR 99 E Frontage Rd & SR 99 NB Ramps (Eight Mile)	--	--	--	--	--	--
16	West Lane & Lt. Col. Mark Taylor Street/Marlette Rd	Signal	--	C	27.0	C	27.8
17	Holman Road & Lt. Col. Mark Taylor Street	Signal	--	D	46.8	F	103.5
18	Morada Lane & West Lane	Signal	--	C	30.1	C	31.8

#	STUDY INTERSECTIONS	INTERSECTIONS CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
19	Morada Lane & Holman Road	Signal	--	C	32.9	D	35.9
20	SR 99 W. Frontage Road & SR 99 SB Ramps (Morada)	--	--	--	--	--	--
21	SR 99 E. Frontage Road & SR 99 NB Ramps (Morada)	Signal	--	B	13.3	B	13.6
22	Morada Lane & SR 99 West Frontage Road	Signal	--	C	24.2	C	24.3
23	Morada Lane & SR 99 East Frontage Road	Signal	--	C	27.1	C	23.4
24	West Lane & West Lane Frontage Road	Signal	--	C	24.4	C	28.6
25	West Lane & Knickerbocker Drive	Signal	--	C	23.0	C	32.4
26	West Lane & Hammer Lane	Signal	--	C	34.6	F	94.6
27	Hammer Lane & Holman Road	Signal	--	C	33.8	D	51.9
41	Eight Mile Road & SR 99 SB Ramps	Signal	--	C	29.7	E	70.8
42	Eight Mile Road & SR 99 NB Ramps	Signal	--	C	34.0	D	42.7
43	Morada Lane & SR 99 SB Ramps	Signal	--	D	37.2	E	74.4
44	Lt. Col. Mark Taylor Street & Ham Lane (North)	--	--	--	--	--	--
45	Lt. Col. Mark Taylor Street & Ham Lane (South)	--	--	--	--	--	--
46	Lt. Col. Mark Taylor Street & Ham Lane	Signal	--	C	28.3	C	30.2
51	Eight Mile Road & Commercial Site Driveway #1	--	--	--	--	--	--
52	Eight Mile Road & Commercial Site Driveway #2	--	--	--	--	--	--
53	Eight Mile Road & Street C	--	--	--	--	--	--
54	West Lane & Commercial Site Driveway #3	--	--	--	--	--	--
55	West Lane & Commercial Site Driveway #4	--	--	--	--	--	--
56	West Lane & Street A	--	--	--	--	--	--
57	Eight Mile Road & High Density Residential Driveway #1	--	--	--	--	--	--
58	Eight Mile Road & High Density Residential Driveway #2	--	--	--	--	--	--
60	Eight Mile Road & Industrial Site Driveway #1	--	--	--	--	--	--
61	Eight Mile Road & Industrial Site Driveway #2	--	--	--	--	--	--

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. NB = NORTHBOUND. SB = SOUTHBOUND. INTERS. CONTROL = TYPE OF INTERSECTION CONTROL. SIGNAL = SIGNALIZED LIGHT CONTROL. UNSIG = UNSIGNALIZED STOP-SIGN CONTROL. AWSC = ALL-WAY STOP-SIGN CONTROL DASHES (- -) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Traffic volumes under Cumulative No Project conditions would be generally higher than under Existing conditions and under EPAP No Project conditions. As a result, vehicle delay at study intersections under Cumulative No Project conditions are generally higher than under Existing conditions and EPAP No Project Conditions.

3.13 TRANSPORTATION AND CIRCULATION

Under Cumulative No Project conditions, LOS at 18 of the 28 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 18 intersections to achieve acceptable LOS. The following describes the study intersections that would operate at unacceptable LOS under Cumulative No Project conditions.

Under the No Project scenario, roadway improvements are recommended when needed to improve traffic operations that are considered unacceptable. Similarly, under conditions with project alternatives, mitigation measures are identified when needed to reduce impacts on traffic operating conditions. The recommended improvements and mitigation measures were identified by incrementally testing the size and combinations of improvements and measures. Improvement and measures needed to achieve acceptable operating conditions or reduce an impact to a less than significant level are those identified in this EIR.

Recommended improvements are identified in this EIR to allow the reader to compare the magnitude of recommended improvements under No Project scenarios to the magnitude of mitigation measures under scenarios with project alternatives. This allows an identification of the incremental improvements needed because of project alternatives.

#2 – EIGHT MILE ROAD AND I-5 NORTHBOUND RAMPS

Under Cumulative No Project conditions, this intersection would operate at LOS C with 23.2 seconds of delay during the a.m. peak hour, and LOS E with 63.4 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. The following improvement is recommended:

Recommended Improvement 12. Add a third northbound-to-westbound left-turn lane. This would result in two exclusive left-turn lanes, and a combined through/left-turn lane.

A summary of LOS with recommended improvements is presented in Table 3.13-56. With this recommended improvement, this intersection would operate at LOS C with 35.0 seconds of delay during the p.m. peak hour. This LOS is considered acceptable.

TABLE 3.13-56: INTERSECTION LEVEL OF SERVICE – CUMULATIVE NO PROJECT CONDITIONS WITH RECOMMENDED IMPROVEMENTS

#	STUDY INTERSECTIONS	INTERS. CONTROL	AM PEAK		PM PEAK	
			LOS	DELAY	LOS	DELAY
2	Eight Mile Road & the I-5 NB Ramps	Signal	--	--	C	35.0
3	Eight Mile Road & Thornton Road	Signal	C	31.7	D	52.9
5	Eight Mile Road & Lower Sacramento Road	Signal	C	34.2	E	69.0
6	West Lane & Armstrong Road	Signal	C	32.0	D	48.0
8	Eight Mile Road & West Lane	Signal	D	38.6	E	67.4
9	Eight Mile Road & Ham Lane	Signal	C	32.0	D	40.0
17	Holman Road & Lt. Col. Mark Taylor Street	Signal	C	32.2	D	41.3
41	Eight Mile Road & SR 99 SB Ramps	Signal	--	--	C	32.7

#	STUDY INTERSECTIONS	INTERS. CONTROL	AM PEAK		PM PEAK	
			LOS	DELAY	LOS	DELAY
43	Morada Lane & SR 99 SB Ramps	Signal	--	--	D	40.6

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. NB = NORTHBOUND. SB = SOUTHBOUND. INTERS. CONTROL = TYPE OF INTERSECTION CONTROL. SIGNAL = SIGNALIZED LIGHT CONTROL. DASHES (--) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS MEASURED IN SECONDS PER VEHICLE. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

#3 – EIGHT MILE ROAD AND THORNTON ROAD

Under Cumulative No Project conditions, this intersection would operate at LOS D with 36.8 seconds of delay during the a.m. peak hour, and LOS F with 93.7 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. The following improvement is recommended:

Recommended Improvement 13. Add a second southbound-to-eastbound left-turn lane.

A summary of LOS with recommended improvements is presented in Table 3.13-56. With this recommended improvement, this intersection would operate at LOS C with 31.7 seconds of delay during the a.m. peak hour and LOS D with 52.9 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

#5 – EIGHT MILE ROAD AND LOWER SACRAMENTO ROAD

Under Cumulative No Project conditions, this intersection would operate at LOS C with 34.9 seconds of delay during the a.m. peak hour, and LOS F with 82.4 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. The following improvement is recommended:

Recommended Improvement 14. Split the westbound combined through/right-turn lane into an exclusive westbound through lane, and an exclusive westbound-to-northbound right-turn lane.

A summary of LOS with recommended improvements is presented in Table 3.13-56. With this recommended improvement, this intersection would operate at LOS C with 34.2 seconds of delay during the a.m. peak hour and LOS E with 69.0 seconds of delay during the p.m. peak hour. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable at this intersection under Cumulative conditions.

#6 – WEST LANE AND ARMSTRONG ROAD

Under Cumulative No Project conditions, this intersection would operate at LOS E with 67.8 seconds of delay during the a.m. peak hour, and LOS F with 144.6 seconds of delay during the p.m. peak hour. LOS E and F are considered unacceptable. The following improvement is recommended:

Recommended Improvement 15. Implement the following intersection improvements:

- Add a second southbound-to-eastbound left-turn lane.
- Add a second westbound-to-southbound left-turn lane.
- Set the westbound-to-northbound right-turn lane to “overlap”.
- Prohibit southbound-to-northbound U-turns.

A summary of LOS with recommended improvements is presented in Table 3.13-56. With this recommended improvement, this intersection would operate at LOS C with 32.0 seconds of delay during the a.m. peak hour and LOS D with 48.0 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

Control of this intersection is not entirely within the City of Stockton. Therefore, implementing these recommended improvements would require approval by the County of San Joaquin. If the improvements are approved by the County and constructed, the unacceptable LOS would be improved to an acceptable LOS. If the improvements are not approved by the County, the LOS would remain unacceptable and unavoidable.

#8 – EIGHT MILE ROAD AND WEST LANE

Under Cumulative No Project conditions, this intersection would operate at LOS D with 43.8 seconds of delay during the a.m. peak hour, and LOS F with 94.6 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. The following improvement is recommended:

Recommended Improvement 16. Add a third northbound-to-westbound left-turn lane.

A summary of LOS with recommended improvements is presented in Table 3.13-56. With this recommended improvement, this intersection would operate at LOS D with 38.6 seconds of delay during the a.m. peak hour and LOS E with 67.4 seconds of delay during the p.m. peak hour. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable at this intersection under Cumulative conditions.

#9 – EIGHT MILE ROAD AND HAM LANE

Under Cumulative No Project conditions, this intersection would operate at LOS D with 39.7 seconds of delay during the a.m. peak hour, and LOS E with 71.1 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. The following improvement is recommended:

Recommended Improvement 17. Implement the following intersection improvements:

- Split the northbound combined through/right-turn lane into an exclusive northbound through lane, and an exclusive northbound-to-eastbound right-turn lane.
- Set the northbound-to-eastbound right-turn lane to “overlap”.
- Prohibit westbound-to-eastbound U-turns.

A summary of LOS with recommended improvements is presented in Table 3.13-56. With this recommended improvement, this intersection would operate at LOS C with 32.0 seconds of delay

during the a.m. peak hour and LOS D with 40.0 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

#17 – HOLMAN ROAD AND LT. COL. MARK TAYLOR STREET

Under Cumulative No Project conditions, this intersection would operate at LOS D with 46.8 seconds of delay during the a.m. peak hour, and LOS F with 103.5 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. The following improvement is recommended:

Recommended Improvement 18. Implement the following intersection improvements:

- Add a second southbound-to-eastbound left-turn lane.
- Split the westbound combined through/right-turn lane into an exclusive westbound through lane, and an exclusive westbound-to-northbound right-turn lane.
- Set the northbound-to-eastbound right-turn lane to “overlap”.
- Prohibit westbound-to-eastbound U-turns.

A summary of LOS with recommended improvements is presented in Table 3.13-56. With this recommended improvement, this intersection would operate at LOS C with 32.2 seconds of delay during the a.m. peak hour and LOS D with 41.3 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

#26 – WEST LANE AND HAMMER LANE

Under Cumulative No Project conditions, this intersection would operate at LOS C with 34.6 seconds of delay during the a.m. peak hour, and LOS F with 94.6 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. This intersection currently has seven approach lanes on all four logs. As a result, the intersection is considered to be at the maximum feasible size. Improvements to this intersection are not considered feasible. As a result, LOS at this intersection would be considered unacceptable and unavoidable.

#41 – EIGHT MILE ROAD AND SR 99 SOUTHBOUND RAMPS

Under Cumulative No Project conditions, this intersection would operate at LOS C with 29.7 seconds of delay during the a.m. peak hour, and LOS E with 70.8 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. The following improvement is recommended:

Recommended Improvement 19. Modify the eastbound to-southbound exclusive right-turn lane to be a “free” right-turn lane.

A summary of LOS with recommended improvements is presented in Table 3.13-56. With this recommended improvement, this intersection would operate at LOS C with 32.7 seconds of delay during the p.m. peak hour. This LOS is considered acceptable.

#43 – MORADA LANE AND SR 99 SOUTHBOUND RAMPS

Under Cumulative No Project conditions, this intersection would operate at LOS D with 37.2 seconds of delay during the a.m. peak hour, and LOS E with 74.4 seconds of delay during the p.m. peak hour. LOS E is considered unacceptable. The following improvement is recommended:

Recommended Improvement 20. Implement the following intersection improvements:

- Modify the eastbound to-southbound exclusive right-turn lane to be a “free” right-turn lane.
- Add a 300-foot long second lane on the southbound on-ramp.

A summary of LOS with recommended improvements is presented in Table 3.13-56. With this recommended improvement, this intersection would operate at LOS D with 40.6 seconds of delay during the p.m. peak hour. This LOS is considered acceptable.

Roadway Segment Levels of Service

Table 3.13-54 presents a summary of LOS on the 13 study roadway segments under Cumulative No Project conditions. Eleven of the roadway segments would operate at acceptable LOS D or better. No improvements are needed on these 11 roadway segments to achieve acceptable LOS.

One roadway segment, Eight Mile Road from Lower Sacramento Road to West Lane, would operate at LOS E under Cumulative No Project conditions. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable on this roadway segment under Cumulative conditions.

The roadway segments that would operate at unacceptable LOS are discussed below.

STATE ROUTE 99 – MORADA LANE TO HAMMER LANE

Under Cumulative No Project conditions, this roadway segment would operate at LOS F. LOS F is considered unacceptable. Under Cumulative No Project conditions, this roadway segment is assumed to be 10 lanes wide (five lanes in each direction). As a result, this roadway segment is considered to be at the maximum feasible size. Improvements to this roadway segment are not considered feasible. As a result, LOS at this roadway segment would be considered unacceptable and unavoidable.

Ramp Junction Level of Service

Table 3.13-57 presents a summary of a.m. peak hour and p.m. peak hour LOS at the eight ramp junctions under Cumulative No Project conditions. All of the ramp junctions would operate at acceptable LOS D or better. No improvements are needed at these ramp junctions to achieve acceptable LOS.

TABLE 3.13-57: STATE ROUTE 99 RAMP MERGE AND DIVERGE LEVEL OF SERVICE – CUMULATIVE NO PROJECT CONDITIONS

RAMP JUNCTION	AM PEAK HOUR				PM PEAK HOUR			
	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Future)	5,790	403	21.7	C	3,942	564	16.7	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp (Future)	5,790	1,144	27.9	C	3,942	1,450	26.3	C
SR 99 Northbound Merge from Eight Mile Road On-Ramp (Future)	3,334	410	15.9	B	5,586	509	22.6	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Future)	3,334	822	17.4	B	5,586	1,184	25.5	C
SR 99 Southbound Diverge to Morada Lane Off-Ramp (Future)	7,098	369	25.2	C	4,849	492	19.2	B
SR 99 Southbound Merge from Morada Lane On-Ramp (Future)	7,098	840	28.3	D	4,849	1,104	25.6	C
SR 99 Northbound Merge from Morada Lane On-Ramp	4,133	383	17.9	B	6,992	571	25.8	C
SR 99 Northbound Diverge to Morada Lane Off-Ramp	4,133	458	16.0	B	6,992	569	24.6	C

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DENSITY IS EXPRESSED IN PASSENGER CARS PER MILE.

SOURCE: KD ANDERSON & ASSOCIATES.

CUMULATIVE PLUS PROJECT TRAFFIC IMPACT ANALYSIS

Traffic Volume Forecasts

Traffic that would be generated by the proposed Project at each of the study intersections in the a.m. peak hour and p.m. peak hour is displayed on Figure 3.13-28. Figure 3.13-29 displays the resulting Cumulative Plus Tra Vigne traffic volumes anticipated for each study intersection in the peak hours.

Roadway Improvements

Implementation of the proposed Project would result in roadway improvements needed to provide access to the Project site. These improvements are assumed in the analysis of Cumulative Plus Project conditions.

Figure 3.13-29 displays the resulting Cumulative Plus Project intersection lane geometrics for each study intersection. The resulting number of travel lanes assumed for study roadway segments are shown in Table 3.13-58.

3.13 TRANSPORTATION AND CIRCULATION

TABLE 3.13-58: ROADWAY SEGMENT LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Interstate 5 Eight Mile Road to State Route 12	8	119,458	C
Interstate 5 Eight Mile Road to Hammer Lane	10	155,676	C
Eight Mile Road Lower Sacramento Road to Davis Road	8	57,002	C
Eight Mile Road Lower Sacramento Road to West Lane	8	76,310	E
West Lane Eight Mile Road to Ham Lane	4	36,179	D
Eight Mile Road West Lane to Micke Grove Rd/Holman Rd	8	65,464	D
West Lane Morada Lane to Eight Mile Road	8	48,318	C
Morada Lane West of West Lane	4	22,002	C
West Lane Morada Lane to Knickerbocker Drive	8	58,969	D
Morada Lane East of West Lane	6	19,259	A
State Route 99 Eight Mile Road to Armstrong Road	10	152,235	C
State Route 99 Eight Mile Road & Morada Lane	10	180,911	D
State Route 99 Morada Lane to Hammer Lane	10	201,365	E

SOURCE: KD ANDERSON & ASSOCIATES.

Intersection Levels of Service

Table 3.13-59 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under Cumulative Plus Project conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-59: INTERSECTION LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS

#	STUDY INTERSECTIONS	INTERS. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
1	Eight Mile Road & the I-5 SB Ramps	Signal	--	B	17.9	D	48.5
2	Eight Mile Road & the I-5 NB Ramps	Signal	--	C	23.0	E	64.1
3	Eight Mile Road & Thornton Road	Signal	--	D	37.0	F	95.5
4	Eight Mile Road & Davis Road	Signal	--	C	32.7	D	39.2
5	Eight Mile Road & Lower Sacramento Road	Signal	--	D	36.0	F	90.8
6	West Lane & Armstrong Road	Signal	--	E	71.0	F	150.8
7	West Lane & Ham Lane	Signal	--	B	11.5	B	13.2
8	Eight Mile Road & West Lane	Signal	--	D	45.1	F	99.2
9	Eight Mile Road & Ham Lane	Unsig	Yes	A	0.8	A	1.2
10	Eight Mile Road & Leach Road / Street G	Signal	--	C	25.7	C	28.8

#	STUDY INTERSECTIONS	INTERSECTIONS CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
11	Eight Mile Road & Micke Grove Road / Holman Road	Signal	--	C	30.8	D	43.8
12	Eight Mile Road & SR 99 West Frontage Road	Signal	--	C	25.3	C	32.1
13	Eight Mile Road & SR 99 East Frontage Road	Signal	--	A	3.8	A	4.0
14	SR 99 W Frontage Rd & SR 99 SB Ramps (Eight Mile)	--	--	--	--	--	--
15	SR 99 E Frontage Rd & SR 99 NB Ramps (Eight Mile)	--	--	--	--	--	--
16	West Lane & Lt. Col. Mark Taylor Street/Marlette Rd	Signal	--	C	26.3	C	23.5
17	Holman Road & Lt. Col. Mark Taylor Street	Signal	--	D	41.1	F	92.3
18	Morada Lane & West Lane	Signal	--	C	30.9	C	32.6
19	Morada Lane & Holman Road	Signal	--	C	33.4	D	35.1
20	SR 99 W. Frontage Road & SR 99 SB Ramps (Morada)	--	--	--	--	--	--
21	SR 99 E. Frontage Road & SR 99 NB Ramps (Morada)	Signal	--	B	13.3	B	13.8
22	Morada Lane & SR 99 West Frontage Road	Signal	--	C	24.2	C	24.5
23	Morada Lane & SR 99 East Frontage Road	Signal	--	C	27.1	C	23.2
24	West Lane & West Lane Frontage Road	Signal	--	C	24.9	C	29.6
25	West Lane & Knickerbocker Drive	Signal	--	C	23.8	C	35.0
26	West Lane & Hammer Lane	Signal	--	C	34.4	F	87.2
27	Hammer Lane & Holman Road	Signal	--	C	33.8	D	52.1
41	Eight Mile Road & SR 99 SB Ramps	Signal	--	C	24.7	E	70.1
42	Eight Mile Road & SR 99 NB Ramps	Signal	--	C	34.1	D	42.3
43	Morada Lane & SR 99 SB Ramps	Signal	--	D	36.6	E	71.0
44	Lt. Col. Mark Taylor Street & Ham Lane (North)	--	--	--	--	--	--
45	Lt. Col. Mark Taylor Street & Ham Lane (South)	--	--	--	--	--	--
46	Lt. Col. Mark Taylor Street & Ham Lane	--	--	--	--	--	--
51	Eight Mile Road & Commercial Site Driveway #1	Unsig	No	A	0.0	A	0.1
52	Eight Mile Road & Commercial Site Driveway #2	Unsig	No	A	0.0	A	0.2
53	Eight Mile Road & Street C	Signal		B	12.2	B	11.6
54	West Lane & Commercial Site Driveway #3	Unsig	No	A	0.0	A	0.2
55	West Lane & Commercial Site Driveway #4	Unsig	No	A	0.0	A	0.0
56	West Lane & Street A	Unsig	No	A	0.3	A	0.1
57	Eight Mile Road & High Density Residential Driveway #1	Unsig	No	A	0.2	A	0.3
58	Eight Mile Road & High Density Residential Driveway #2	Unsig	No	A	0.2	A	0.3
60	Eight Mile Road & Industrial Site Driveway #1	Unsig	No	A	0.0	A	0.0
61	Eight Mile Road & Industrial Site Driveway #2	Unsig	No	A	0.0	A	0.0

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. NB = NORTHBOUND. SB = SOUTHBOUND. INTERSECTIONS CONTROL = TYPE OF INTERSECTION CONTROL. SIGNAL = SIGNALIZED LIGHT CONTROL. UNSIG = UNSIGNALIZED STOP-SIGN CONTROL. AWSC = ALL-WAY STOP-SIGN CONTROL DASHES (- -) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS

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MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Under Cumulative Plus Project conditions, LOS at 28 of the 37 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 28 intersections to achieve acceptable LOS.

At the following seven intersections, LOS under Cumulative Plus Project conditions would be unacceptable LOS E or F. However, compared to LOS under Cumulative No Project conditions, the Project-related increase in vehicle delay would not be greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these six intersections is considered less than significant:

- #2 Eight Mile Road & the I-5 Northbound Ramps
- #3 Eight Mile Road & Thornton Road
- #8 Eight Mile Road & West Lane
- #17 Holman Road & Lt. Col. Mark Taylor Street
- #26 West Lane & Hammer Lane
- #41 Eight Mile Road & SR 99 Southbound Ramps
- #43 Morada Lane & SR 99 Southbound Ramps

The following describes the study intersections that would operate at unacceptable LOS under Cumulative Plus Project conditions and, compared to Cumulative No Project conditions, would experience a Project-related increase in vehicle delay greater than five seconds.

Impact 3.13-44: Under Cumulative Plus Project conditions, the proposed Project may result in a significant impact at the Eight Mile Road & Lower Sacramento Road intersection. (Less than Significant with Mitigation)

Proposed Project:

Under Cumulative Plus Project conditions, the Eight Mile Road & Lower Sacramento Road intersection would operate at LOS D with 36.0 seconds of delay during the a.m. peak hour, and LOS F with 90.8 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. As noted in the Level of Service Significance Threshold section of this EIR:

“For City intersections with a LOS ‘E’ or ‘F’ conditions without the project, a transportation impact for a project is considered significant if the addition of project traffic causes an increase of greater than 5 seconds in the average delay for the intersection.”

During the p.m. peak hour, project traffic would cause vehicle delay to increase from 82.4 second per vehicle to 90.8 seconds per vehicle. This would be an increase of 8.4 seconds per vehicle (90.8 – 82.4 = 8.4). Therefore, based on criteria presented in the *Level of Service Significance Threshold*

section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level.

MITIGATION MEASURE

Mitigation Measure 3.13-4: *Prior to issuance of building permits for each phase of the Project, the Project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & Lower Sacramento Road intersection:*

- *Split the westbound combined through/right-turn lane into an exclusive westbound through lane, and an exclusive westbound-to-northbound right-turn lane.*

Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

RESULTING LEVEL OF SIGNIFICANCE

This improvement would cost approximately \$246,984. As specified in the City of Stockton Transportation Impact Analysis Guidelines (City of Stockton, 2003):

“For any identified mitigation measure (beyond improvements full covered by the City’s traffic impact fees or funded fully by other sources), the project’s share of the total traffic flowing through that improvement shall be calculated. The percentage of project traffic using a facility shall be based on the total PM peak hour volumes under Cumulative (City Buildout) Conditions. For roadway widenings (i.e., from two lanes to four lanes), the percentage share should be based on the two-way directional peak hour volumes on that segment of roadway. If the mitigation measure is an additional right-turn or left-turn lane at an intersection, the percentage share should be based solely on the volume using that additional lane during the PM peak hour.”

During the p.m. peak hour, project-related traffic would be 3.8% of traffic using the exclusive westbound through lane and the exclusive westbound-to-northbound right-turn lane. Therefore, the proposed Project’s contribution to this impact is 3.8%. This measure is the same as recommended for Cumulative No Project, meaning the measures would be warranted with or without the proposed Project. A summary of the mitigated LOS is presented in Table 3.13-60. With this mitigation measure, this intersection would operate at LOS D with 35.2 seconds of delay during the a.m. peak hour and LOS E with 74.0 seconds of delay during the p.m. peak hour. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable at this intersection under Cumulative conditions. With implementation of the mitigation measure outlined above, the potential impact would be reduced to a **less than significant** level.

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TABLE 3.13-60: INTERSECTION LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS WITH MITIGATION MEASURES

#	STUDY INTERSECTIONS	AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
5	Eight Mile Road & Lower Sacramento Road	D	35.2	E	74.0
6	West Lane & Armstrong Road	C	32.2	D	50.5

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DELAY IS MEASURED IN SECONDS PER VEHICLE. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Impact 3.13-45: Under Cumulative Plus Project conditions, the proposed Project would result in a significant impact at the West Lane & Armstrong Road intersection. (Significant and Unavoidable)

Proposed Project:

Under Cumulative Plus Project conditions, the West Lane & Armstrong Road intersection would operate at LOS E with 71.0 seconds of delay during the a.m. peak hour, and LOS F with 150.8 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS.

MITIGATION MEASURE

Mitigation Measure 3.13-5: Prior to issuance of building permits for each phase of the Project, the Project applicant shall pay the pro-rata fair share fee towards the following improvements to the West Lane & Armstrong Road intersection:

- Add a second southbound-to-eastbound left-turn lane.
- Add a second westbound-to-southbound left-turn lane.
- Set the westbound-to-northbound right-turn lane to “overlap”.
- Prohibit southbound-to-northbound U-turns.

Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

RESULTING LEVEL OF SIGNIFICANCE

These measures are the same as recommended for Cumulative No Project, meaning the measures are warranted with or without the proposed Project. The proposed Project’s contribution to this impact is 0.0%. A summary of the mitigated LOS is presented in Table 3.13-60. With this mitigation measure, this intersection would operate at LOS C with 32.2 seconds of delay during the a.m. peak hour and LOS D with 50.5 seconds of delay during the p.m. peak hour. These LOS are considered to be acceptable.

This intersection is located within San Joaquin County. The land surrounding this intersection is designated for General Agricultural uses by the San Joaquin County General Plan (2017). Additionally, expansion of this area would not be consistent with the adopted SJCOG RTP/SCS (adopted in 2014). As such, urban growth within the vicinity of this intersection would not occur in the future.

This improvement would cost approximately \$432,500. This intersection is not within the City of Stockton. Therefore, implementing this mitigation measure would require approval by the County of San Joaquin. If the mitigation measure is approved by the County and constructed, the unacceptable LOS would be improved to an acceptable LOS, and the impact would be reduced to a less-than-significant level. If the improvements are not approved by the County, the LOS would remain unacceptable and the cumulative impact would be **significant and unavoidable**.

Impact 3.13-46: Impacts related to roadway segment levels of service under Cumulative Plus Project conditions. (Less than Significant)

Proposed Project:

Table 3.13-58 presents a summary of LOS on the 13 study roadway segments under Cumulative Plus Project conditions. Eleven of the roadway segments would operate at acceptable LOS D or better. The impact on these roadway segments is considered to be less than significant, and no mitigation measures are needed at these 11 roadway segments.

One roadway segment, Eight Mile Road from Lower Sacramento Road to West Lane, would operate at LOS E under Cumulative Plus Project conditions. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable on this roadway segment under Cumulative conditions. The impact on this roadway segment is considered to be less than significant, and no mitigation measures are required.

One roadway segment, SR 99 from Morada Lane to Hammer Lane, would operate at LOS E under Cumulative Plus Project conditions. However, the Project-related change in traffic volumes on this roadway segment would not exceed five percent. Therefore, based on the approach described in the *Level of Service Significance Thresholds* section of this EIR, the impact on this roadway segment is considered to be **less than significant**, and no mitigation measures are required.

Impact 3.13-47: Impacts related to ramp junction levels of service under Cumulative Plus Project conditions. (Less than Significant)

Proposed Project:

Table 3.13-61 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under Cumulative Plus Project conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

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TABLE 3.13-61: STATE ROUTE 99 RAMP MERGE AND DIVERGE LEVEL OF SERVICE – CUMULATIVE PLUS PROJECT CONDITIONS

RAMP JUNCTION	AM PEAK HOUR				PM PEAK HOUR			
	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Future)	5,799	395	21.7	C	3,948	535	16.6	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp (Future)	5,799	1,099	27.5	C	3,948	1,447	26.3	C
SR 99 Northbound Merge from Eight Mile Road On-Ramp (Future)	3,339	367	15.6	B	5,593	469	22.3	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Future)	3,339	796	17.3	B	5,593	1,101	25.1	C
SR 99 Southbound Diverge to Morada Lane Off-Ramp (Future)	7,064	379	25.1	C	4,842	505	19.3	B
SR 99 Southbound Merge from Morada Lane On-Ramp (Future)	7,064	838	28.2	D	4,842	1,090	25.5	C
SR 99 Northbound Merge from Morada Lane On-Ramp	4,131	385	11.1	B	6,947	573	25.7	C
SR 99 Northbound Diverge to Morada Lane Off-Ramp	4,131	468	16.0	B	6,947	560	24.4	C

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DENSITY IS EXPRESSED IN PASSENGER CARS PER MILE.

SOURCE: KD ANDERSON & ASSOCIATES.

Under Cumulative Plus Project conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. This impact is considered **less than significant**. No mitigation measures are needed at these ramp junctions to achieve acceptable LOS.

Traffic Queuing and Intersection Spacing

The adequacy of vehicle queue storage distance at the major Project site access points was evaluated. These access points are at the following four intersections:

- Intersection 10 - Eight Mile Road & Street G/Leach Road,
- Intersection 16 - West Lane & Lt. Col Mark Taylor Street/Road B,
- Intersection 53 - Eight Mile Road & Road C, and
- Intersection 56 - West Lane & Road A.

The adequacy of vehicle queue storage distance was assessed by comparing the forecasted 95th percentile length of vehicle queues to the length of the storage area. The length of the storage area is defined as the distance from the Project site access point to the nearest internal Project site cross street intersection. These Project site access points and the associated nearest internal Project site cross street intersection are shown in Figure 3.13-3 and are listed below.

- The length of the storage area for intersection 10, Eight Mile Road & Street G/Leach Road, is the distance between this intersection and the nearest internal Project site intersection of Street G & Street S.

- The length of the storage area for intersection 16, West Lane & Lt. Col Mark Taylor Street/Road B, is the distance between this intersection and the nearest internal Project site intersection of Road B & Road C.
- The length of the storage area for intersection 53, Eight Mile Road & Road C, is the distance between this intersection and the nearest internal Project site intersection of Road C & Road A.
- The length of the storage area for intersection 56, West Lane & Lt. Col Mark Taylor Street/Road A, is the distance between this intersection and the nearest internal Project site intersection of Road A & Road C.

The table below shows a comparison of the available on-site queuing storage distance and the forecasted length of vehicle queues at the four major Project site points. The table below shows queuing distances for the proposed Project and With Bridge Alternative because these are the two Project site configurations with detailed on-site roadway networks. For other Project alternatives, which lack detailed on-site roadway networks, it is not possible to determine the length of available queuing storage distances. While the Project site access locations for the other Project alternatives are generally known, the location of the first internal cross-street is not known and, therefore, the distance from the Project site access point to the first internal cross-street cannot be known. Table 3.13-62 shows queuing distances under long-term future Cumulative conditions because vehicles queues would be expected to be longer under Cumulative conditions, compared to near-term EPAP conditions.

TABLE 3.13-62: PROJECT SITE ACCESS – ADEQUACY OF QUEUING DISTANCE

STUDY INTERSECTIONS	DISTANCE TO FIRST INTERNAL CROSS STREET	CUMULATIVE PLUS PROJECT		CUMULATIVE PLUS WITH BRIDGE ALTERNATIVE	
		AM PEAK HOUR	PM PEAK HOUR	AM PEAK HOUR	PM PEAK HOUR
Intersection 10 - Eight Mile Road & Street G/Leach Road – Northbound Approach	300	86	65	180	153
Intersection 16 - West Lane & Lt. Col Mark Taylor Street/Road B – Westbound Approach	800	377	273	363	312
Intersection 53 - Eight Mile Road & Road C – Northbound Approach	600	215	208	168	189
Intersection 56 - West Lane & Road A – Westbound Approach	900	12	7	10	6

NOTES: ALL DISTANCES ARE MEASURED IN FEET.

ALL QUEUE LENGTHS ARE FOR THE LONGEST QUEUE REPORTED ON THE SUBJECT APPROACH.

Impact 3.13-48: Impacts related to traffic queuing and intersection spacing under Cumulative Plus Project conditions. (Less than Significant)

Proposed Project:

Table 3.13-62 presents a comparison of the available on-site queuing storage distance and the forecasted length of vehicle queues at the four major Project site points. The worksheets presenting the calculation of 95th percentile vehicle queue lengths are included in Appendix K.

Under Cumulative Plus Project conditions, vehicle queues at all four major Project site access points would be less than the available on-site queuing storage distance. Therefore, this impact is considered **less than significant**. No mitigation measures are needed to provide adequate vehicle storage distance and intersection spacing.

CUMULATIVE PLUS NO BUILD ALTERNATIVE TRAFFIC IMPACT ANALYSIS

Traffic Volume Forecasts

Traffic that would be generated by the No Build Alternative at each of the study intersections in the a.m. peak hour and p.m. peak hour is displayed on Figure 3.13-30. Figure 3.13-31 displays the resulting Cumulative Plus No Build Alternative traffic volumes anticipated for each study intersection in the peak hours.

Roadway Improvements

Implementation of the No Build Alternative would not result in improvements to provide access to the Project site.

Figure 3.13-31 displays the resulting Cumulative No Build Alternative intersection lane geometrics for each study intersection. The resulting number of travel lanes assumed for study roadway segments are shown in Table 3.13-63.

TABLE 3.13-63: ROADWAY SEGMENT LEVEL OF SERVICE – CUMULATIVE PLUS NO BUILD ALTERNATIVE CONDITIONS

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Interstate 5 Eight Mile Road to State Route 12	8	118,884	C
Interstate 5 Eight Mile Road to Hammer Lane	10	154,872	C
Eight Mile Road Lower Sacramento Road to Davis Road	8	56,970	C
Eight Mile Road Lower Sacramento Road to West Lane	8	75,954	E
West Lane Eight Mile Road to Ham Lane	4	36,532	D
Eight Mile Road West Lane to Micke Grove Rd/Holman Rd	8	62,004	D

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
West Lane Morada Lane to Eight Mile Road	8	46,092	C
Morada Lane West of West Lane	4	21,184	C
West Lane Morada Lane to Knickerbocker Drive	8	57,226	D
Morada Lane East of West Lane	6	18,824	A
State Route 99 Eight Mile Road to Armstrong Road	10	151,980	C
State Route 99 Eight Mile Road & Morada Lane	10	179,192	D
State Route 99 Morada Lane to Hammer Lane	10	199,174	E

SOURCE: KD ANDERSON & ASSOCIATES.

Impact 3.13-49: Impacts related to intersection levels of service under Cumulative Plus No Build Alternative conditions. (Less than Significant)

No Build Alternative:

Table 3.13-64 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under Cumulative Plus No Build Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-64: INTERSECTION LEVEL OF SERVICE – CUMULATIVE PLUS NO BUILD ALTERNATIVE CONDITIONS

#	STUDY INTERSECTIONS	INTERS. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
1	Eight Mile Road & the I-5 SB Ramps	Signal	--	B	18.0	D	48.6
2	Eight Mile Road & the I-5 NB Ramps	Signal	--	C	22.8	E	65.1
3	Eight Mile Road & Thornton Road	Signal	--	D	36.8	F	94.0
4	Eight Mile Road & Davis Road	Signal	--	C	32.5	D	39.1
5	Eight Mile Road & Lower Sacramento Road	Signal	--	D	35.3	F	84.7
6	West Lane & Armstrong Road	Signal	--	E	69.1	F	147.5
7	West Lane & Ham Lane	Signal	--	B	11.8	B	12.6
8	Eight Mile Road & West Lane	Signal	--	D	42.2	F	91.6
9	Eight Mile Road & Ham Lane	Signal	--	C	23.0	C	25.2
10	Eight Mile Road & Leach Road / Street G	Signal	--	A	1.0	A	1.2
11	Eight Mile Road & Micke Grove Road / Holman Road	Signal	--	C	29.6	D	36.2
12	Eight Mile Road & SR 99 West Frontage Road	Signal	--	C	25.3	C	31.5
13	Eight Mile Road & SR 99 East Frontage Road	Signal	--	A	3.9	A	4.0
14	SR 99 W Frontage Rd & SR 99 SB Ramps (Eight Mile)	--	--	--	--	--	--
15	SR 99 E Frontage Rd & SR 99 NB Ramps (Eight Mile)	--	--	--	--	--	--
16	West Lane & Lt. Col. Mark Taylor Street/Marlette Rd	--	--	--	--	--	--

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#	STUDY INTERSECTIONS	INTERSECTIONS CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
17	Holman Road & Lt. Col. Mark Taylor Street	Signal	--	D	43.3	F	101.5
18	Morada Lane & West Lane	Signal	--	C	30.0	C	32.0
19	Morada Lane & Holman Road	Signal	--	C	33.4	D	35.1
20	SR 99 W. Frontage Road & SR 99 SB Ramps (Morada)	--	--	--		--	
21	SR 99 E. Frontage Road & SR 99 NB Ramps (Morada)	Signal	--	B	13.3	B	13.9
22	Morada Lane & SR 99 West Frontage Road	Signal	--	C	24.3	C	24.6
23	Morada Lane & SR 99 East Frontage Road	Signal	--	C	27.1	C	23.2
24	West Lane & West Lane Frontage Road	Signal	--	C	25.4	C	29.9
25	West Lane & Knickerbocker Drive	Signal	--	C	24.3	D	35.2
26	West Lane & Hammer Lane	Signal	--	C	35.0	F	89.2
27	Hammer Lane & Holman Road	Signal	--	C	33.3	D	50.5
41	Eight Mile Road & SR 99 SB Ramps	Signal	--	C	20.1	E	62.5
42	Eight Mile Road & SR 99 NB Ramps	Signal	--	C	33.9	D	41.9
43	Morada Lane & SR 99 SB Ramps	Signal	--	C	34.8	E	70.3
44	Lt. Col. Mark Taylor Street & Ham Lane (North)	--	--	--	--	--	--
45	Lt. Col. Mark Taylor Street & Ham Lane (South)	--	--	--	--	--	--
46	Lt. Col. Mark Taylor Street & Ham Lane	--	--	--	--	--	--
51	Eight Mile Road & Commercial Site Driveway #1	--	--	--	--	--	--
52	Eight Mile Road & Commercial Site Driveway #2	--	--	--	--	--	--
53	Eight Mile Road & Street C	--	--	--	--	--	--
54	West Lane & Commercial Site Driveway #3	--	--	--	--	--	--
55	West Lane & Commercial Site Driveway #4	--	--	--	--	--	--
56	West Lane & Street A	--	--	--	--	--	--
57	Eight Mile Road & High Density Residential Driveway #1	--	--	--	--	--	--
58	Eight Mile Road & High Density Residential Driveway #2	--	--	--	--	--	--
60	Eight Mile Road & Industrial Site Driveway #1	--	--	--	--	--	--
61	Eight Mile Road & Industrial Site Driveway #2	--	--	--	--	--	--

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. NB = NORTHBOUND. SB = SOUTHBOUND. INTERSECTIONS CONTROL = TYPE OF INTERSECTION CONTROL. SIGNAL = SIGNALIZED LIGHT CONTROL. UNSIG = UNSIGNALIZED STOP-SIGN CONTROL. AWSC = ALL-WAY STOP-SIGN CONTROL DASHES (- -) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Under Cumulative Plus No Build Alternative conditions, LOS at 17 of the 26 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 17 intersections to achieve acceptable LOS.

At the following nine intersections, LOS under Cumulative Plus No Build Alternative conditions would be unacceptable LOS E or F. However, compared to LOS under Cumulative No Project conditions, the Project-related increase in vehicle delay would not be greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these nine intersections is considered **less than significant**:

- #2 Eight Mile Road & the I-5 Northbound Ramps
- #3 Eight Mile Road & Thornton Road
- #5 Eight Mile Road & Lower Sacramento Road
- #6 West Lane & Armstrong Road
- #8 Eight Mile Road & West Lane
- #17 Holman Road & Lt. Col. Mark Taylor Street
- #26 West Lane & Hammer Lane
- #41 Eight Mile Road & SR 99 Southbound Ramps
- #43 Morada Lane & SR 99 Southbound Ramps

Compared to the proposed Project, this alternative is superior relative to this topic.

Impact 3.13-50: Impacts related to roadway segment levels of service under Cumulative Plus No Build Alternative conditions. (Less than Significant)

No Build Alternative:

Table 3.13-63 presents a summary of LOS on the 13 study roadway segments under Cumulative Plus No Build Alternative conditions. Eleven of the roadway segments would operate at acceptable LOS D or better. The impact on these roadway segments is considered to be less than significant, and no mitigation measures are needed at these 11 roadway segments.

One roadway segment, Eight Mile Road from Lower Sacramento Road to West Lane, would operate at LOS E under Cumulative Plus No Build Alternative conditions. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable on this roadway segment under Cumulative conditions. The impact on this roadway segment is considered to be less than significant, and no mitigation measures are required.

One roadway segment, SR 99 from Morada Lane to Hammer Lane, would operate at LOS E under Cumulative Plus No Build Alternative conditions. However, the Project-related change in traffic volumes on this roadway segment would not exceed five percent. Therefore, based on the approach described in the *Level of Service Significance Thresholds* section of this EIR, the impact on this roadway segment is considered to be **less than significant**, and no mitigation measures are required. Compared to the proposed Project, this alternative is superior relative to this topic.

Impact 3.13-51: Impacts related to ramp junction levels of service under Cumulative Plus No Build Alternative conditions. (Less than Significant)

No Build Alternative:

Table 3.13-65 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under Cumulative Plus No Build Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-65: STATE ROUTE 99 RAMP MERGE AND DIVERGE LEVEL OF SERVICE – CUMULATIVE PLUS NO BUILD ALTERNATIVE CONDITIONS

RAMP JUNCTION	AM PEAK HOUR				PM PEAK HOUR			
	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Future)	5,770	404	21.6	C	3,928	839	16.5	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp (Future)	5,770	1,052	27.0	C	3,928	1,403	25.9	C
SR 99 Northbound Merge from Eight Mile Road On-Ramp (Future)	3,324	368	15.5	B	5,569	491	22.4	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Future)	3,324	806	17.3	B	5,569	1,075	24.8	C
SR 99 Southbound Diverge to Morada Lane Off-Ramp (Future)	7,001	377	24.9	C	4,767	502	20.0	B
SR 99 Southbound Merge from Morada Lane On-Ramp (Future)	7,001	806	27.8	C	4,767	1,074	25.5	C
SR 99 Northbound Merge from Morada Lane On-Ramp	4,117	383	17.9	B	6,897	570	25.6	C
SR 99 Northbound Diverge to Morada Lane Off-Ramp	4,117	447	15.8	B	6,897	531	24.1	C

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DENSITY IS EXPRESSED IN PASSENGER CARS PER MILE.

SOURCE: KD ANDERSON & ASSOCIATES.

Under Cumulative Plus No Build Alternative conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. This impact is considered **less than significant**. No mitigation measures are needed at these ramp junctions to achieve acceptable LOS. Compared to the proposed Project, this alternative is superior relative to this topic.

CUMULATIVE PLUS WITH BRIDGE ALTERNATIVE TRAFFIC IMPACT ANALYSIS

Traffic Volume Forecasts

Traffic that would be generated by the With Bridge Alternative at each of the study intersections in the a.m. peak hour and p.m. peak hour is displayed on Figure 3.13-32. Figure 3.13-33 displays the resulting Cumulative Plus With Bridge Alternative traffic volumes anticipated for each study intersection in the peak hours.

Roadway Improvements

Implementation of the With Bridge Alternative would result in roadway improvements needed to provide access to the Project site. These improvements include a bridge over Bear Creek, which is along the southeast portion of the Project site. These improvements are assumed in the analysis of Cumulative Plus With Bridge Alternative conditions.

Figure 3.13-33 displays the resulting Cumulative Plus With Bridge Alternative intersection lane geometrics for each study intersection. The resulting number of travel lanes assumed for study roadway segments are shown in Table 3.13-66.

TABLE 3.13-66: ROADWAY SEGMENT LEVEL OF SERVICE – CUMULATIVE PLUS WITH BRIDGE ALTERNATIVE CONDITIONS

<i>ROADWAY SEGMENT</i>	<i>NUMBER OF LANES</i>	<i>DAILY VOLUME</i>	<i>LEVEL OF SERVICE</i>
Interstate 5 Eight Mile Road to State Route 12	8	119,421	C
Interstate 5 Eight Mile Road to Hammer Lane	10	155,484	C
Eight Mile Road Lower Sacramento Road to Davis Road	8	56,568	C
Eight Mile Road Lower Sacramento Road to West Lane	8	76,252	E
West Lane Eight Mile Road to Ham Lane	4	38,307	D
Eight Mile Road West Lane to Micke Grove Rd/Holman Rd	8	62,830	D
West Lane Morada Lane to Eight Mile Road	8	48,954	C
Morada Lane West of West Lane	4	20,062	B
West Lane Morada Lane to Knickerbocker Drive	8	58,701	D
Morada Lane East of West Lane	6	16,630	A
State Route 99 Eight Mile Road to Armstrong Road	10	153,139	C
State Route 99 Eight Mile Road & Morada Lane	10	180,631	D
State Route 99 Morada Lane to Hammer Lane	10	201,277	E

SOURCE: KD ANDERSON & ASSOCIATES.

Intersection Levels of Service

Table 3.13-67 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under Cumulative Plus With Bridge Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

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TABLE 3.13-67: INTERSECTION LEVEL OF SERVICE – CUMULATIVE PLUS WITH BRIDGE ALTERNATIVE CONDITIONS

#	STUDY INTERSECTIONS	INTERS. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
1	Eight Mile Road & the I-5 SB Ramps	Signal	--	B	17.9	D	48.4
2	Eight Mile Road & the I-5 NB Ramps	Signal	--	C	23.1	E	65.4
3	Eight Mile Road & Thornton Road	Signal	--	D	36.9	F	95.0
4	Eight Mile Road & Davis Road	Signal	--	C	32.5	D	39.5
5	Eight Mile Road & Lower Sacramento Road	Signal	--	D	35.8	F	89.9
6	West Lane & Armstrong Road	Signal	--	E	66.0	F	144.2
7	West Lane & Ham Lane	Signal	--	B	11.7	B	13.2
8	Eight Mile Road & West Lane	Signal	--	D	47.3	F	109.1
9	Eight Mile Road & Ham Lane	Unsig	Yes	A	1.4	A	3.1
10	Eight Mile Road & Leach Road / Street G	Signal	--	B	18.3	B	17.6
11	Eight Mile Road & Micke Grove Road / Holman Road	Signal	--	C	29.0	D	36.3
12	Eight Mile Road & SR 99 West Frontage Road	Signal	--	C	25.3	C	32.5
13	Eight Mile Road & SR 99 East Frontage Road	Signal	--	A	3.8	A	4.0
14	SR 99 W Frontage Rd & SR 99 SB Ramps (Eight Mile)	--	--	--	--	--	--
15	SR 99 E Frontage Rd & SR 99 NB Ramps (Eight Mile)	--	--	--	--	--	--
16	West Lane & Lt. Col. Mark Taylor Street/Marlette Rd	--	--	C	30.5	C	32.7
17	Holman Road & Lt. Col. Mark Taylor Street	Signal	--	D	46.8	F	95.5
18	Morada Lane & West Lane	Signal	--	C	29.8	C	31.4
19	Morada Lane & Holman Road	Signal	--	C	33.3	C	35.0
20	SR 99 W. Frontage Road & SR 99 SB Ramps (Morada)	--	--	--	--	--	--
21	SR 99 E. Frontage Road & SR 99 NB Ramps (Morada)	Signal	--	B	13.2	B	13.7
22	Morada Lane & SR 99 West Frontage Road	Signal	--	C	24.2	C	24.4
23	Morada Lane & SR 99 East Frontage Road	Signal	--	C	27.1	C	23.4
24	West Lane & West Lane Frontage Road	Signal	--	C	24.9	C	29.3
25	West Lane & Knickerbocker Drive	Signal	--	C	23.5	C	33.7
26	West Lane & Hammer Lane	Signal	--	C	34.8	F	93.7
27	Hammer Lane & Holman Road	Signal	--	C	33.7	D	51.7
41	Eight Mile Road & SR 99 SB Ramps	Signal	--	C	26.7	E	72.8
42	Eight Mile Road & SR 99 NB Ramps	Signal	--	C	34.3	D	42.8
43	Morada Lane & SR 99 SB Ramps	Signal	--	D	37.9	E	71.2
44	Lt. Col. Mark Taylor Street & Ham Lane (North)	--	--	--	--	--	--
45	Lt. Col. Mark Taylor Street & Ham Lane (South)	Signal	--	A	9.8	B	11.5
46	Lt. Col. Mark Taylor Street & Ham Lane	--	--	--	--	--	--
51	Eight Mile Road & Commercial Site Driveway #1	Unsig	No	A	0.0	A	0.1

#	STUDY INTERSECTIONS	INTERSECTIONS CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
52	Eight Mile Road & Commercial Site Driveway #2	Unsig	No	A	0.0	A	0.2
53	Eight Mile Road & Street C	Signal		A	9.8	A	10.0
54	West Lane & Commercial Site Driveway #3	Unsig	No	A	0.0	A	0.2
55	West Lane & Commercial Site Driveway #4	Unsig	No	A	0.0	A	0.0
56	West Lane & Street A	Unsig	No	A	0.3	A	0.1
57	Eight Mile Road & High Density Residential Driveway #1	Unsig	No	A	0.3	A	0.3
58	Eight Mile Road & High Density Residential Driveway #2	Unsig	No	A	0.3	A	0.3
60	Eight Mile Road & Industrial Site Driveway #1	Unsig	No	A	0.0	A	0.0
61	Eight Mile Road & Industrial Site Driveway #2	Unsig	No	A	0.0	A	0.0

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. NB = NORTHBOUND. SB = SOUTHBOUND. INTERSECTIONS CONTROL = TYPE OF INTERSECTION CONTROL. SIGNAL = SIGNALIZED LIGHT CONTROL. UNSIG = UNSIGNALIZED STOP-SIGN CONTROL. AWSC = ALL-WAY STOP-SIGN CONTROL DASHES (- -) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Under Cumulative Plus With Bridge Alternative conditions, LOS at 28 of the 37 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 28 intersections to achieve acceptable LOS.

At the following seven intersections, LOS under Cumulative Plus With Bridge Alternative conditions would be unacceptable LOS E or F. However, compared to LOS under Cumulative No Project conditions, the Project-related increase in vehicle delay would not be greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these six intersections is considered less than significant:

- #2 Eight Mile Road & the I-5 Northbound Ramps;
- #3 Eight Mile Road & Thornton Road;
- #6 West Lane & Armstrong Road;
- #17 Holman Road & Lt. Col. Mark Taylor Street;
- #26 West Lane & Hammer Lane;
- #41 Eight Mile Road & SR 99 Southbound Ramps; and
- #43 Morada Lane & SR 99 Southbound Ramps.

The following describes the study intersections that would operate at unacceptable LOS under Cumulative Plus With Bridge Alternative conditions and, compared to Cumulative No Project conditions, would experience a Project-related increase in vehicle delay greater than five seconds.

Impact 3.13-52: Under Cumulative Plus With Bridge Alternative conditions, the With Bridge Alternative may result in a significant impact at the Eight Mile Road & Lower Sacramento Road intersection. (Less than Significant with Mitigation)

With Bridge Alternative:

Under Cumulative Plus With Bridge Alternative conditions, the Eight Mile Road & Lower Sacramento Road intersection would operate at LOS D with 35.8 seconds of delay during the a.m. peak hour, and LOS F with 89.9 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & Lower Sacramento Road intersection: split the westbound combined through/right-turn lane into an exclusive westbound through lane, and an exclusive westbound-to-northbound right-turn lane. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

This measure is the same as recommended for Cumulative No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-68. With this mitigation measure, this intersection would operate at LOS C with 35.0 seconds of delay during the a.m. peak hour and LOS E with 73.2 seconds of delay during the p.m. peak hour. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable at this intersection under Cumulative conditions.

TABLE 3.13-68: INTERSECTION LEVEL OF SERVICE – CUMULATIVE PLUS WITH BRIDGE ALTERNATIVE CONDITIONS WITH MITIGATION MEASURES

#	STUDY INTERSECTIONS	AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
5	Eight Mile Road & Lower Sacramento Road	C	35.0	E	73.2
8	Eight Mile Road & West Lane	D	40.5	E	78.3

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DELAY IS MEASURED IN SECONDS PER VEHICLE. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Impact 3.13-53: Under Cumulative Plus With Bridge Alternative conditions, the With Bridge Alternative may result in a significant impact at the Eight Mile Road & West Lane intersection. (Less than Significant with Mitigation)

With Bridge Alternative:

Under Cumulative Plus With Bridge Alternative conditions, the Eight Mile Road & West Lane intersection would operate at LOS D with 47.3 seconds of delay during the a.m. peak hour, and LOS F with 109.1 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is inferior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & West Lane intersection: add a third northbound-to-westbound left-turn lane. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

This measure is the same as recommended for Cumulative No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-68. With this mitigation measure, this intersection would operate at LOS D with 40.5 seconds of delay during the a.m. peak hour and LOS E with 78.3 seconds of delay during the p.m. peak hour. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable at this intersection under Cumulative conditions.

Impact 3.13-54: Impacts related to roadway segment levels of service under Cumulative Plus With Bridge Alternative conditions. (Less than Significant)

With Bridge Alternative:

Table 3.13-66 presents a summary of LOS on the 13 study roadway segments under Cumulative Plus With Bridge Alternative conditions. Eleven of the roadway segments would operate at acceptable LOS D or better. The impact on these roadway segments is considered to be less than significant, and no mitigation measures are needed at these 11 roadway segments.

One roadway segment, Eight Mile Road from Lower Sacramento Road to West Lane, would operate at LOS E under Cumulative Plus With Bridge Alternative conditions. As previously noted in

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the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable on this roadway segment under Cumulative conditions. The impact on this roadway segment is considered to be less than significant, and no mitigation measures are required.

One roadway segment, SR 99 from Morada Lane to Hammer Lane, would operate at LOS E under Cumulative Plus With Bridge Alternative conditions. However, the Project-related change in traffic volumes on this roadway segment would not exceed five percent. Therefore, based on the approach described in the *Level of Service Significance Thresholds* section of this EIR, the impact on this roadway segment is considered to be **less than significant**, and no mitigation measures are required. Compared to the proposed Project, this alternative is superior relative to this topic.

Impact 3.13-55: Impacts related to ramp junction levels of service under Cumulative Plus With Bridge Alternative conditions. (Less than Significant)

With Bridge Alternative:

Table 3.13-69 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under Cumulative Plus With Bridge Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-69: STATE ROUTE 99 RAMP MERGE AND DIVERGE LEVEL OF SERVICE – CUMULATIVE PLUS WITH BRIDGE ALTERNATIVE CONDITIONS

RAMP JUNCTION	AM PEAK HOUR				PM PEAK HOUR			
	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Future)	5,772	423	21.7	C	3,929	572	16.7	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp (Future)	5,772	1,106	27.5	C	3,929	1,470	26.4	C
SR 99 Northbound Merge from Eight Mile Road On-Ramp (Future)	3,330	422	10.4	B	5,580	543	22.9	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Future)	3,330	840	17.5	B	5,580	1,158	25.3	C
SR 99 Southbound Diverge to Morada Lane Off-Ramp (Future)	7,063	369	25.1	C	4,844	492	19.2	B
SR 99 Southbound Merge from Morada Lane On-Ramp (Future)	7,063	849	28.3	D	4,844	1,091	25.5	C
SR 99 Northbound Merge from Morada Lane On-Ramp	4,142	381	11.1	B	6,967	567	25.7	C
SR 99 Northbound Diverge to Morada Lane Off-Ramp	4,142	472	16.1	B	6,967	567	24.5	C

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DENSITY IS EXPRESSED IN PASSENGER CARS PER MILE.

SOURCE: KD ANDERSON & ASSOCIATES.

Under Cumulative Plus With Bridge Alternative conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. This impact is considered **less than significant**. No mitigation measures are needed at

these ramp junctions to achieve acceptable LOS. Compared to the proposed Project, this alternative is superior relative to this topic.

Traffic Queuing and Intersection Spacing

The adequacy of vehicle queue storage distance at the major project site access points was evaluated for the proposed Project and With Bridge Alternative. The adequacy of vehicle queue storage distance was assessed by comparing the forecasted length of vehicle queues to the length of the storage area at the four major Project site access points.

Table 3.13-62 shows a comparison of the available on-site queuing storage distance and the forecasted length of vehicle queues at the four major Project site points.

Impact 3.13-56: Impacts related to traffic queuing and intersection spacing under Cumulative Plus With Bridge Alternative conditions. (Less than Significant)

With Bridge Alternative:

Table 3.13-62 presents a comparison of the available on-site queuing storage distance and the forecasted length of vehicle queues at the four major project site points. The worksheets presenting the calculation of 95th percentile vehicle queue lengths are included in Appendix K.

Under Cumulative Plus With Bridge Alternative conditions, vehicle queues at all four major project site access points would be less than the available on-site queuing storage distance. Therefore, this impact is considered **less than significant**. No mitigation measures are needed to provide adequate vehicles storage distance and intersection spacing.

CUMULATIVE PLUS REDUCED PROJECT ALTERNATIVE TRAFFIC IMPACT ANALYSIS

Traffic Volume Forecasts

Traffic that would be generated by the Reduced Project Alternative at each of the study intersections in the a.m. peak hour and p.m. peak hour is displayed on Figure 3.13-34. Figure 3.13-35 displays the resulting Cumulative Plus Reduced Project Alternative traffic volumes anticipated for each study intersection in the peak hours.

Roadway Improvements

Implementation of the Reduced Project Alternative would result in roadway improvements needed to provide access to the Project site. These improvements are assumed in the analysis of Cumulative Plus Reduced Project Alternative conditions.

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Figure 3.13-35 displays the resulting Cumulative Plus Reduced Project Alternative intersection lane geometrics for each study intersection. The resulting number of travel lanes assumed for study roadway segments are shown in Table 3.13-70.

TABLE 3.13-70: ROADWAY SEGMENT LEVEL OF SERVICE – CUMULATIVE PLUS REDUCED PROJECT ALTERNATIVE CONDITIONS

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Interstate 5 Eight Mile Road to State Route 12	8	119,208	C
Interstate 5 Eight Mile Road to Hammer Lane	10	155,514	C
Eight Mile Road Lower Sacramento Road to Davis Road	8	56,214	C
Eight Mile Road Lower Sacramento Road to West Lane	8	76,204	E
West Lane Eight Mile Road to Ham Lane	4	36,080	D
Eight Mile Road West Lane to Micke Grove Rd/Holman Rd	8	61,042	D
West Lane Morada Lane to Eight Mile Road	8	43,564	C
Morada Lane West of West Lane	4	25,998	C
West Lane Morada Lane to Knickerbocker Drive	8	56,880	D
Morada Lane East of West Lane	6	19,568	A
State Route 99 Eight Mile Road to Armstrong Road	10	151,960	C
State Route 99 Eight Mile Road & Morada Lane	10	179,278	D
State Route 99 Morada Lane to Hammer Lane	10	199,702	E

SOURCE: KD ANDERSON & ASSOCIATES.

Intersection Levels of Service

Table 3.13-71 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under Cumulative Plus Reduced Project Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-71: INTERSECTION LEVEL OF SERVICE – CUMULATIVE PLUS REDUCED PROJECT ALTERNATIVE CONDITIONS

#	STUDY INTERSECTIONS	INTERS. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
1	Eight Mile Road & the I-5 SB Ramps	Signal	--	B	17.9	D	48.4
2	Eight Mile Road & the I-5 NB Ramps	Signal	--	C	22.8	E	62.5
3	Eight Mile Road & Thornton Road	Signal	--	D	36.8	F	93.0
4	Eight Mile Road & Davis Road	Signal	--	C	32.8	D	39.0
5	Eight Mile Road & Lower Sacramento Road	Signal	--	D	37.2	F	94.3

#	STUDY INTERSECTIONS	INTER. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
6	West Lane & Armstrong Road	Signal	--	E	70.4	F	149.1
7	West Lane & Ham Lane	Signal	--	B	11.8	B	13.1
8	Eight Mile Road & West Lane	Signal	--	D	47.5	F	104.6
9	Eight Mile Road & Ham Lane	Signal	--	C	22.0	C	23.9
10	Eight Mile Road & Leach Road / Street G	Signal	--	A	5.7	A	5.3
11	Eight Mile Road & Micke Grove Road / Holman Road	Signal	--	C	29.9	D	37.7
12	Eight Mile Road & SR 99 West Frontage Road	Signal	--	C	25.4	C	31.1
13	Eight Mile Road & SR 99 East Frontage Road	Signal	--	A	4.6	A	4.0
14	SR 99 W Frontage Rd & SR 99 SB Ramps (Eight Mile)	--	--	--	--	--	--
15	SR 99 E Frontage Rd & SR 99 NB Ramps (Eight Mile)	--	--	--	--	--	--
16	West Lane & Lt. Col. Mark Taylor Street/Marlette Rd	--	--	--	--	--	--
17	Holman Road & Lt. Col. Mark Taylor Street	Signal	--	D	41.5	F	92.0
18	Morada Lane & West Lane	Signal	--	C	33.7	D	36.4
19	Morada Lane & Holman Road	Signal	--	C	33.4	D	35.2
20	SR 99 W. Frontage Road & SR 99 SB Ramps (Morada)	--	--	--	--	--	--
21	SR 99 E. Frontage Road & SR 99 NB Ramps (Morada)	Signal	--	B	13.3	B	13.7
22	Morada Lane & SR 99 West Frontage Road	Signal	--	C	24.3	C	24.5
23	Morada Lane & SR 99 East Frontage Road	Signal	--	C	27.2	C	23.4
24	West Lane & West Lane Frontage Road	Signal	--	C	24.8	C	28.9
25	West Lane & Knickerbocker Drive	Signal	--	C	23.9	C	34.1
26	West Lane & Hammer Lane	Signal	--	C	34.6	F	88.8
27	Hammer Lane & Holman Road	Signal	--	C	33.6	D	51.4
41	Eight Mile Road & SR 99 SB Ramps	Signal	--	C	20.7	E	61.5
42	Eight Mile Road & SR 99 NB Ramps	Signal	--	C	33.6	D	41.5
43	Morada Lane & SR 99 SB Ramps	Signal	--	D	37.4	E	73.4
44	Lt. Col. Mark Taylor Street & Ham Lane (North)	--	--	--	--	--	--
45	Lt. Col. Mark Taylor Street & Ham Lane (South)	--	--	--	--	--	--
46	Lt. Col. Mark Taylor Street & Ham Lane	--	--	--	--	--	--
51	Eight Mile Road & Commercial Site Driveway #1	--	--	--	--	--	--
52	Eight Mile Road & Commercial Site Driveway #2	--	--	--	--	--	--
53	Eight Mile Road & Street C	--	--	--	--	--	--
54	West Lane & Commercial Site Driveway #3	--	--	--	--	--	--
55	West Lane & Commercial Site Driveway #4	--	--	--	--	--	--
56	West Lane & Street A	--	--	--	--	--	--
57	Eight Mile Road & High Density Residential Driveway #1	--	--	--	--	--	--
58	Eight Mile Road & High Density Residential	--	--	--	--	--	--

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#	STUDY INTERSECTIONS	INTERSECTIONS CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
	Driveway #2						
60	Eight Mile Road & Industrial Site Driveway #1	--	--	--	--	--	--
61	Eight Mile Road & Industrial Site Driveway #2	--	--	--	--	--	--

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. NB = NORTHBOUND. SB = SOUTHBOUND. INTERSECTIONS CONTROL = TYPE OF INTERSECTION CONTROL. SIGNAL WARRANT MET? = SIGNALIZED LIGHT CONTROL. UNSIG = UNSIGNALIZED STOP-SIGN CONTROL. AWSC = ALL-WAY STOP-SIGN CONTROL. DASHES (- -) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Under Cumulative Plus Reduced Project Alternative conditions, LOS at 17 of the 26 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 17 intersections to achieve acceptable LOS.

At the following seven intersections, LOS under Cumulative Plus Reduced Project Alternative conditions would be unacceptable LOS E or F. However, compared to LOS under Cumulative No Project conditions, the Project-related increase in vehicle delay would not be greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these seven intersections is considered less than significant:

- #2 Eight Mile Road & the I-5 Northbound Ramps;
- #3 Eight Mile Road & Thornton Road;
- #6 West Lane & Armstrong Road;
- #17 Holman Road & Lt. Col. Mark Taylor Street;
- #26 West Lane & Hammer Lane;
- #41 Eight Mile Road & SR 99 Southbound Ramps; and
- #43 Morada Lane & SR 99 Southbound Ramps.

The following describes the study intersections that would operate at unacceptable LOS under Cumulative Plus Reduced Project Alternative conditions and, compared to Cumulative No Project conditions, would experience a Project-related increase in vehicle delay greater than five seconds.

Impact 3.13-57: Under Cumulative Plus Reduced Project Alternative conditions, the Reduced Project Alternative may result in a significant impact at the Eight Mile Road & Lower Sacramento Road intersection. (Less than Significant with Mitigation)

Reduced Project Alternative:

Under Cumulative Plus Reduced Project Alternative conditions, the Eight Mile Road & Lower Sacramento Road intersection would operate at LOS D with 37.2 seconds of delay during the a.m. peak hour, and LOS F with 94.3 seconds of delay during the p.m. peak hour. LOS F is considered

unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & Lower Sacramento Road intersection: split the westbound combined through/right-turn lane into an exclusive westbound through lane, and an exclusive westbound-to-northbound right-turn lane. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

This measure is the same as recommended for Cumulative No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-72. With this mitigation measure, this intersection would operate at LOS D with 36.5 seconds of delay during the a.m. peak hour and LOS E with 79.5 seconds of delay during the p.m. peak hour. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable at this intersection under Cumulative conditions.

TABLE 3.13-72: INTERSECTION LEVEL OF SERVICE – CUMULATIVE PLUS REDUCED PROJECT ALTERNATIVE CONDITIONS WITH MITIGATION MEASURES

#	STUDY INTERSECTIONS	AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
5	Eight Mile Road & Lower Sacramento Road	D	36.5	E	79.5
8	Eight Mile Road & West Lane	D	40.7	E	77.8

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DELAY IS MEASURED IN SECONDS PER VEHICLE. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Impact 3.13-58: Under Cumulative Plus Reduced Project Alternative conditions, the Reduced Project Alternative may result in a significant impact at the Eight Mile Road & West Lane intersection. (Less than Significant with Mitigation)

Reduced Project Alternative:

Under Cumulative Plus Reduced Project Alternative conditions, the Eight Mile Road & West Lane intersection would operate at LOS D with 47.5 seconds of delay during the a.m. peak hour, and LOS F with 104.6 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this

impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & West Lane intersection: add a third northbound-to-westbound left-turn lane. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

This measure is the same as recommended for Cumulative No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-72. With this mitigation measure, this intersection would operate at LOS D with 40.7 seconds of delay during the a.m. peak hour and LOS E with 77.8 seconds of delay during the p.m. peak hour. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable at this intersection under Cumulative conditions.

Impact 3.13-59: Impacts related to roadway segment levels of service under Cumulative Plus Reduced Project Alternative conditions. (Less than Significant)

Reduced Project Alternative:

Table 3.13-70 presents a summary of LOS on the 13 study roadway segments under Cumulative Plus Reduced Project Alternative conditions. Eleven of the roadway segments would operate at acceptable LOS D or better. The impact on these roadway segments is considered to be less than significant, and no mitigation measures are needed at these 11 roadway segments.

One roadway segment, Eight Mile Road from Lower Sacramento Road to West Lane, would operate at LOS E under Cumulative Plus Reduced Project Alternative conditions. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable on this roadway segment under Cumulative conditions. The impact on this roadway segment is considered to be less than significant, and no mitigation measures are required.

One roadway segment, SR 99 from Morada Lane to Hammer Lane, would operate at LOS E under Cumulative Plus Reduced Project Alternative conditions. However, the Project-related change in traffic volumes on this roadway segment would not exceed five percent. Therefore, based on the approach described in the *Level of Service Significance Thresholds* section of this EIR, the impact on this roadway segment is considered to be **less than significant**, and no mitigation measures are required. Compared to the proposed Project, this alternative is superior relative to this topic.

Impact 3.13-60: Impacts related to ramp junction levels of service under Cumulative Plus Reduced Project Alternative conditions. (Less than Significant)

Reduced Project Alternative:

Table 3.13-73 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under Cumulative Plus Reduced Project Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

TABLE 3.13-73: STATE ROUTE 99 RAMP MERGE AND DIVERGE LEVEL OF SERVICE – CUMULATIVE PLUS REDUCED PROJECT ALTERNATIVE CONDITIONS

RAMP JUNCTION	AM PEAK HOUR				PM PEAK HOUR			
	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Future)	5,799	390	21.7	C	3,948	524	16.5	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp (Future)	5,799	1,069	27.2	C	3,948	1,392	25.8	C
SR 99 Northbound Merge from Eight Mile Road On-Ramp (Future)	3,339	356	15.5	B	5,593	454	22.2	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Future)	3,339	782	17.2	B	5,593	1,060	24.8	C
SR 99 Southbound Diverge to Morada Lane Off-Ramp (Future)	7,034	379	25.0	C	4,787	505	20.1	C
SR 99 Southbound Merge from Morada Lane On-Ramp (Future)	7,034	834	28.1	D	4,787	1,092	25.7	C
SR 99 Northbound Merge from Morada Lane On-Ramp	4,117	385	17.9	B	6,906	573	25.6	C
SR 99 Northbound Diverge to Morada Lane Off-Ramp	4,117	466	15.9	B	6,906	560	24.2	C

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DENSITY IS EXPRESSED IN PASSENGER CARS PER MILE.

SOURCE: KD ANDERSON & ASSOCIATES

Under Cumulative Plus Reduced Project Alternative conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. This impact is considered **less than significant**. No mitigation measures are needed at these ramp junctions to achieve acceptable LOS. Compared to the proposed Project, this alternative is superior relative to this topic.

CUMULATIVE PLUS REDUCED INTENSITY/DENSITY ALTERNATIVE TRAFFIC IMPACT ANALYSIS

Traffic Volume Forecasts

Traffic that would be generated by the Reduced Intensity/Density Alternative at each of the study intersections in the a.m. peak hour and p.m. peak hour is displayed on Figure 3.13-36. Figure 3.13-

3.13 TRANSPORTATION AND CIRCULATION

37 displays the resulting Cumulative Plus Reduced Intensity/Density Alternative traffic volumes anticipated for each study intersection in the peak hours.

Roadway Improvements

Implementation of the Reduced Intensity/Density Alternative would result in roadway improvements needed to provide access to the Project site. These improvements are assumed in the analysis of Cumulative Plus Reduced Intensity/Density Alternative conditions.

Figure 3.13-37 displays the resulting Cumulative Plus Reduced Intensity/Density Alternative intersection lane geometrics for each study intersection. The resulting number of travel lanes assumed for study roadway segments are shown in Table 3.13-74.

TABLE 3.13-74: ROADWAY SEGMENT LEVEL OF SERVICE – CUMULATIVE PLUS REDUCED INTENSITY/DENSITY ALTERNATIVE CONDITIONS

ROADWAY SEGMENT	NUMBER OF LANES	DAILY VOLUME	LEVEL OF SERVICE
Interstate 5 Eight Mile Road to State Route 12	8	119,234	C
Interstate 5 Eight Mile Road to Hammer Lane	10	155,526	C
Eight Mile Road Lower Sacramento Road to Davis Road	8	56,356	C
Eight Mile Road Lower Sacramento Road to West Lane	8	76,436	E
West Lane Eight Mile Road to Ham Lane	4	36,140	D
Eight Mile Road West Lane to Micke Grove Rd/Holman Rd	8	61,448	D
West Lane Morada Lane to Eight Mile Road	8	44,032	C
Morada Lane West of West Lane	4	26,024	D
West Lane Morada Lane to Knickerbocker Drive	8	57,240	D
Morada Lane East of West Lane	6	19,652	A
State Route 99 Eight Mile Road to Armstrong Road	10	152,010	C
State Route 99 Eight Mile Road & Morada Lane	10	179,400	D
State Route 99 Morada Lane to Hammer Lane	10	199,868	E

SOURCE: KD ANDERSON & ASSOCIATES.

Intersection Levels of Service

Table 3.13-75 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under Cumulative Plus Reduced Intensity/Density Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

**TABLE 3.13-75: INTERSECTION LEVEL OF SERVICE – CUMULATIVE PLUS REDUCED INTENSITY/DENSITY
ALTERNATIVE CONDITIONS**

#	STUDY INTERSECTIONS	INTERS. CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
1	Eight Mile Road & the I-5 SB Ramps	Signal	--	B	17.9	D	48.5
2	Eight Mile Road & the I-5 NB Ramps	Signal	--	C	22.9	E	62.7
3	Eight Mile Road & Thornton Road	Signal	--	D	36.9	F	93.4
4	Eight Mile Road & Davis Road	Signal	--	C	32.8	D	39.1
5	Eight Mile Road & Lower Sacramento Road	Signal	--	D	37.4	F	95.9
6	West Lane & Armstrong Road	Signal	--	E	70.5	F	149.2
7	West Lane & Ham Lane	Signal	--	B	11.8	B	13.2
8	Eight Mile Road & West Lane	Signal	--	D	48.2	F	106.2
9	Eight Mile Road & Ham Lane	Signal	--	C	22.0	C	24.1
10	Eight Mile Road & Leach Road / Street G	Signal	--	A	6.7	A	5.9
11	Eight Mile Road & Micke Grove Road / Holman Road	Signal	--	C	30.0	D	38.4
12	Eight Mile Road & SR 99 West Frontage Road	Signal	--	C	25.4	C	31.2
13	Eight Mile Road & SR 99 East Frontage Road	Signal	--	A	4.7	A	3.9
14	SR 99 W Frontage Rd & SR 99 SB Ramps (Eight Mile)	--	--	--	--	--	--
15	SR 99 E Frontage Rd & SR 99 NB Ramps (Eight Mile)	--	--	--	--	--	--
16	West Lane & Lt. Col. Mark Taylor Street/Marlette Rd	--	--	--	--	--	--
17	Holman Road & Lt. Col. Mark Taylor Street	Signal	--	D	41.5	F	92.0
18	Morada Lane & West Lane	Signal	--	C	33.8	D	36.5
19	Morada Lane & Holman Road	Signal	--	C	33.4	D	35.2
20	SR 99 W. Frontage Road & SR 99 SB Ramps (Morada)	--	--	--	--	--	--
21	SR 99 E. Frontage Road & SR 99 NB Ramps (Morada)	Signal	--	B	13.3	B	13.7
22	Morada Lane & SR 99 West Frontage Road	Signal	--	C	24.3	C	24.4
23	Morada Lane & SR 99 East Frontage Road	Signal	--	C	27.2	C	23.4
24	West Lane & West Lane Frontage Road	Signal	--	C	24.8	C	29.0
25	West Lane & Knickerbocker Drive	Signal	--	C	23.8	C	34.3
26	West Lane & Hammer Lane	Signal	--	C	34.5	F	89.3
27	Hammer Lane & Holman Road	Signal	--	C	33.6	D	51.4
41	Eight Mile Road & SR 99 SB Ramps	Signal	--	C	21.4	E	62.3
42	Eight Mile Road & SR 99 NB Ramps	Signal	--	C	33.6	D	41.6
43	Morada Lane & SR 99 SB Ramps	Signal	--	D	37.7	E	73.7
44	Lt. Col. Mark Taylor Street & Ham Lane (North)	--	--	--	--	--	--
45	Lt. Col. Mark Taylor Street & Ham Lane (South)	--	--	--	--	--	--
46	Lt. Col. Mark Taylor Street & Ham Lane	--	--	--	--	--	--
51	Eight Mile Road & Commercial Site Driveway #1	--	--	--	--	--	--
52	Eight Mile Road & Commercial Site Driveway #2	--	--	--	--	--	--

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#	STUDY INTERSECTIONS	INTERSECTIONS CONTROL	SIGNAL WARRANT MET?	AM PEAK		PM PEAK	
				LOS	DELAY	LOS	DELAY
53	Eight Mile Road & Street C	--	--	--	--	--	--
54	West Lane & Commercial Site Driveway #3	--	--	--	--	--	--
55	West Lane & Commercial Site Driveway #4	--	--	--	--	--	--
56	West Lane & Street A	--	--	--	--	--	--
57	Eight Mile Road & High Density Residential Driveway #1	--	--	--	--	--	--
58	Eight Mile Road & High Density Residential Driveway #2	--	--	--	--	--	--
60	Eight Mile Road & Industrial Site Driveway #1	--	--	--	--	--	--
61	Eight Mile Road & Industrial Site Driveway #2	--	--	--	--	--	--

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. NB = NORTHBOUND. SB = SOUTHBOUND. INTERSECTIONS CONTROL = TYPE OF INTERSECTION CONTROL. SIGNAL = SIGNALIZED LIGHT CONTROL. UNSIG = UNSIGNALIZED STOP-SIGN CONTROL. AWSC = ALL-WAY STOP-SIGN CONTROL DASHES (- -) INDICATE THE INTERSECTION WOULD NOT BE PRESENT UNDER THIS SCENARIO. DELAY IS MEASURED IN SECONDS PER VEHICLE. "OVERFLOW" INDICATES DEMAND EXCEEDS CAPACITY. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Under Cumulative Plus Reduced Intensity/Density Alternative conditions, LOS at 17 of the 26 study intersections would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No improvements are needed at these 17 intersections to achieve acceptable LOS.

At the following seven intersections, LOS under Cumulative Plus Reduced Intensity/Density Alternative conditions would be unacceptable LOS E or F. However, compared to LOS under Cumulative No Project conditions, the Project-related increase in vehicle delay would not be greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these seven intersections is considered less than significant:

- #2 Eight Mile Road & the I-5 Northbound Ramps;
- #3 Eight Mile Road & Thornton Road;
- #6 West Lane & Armstrong Road;
- #17 Holman Road & Lt. Col. Mark Taylor Street;
- #26 West Lane & Hammer Lane;
- #41 Eight Mile Road & SR 99 Southbound Ramps; and
- #43 Morada Lane & SR 99 Southbound Ramps.

The following describes the study intersections that would operate at unacceptable LOS under Cumulative Plus Reduced Intensity/Density Alternative conditions and, compared to Cumulative No Project conditions, would experience a Project-related increase in vehicle delay greater than five seconds.

Impact 3.13-61: Under Cumulative Plus Reduced Intensity/Density Alternative conditions, the Reduced Intensity/Density Alternative may result in a significant impact at the Eight Mile Road & Lower Sacramento Road intersection. (Less than Significant with Mitigation)

Reduced Intensity/Density Alternative:

Under Cumulative Plus Reduced Intensity/Density Alternative conditions, the Eight Mile Road & Lower Sacramento Road intersection would operate at LOS D with 37.4 seconds of delay during the a.m. peak hour, and LOS F with 95.9 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & Lower Sacramento Road intersection:

- *Split the westbound combined through/right-turn lane into an exclusive westbound through lane, and an exclusive westbound-to-northbound right-turn lane.*
- *Set the westbound-to-northbound right-turn lane to “overlap”.*
- *Prohibit southbound-to-northbound U-turns.*

Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

The first of the three measures above is the same as recommended for Cumulative No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-75. With this mitigation measure, this intersection would operate at LOS D with 36.0 seconds of delay during the a.m. peak hour and LOS E with 78.1 seconds of delay during the p.m. peak hour. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable at this intersection under Cumulative conditions.

Impact 3.13-62: Under Cumulative Plus Reduced Intensity/Density Alternative conditions, the Reduced Intensity/Density Alternative may result in a significant impact at the Eight Mile Road & West Lane intersection. (Less than Significant with Mitigation)

Reduced Intensity/Density Alternative:

Under Cumulative Plus Reduced Intensity/Density Alternative conditions, the Eight Mile Road & West Lane intersection would operate at LOS D with 48.2 seconds of delay during the a.m. peak hour, and LOS F with 106.2 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. The following mitigation measure is required to achieve acceptable LOS and reduce the impact to a **less-than-significant** level. Compared to the proposed Project, this alternative is superior relative to this topic.

MITIGATION MEASURE

The following improvements would need to be incorporated as a mitigation measure and condition of approval if this alternative were to be selected:

The project applicant shall pay the pro-rata fair share fee towards the following improvements to the Eight Mile Road & West Lane intersection: add a third northbound-to-westbound left-turn lane. Proof of payment of the fair share fee shall be submitted to the Stockton Public Works Department.

This measure is the same as recommended for Cumulative No Project conditions. A summary of the mitigated LOS is presented in Table 3.13-76. With this mitigation measure, this intersection would operate at LOS D with 41.1 seconds of delay during the a.m. peak hour and LOS E with 78.8 seconds of delay during the p.m. peak hour. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable at this intersection under Cumulative conditions.

TABLE 3.13-76: INTERSECTION LEVEL OF SERVICE – CUMULATIVE PLUS REDUCED INTENSITY/DENSITY ALTERNATIVE CONDITIONS WITH MITIGATION MEASURES

#	STUDY INTERSECTIONS	AM PEAK		PM PEAK	
		LOS	DELAY	LOS	DELAY
5	Eight Mile Road & Lower Sacramento Road	D	36.0	E	78.1
8	Eight Mile Road & West Lane	D	41.1	E	78.8

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DELAY IS MEASURED IN SECONDS PER VEHICLE. PER CITY OF STOCKTON GUIDELINES, INTERSECTION AVERAGE DELAY IS REPORTED FOR ALL INTERSECTIONS, INCLUDING UNSIGNALIZED INTERSECTIONS.

SOURCE: KD ANDERSON & ASSOCIATES.

Impact 3.13-63: Impacts related to roadway segment levels of service under Cumulative Plus Reduced Intensity/Density Alternative conditions. (Less than Significant)

Reduced Intensity/Density Alternative:

Table 3.13-74 presents a summary of LOS on the 13 study roadway segments under Cumulative Plus Reduced Intensity/Density Alternative conditions. Eleven of the roadway segments would operate at acceptable LOS D or better. The impact on these roadway segments is considered to be less than significant, and no mitigation measures are needed at these 11 roadway segments.

One roadway segment, Eight Mile Road from Lower Sacramento Road to West Lane, would operate at LOS E under Cumulative Plus Reduced Intensity/Density Alternative conditions. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable on this roadway segment under Cumulative conditions. The impact on this roadway segment is considered to be less than significant, and no mitigation measures are required.

One roadway segment, SR 99 from Morada Lane to Hammer Lane, would operate at LOS E under Cumulative Plus Reduced Intensity/Density Alternative conditions. However, the Project-related change in traffic volumes on this roadway segment would not exceed five percent. Therefore, based on the approach described in the *Level of Service Significance Thresholds* section of this EIR, the impact on this roadway segment is considered to be **less than significant**, and no mitigation measures are required. Compared to the proposed Project, this alternative is superior relative to this topic.

Impact 3.13-64: Impacts related to ramp junction levels of service under Cumulative Plus Reduced Intensity/Density Alternative conditions. (Less than Significant)

Reduced Intensity/Density Alternative:

Table 3.13-77 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under Cumulative Plus Reduced Intensity/Density Alternative conditions. The worksheets presenting the calculation of LOS are included in Appendix K.

Under Cumulative Plus Reduced Intensity/Density Alternative conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. This impact is considered **less than significant**. No mitigation measures are needed at these ramp junctions to achieve acceptable LOS. Compared to the proposed Project, this alternative is superior relative to this topic.

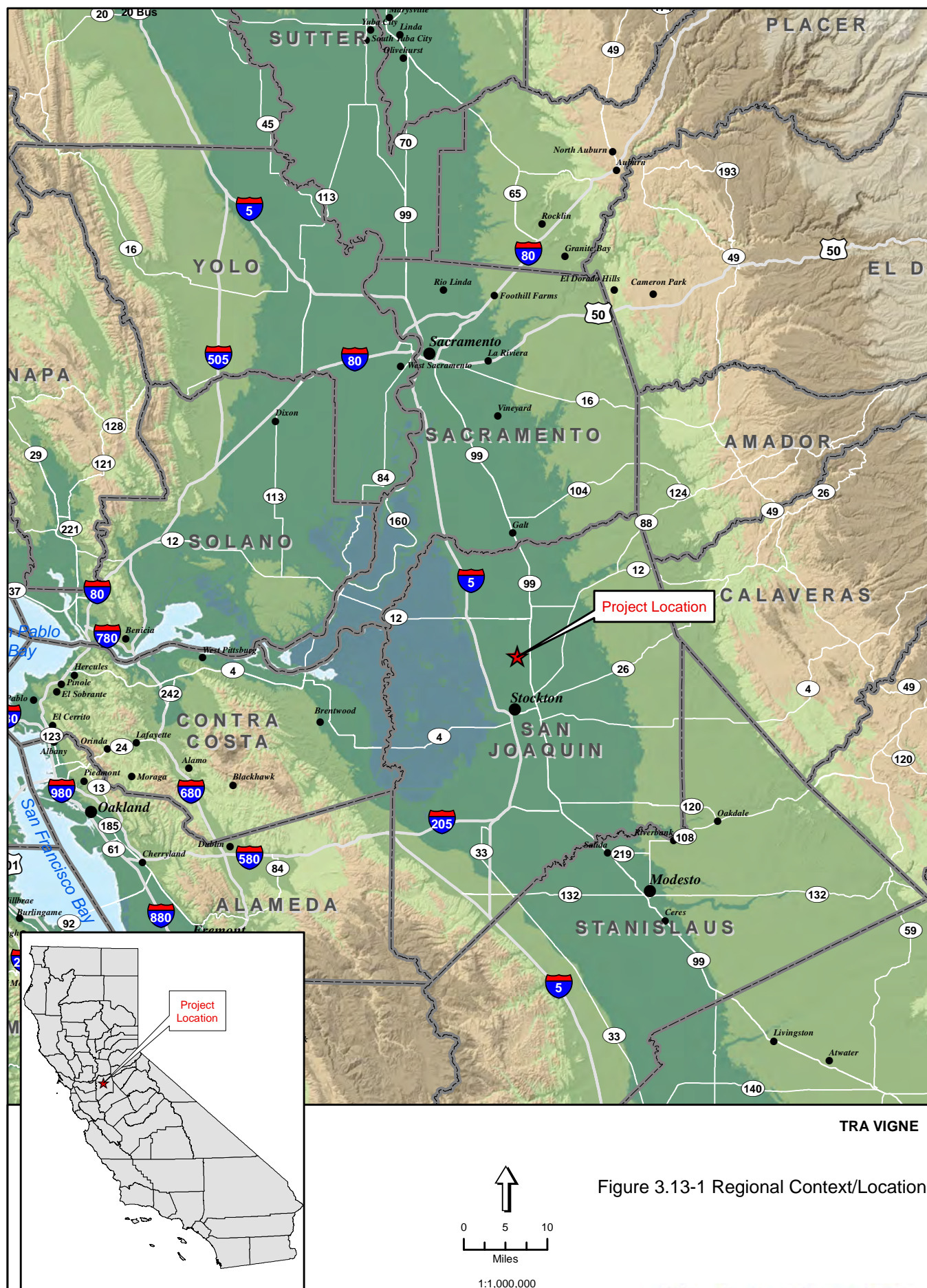
3.13 TRANSPORTATION AND CIRCULATION

TABLE 3.13-77: STATE ROUTE 99 RAMP MERGE AND DIVERGE LEVEL OF SERVICE – CUMULATIVE PLUS REDUCED INTENSITY/DENSITY ALTERNATIVE CONDITIONS

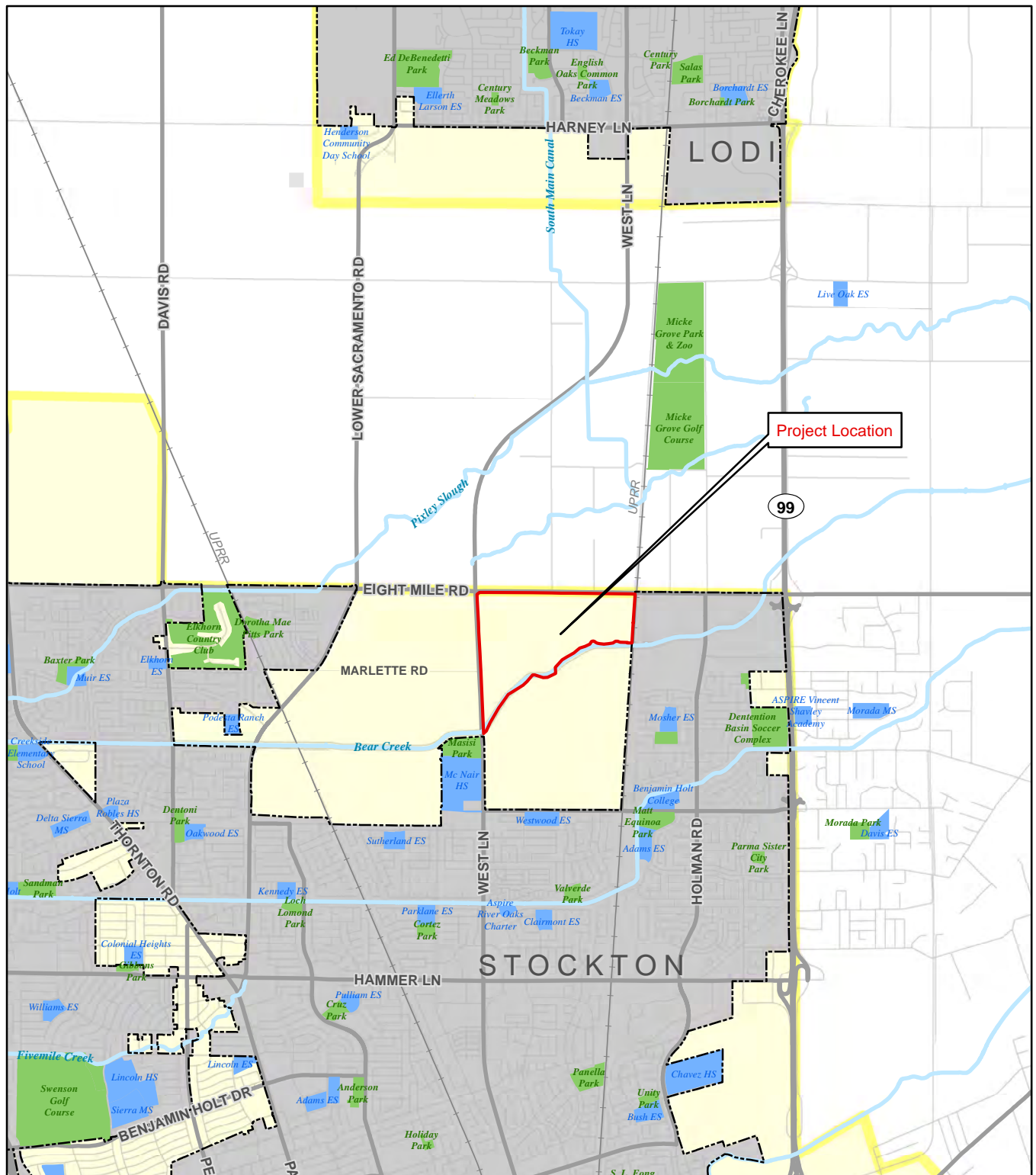
RAMP JUNCTION	AM PEAK HOUR				PM PEAK HOUR			
	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS	FREEWAY VOLUME	RAMP VOLUME	DENSITY	LOS
SR 99 Southbound Diverge to Eight Mile Road Off-Ramp (Future)	5,799	391	21.7	C	3,948	527	16.5	B
SR 99 Southbound Merge from Eight Mile Road On-Ramp (Future)	5,799	1,076	27.3	C	3,948	1,396	25.9	C
SR 99 Northbound Merge from Eight Mile Road On-Ramp (Future)	3,339	359	15.5	B	5,593	456	22.2	C
SR 99 Northbound Diverge to Eight Mile Road Off-Ramp (Future)	3,339	784	17.3	B	5,593	1,068	24.9	C
SR 99 Southbound Diverge to Morada Lane Off-Ramp (Future)	7,041	379	25.1	C	4,791	505	20.1	C
SR 99 Southbound Merge from Morada Lane On-Ramp (Future)	7,041	837	28.2	D	4,791	1,094	25.7	C
SR 99 Northbound Merge from Morada Lane On-Ramp	4,119	385	17.9	B	6,914	573	25.6	C
SR 99 Northbound Diverge to Morada Lane Off-Ramp	4,119	467	15.9	B	6,914	563	24.3	C

NOTES: SR = STATE ROUTE. LOS = LEVEL OF SERVICE. DENSITY IS EXPRESSED IN PASSENGER CARS PER MILE.

SOURCE: KD ANDERSON & ASSOCIATES.



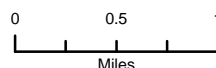
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TRA VIGNE

Legend

- City Limits
- Sphere of Influence
- Public School
- Park
- USGS Stream/River



1:60,000

Figure 3.13-2: Project Vicinity

Data sources: North Star Engineering Group, Inc., December 16, 2015; San Joaquin County GIS; USGS National Hydrography Data Set. Map date: May 17, 2016.

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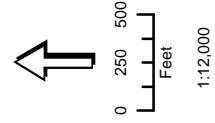
LAND USE LEGEND-WEST SIDE	
COMMERCIAL	10.5 ACRES
SCHOOL SITE	14.7 ACRES
TRADITIONAL PARK AREA	9.5 ACRES
NON-TRADITIONAL PARK AREA	13.75 ACRES
TOTAL RL LOTS	659
TOTAL HD UNITS	340

LAND USE LEGEND-EAST SIDE	
TRADITIONAL PARK AREA	5.57 ACRES
NON-TRADITIONAL PARK AREA	6.61 ACRES
TOTAL RL LOTS	418

LAND USE LEGEND-TOTAL	
COMMERCIAL	10.5 ACRES
SCHOOL SITE	14.7 ACRES
TRADITIONAL PARK AREA	15.07 ACRES
NON-TRADITIONAL PARK AREA	20.36 ACRES
TOTAL RL LOTS	1,073
TOTAL HD UNITS	340

TRA VIGNE

Figure 3.13-3 Site Plan

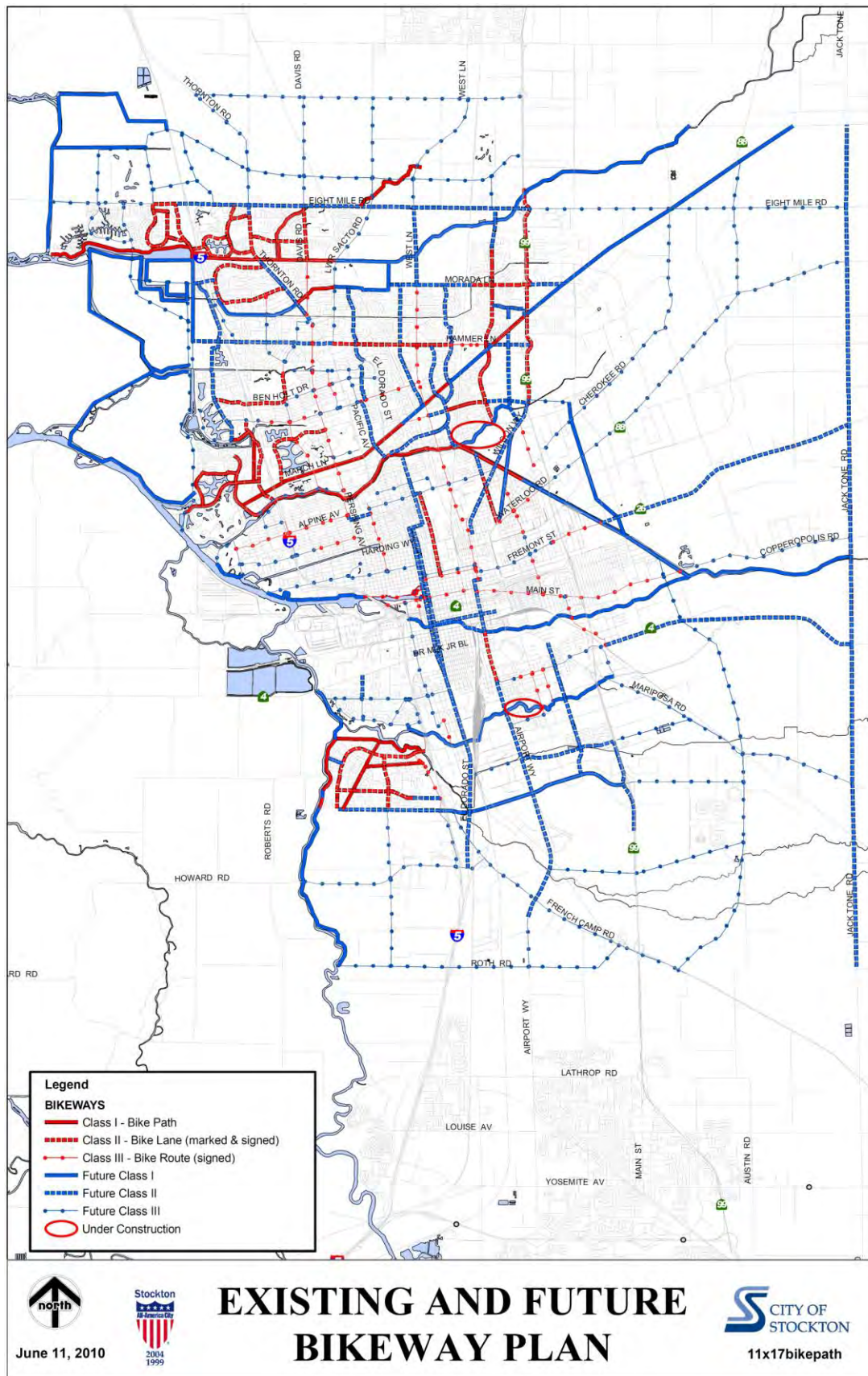


De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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EXISTING AND FUTURE BIKEWAY PLAN

KD Anderson & Associates, Inc.
Transportation Engineers

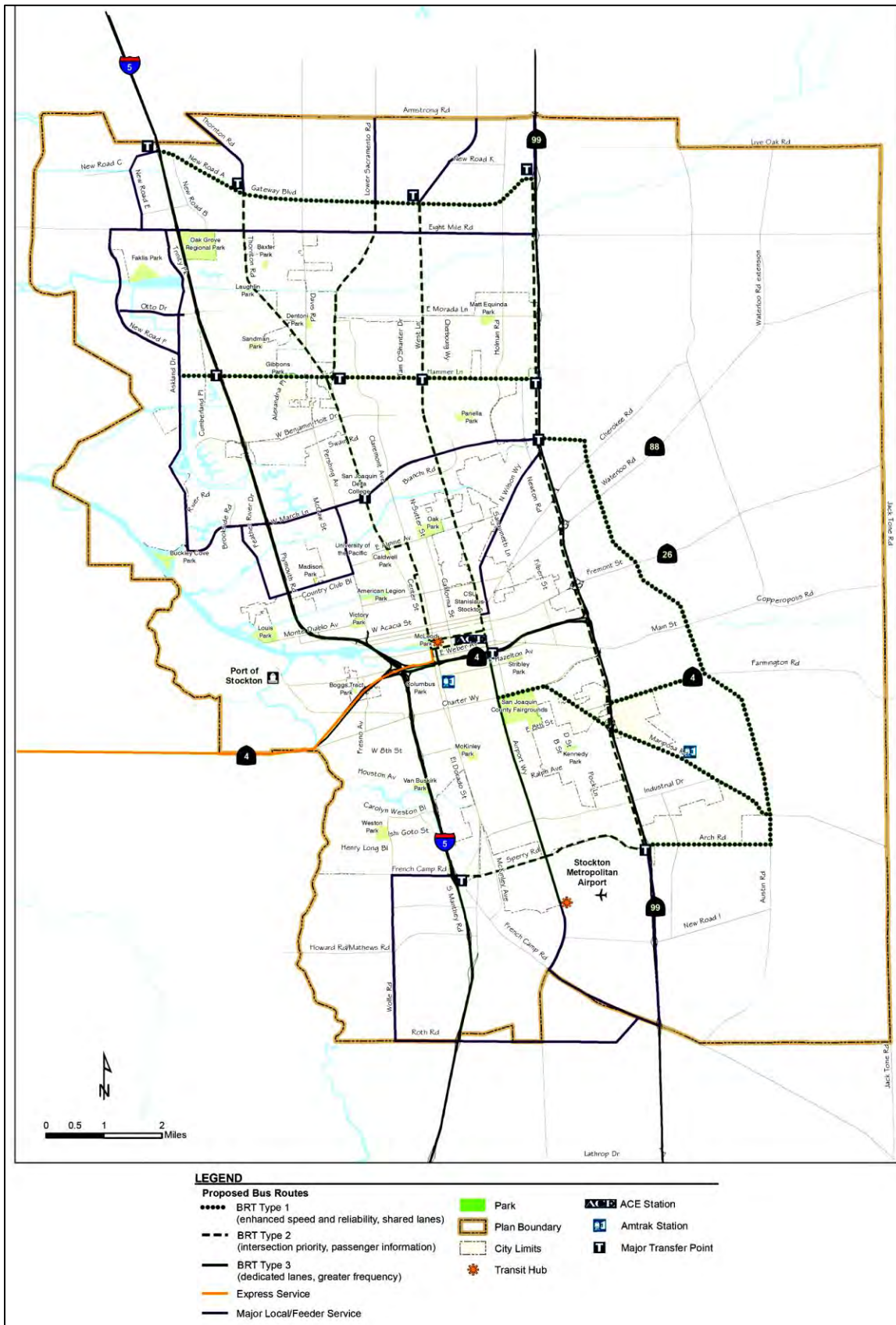
Source: City of Stockton 2010

4574-003 6/26/2017

Tra Vigne Project Traffic Impact Study

figure 3.13-5

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2035 STOCKTON GENERAL PLAN
FUTURE TRANSIT NETWORK
Source: City of Stockton 2007a

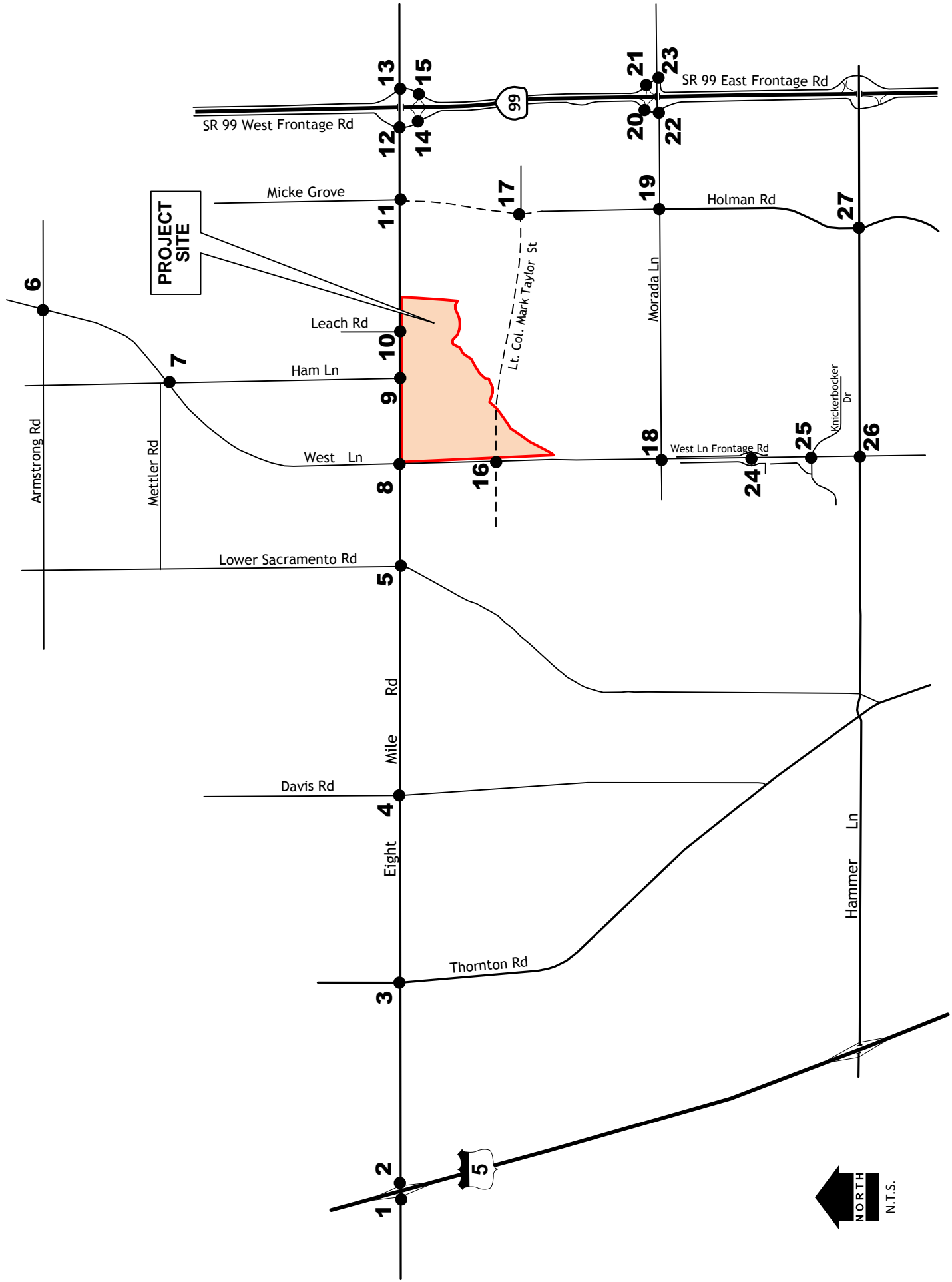
KD Anderson & Associates, Inc.
Transportation Engineers

4574-003 6/26/2017

Tra Vigne Project Traffic Impact Study

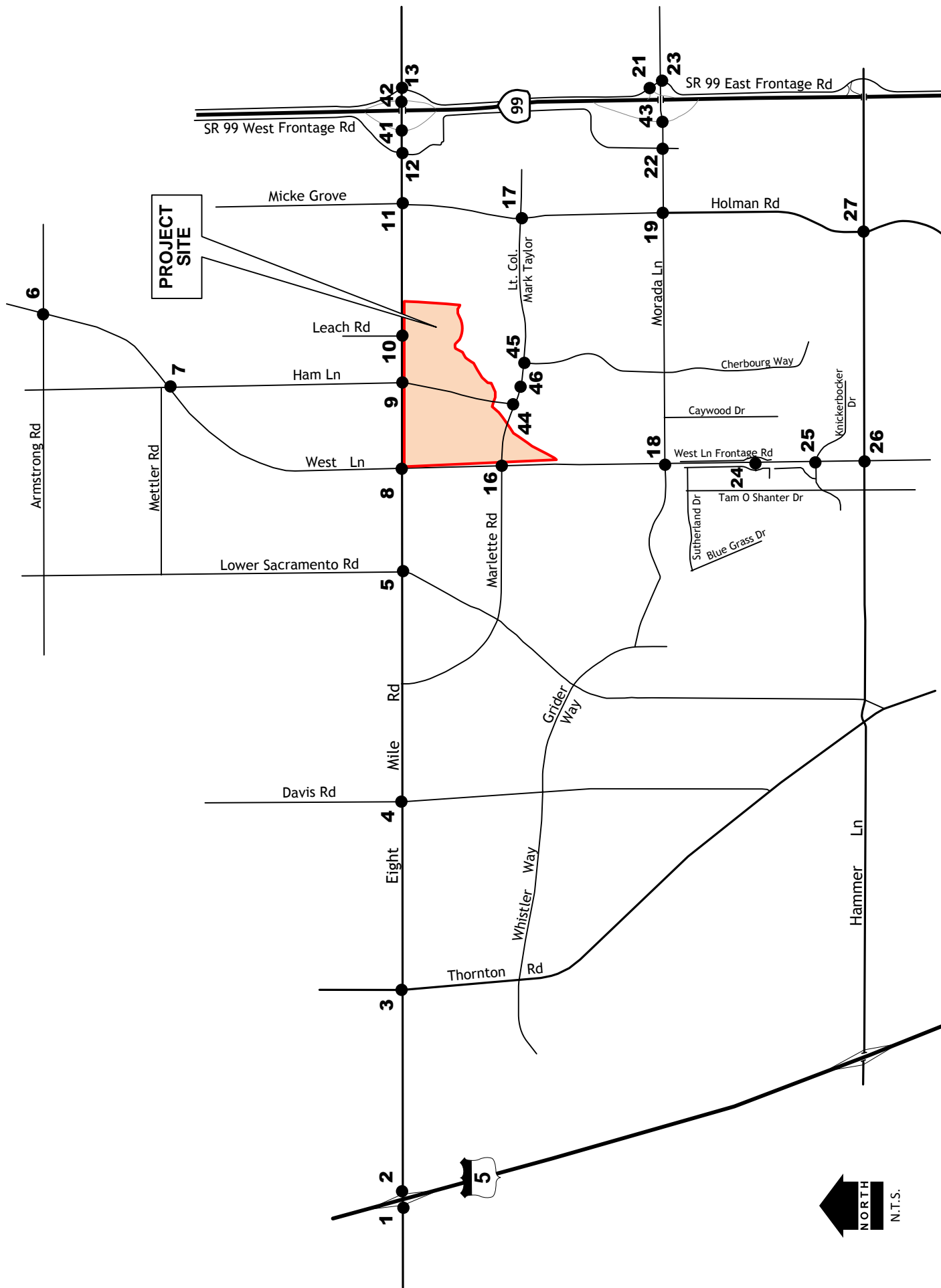
figure 3.13-6

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ROADWAY NETWORK AND STUDY INTERSECTIONS EXISTING AND EXISTING PLUS APPROVED PROJECT CONDITIONS

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ROADWAY NETWORK AND STUDY INTERSECTIONS LONG-TERM FUTURE CUMULATIVE CONDITIONS

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Transportation Engineers
4574-003

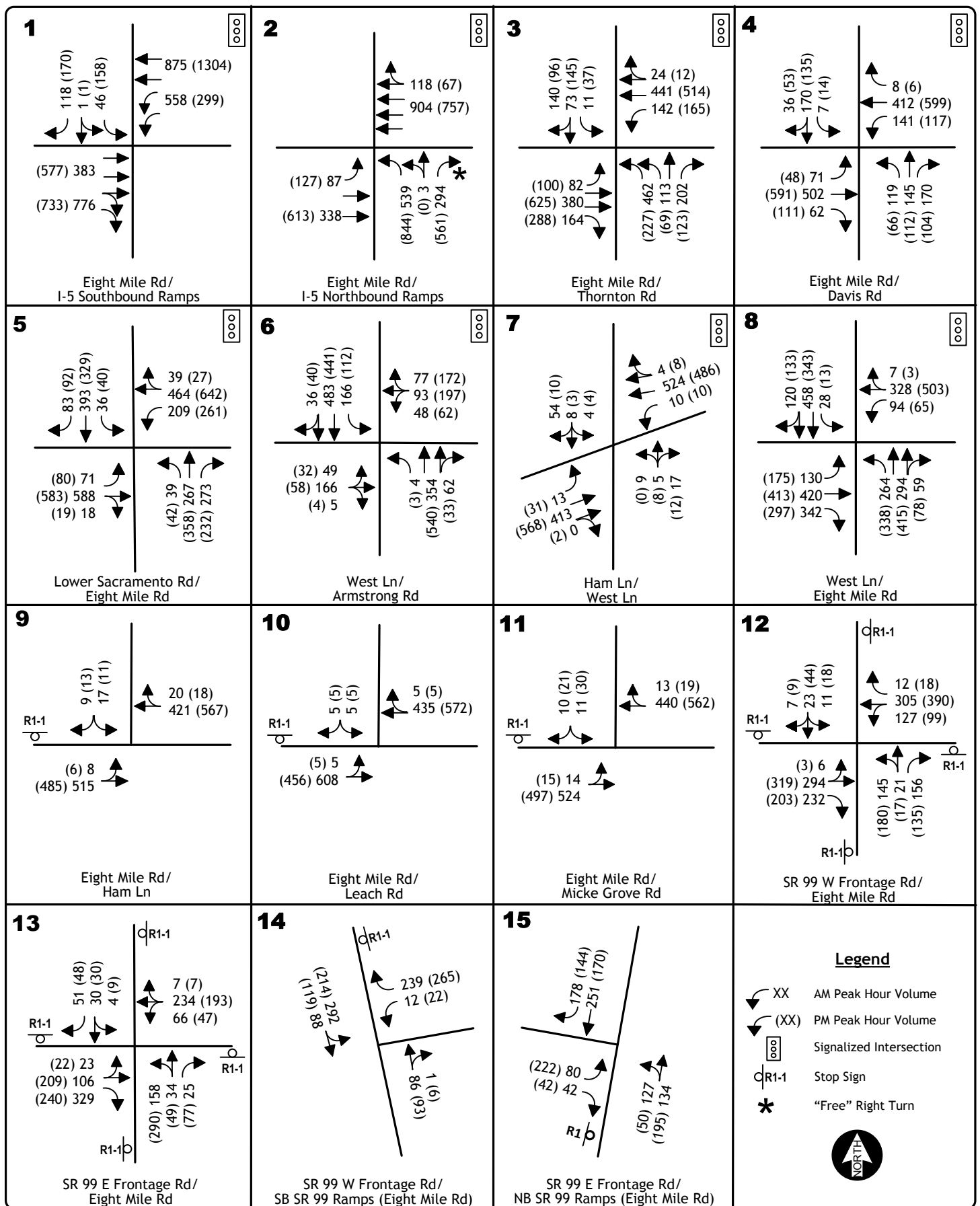
Tra Vigne Project Traffic Impact Study

6/19/2017

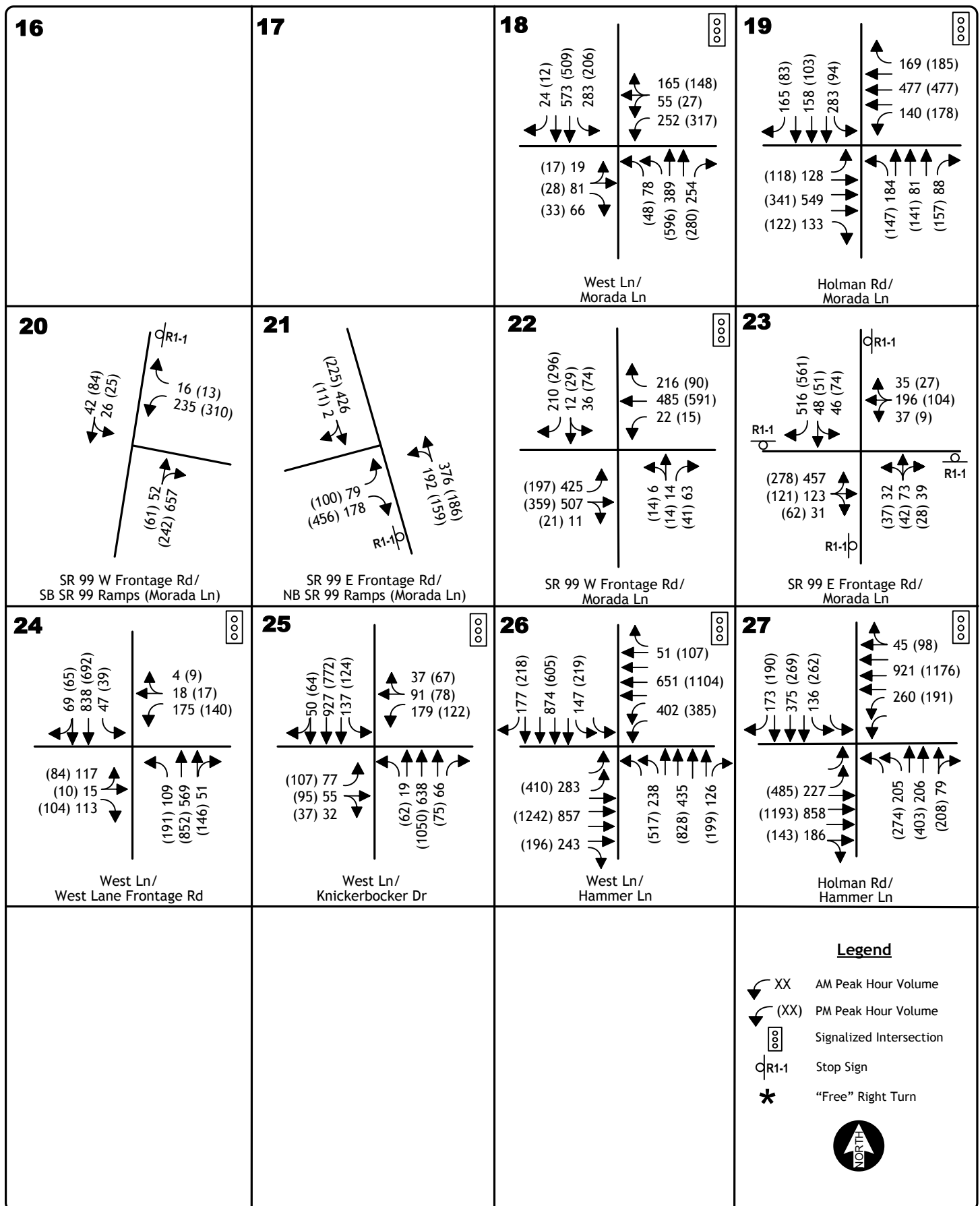
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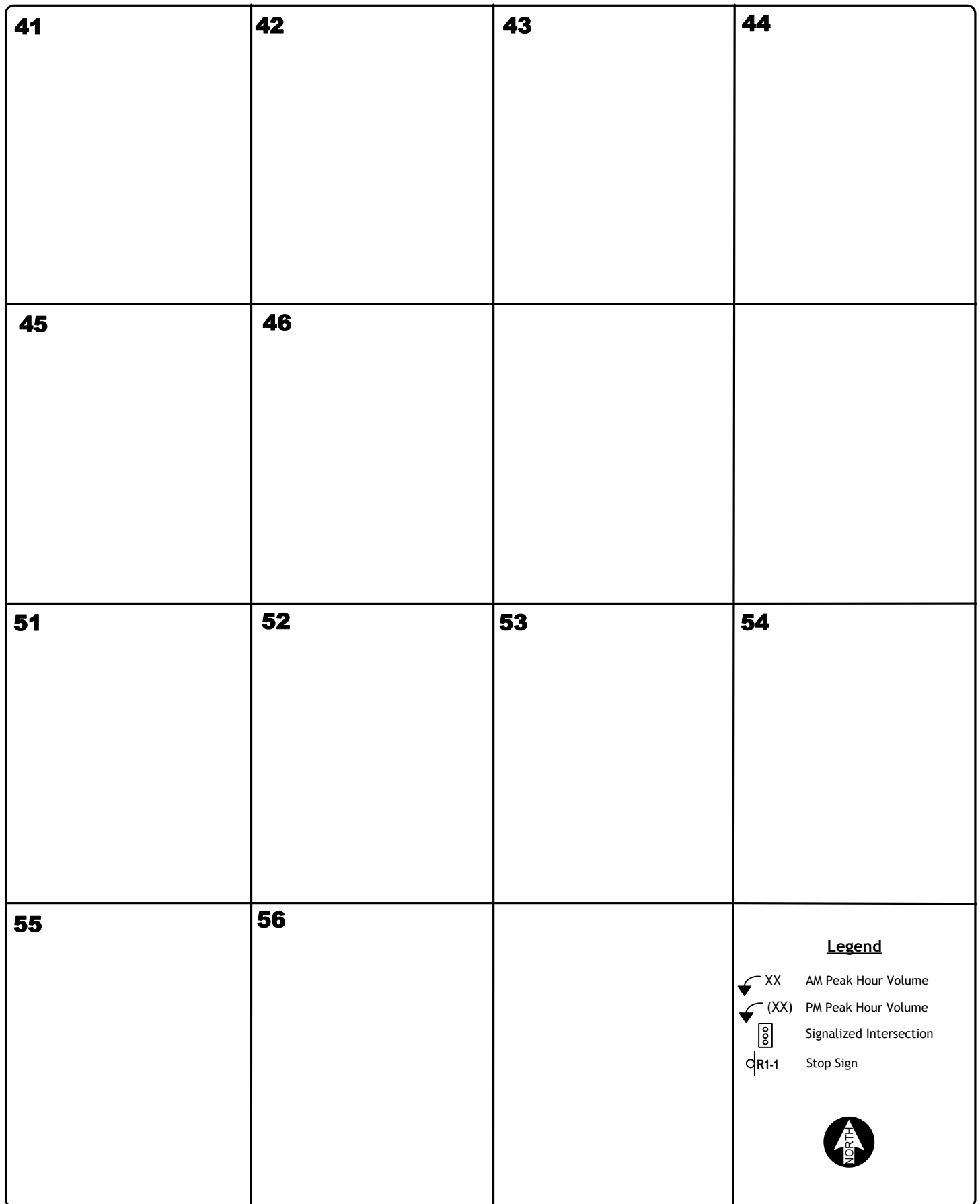
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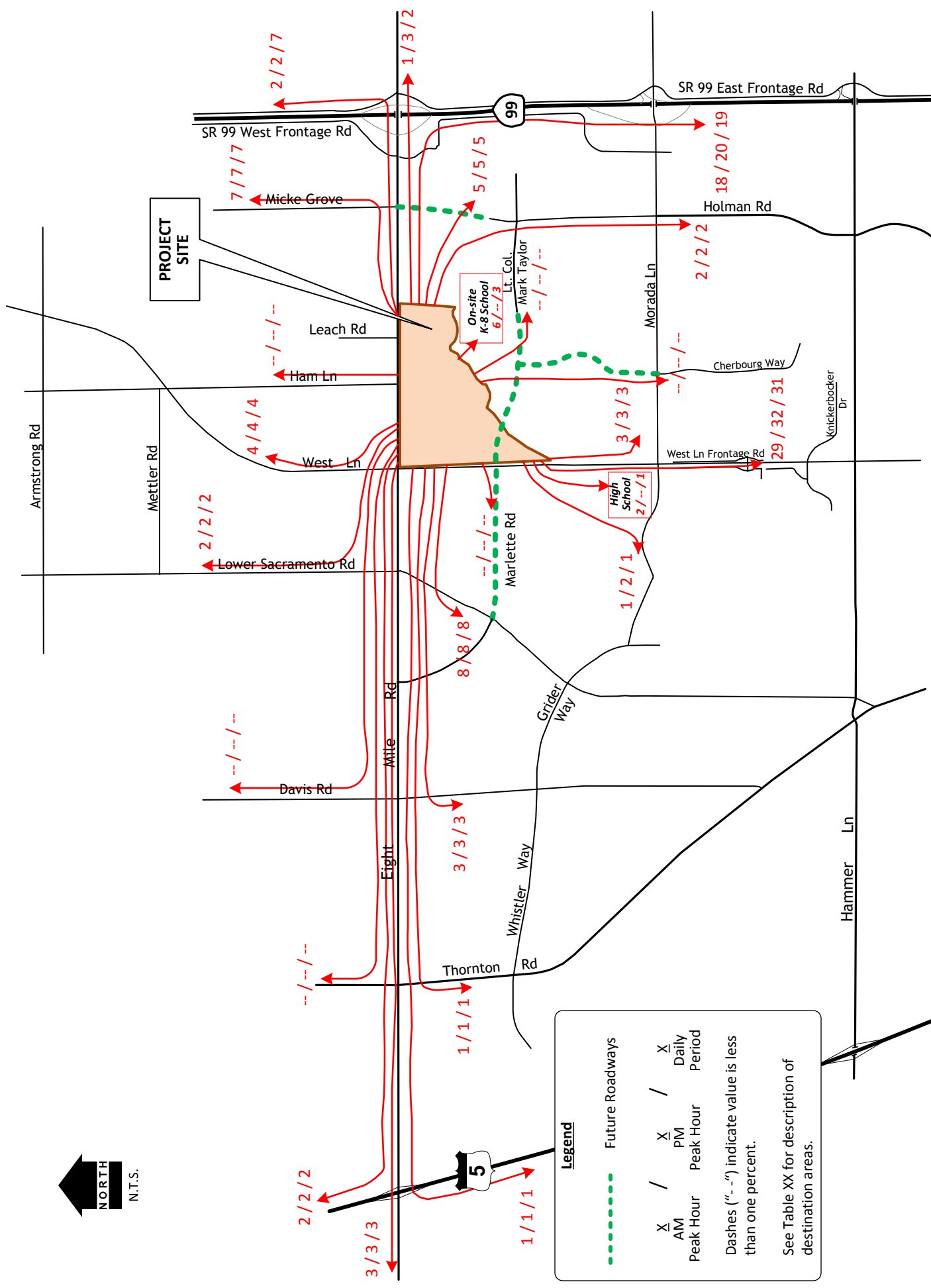
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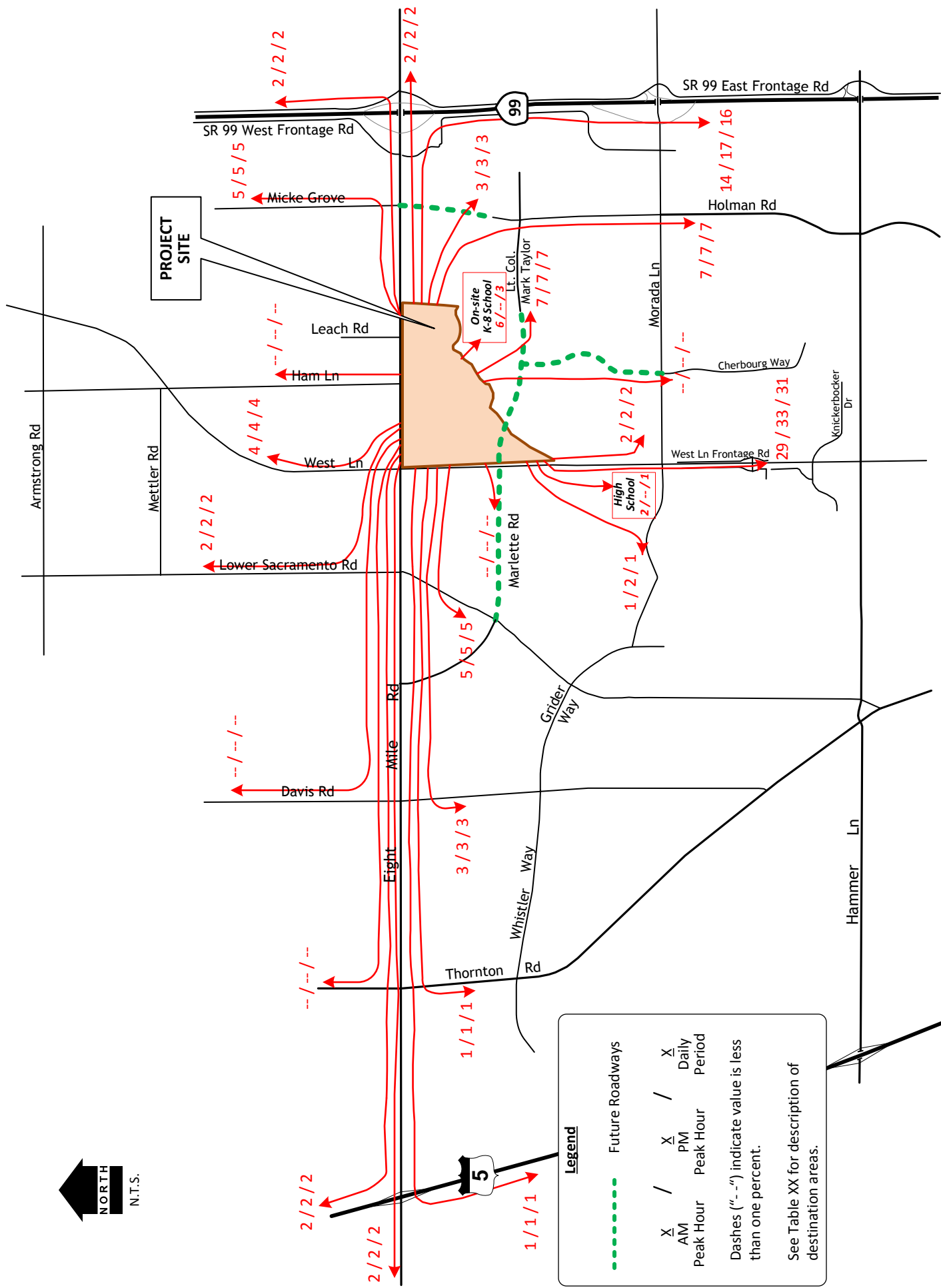
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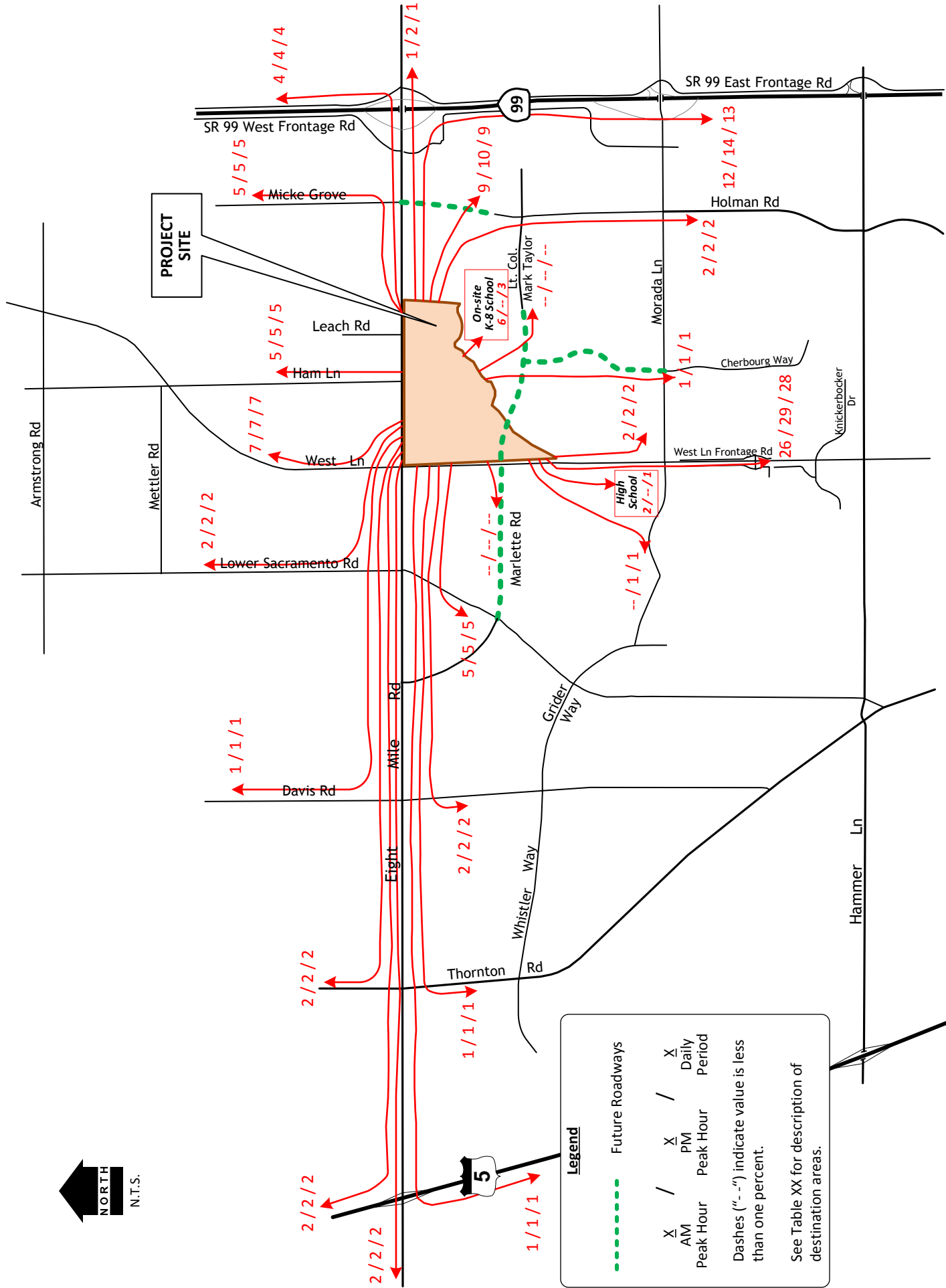
EPAP WITHOUT BEAR CREEK BRIDGE TRIP DISTRIBUTION PERCENTAGES

figure 3.13-11

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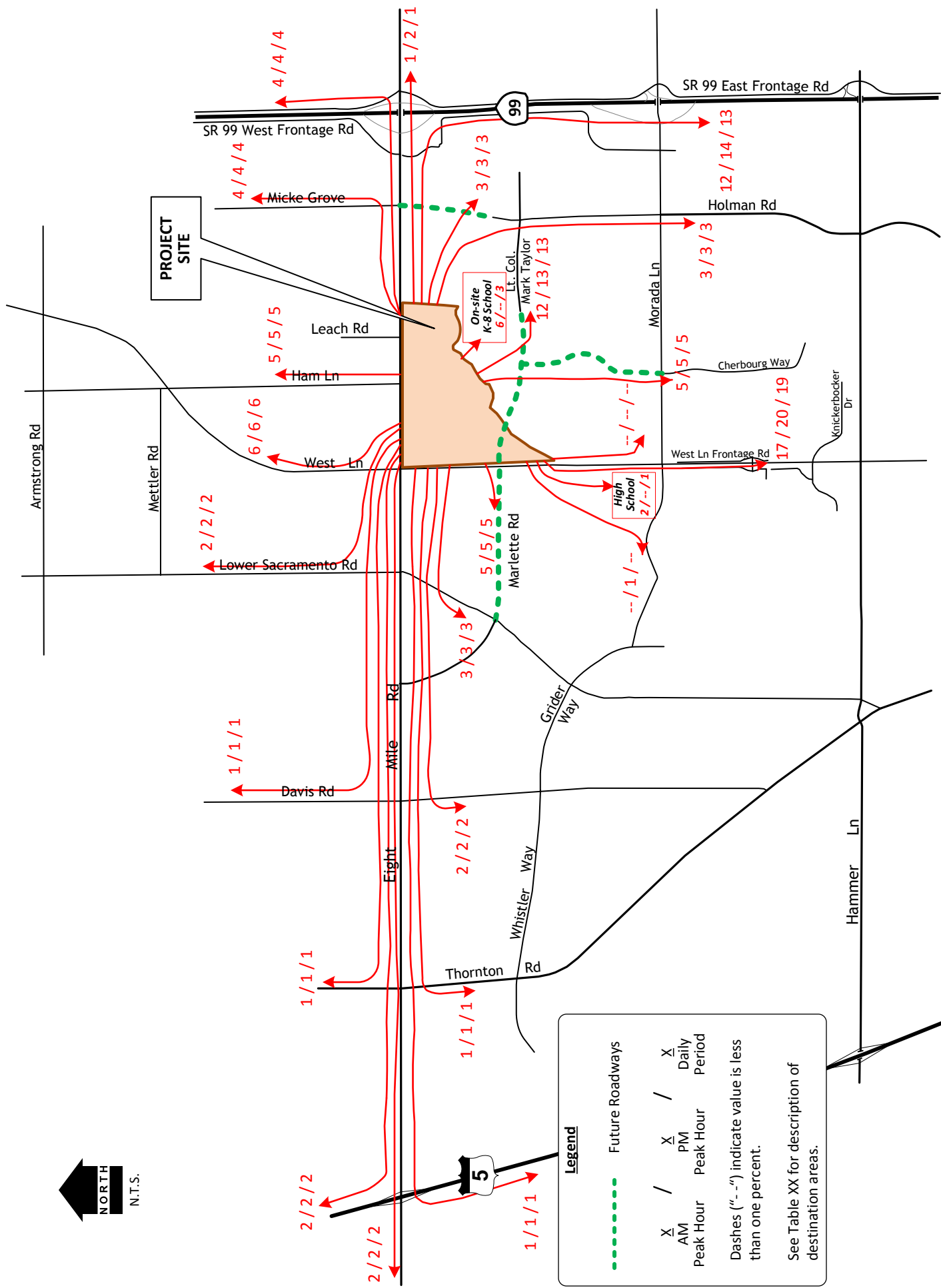


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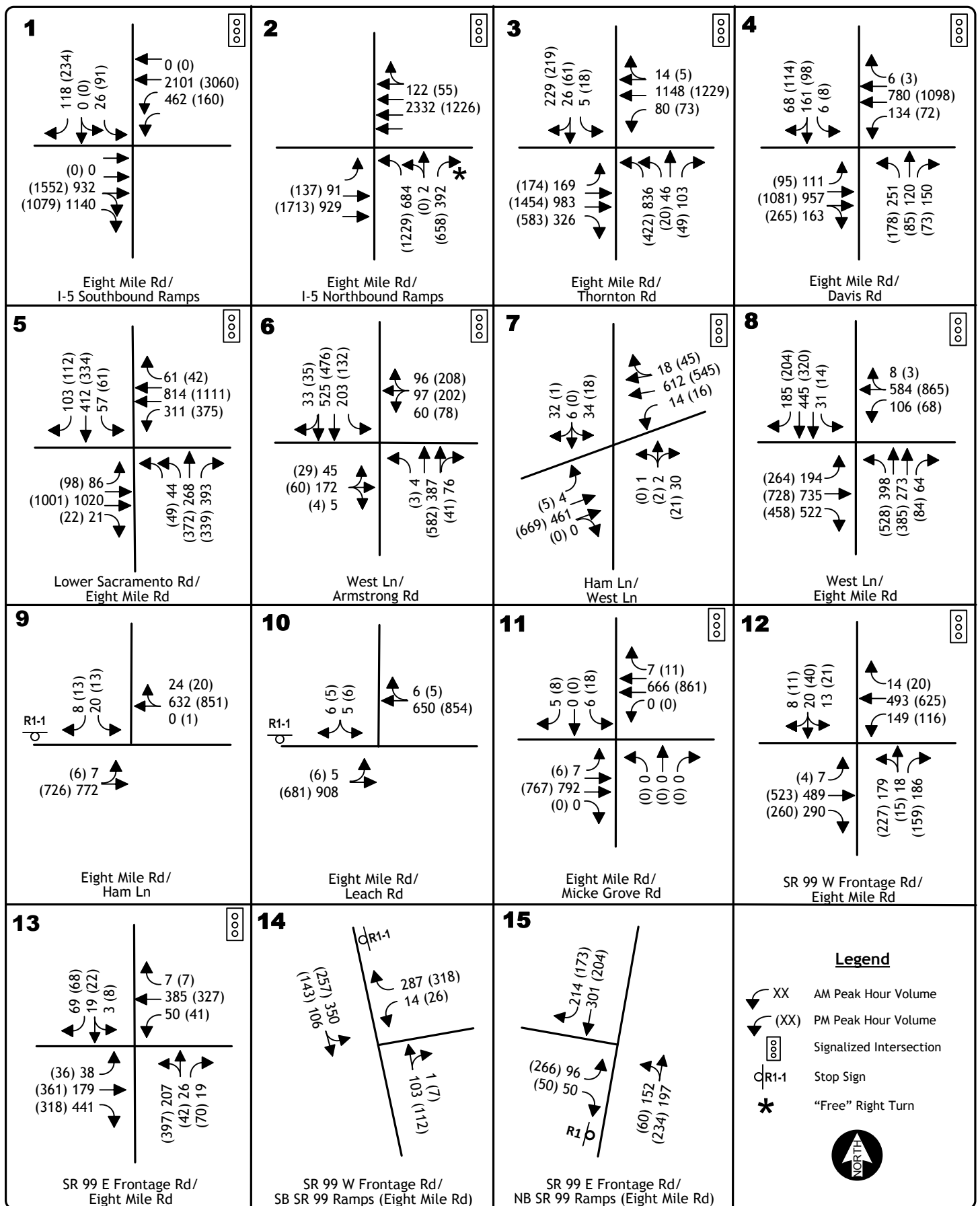


CUMULATIVE WITHOUT BEAR CREEK BRIDGE TRIP DISTRIBUTION PERCENTAGES

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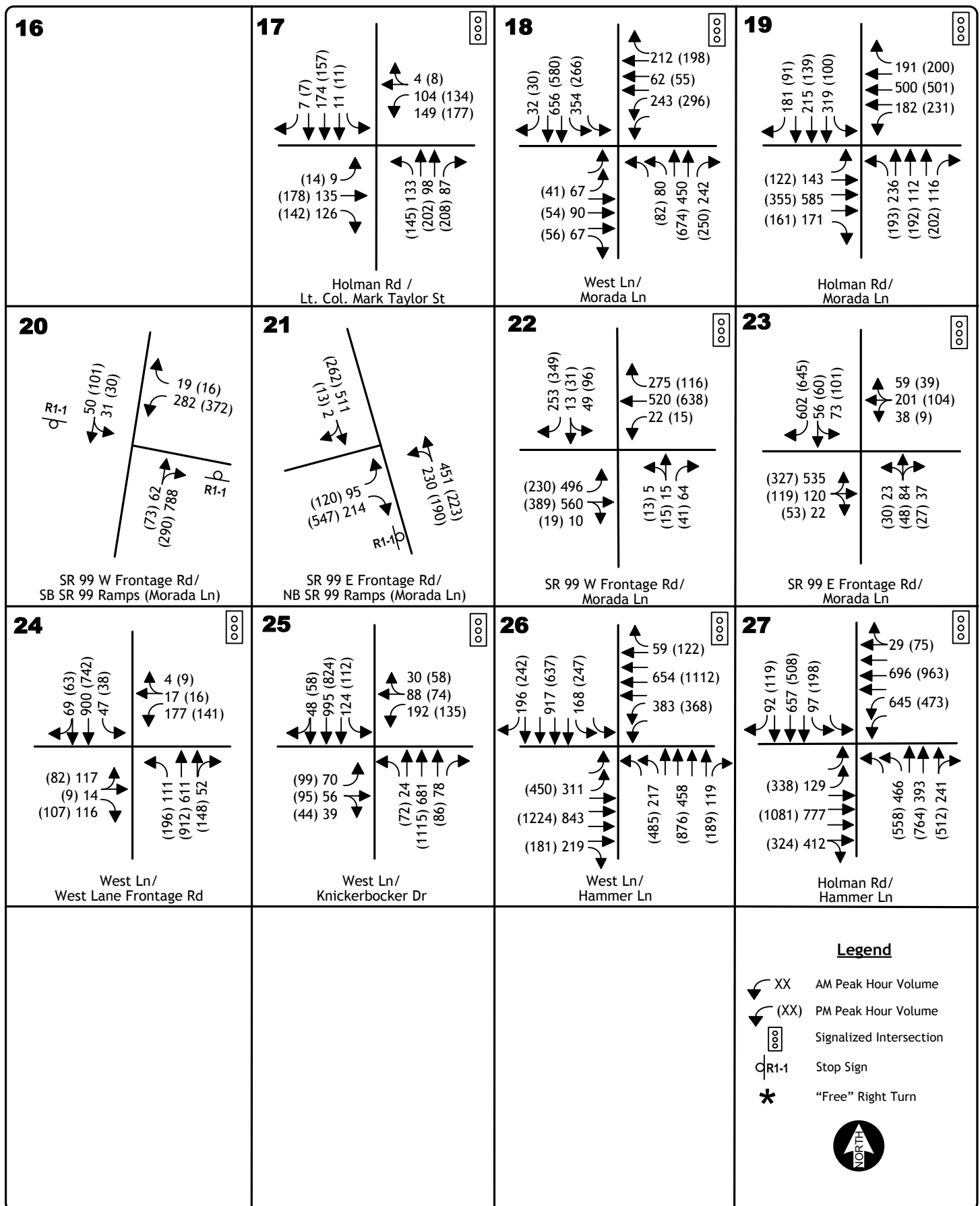
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EXISTING PLUS APPROVED PROJECTS NO PROPOSED PROJECT

Intersection Traffic Volumes and Lane Configurations






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**EXISTING PLUS APPROVED PROJECTS
NO PROPOSED PROJECT**

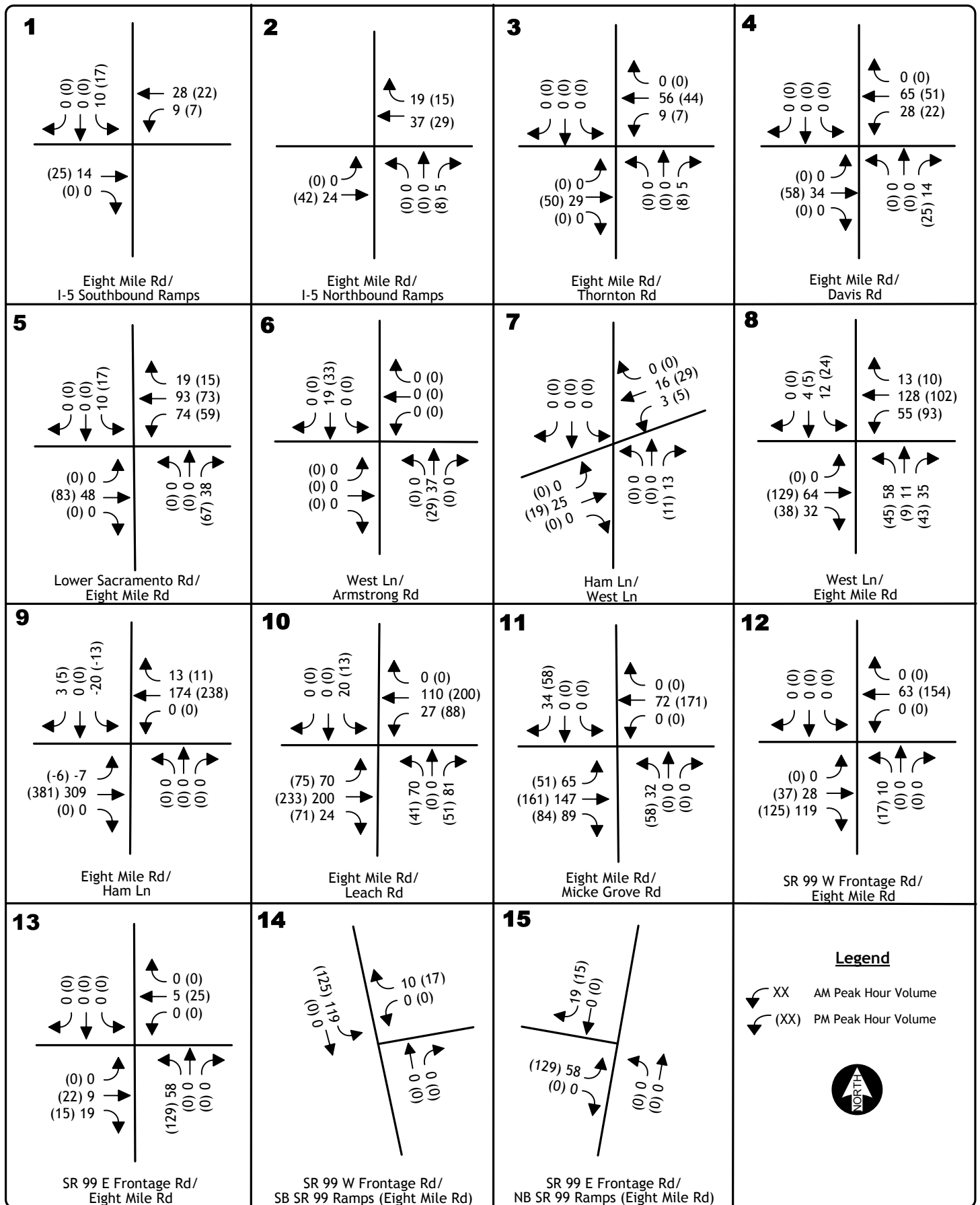
Intersection Traffic Volumes and Lane Configurations

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51	52	53	54
55	56		<p>Legend</p> <p>  XX AM Peak Hour Volume  (XX) PM Peak Hour Volume  Signalized Intersection  Stop Sign </p> 

EXISTING PLUS APPROVED PROJECTS
NO PROPOSED PROJECT
 Intersection Traffic Volumes and Lane Configurations

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TRA VIGNE
PROJECT RELATED TRIPS
(EXISTING PLUS APPROVED PROJECTS BACKGROUND)

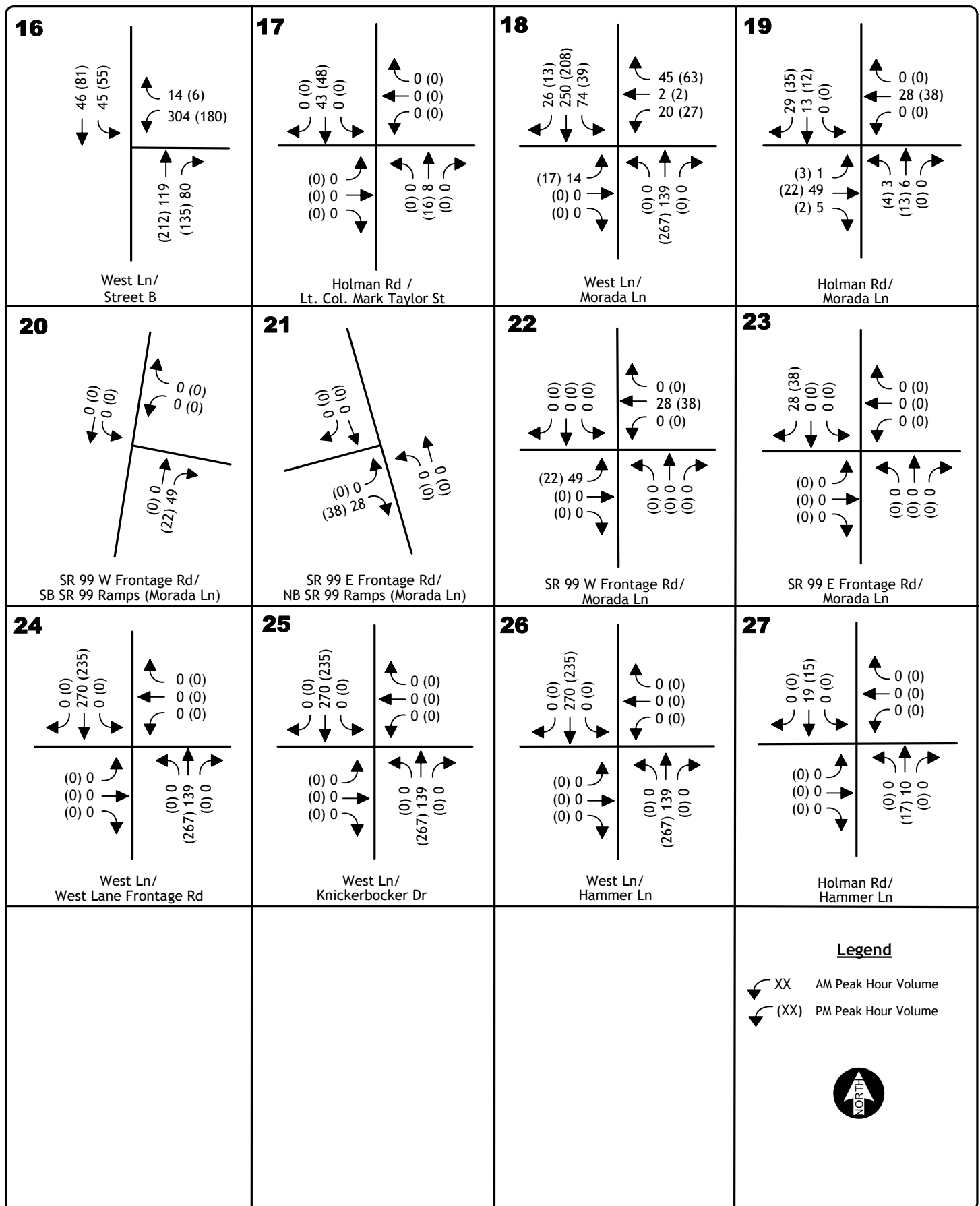
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Tra Vigne Project Traffic Impact Study

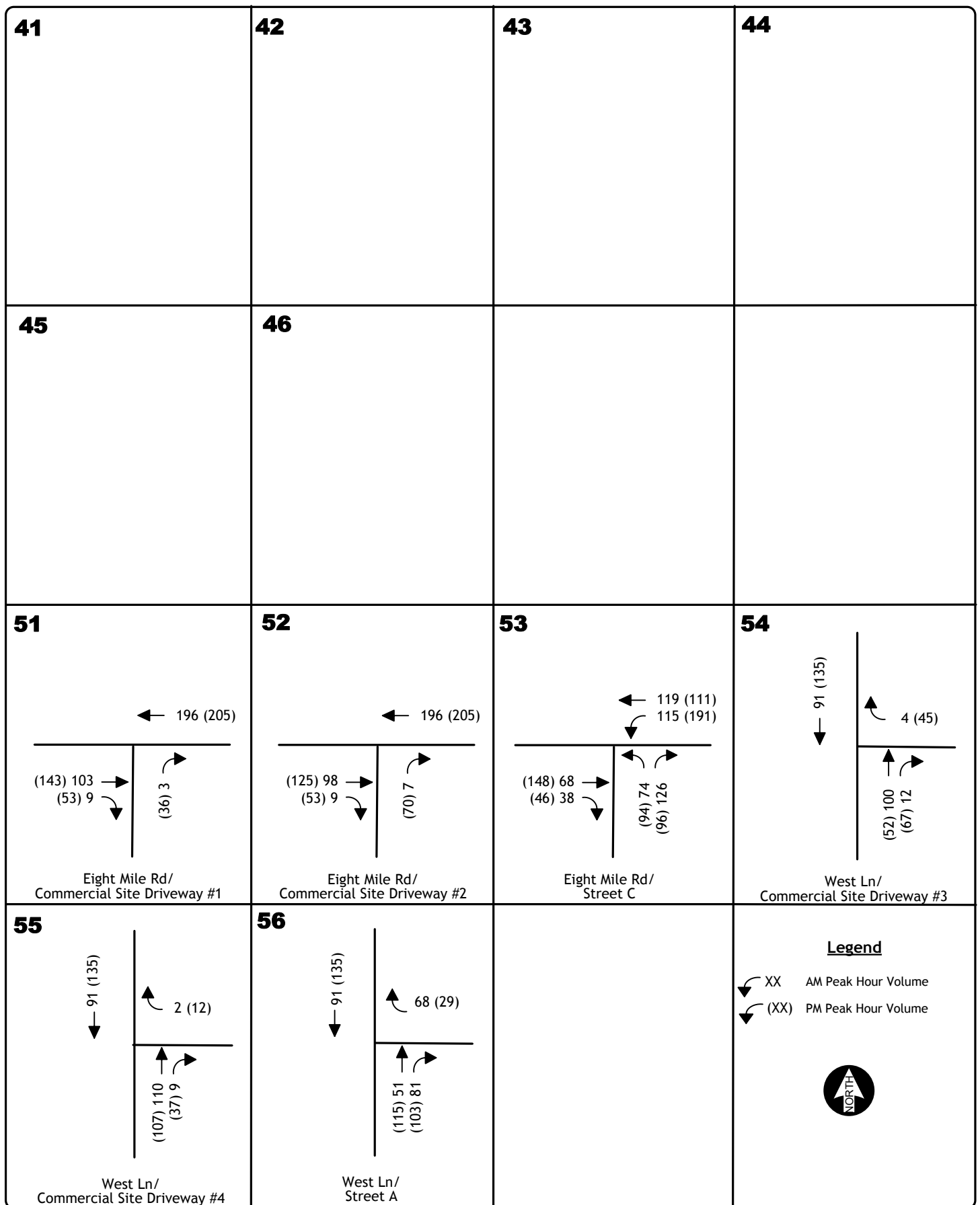
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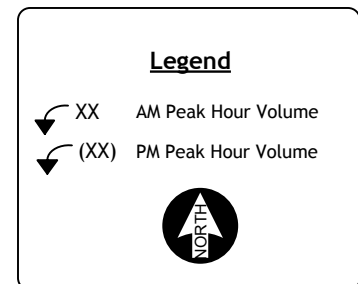
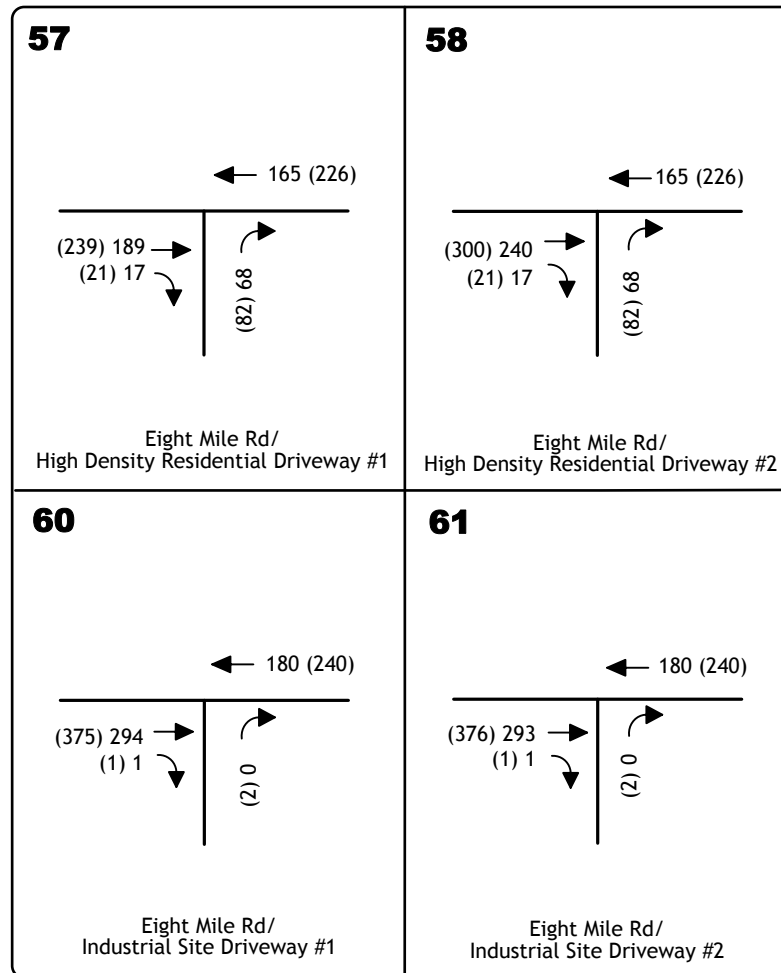
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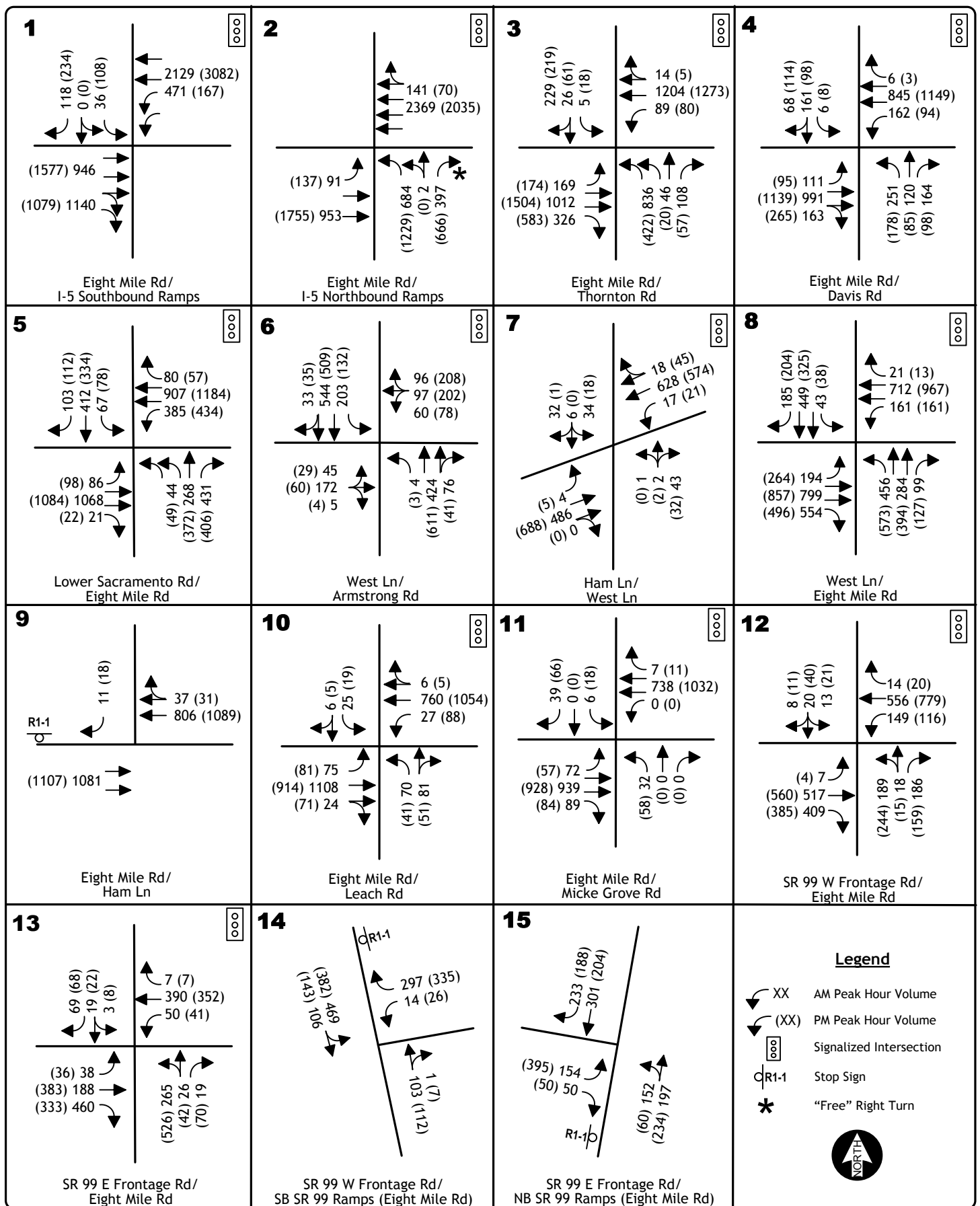


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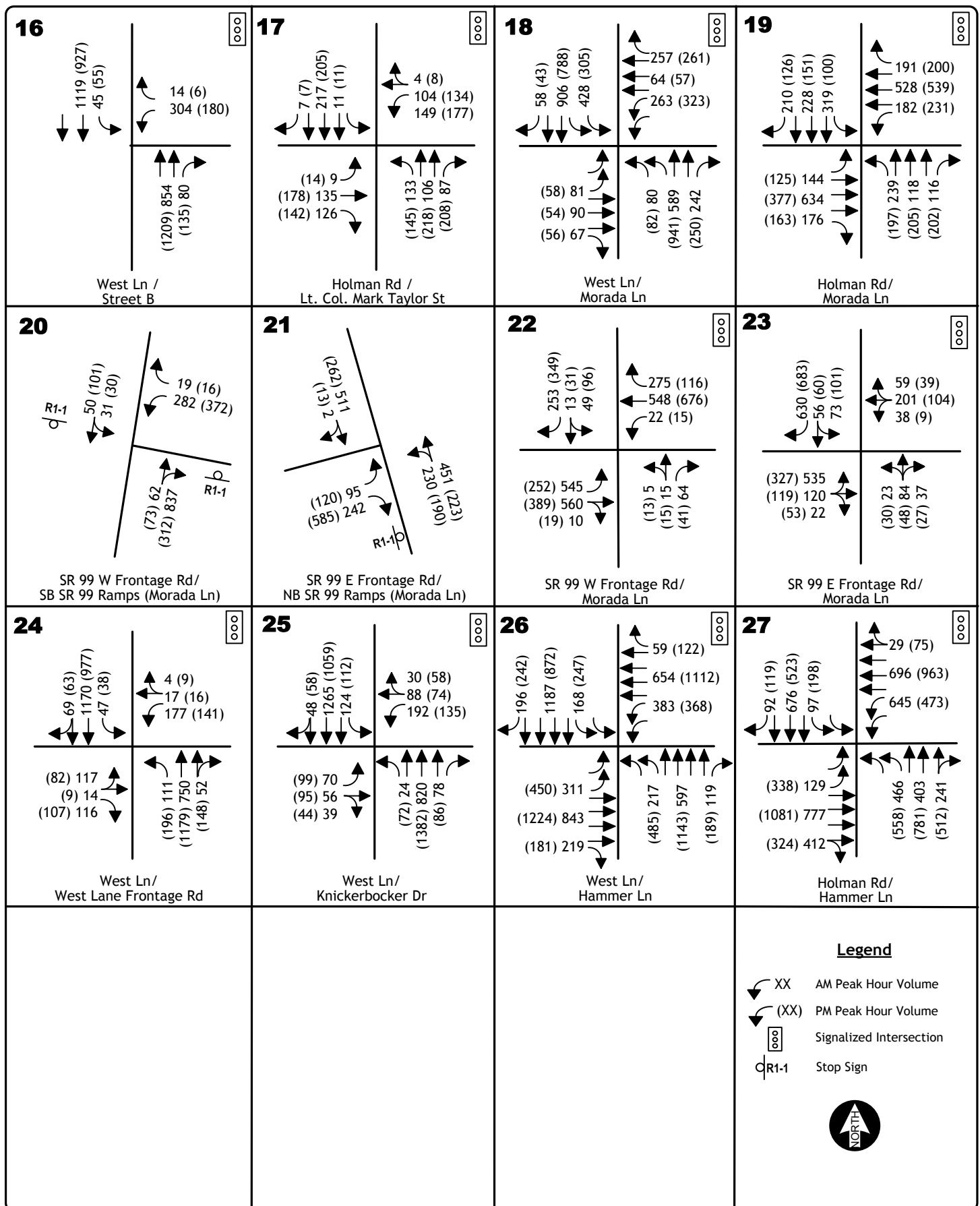
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EXISTING PLUS APPROVED PROJECTS PLUS TRA VIGNE

Intersection Traffic Volumes and Lane Configurations

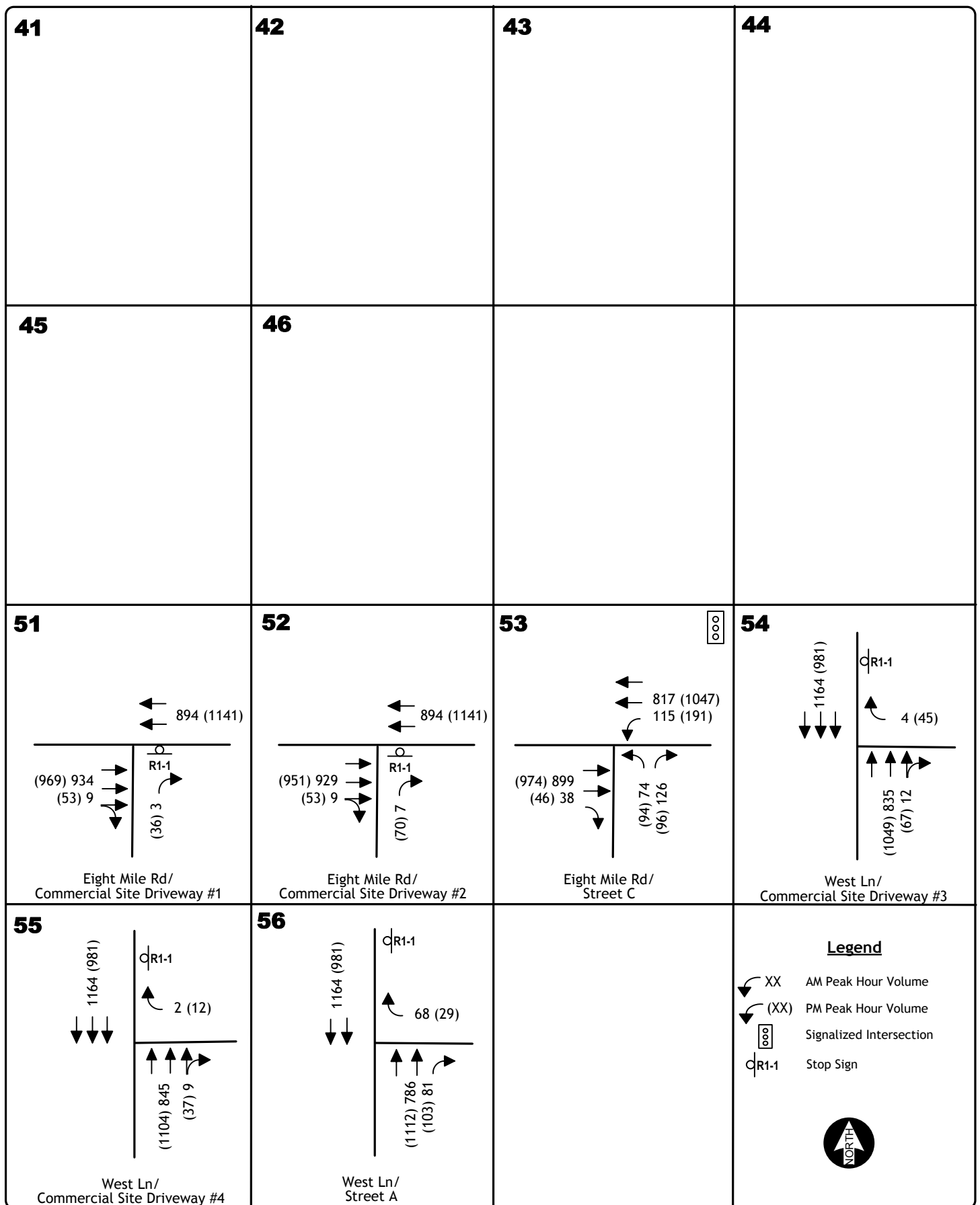
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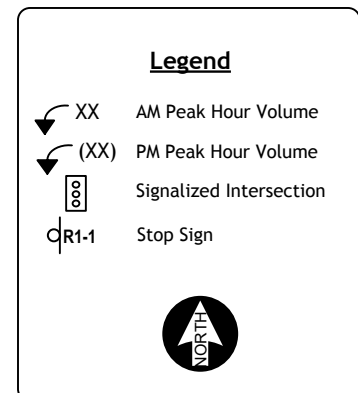
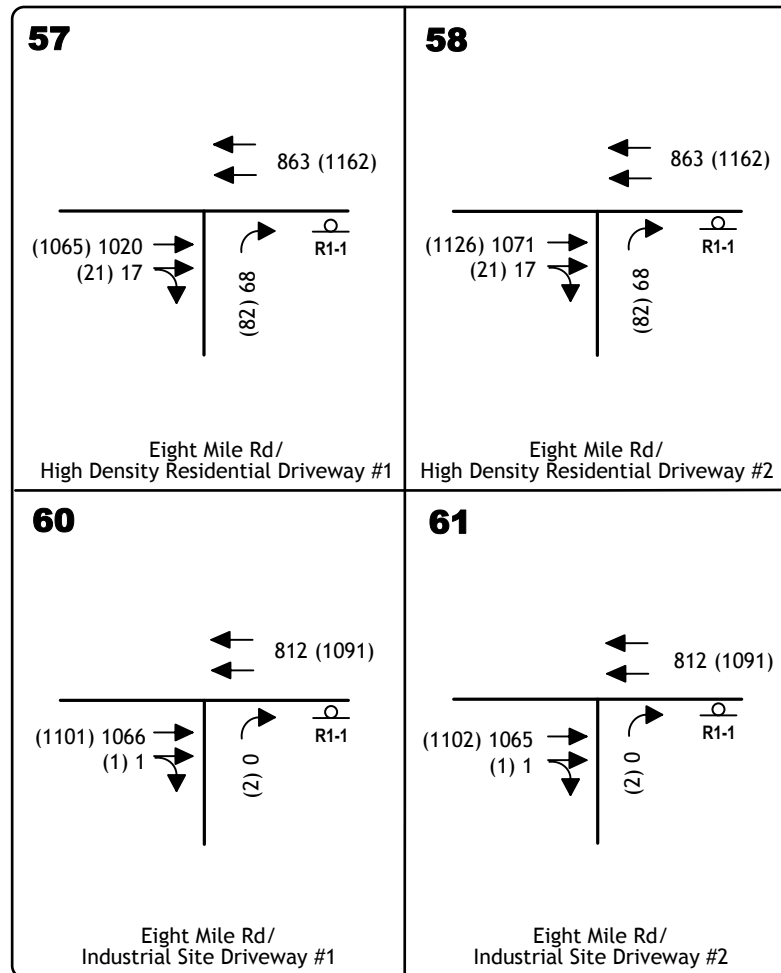
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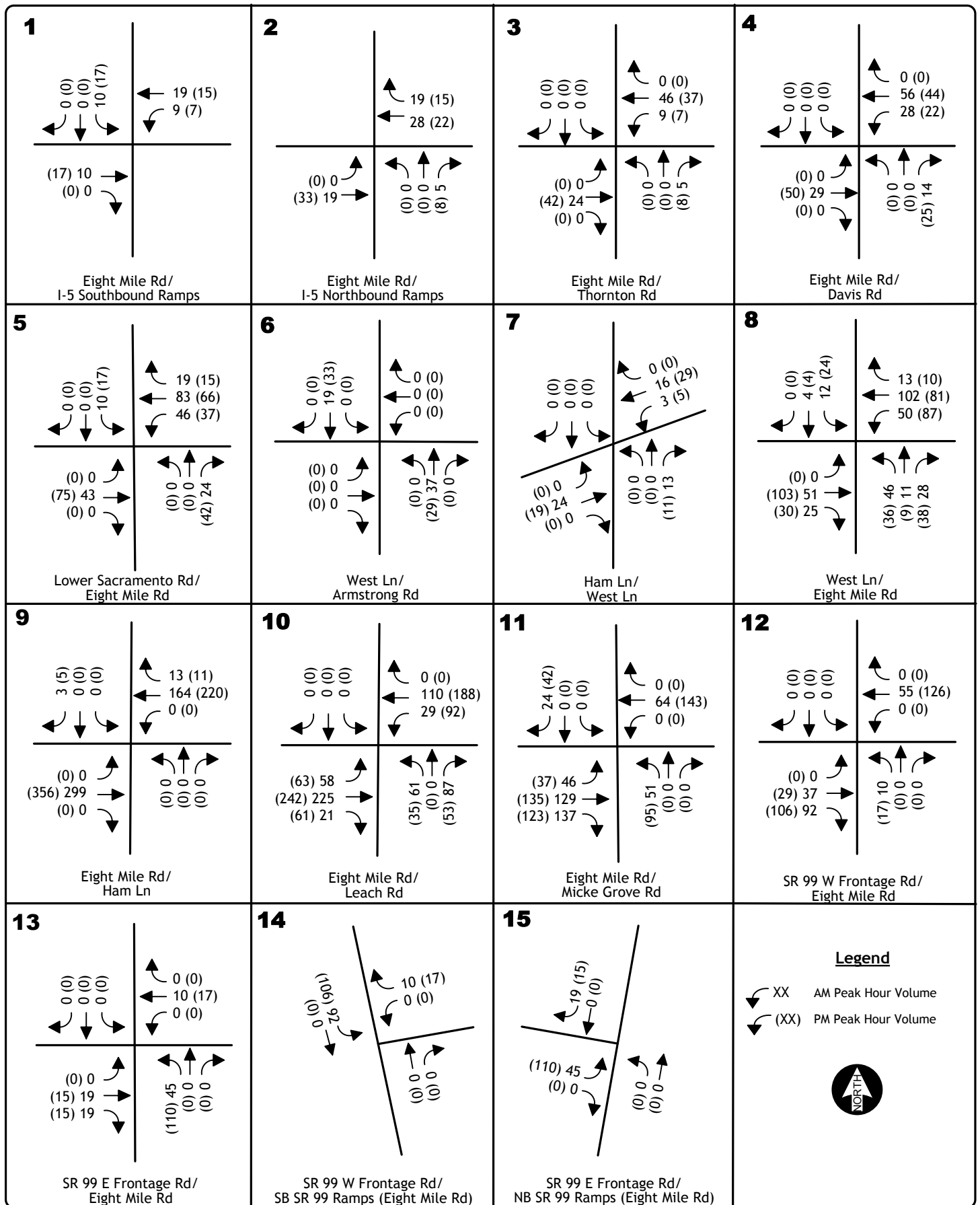
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PLUS TRA VIGNE**
Intersection Traffic Volumes and Lane Configurations

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**EXISTING PLUS APPROVED PROJECTS
PLUS TRA VIGNE**
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**WITH BRIDGE ALTERNATIVE
PROJECT RELATED TRIPS
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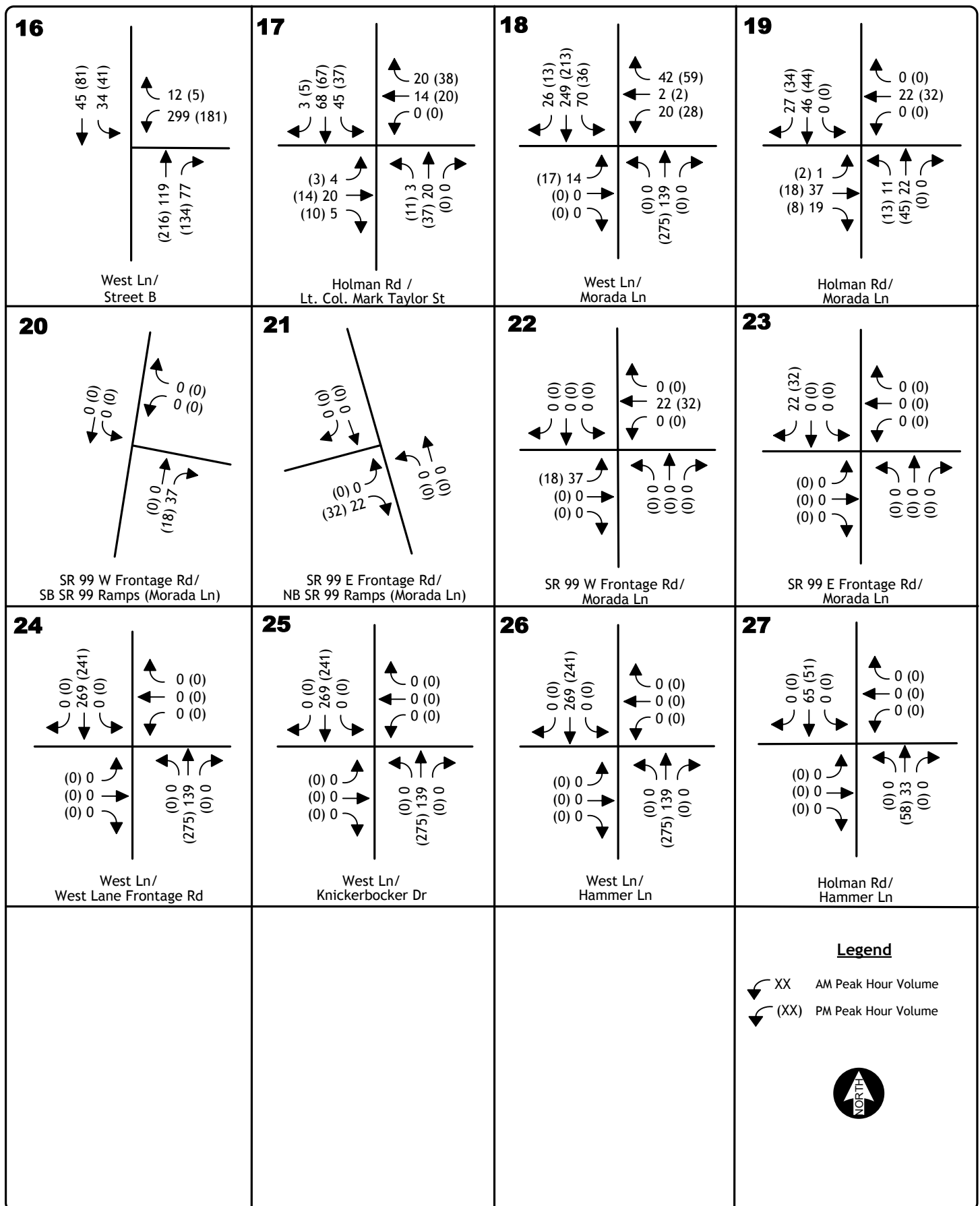
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Tra Vigne Project Traffic Impact Study

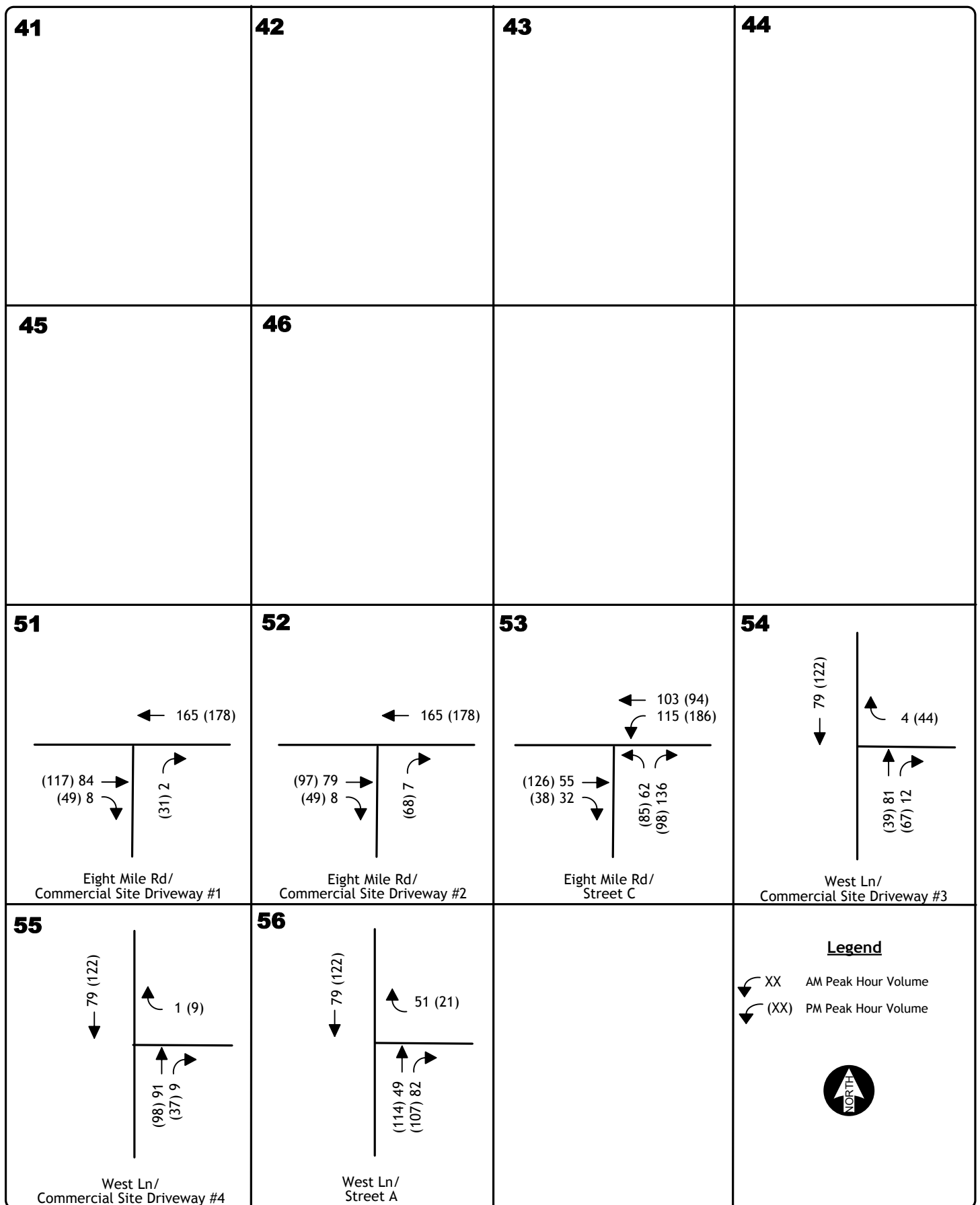
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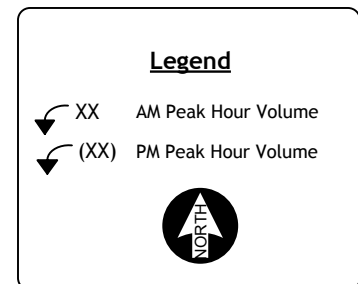
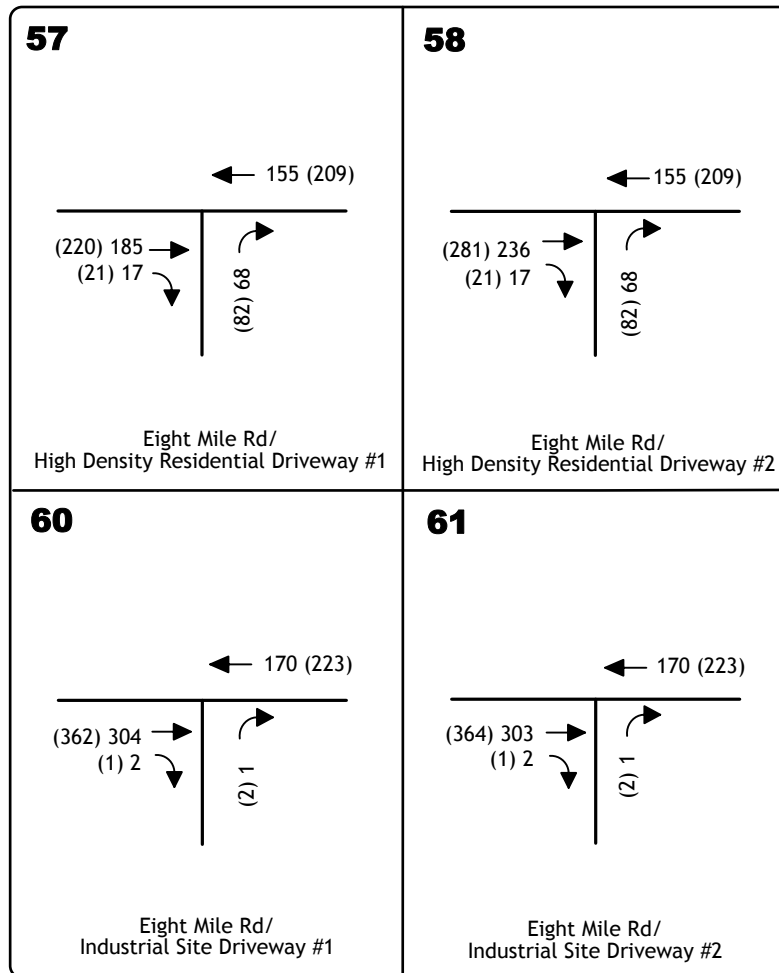
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PROJECT RELATED TRIPS
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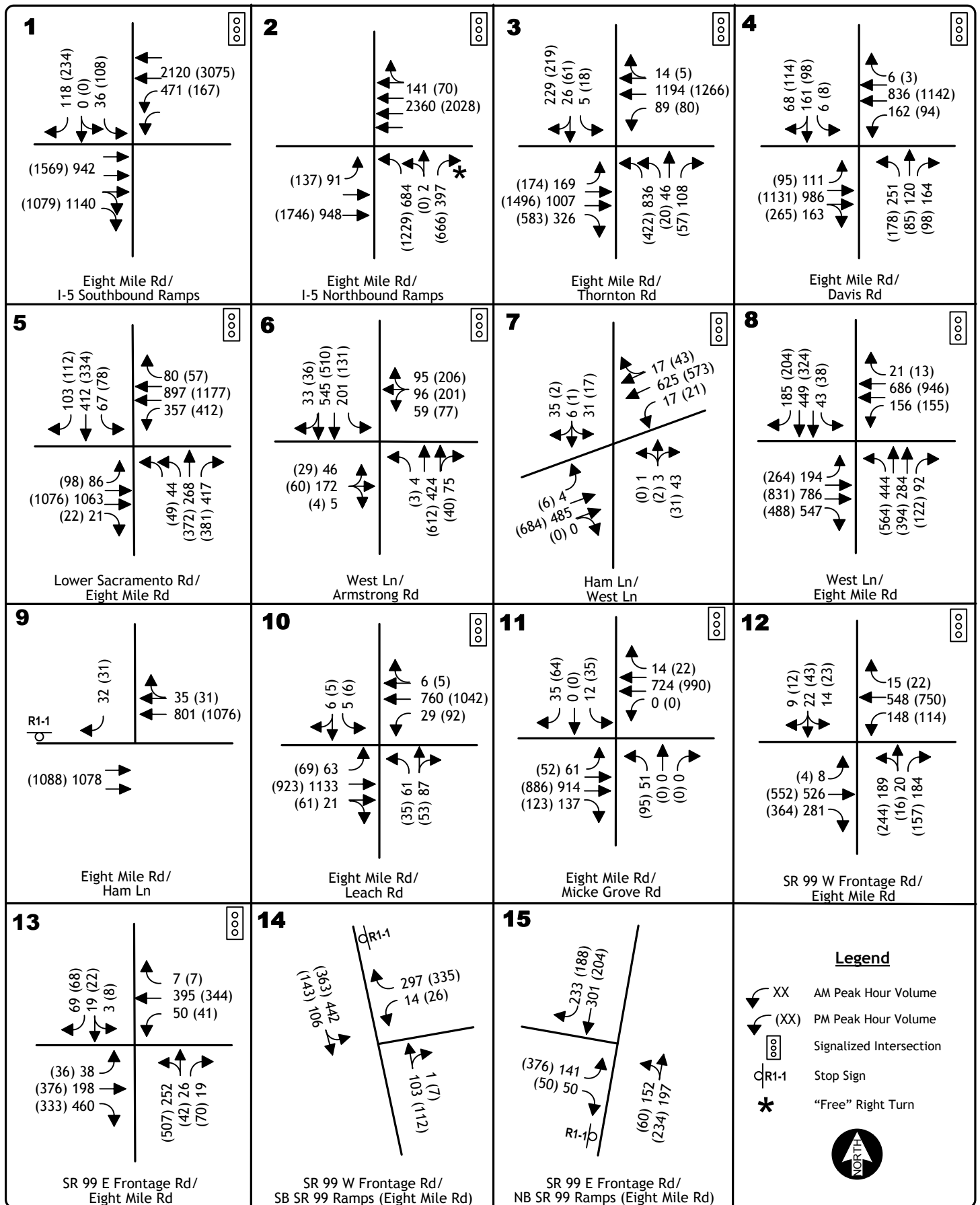


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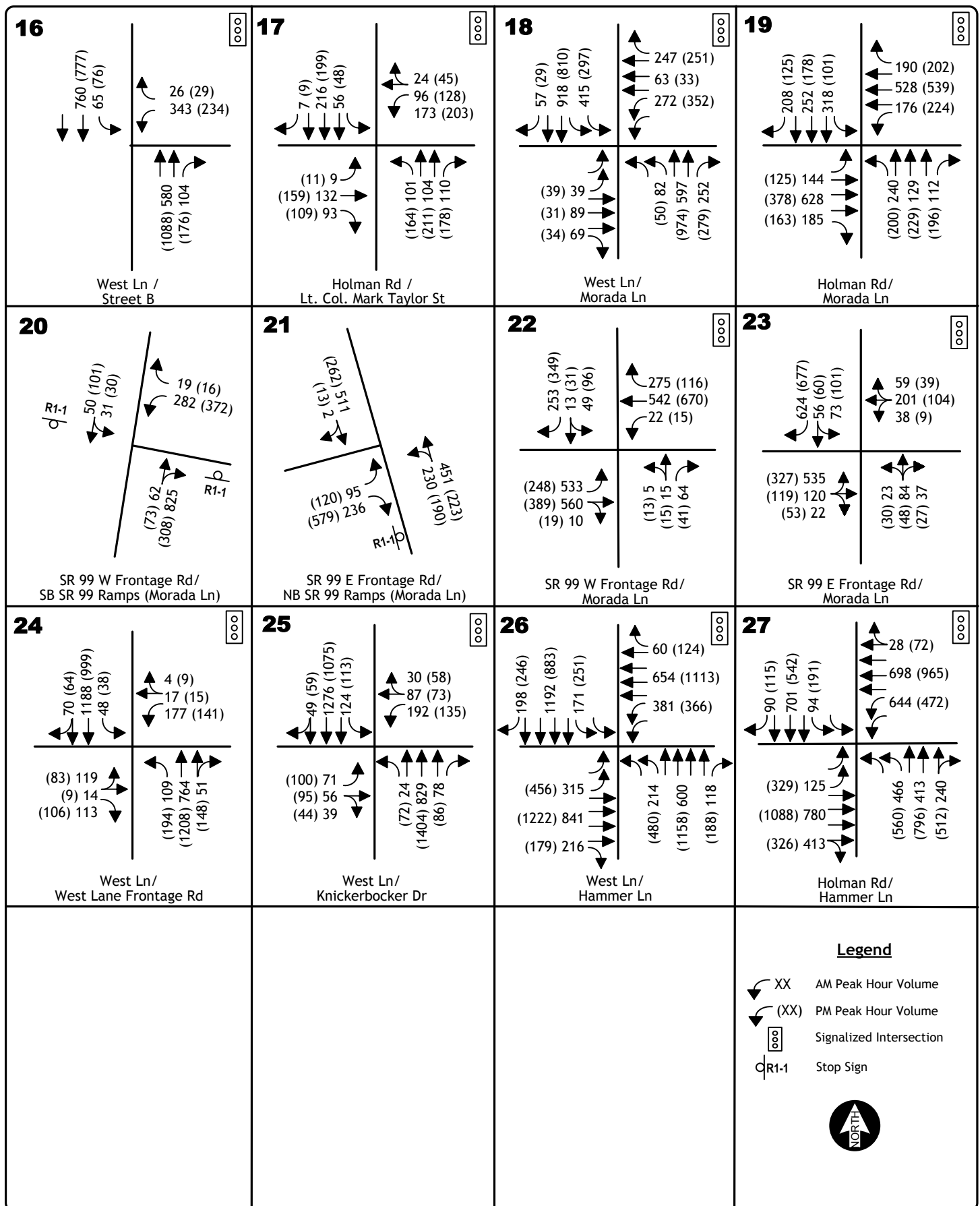


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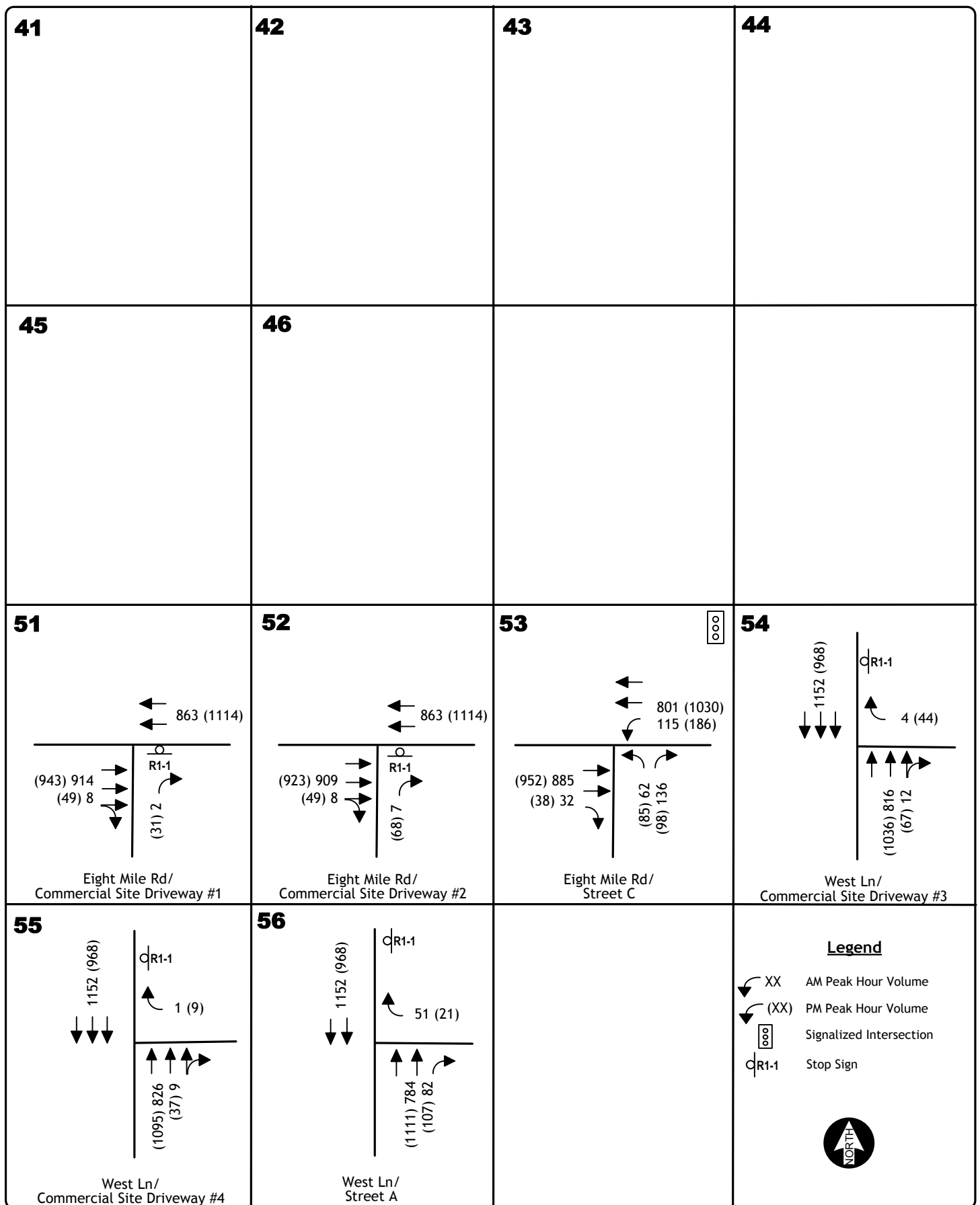
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PLUS WITH BRIDGE ALTERNATIVE**
Intersection Traffic Volumes and Lane Configurations

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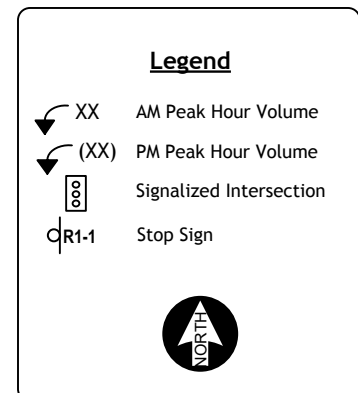
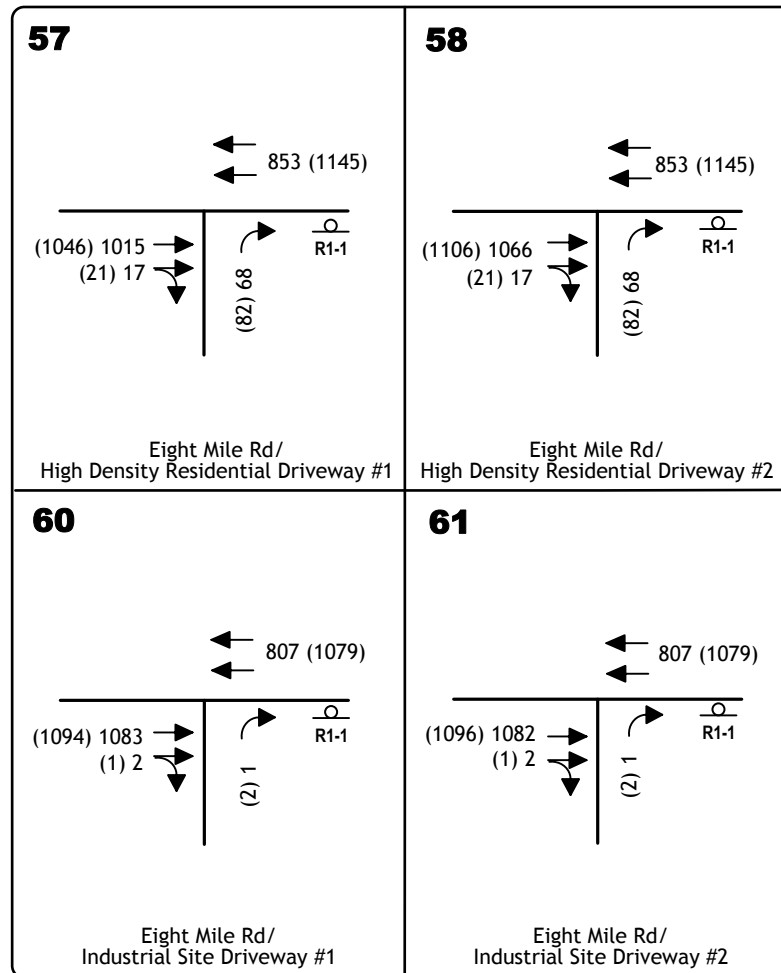
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Intersection Traffic Volumes and Lane Configurations

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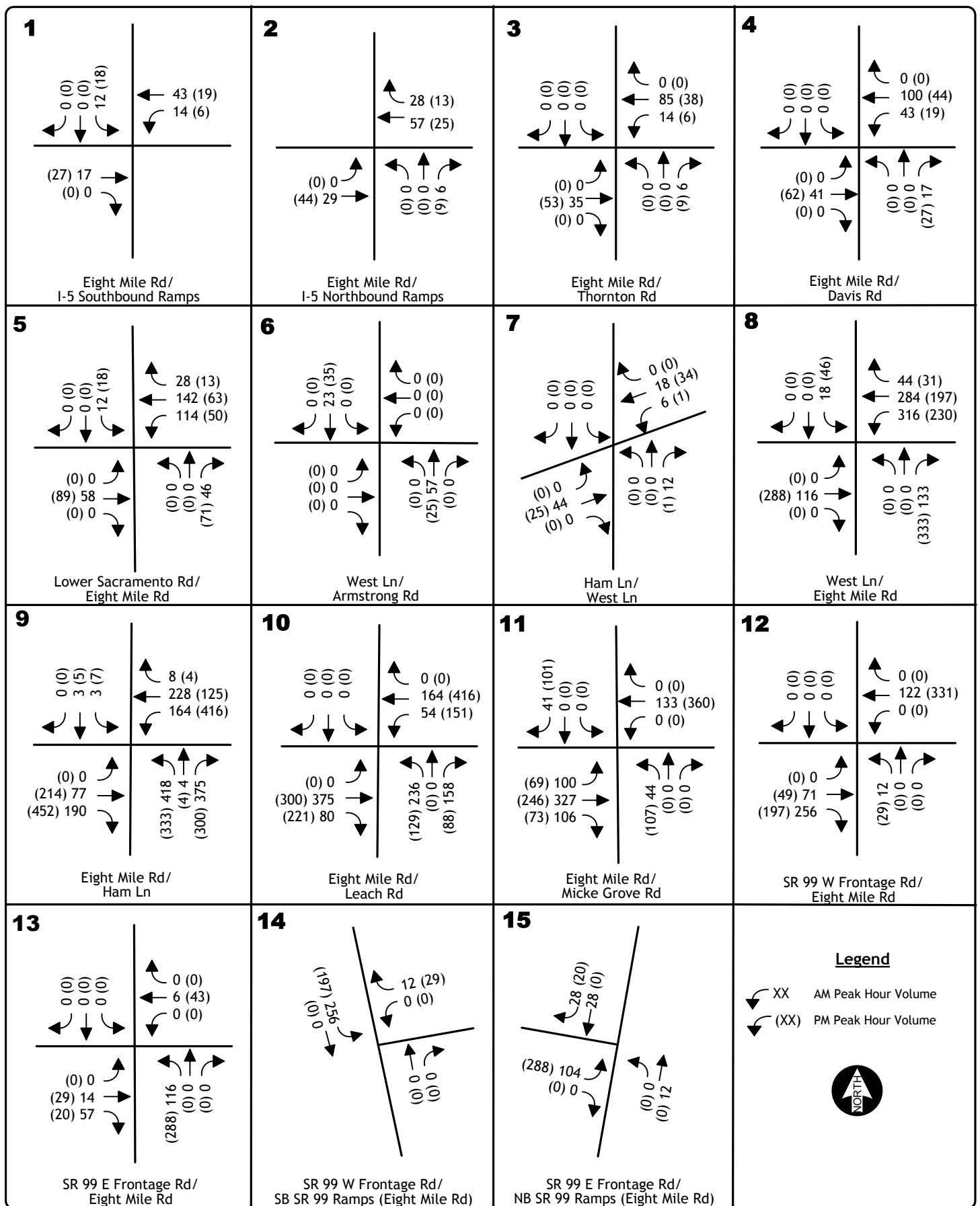
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PLUS WITH BRIDGE ALTERNATIVE**
Intersection Traffic Volumes and Lane Configurations

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EXISTING PLUS APPROVED PROJECTS
PLUS WITH BRIDGE ALTERNATIVE
Intersection Traffic Volumes and Lane Configurations

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GENERAL PLAN 2035 ALTERNATIVE
PROJECT RELATED TRIPS
(EXISTING PLUS APPROVED PROJECTS BACKGROUND)

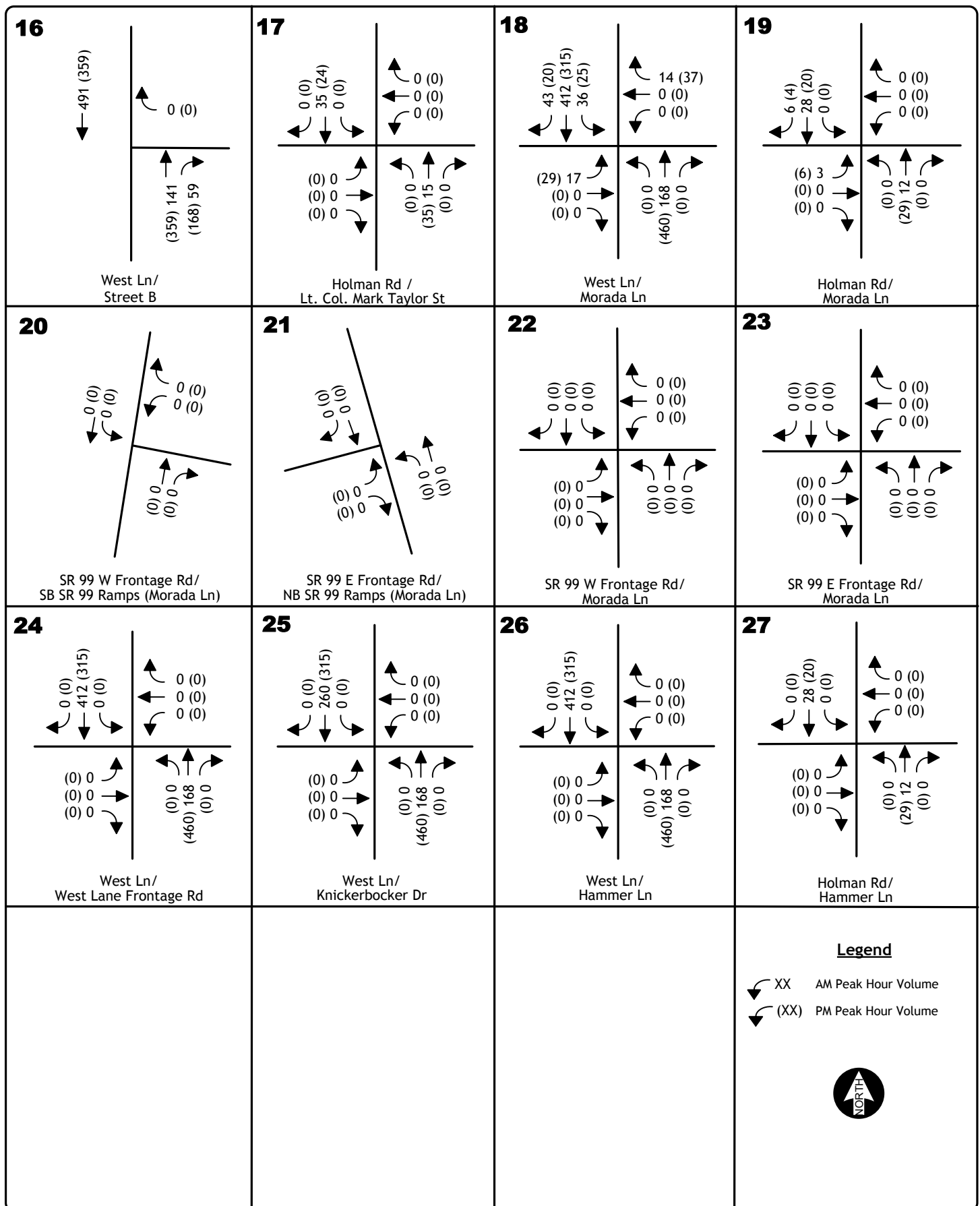
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figure 3.13-20a

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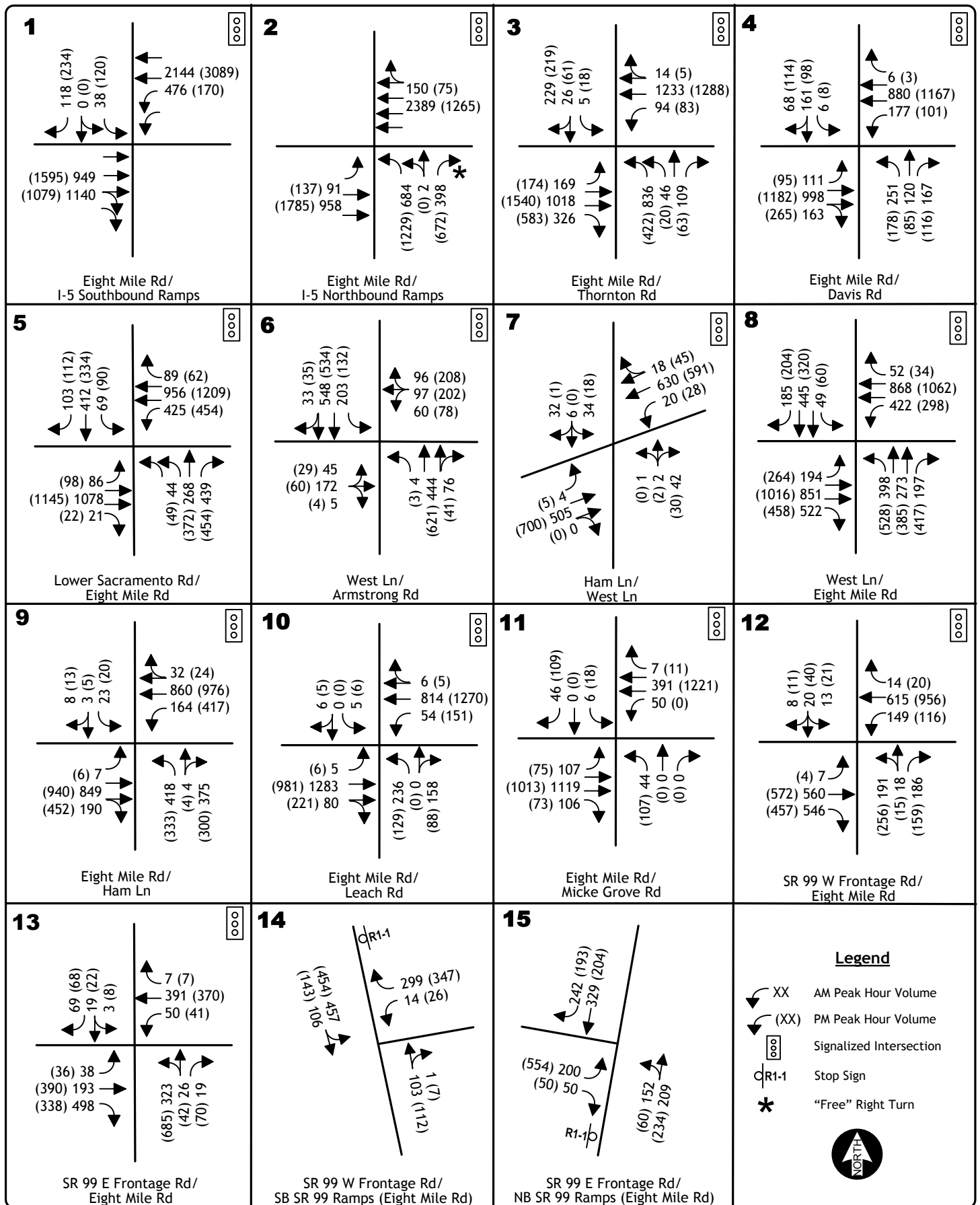
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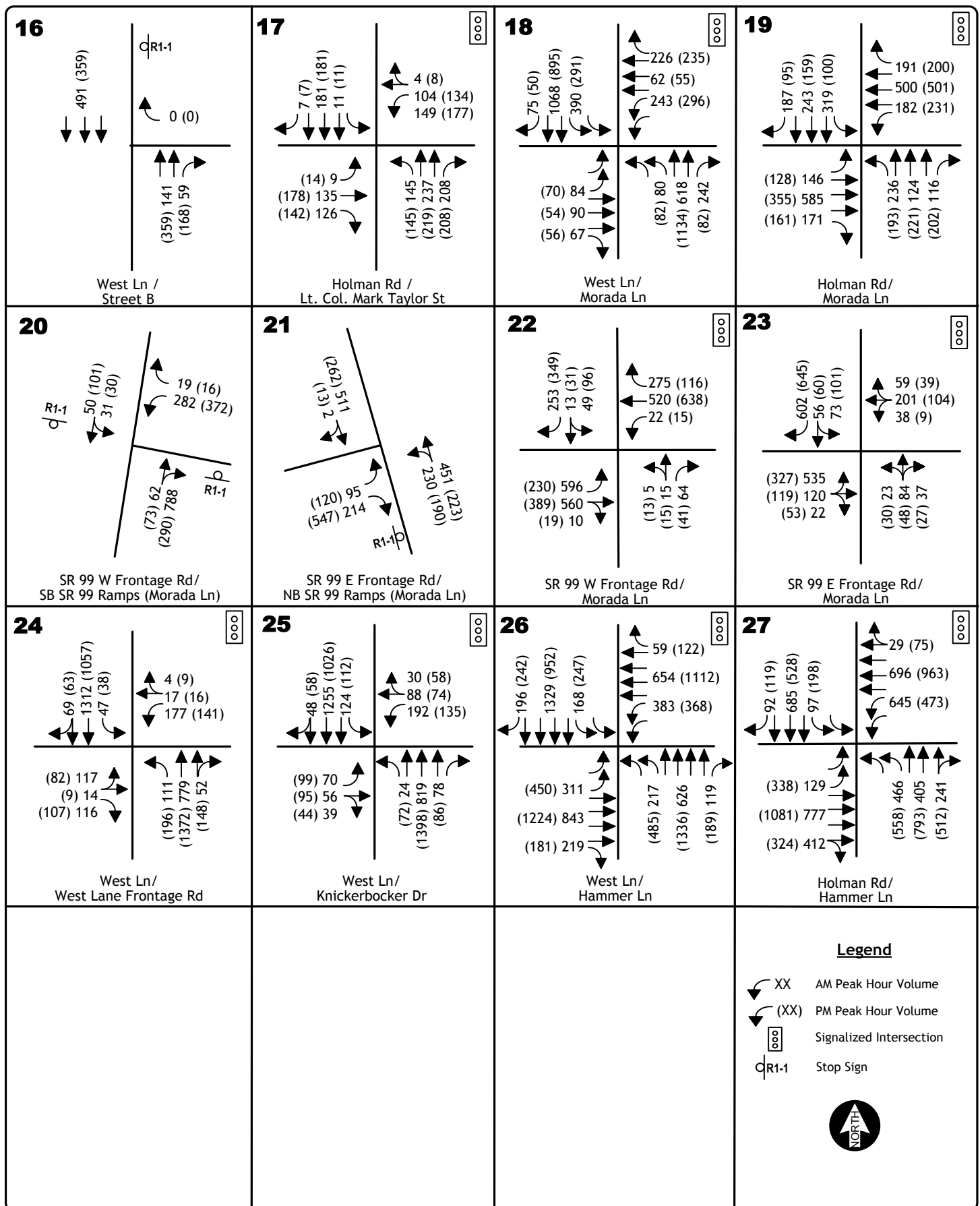
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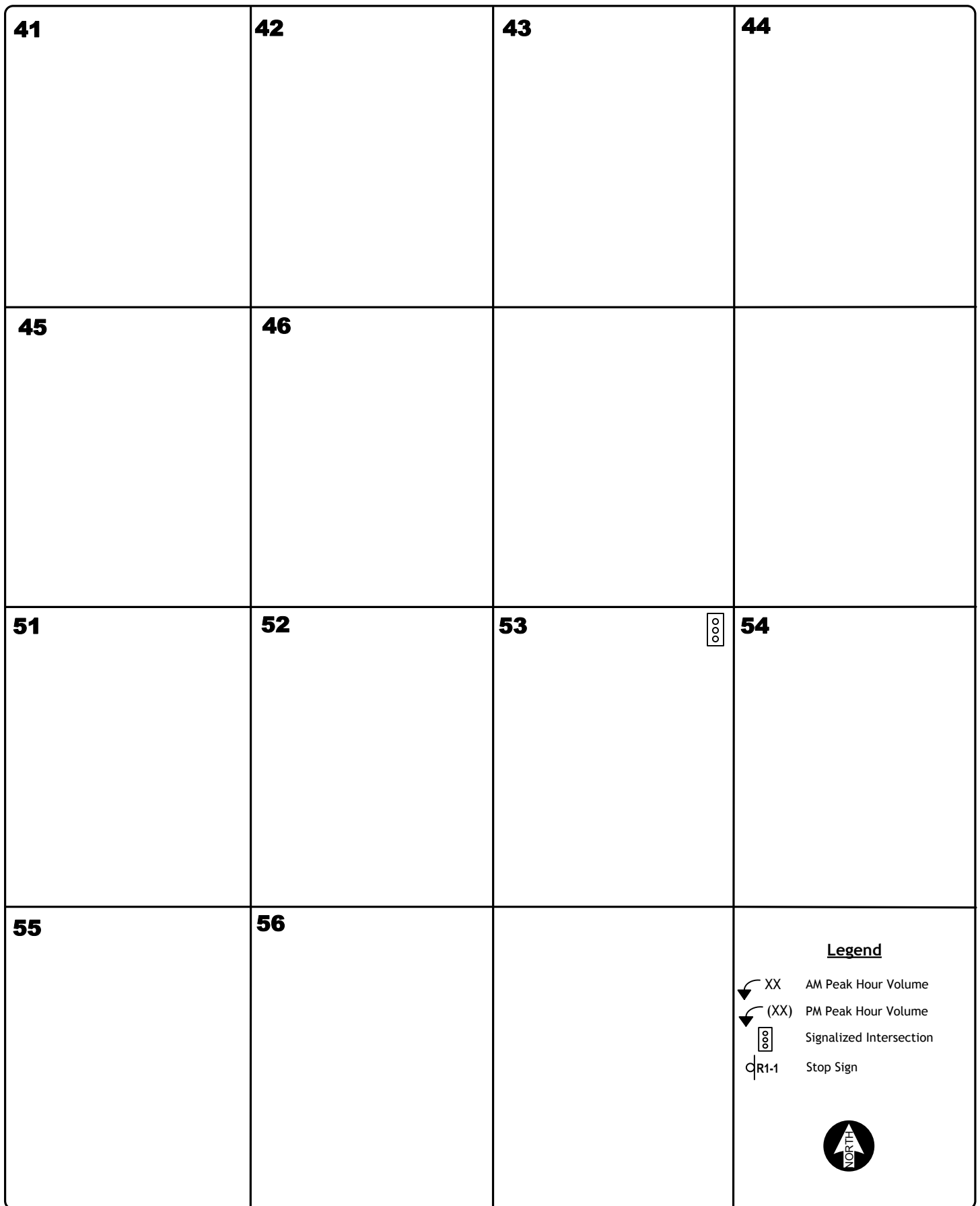


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Intersection Traffic Volumes and Lane Configurations

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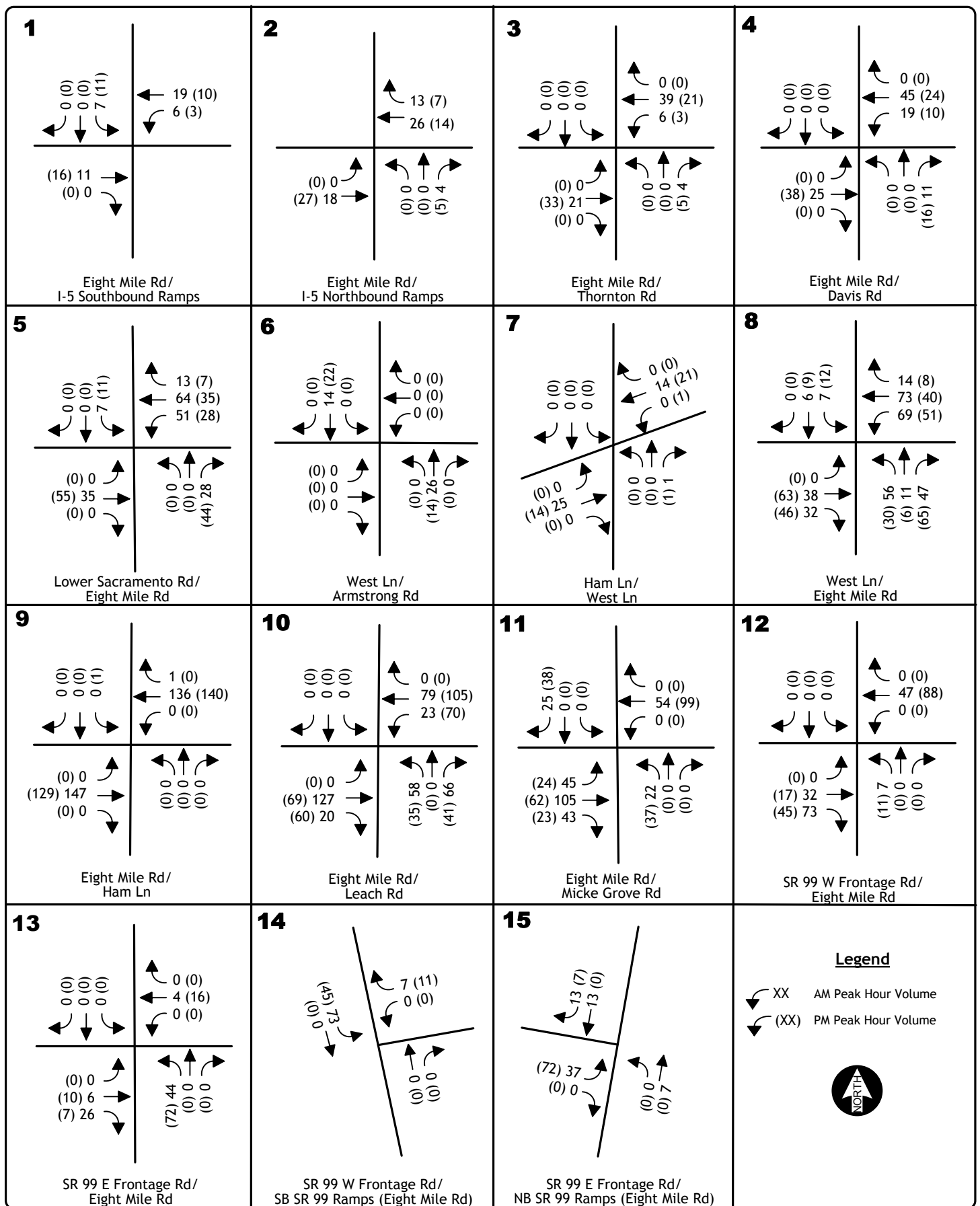


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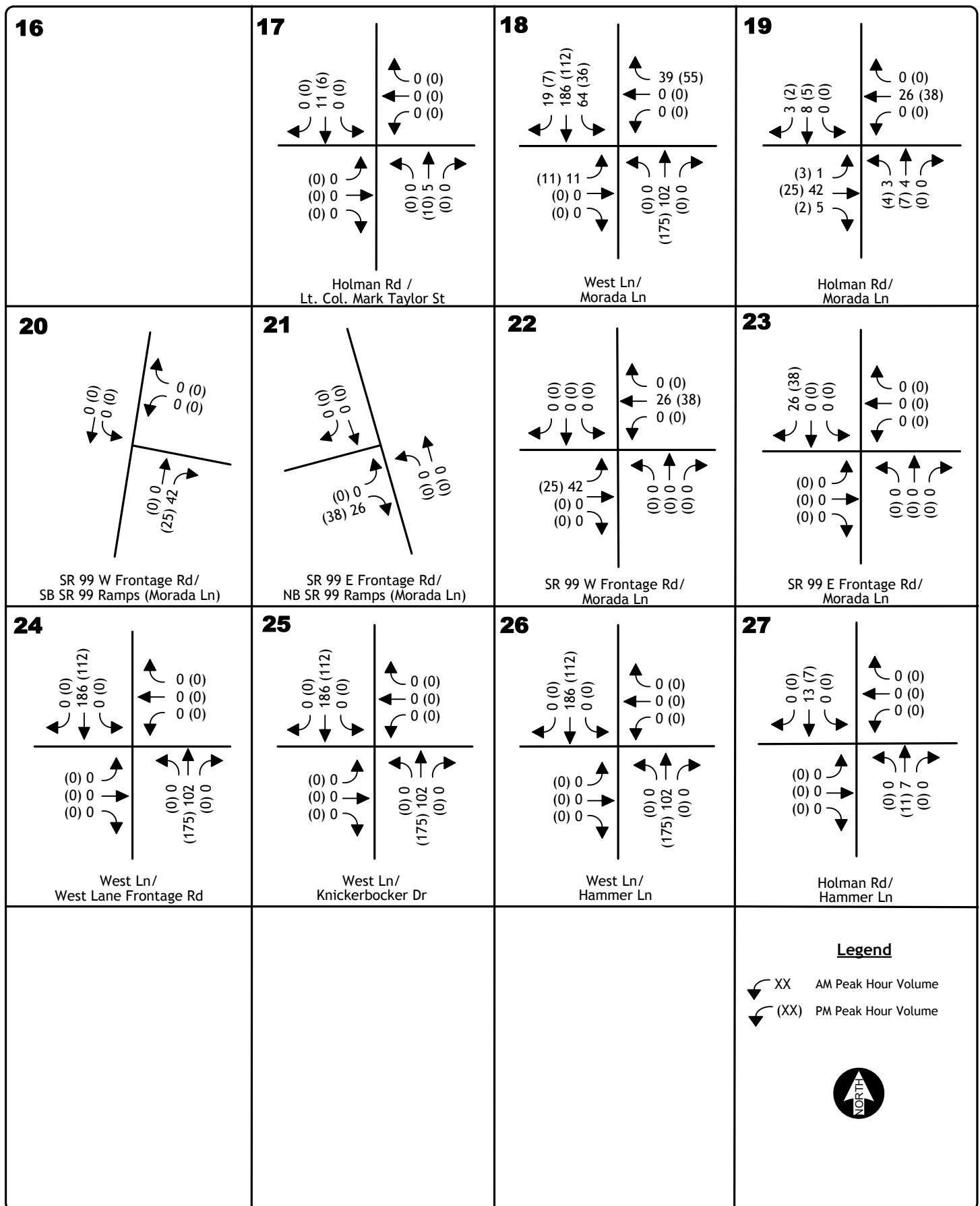
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 Intersection Traffic Volumes and Lane Configurations

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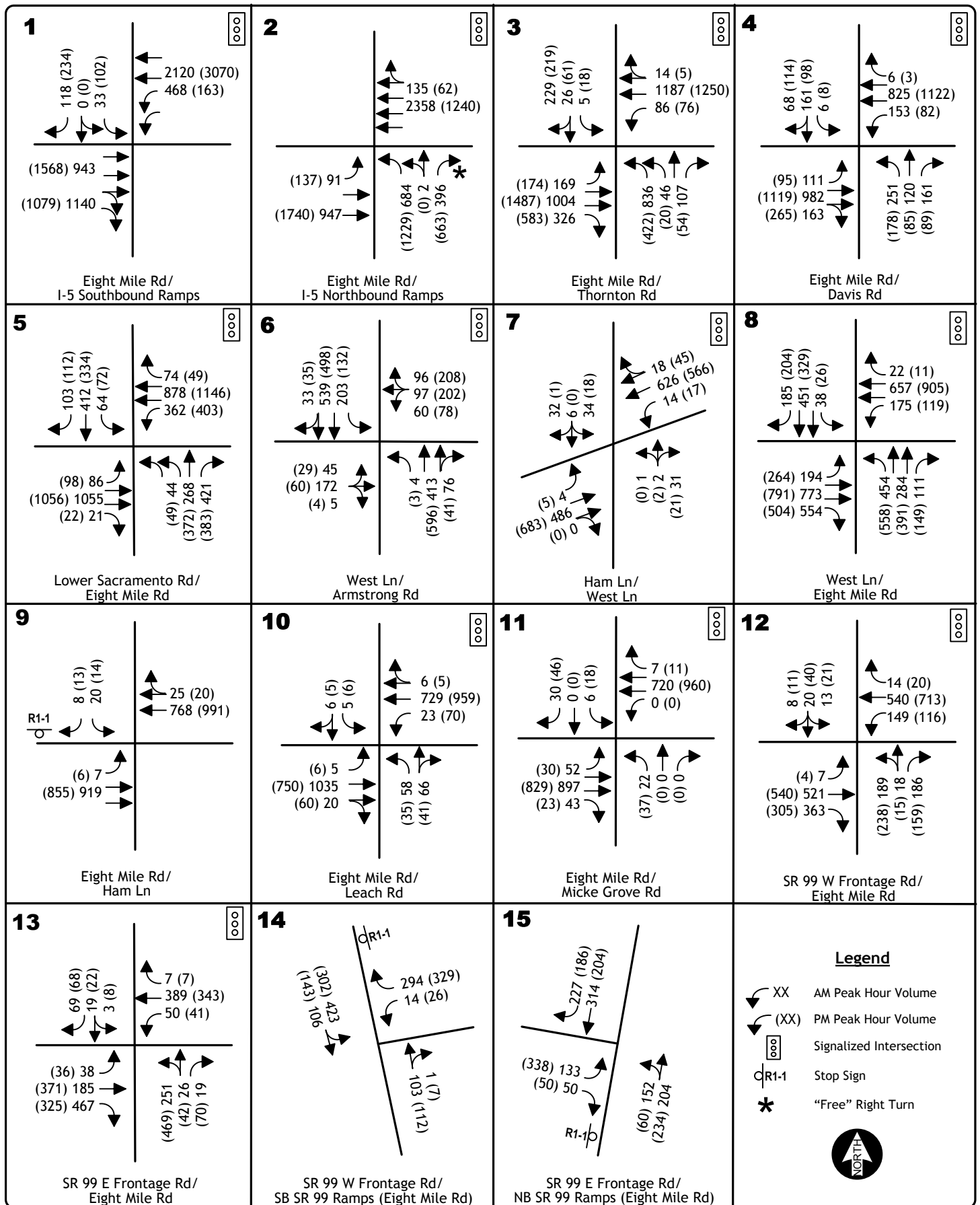
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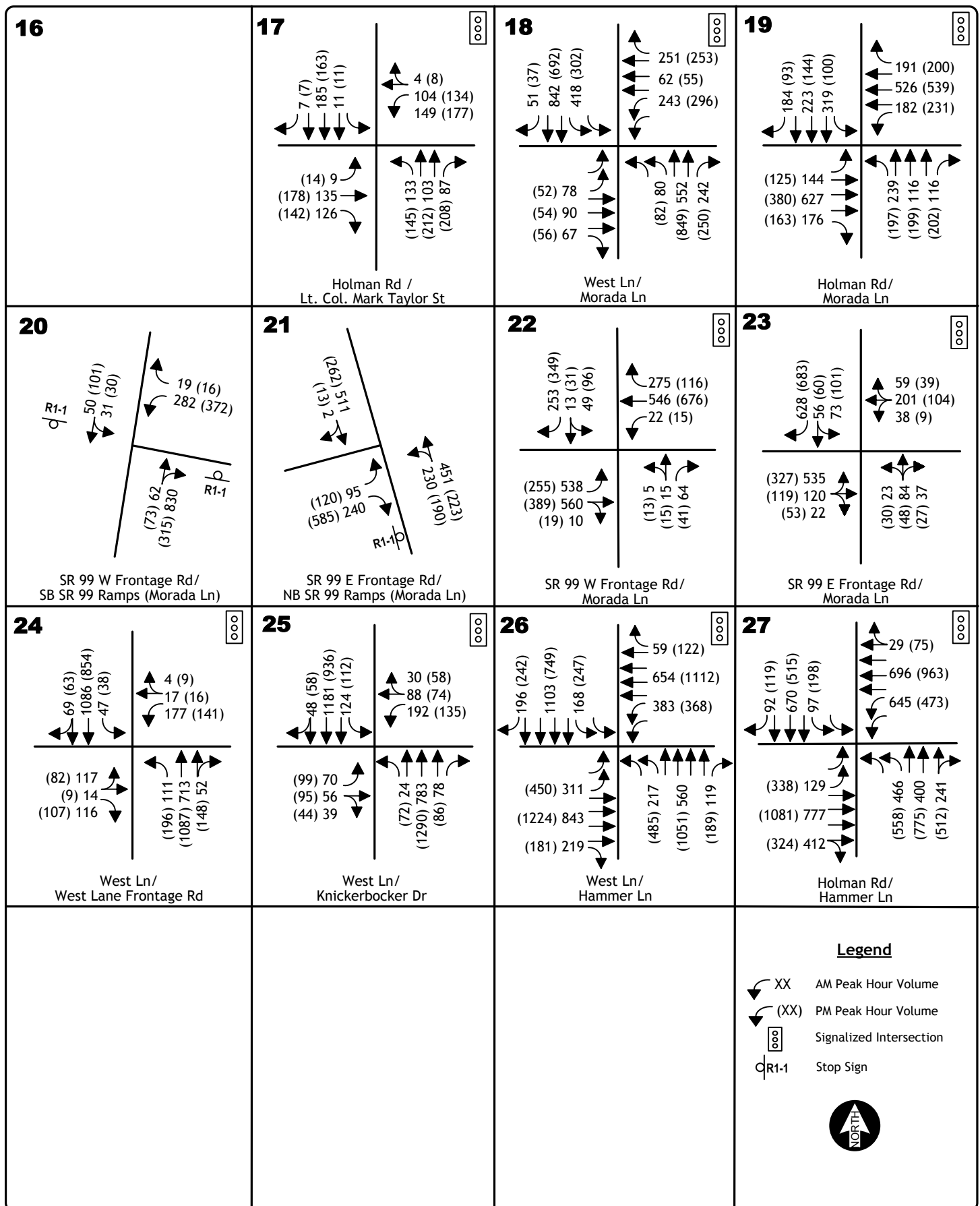
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




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Intersection Traffic Volumes and Lane Configurations

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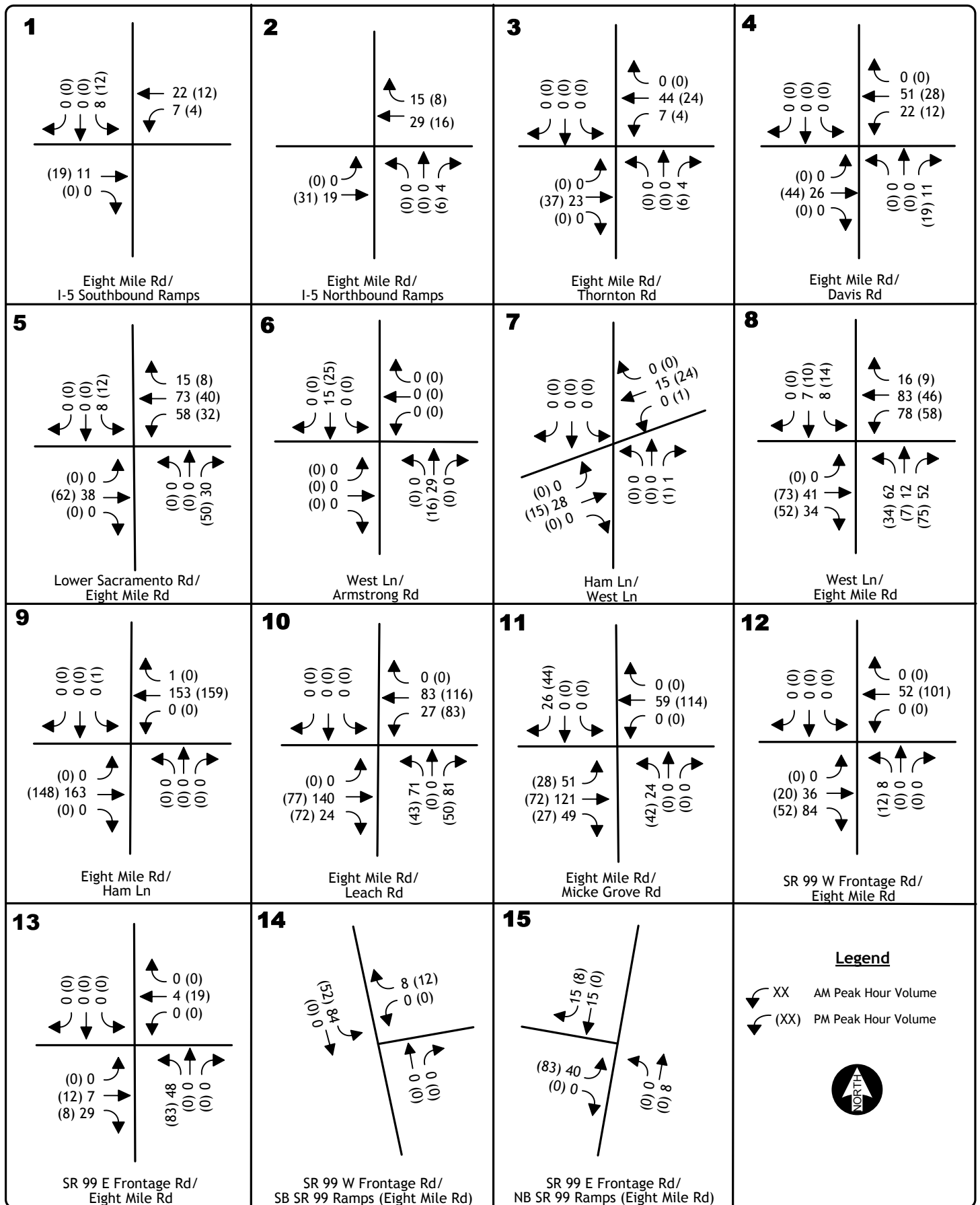
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Intersection Traffic Volumes and Lane Configurations

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55	56		<p>Legend</p> <p>  XX AM Peak Hour Volume  (XX) PM Peak Hour Volume  Signalized Intersection  Stop Sign </p> 

EXISTING PLUS APPROVED PROJECTS
PLUS REDUCED PROJECT ALTERNATIVE
 Intersection Traffic Volumes and Lane Configurations

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PROJECT RELATED TRIPS
(EXISTING PLUS APPROVED PROJECTS BACKGROUND)**

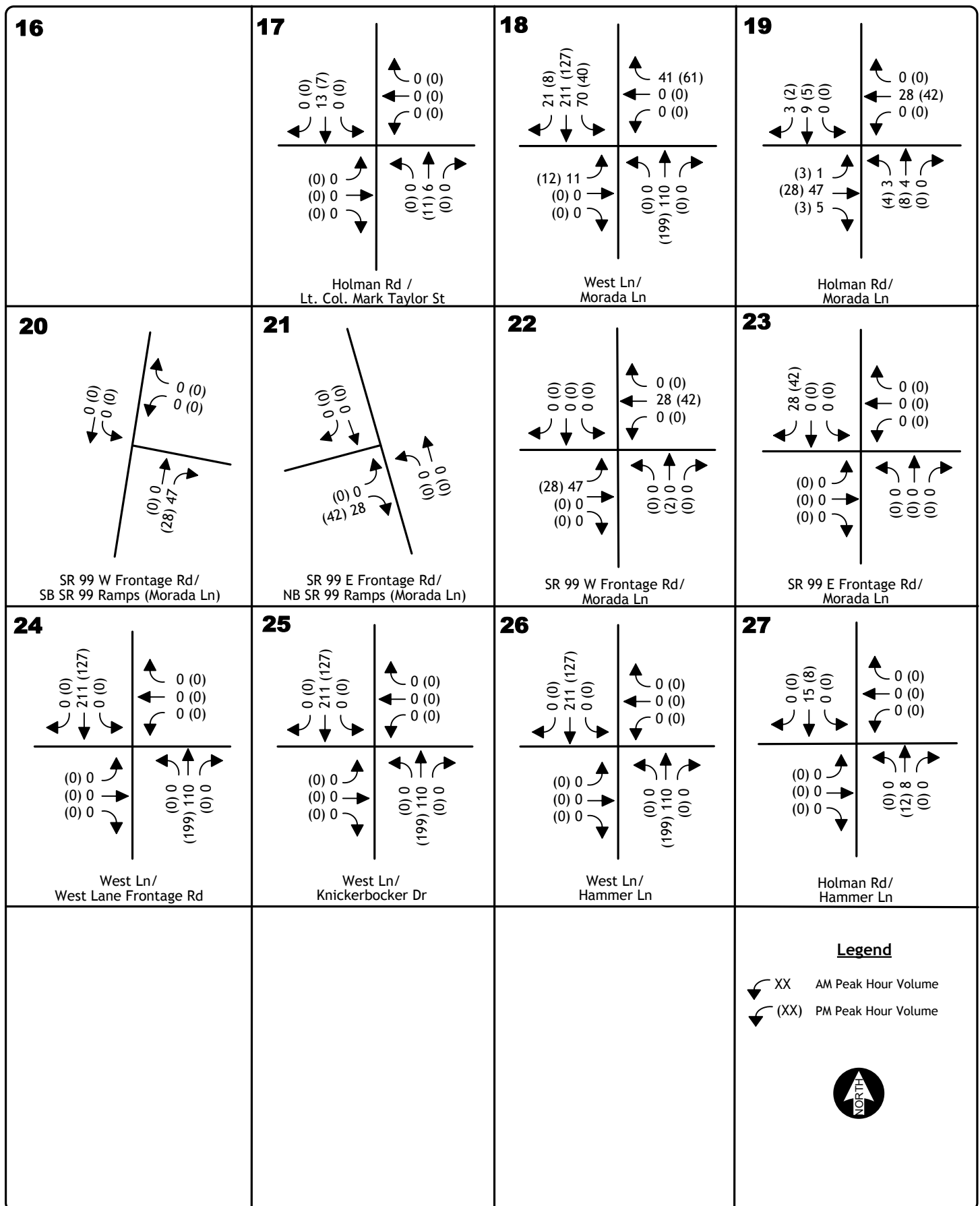
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figure 3.13-24a

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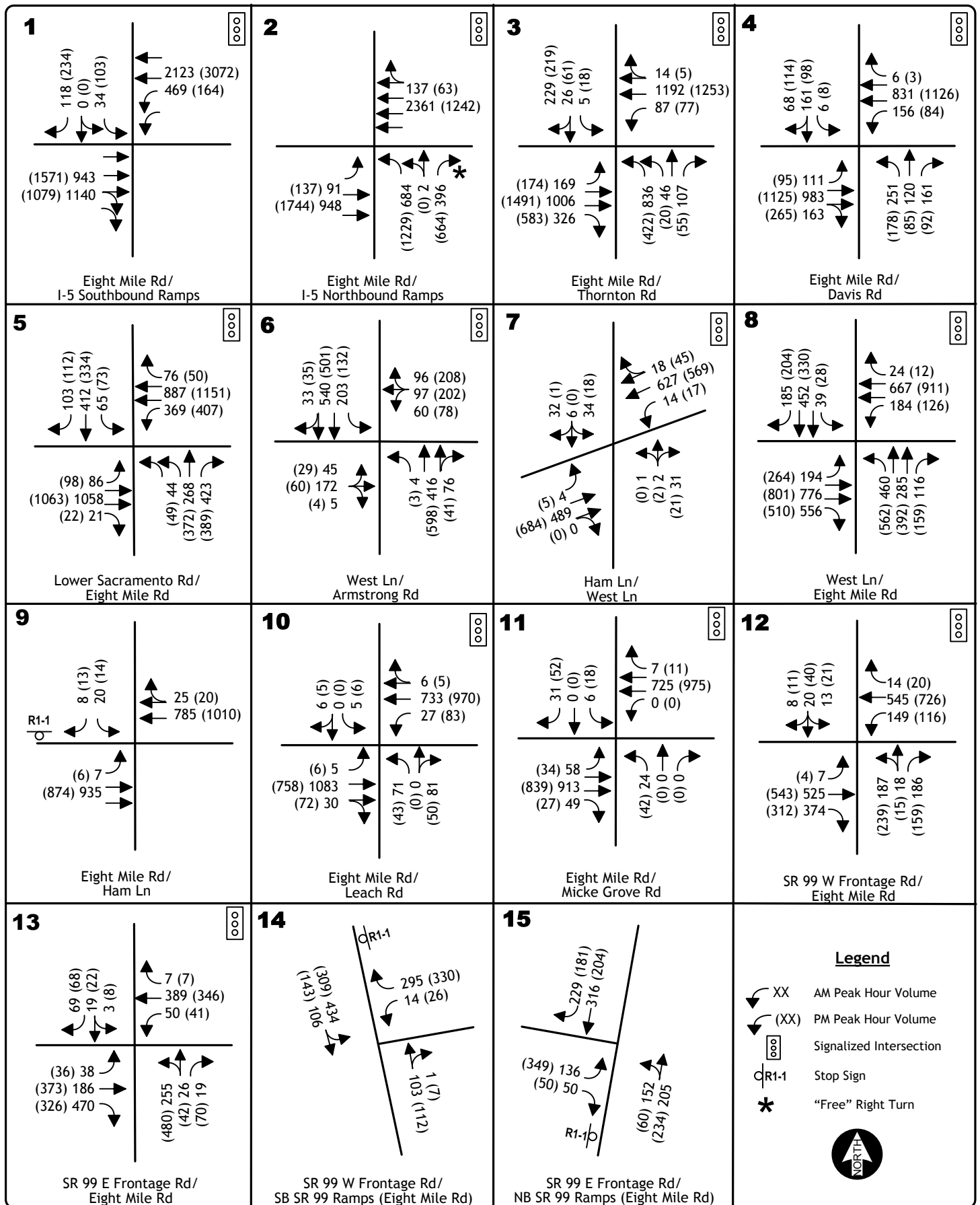
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51	52	53	54
55	56		<p>Legend</p> <p>↙ XX AM Peak Hour Volume</p> <p>↘ (XX) PM Peak Hour Volume</p> 

REDUCED INTENSITY / DENSITY ALTERNATIVE
 PROJECT RELATED TRIPS
 (EXISTING PLUS APPROVED PROJECTS BACKGROUND)

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PLUS REDUCED INTENSITY / DENSITY ALTERNATIVE**
Intersection Traffic Volumes and Lane Configurations

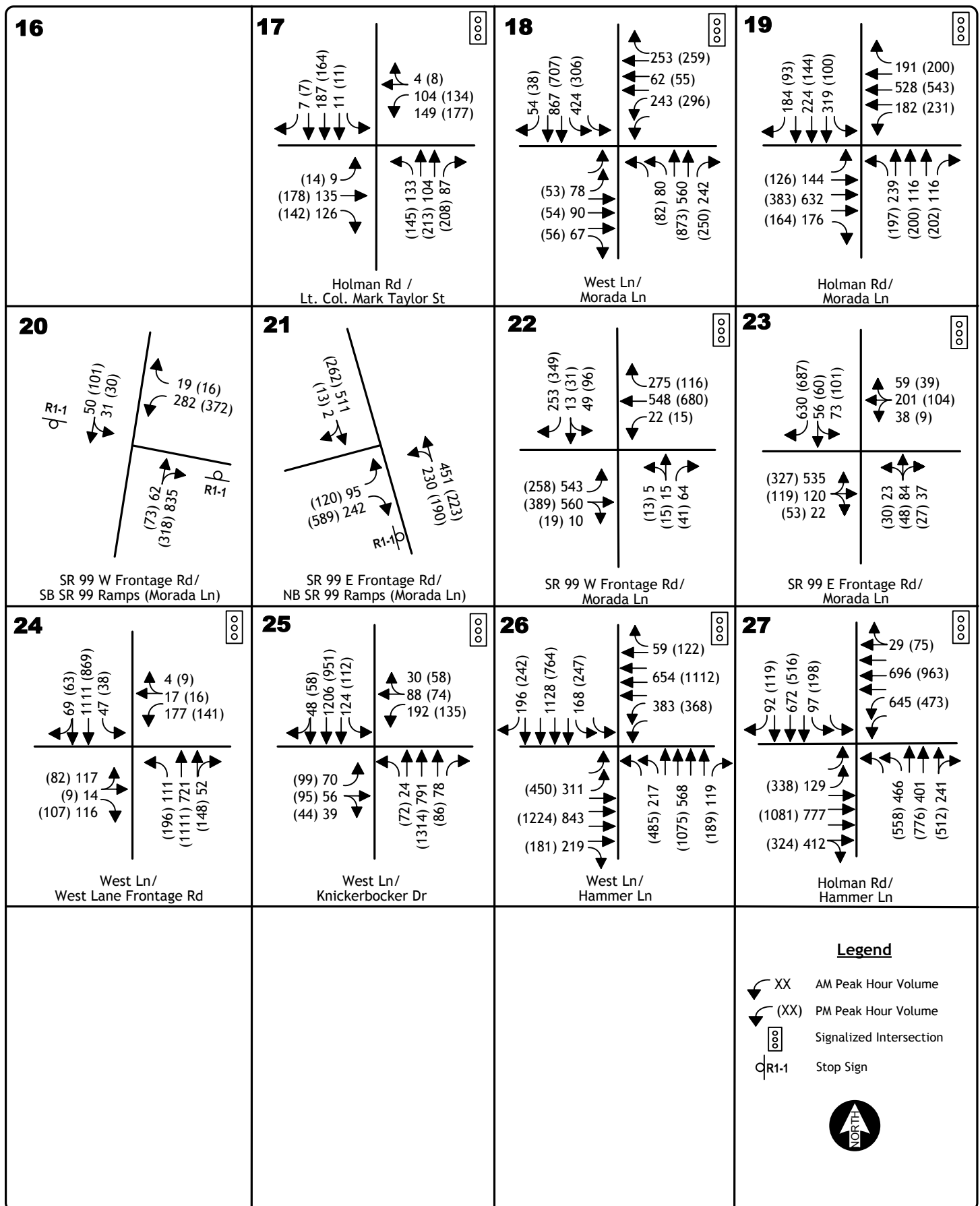
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

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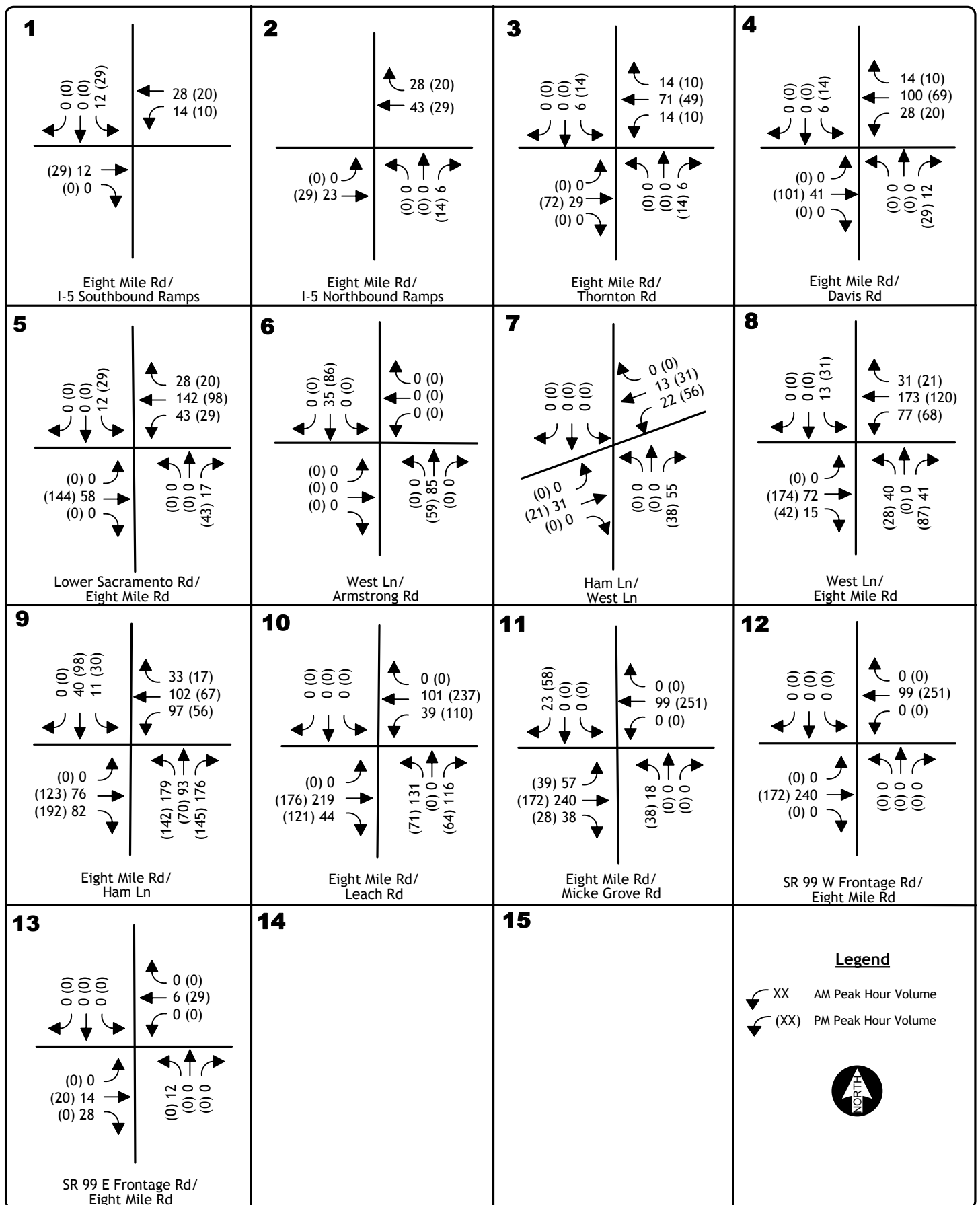
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Intersection Traffic Volumes and Lane Configurations

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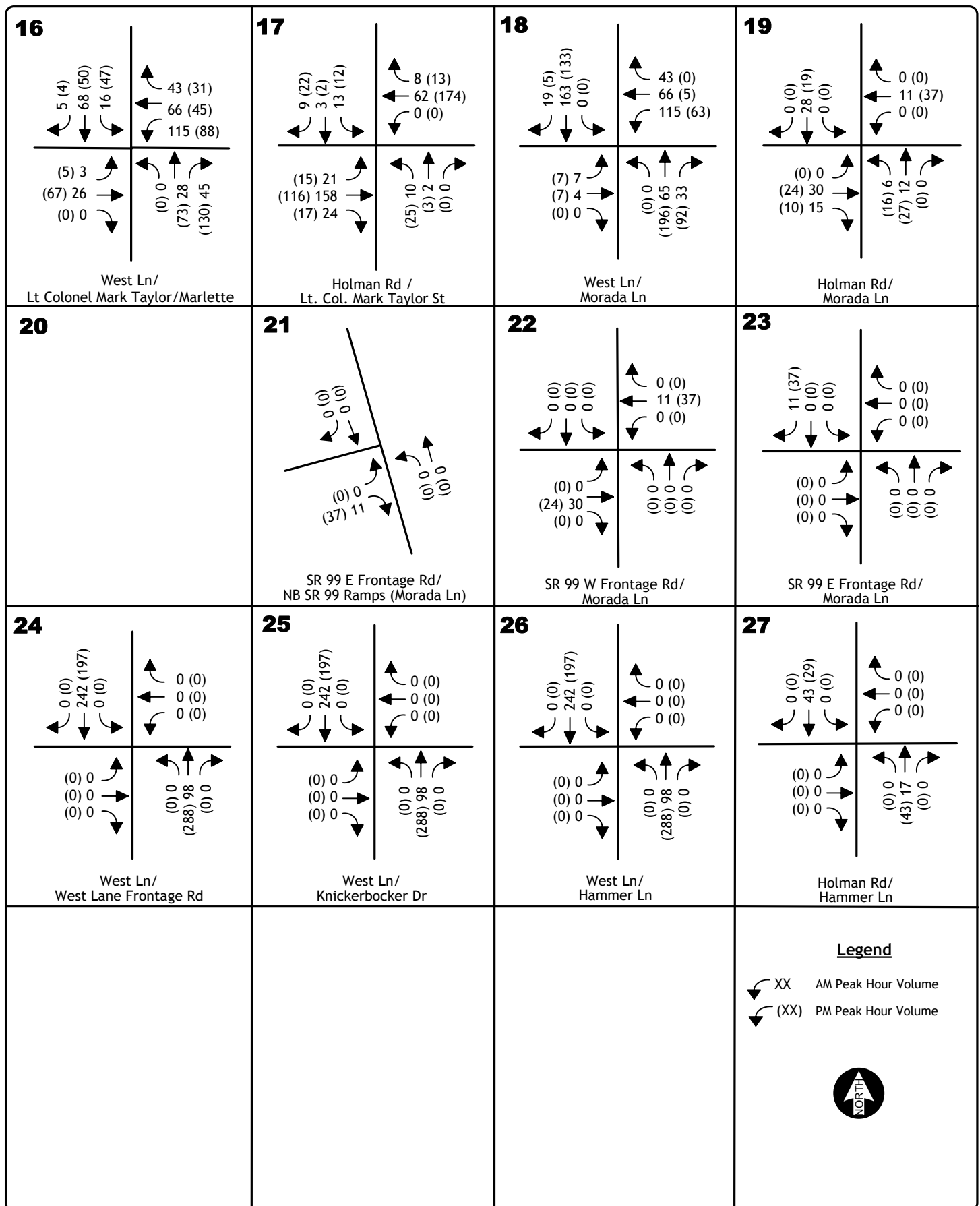
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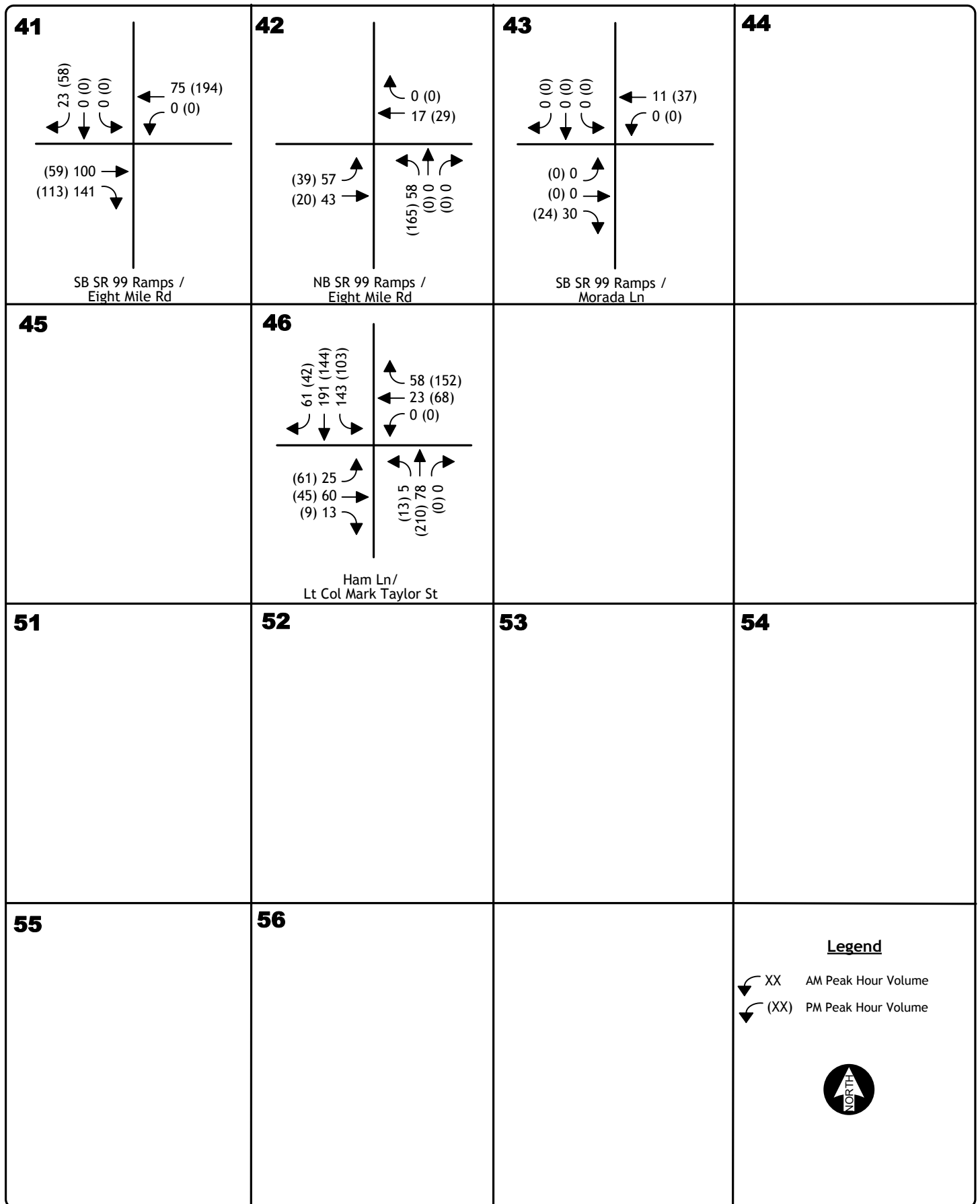
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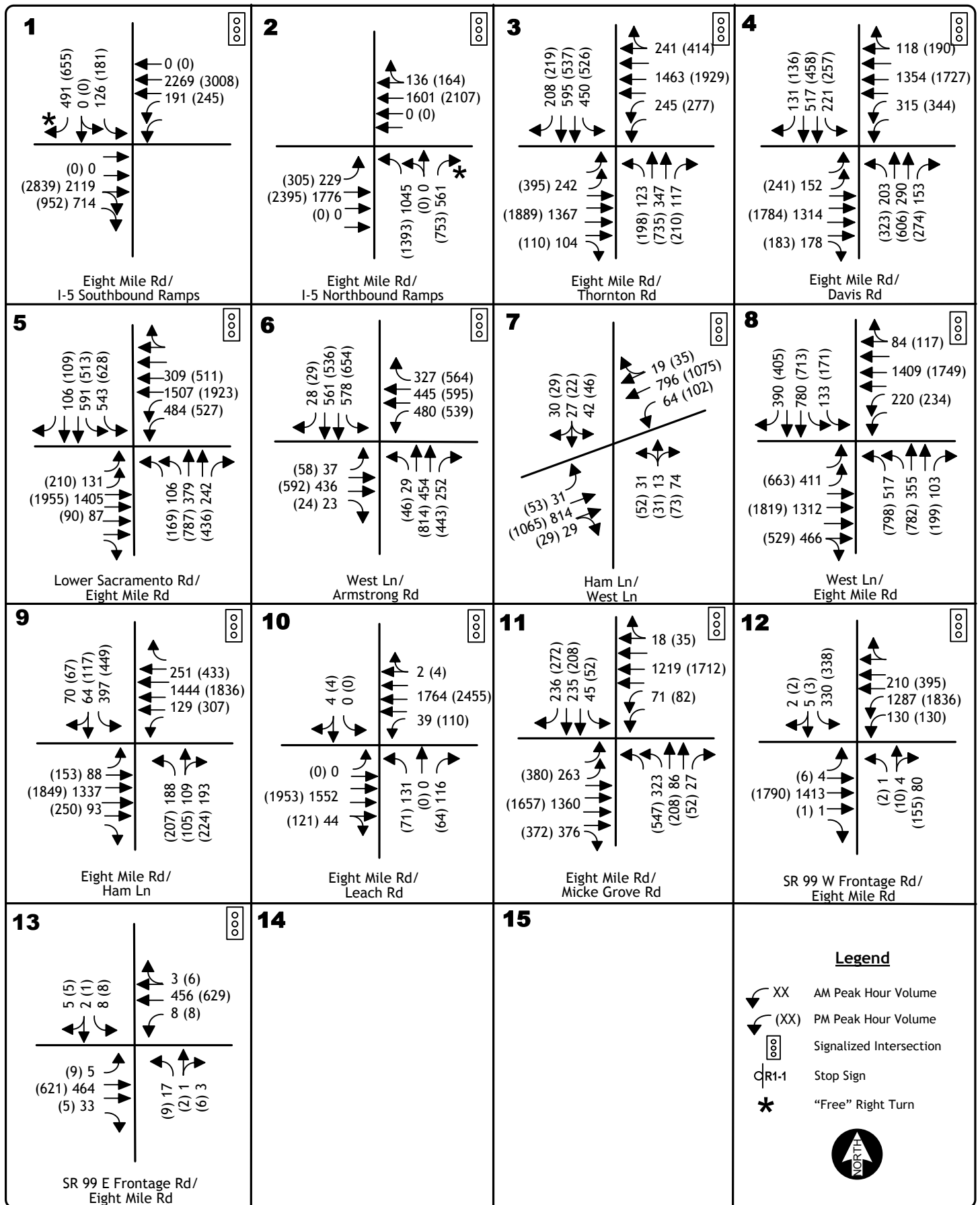
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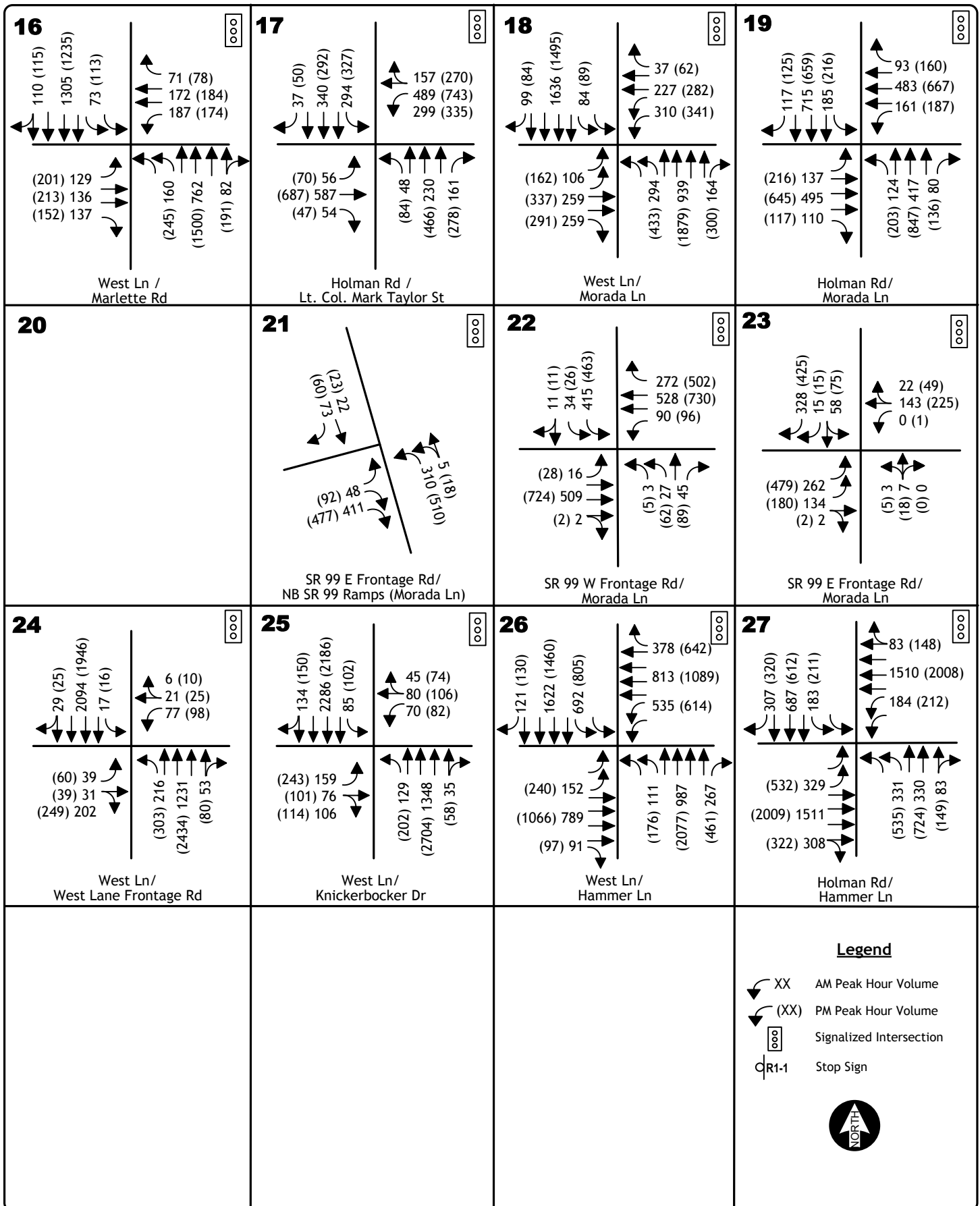


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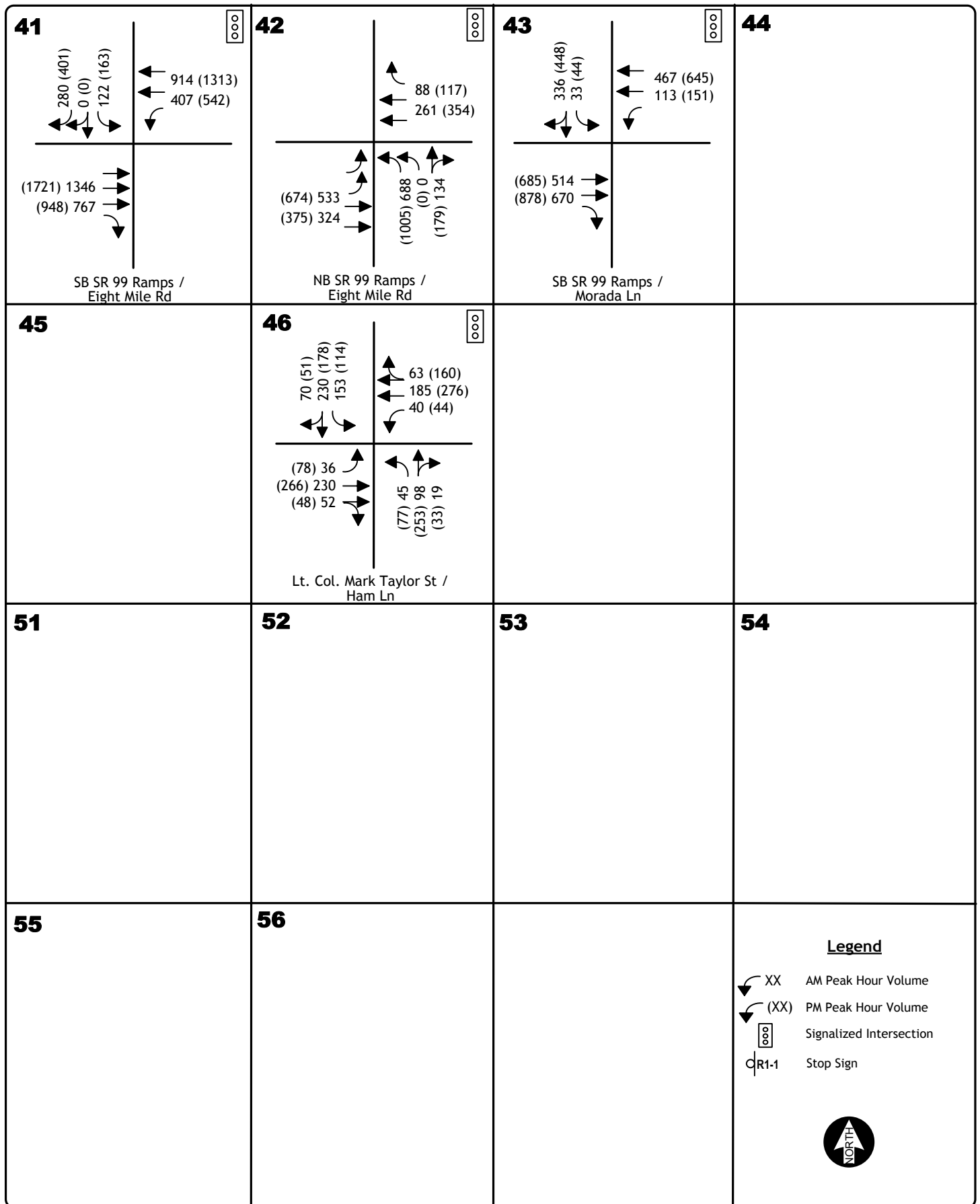
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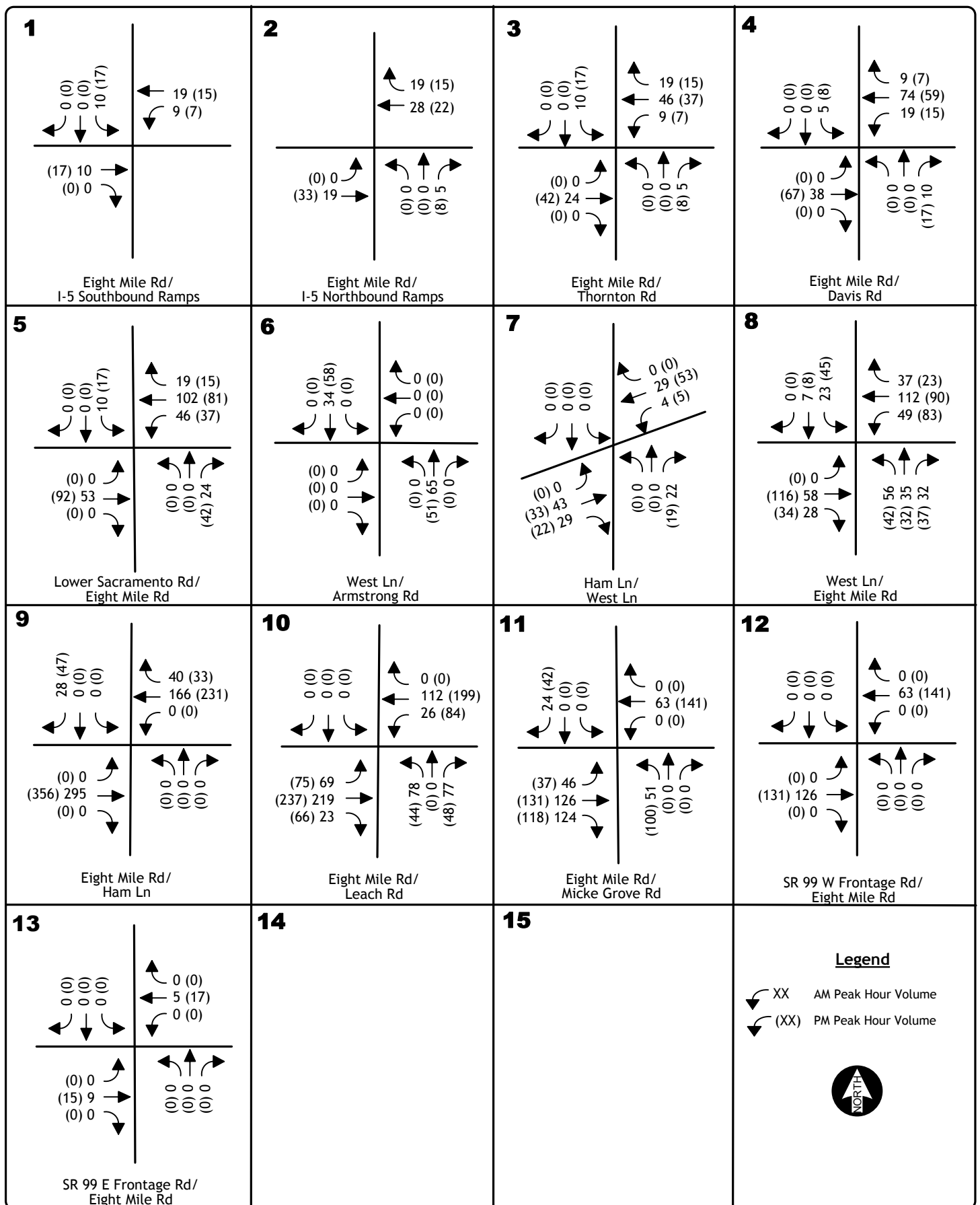
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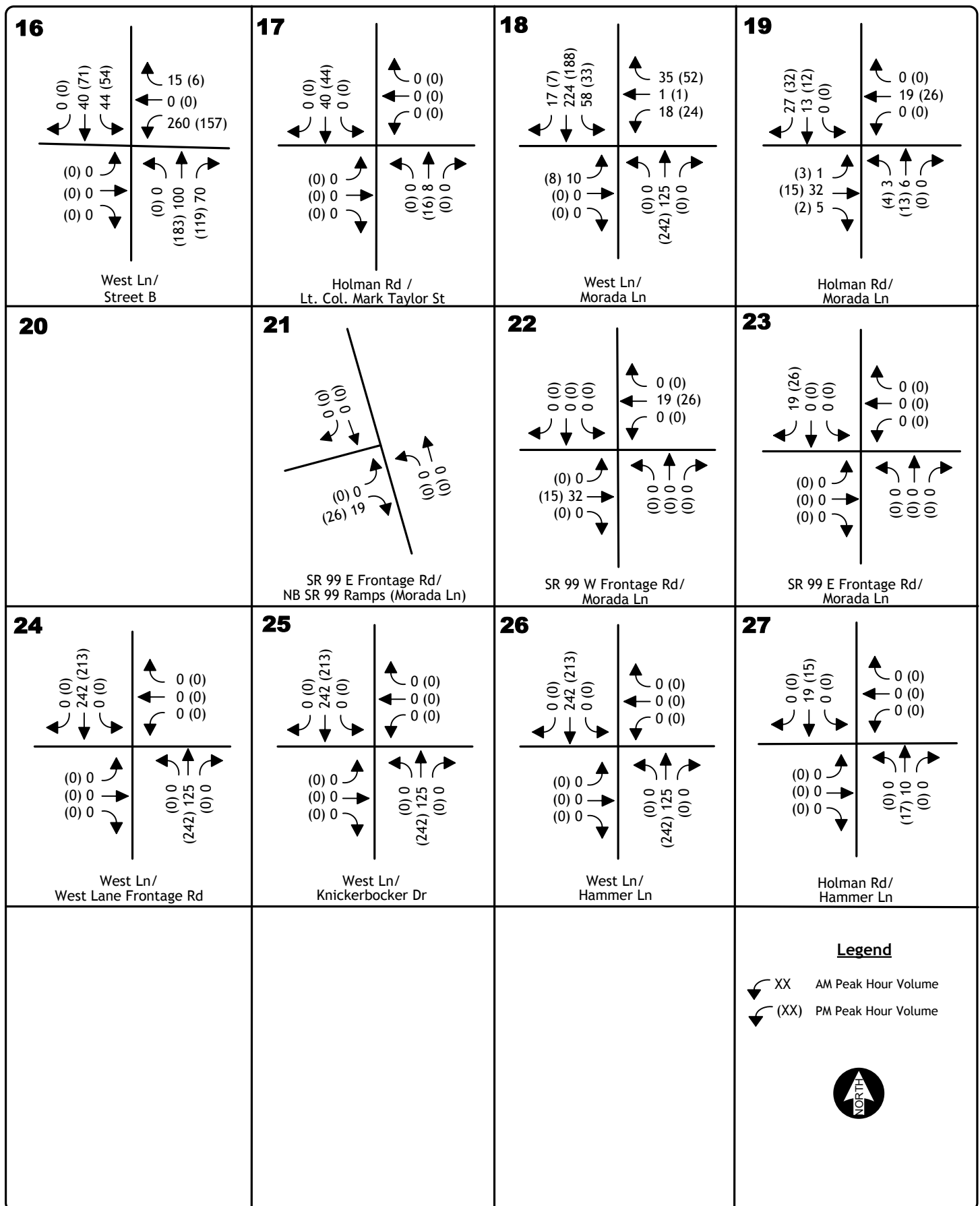
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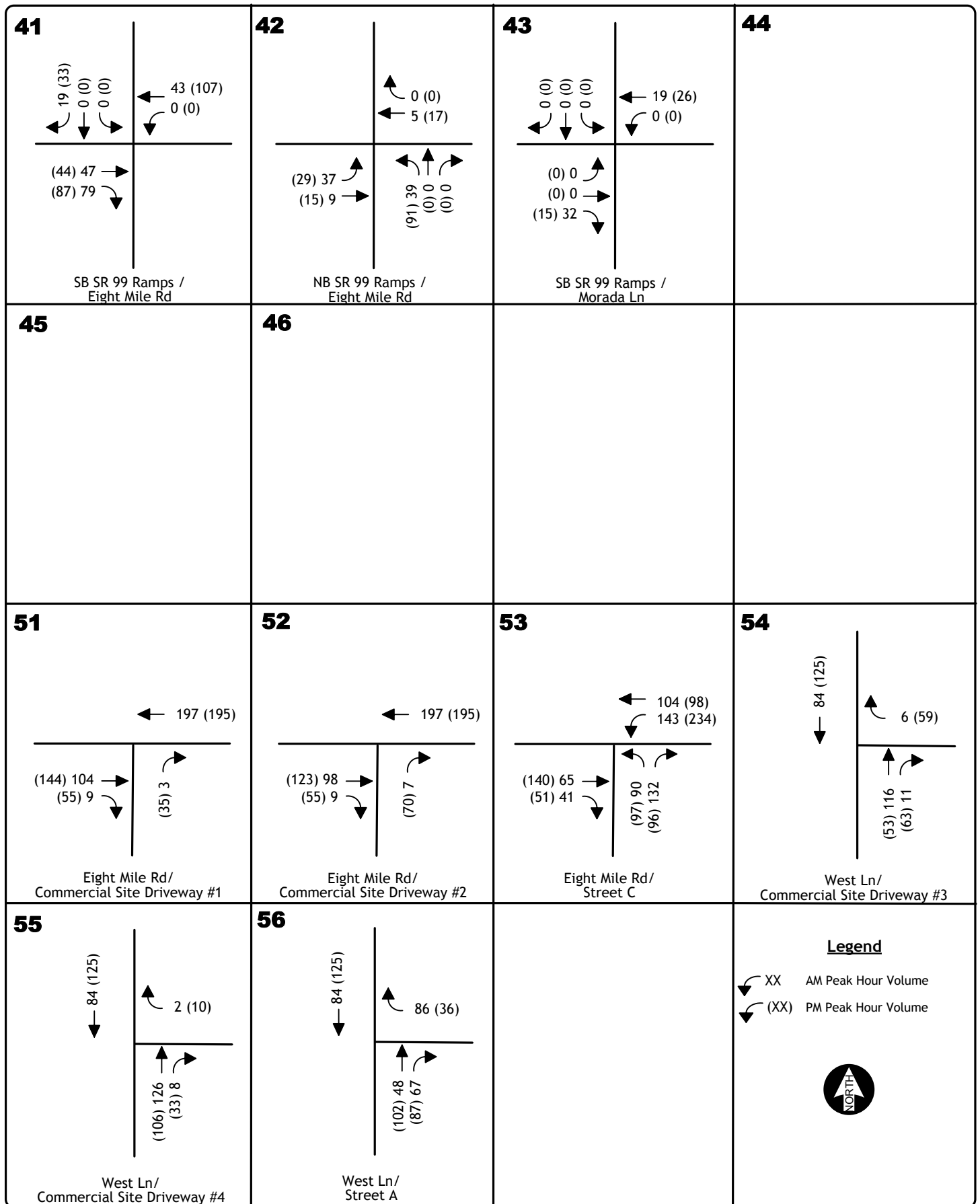


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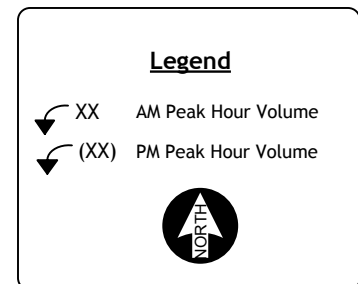
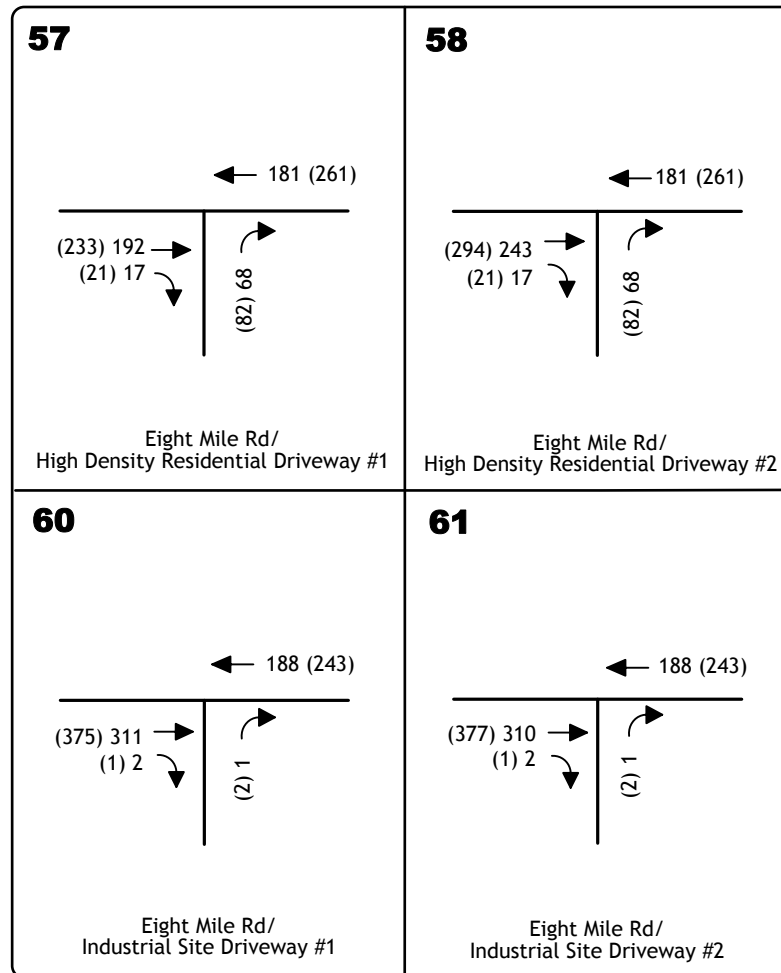
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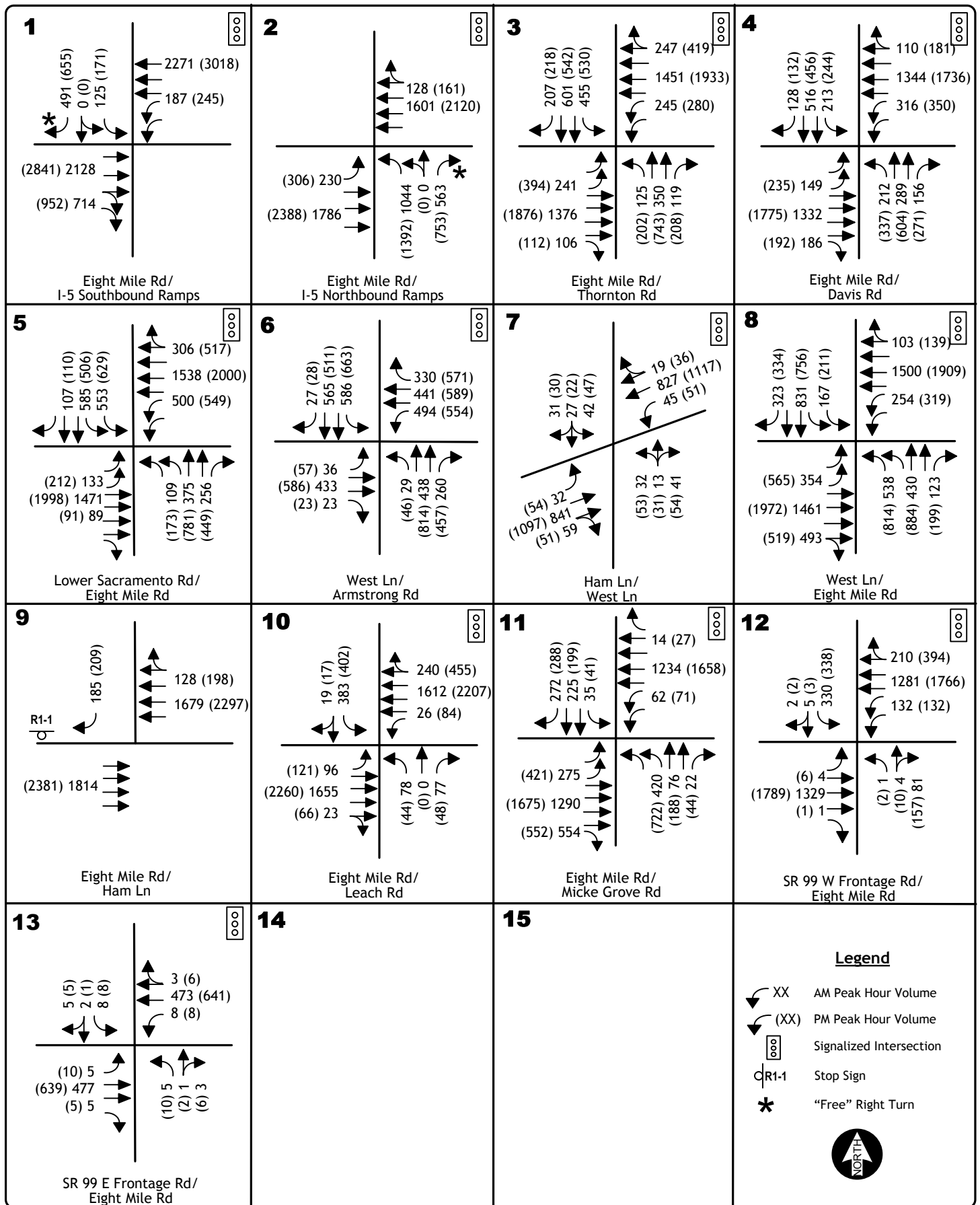


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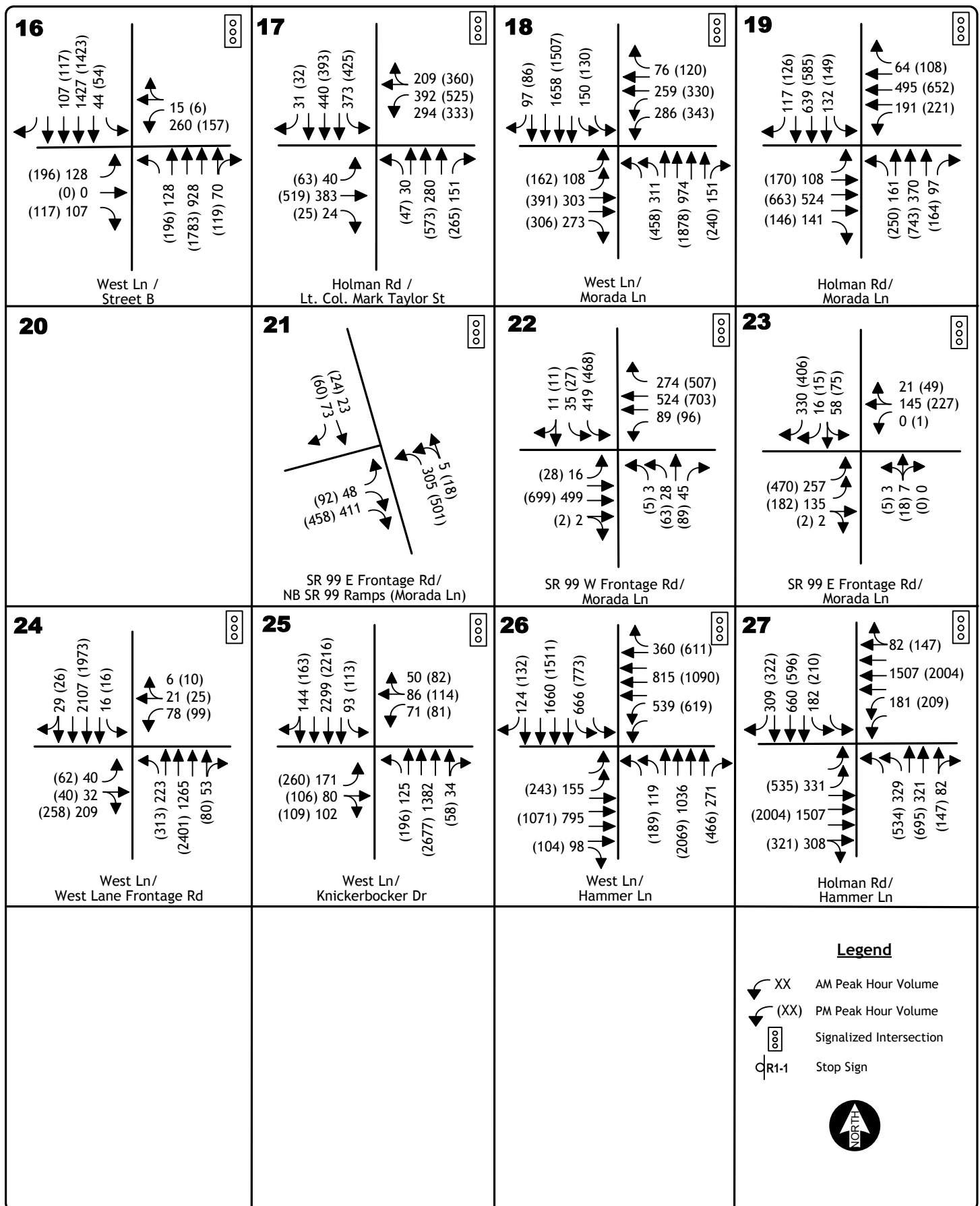
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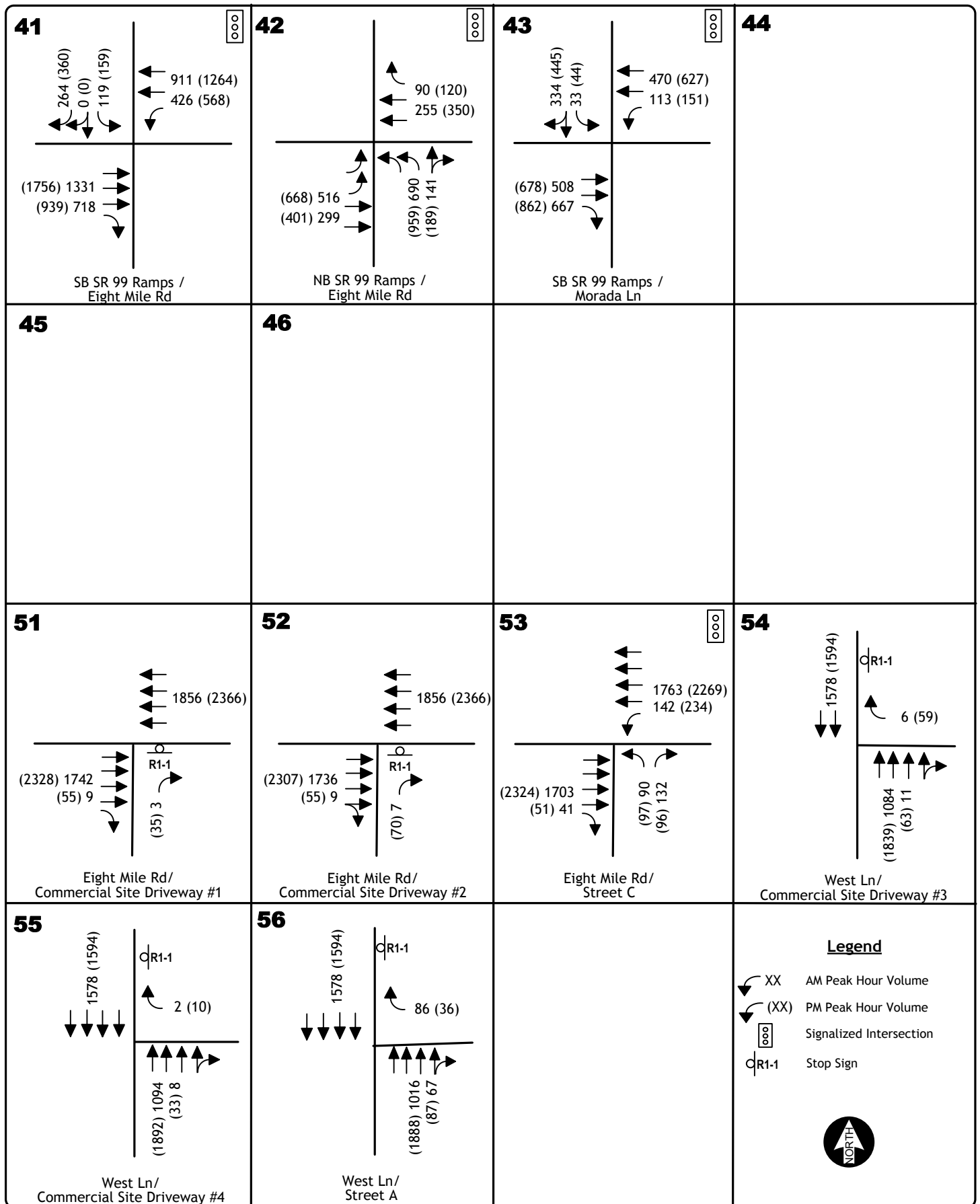
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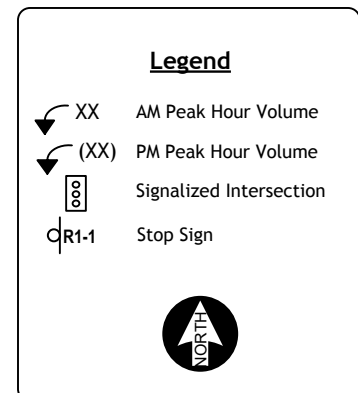
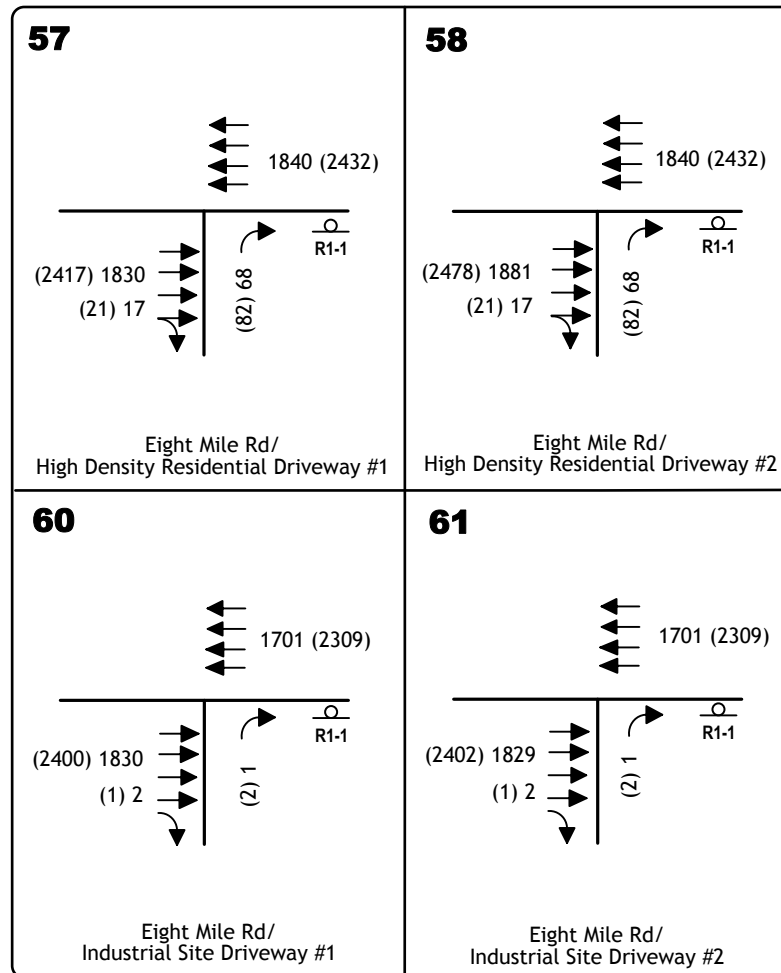
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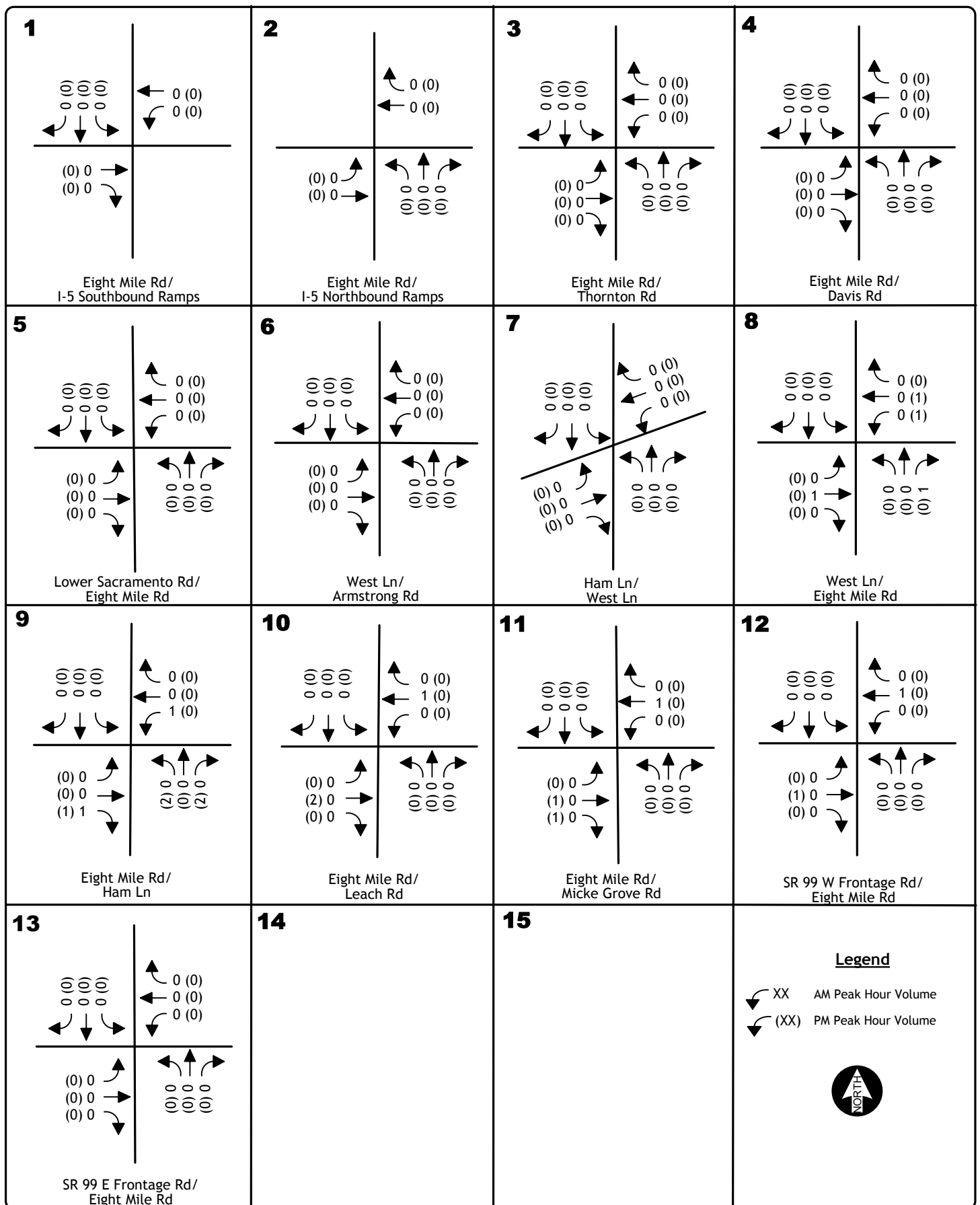
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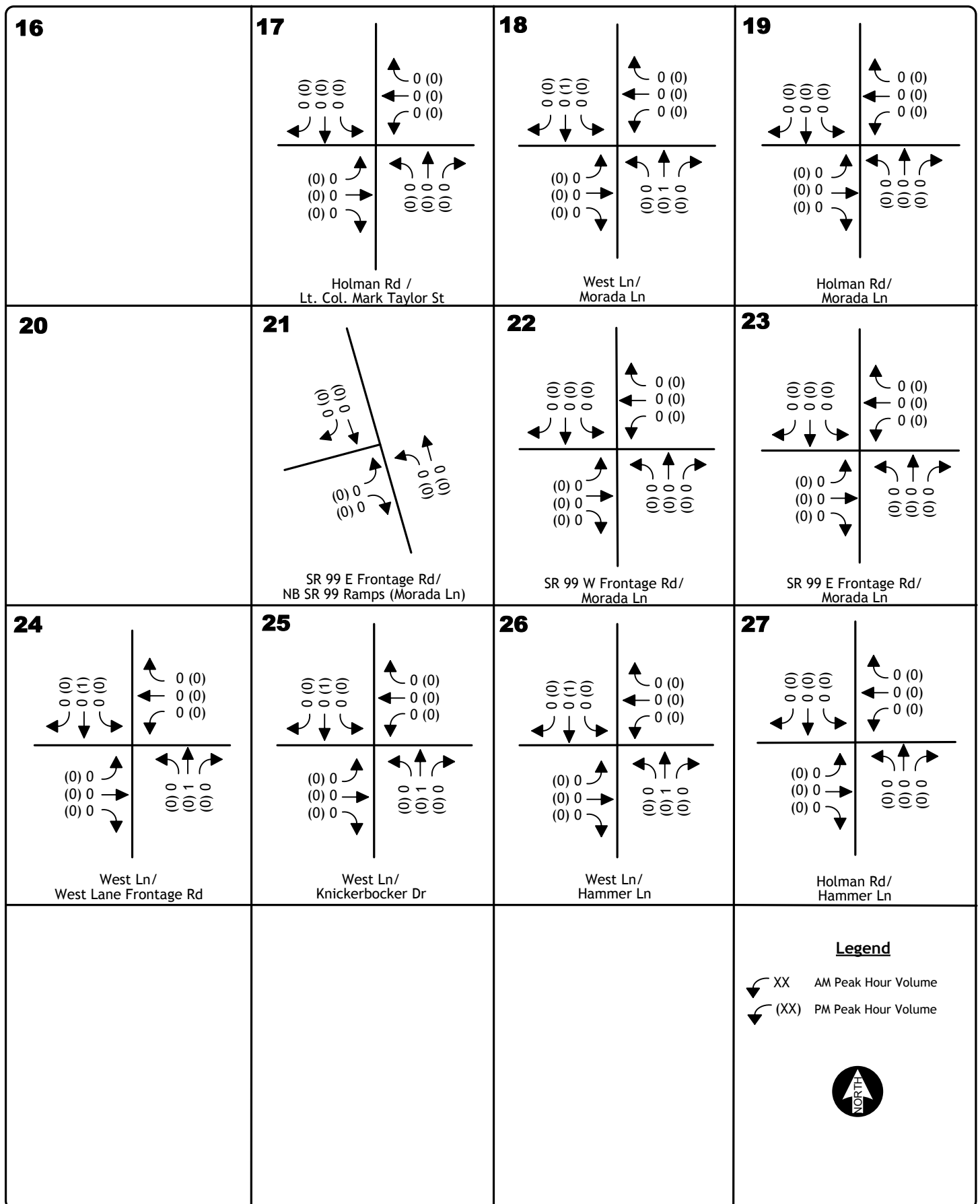


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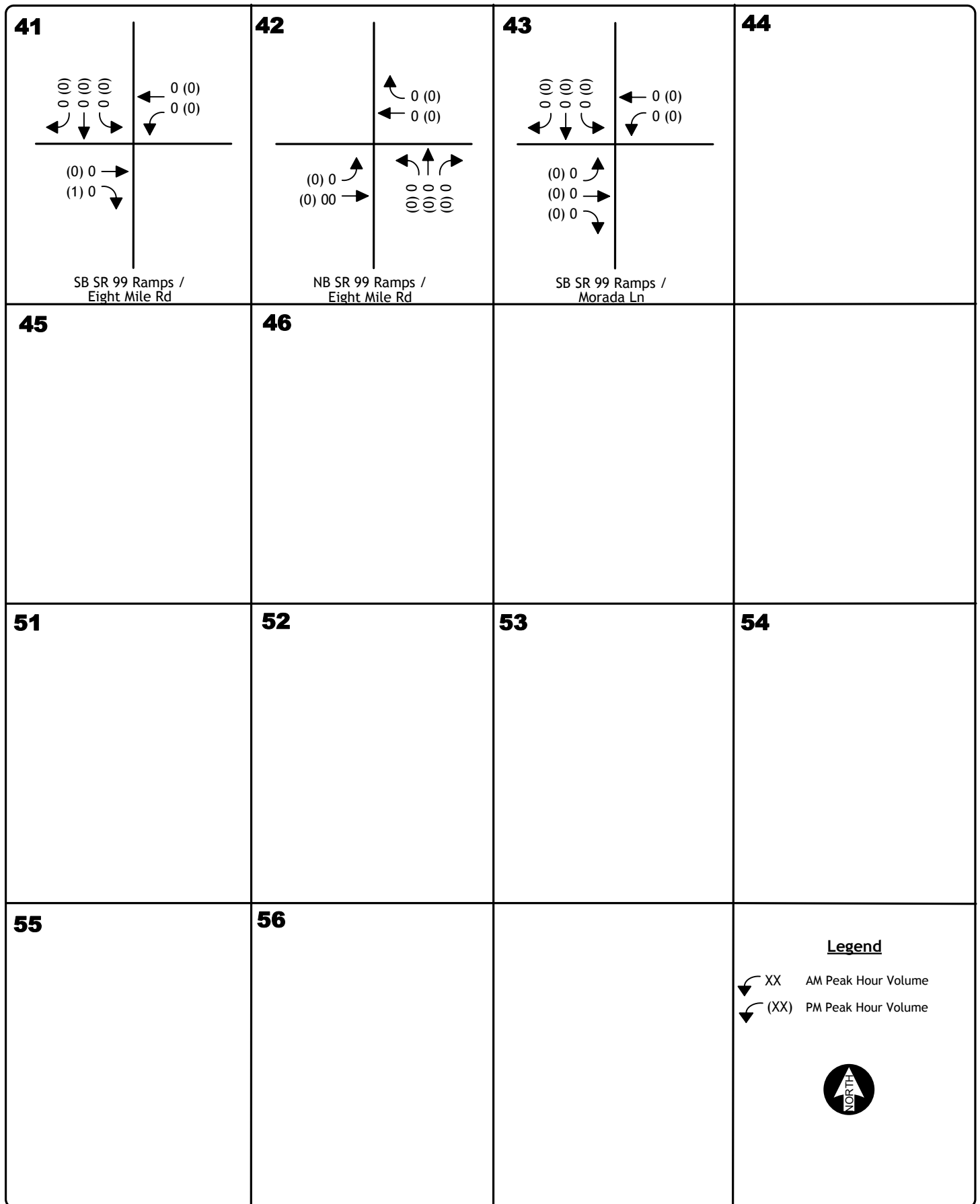
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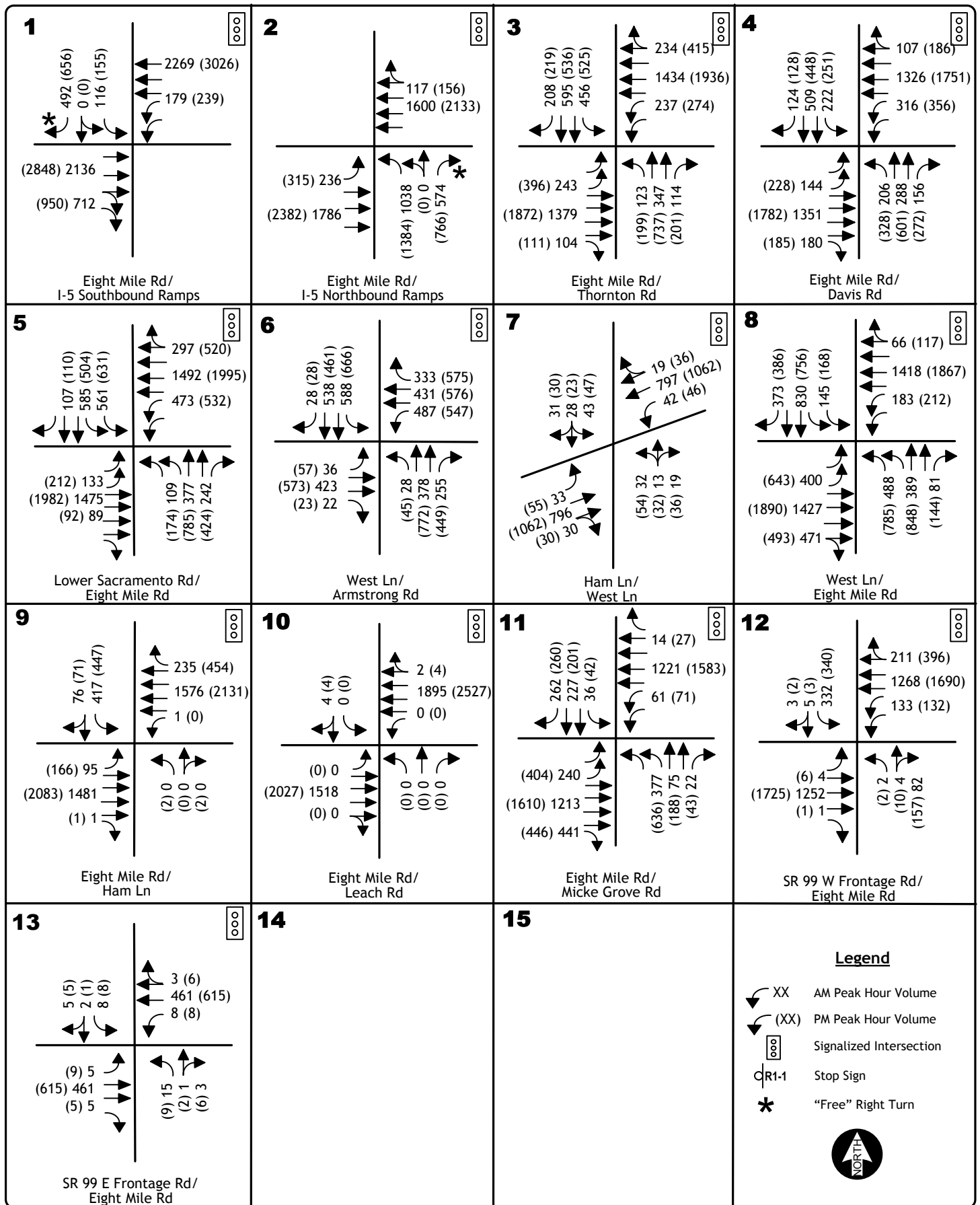
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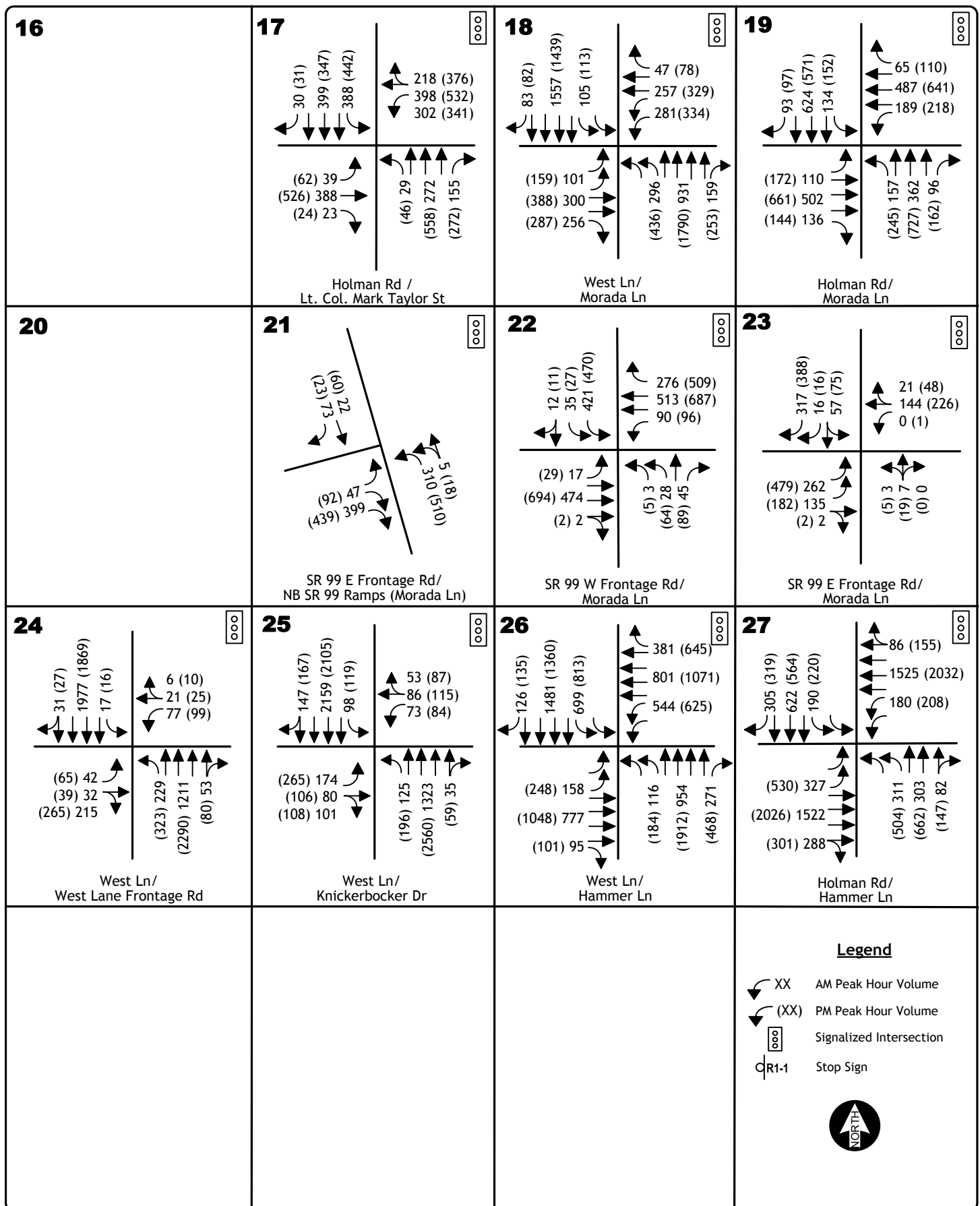


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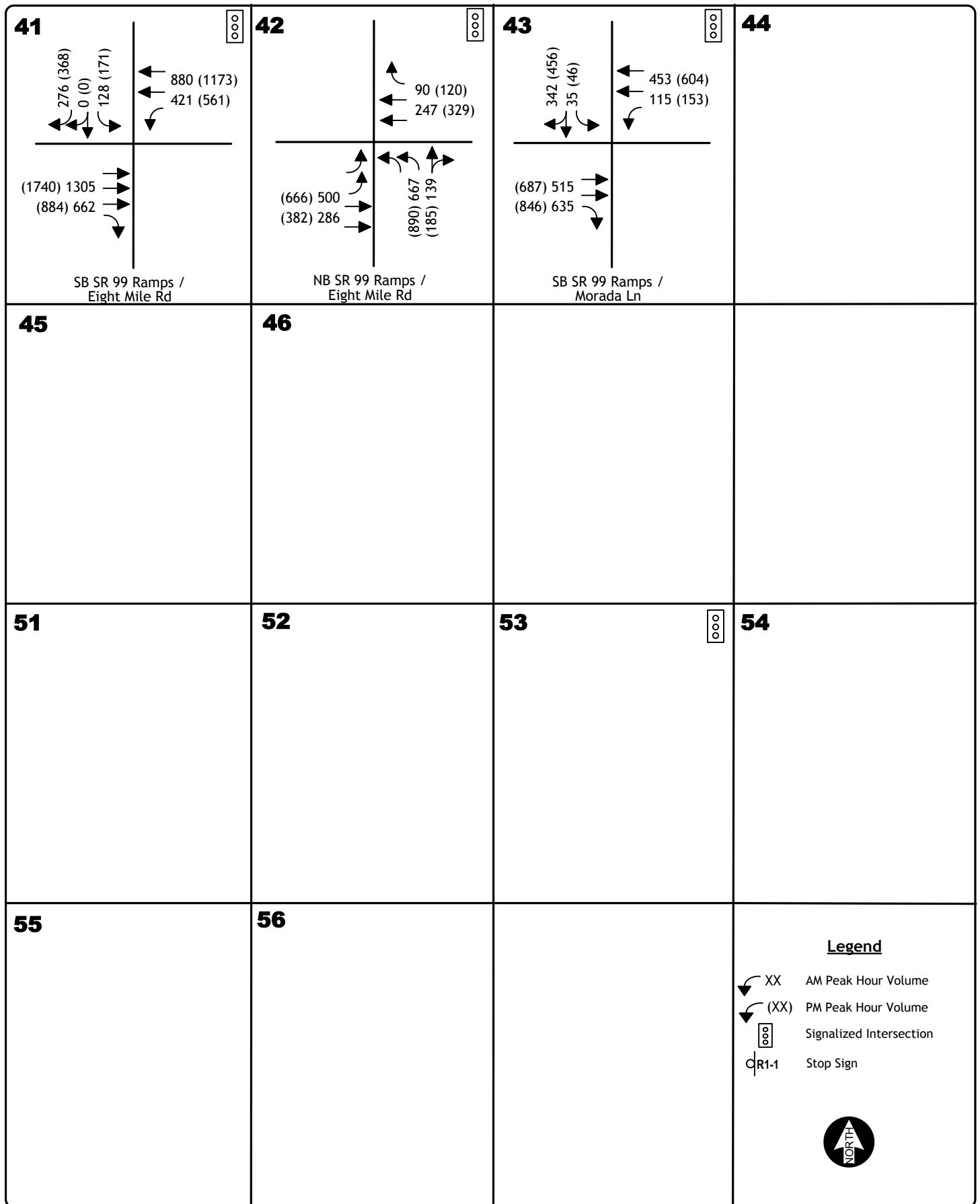
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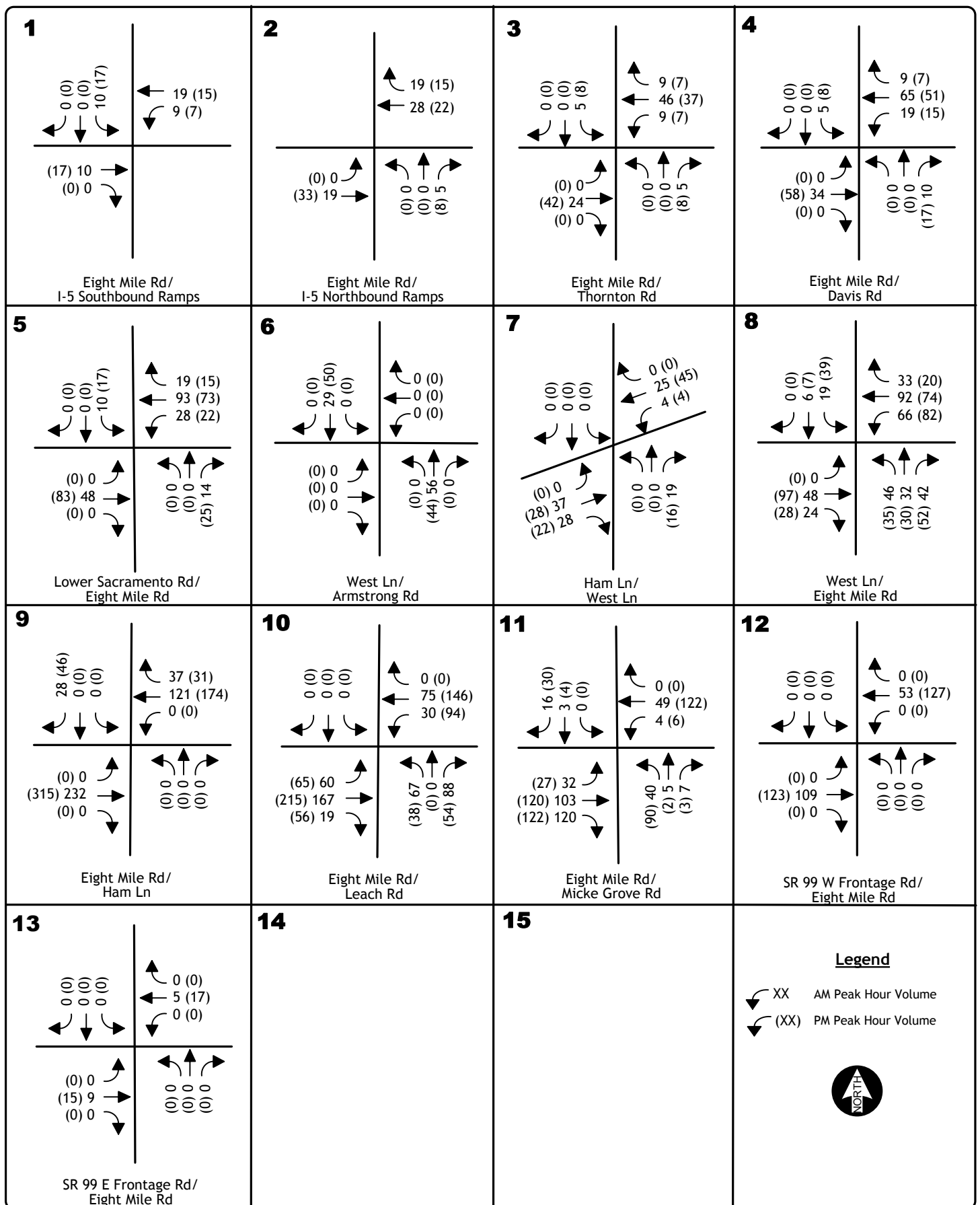
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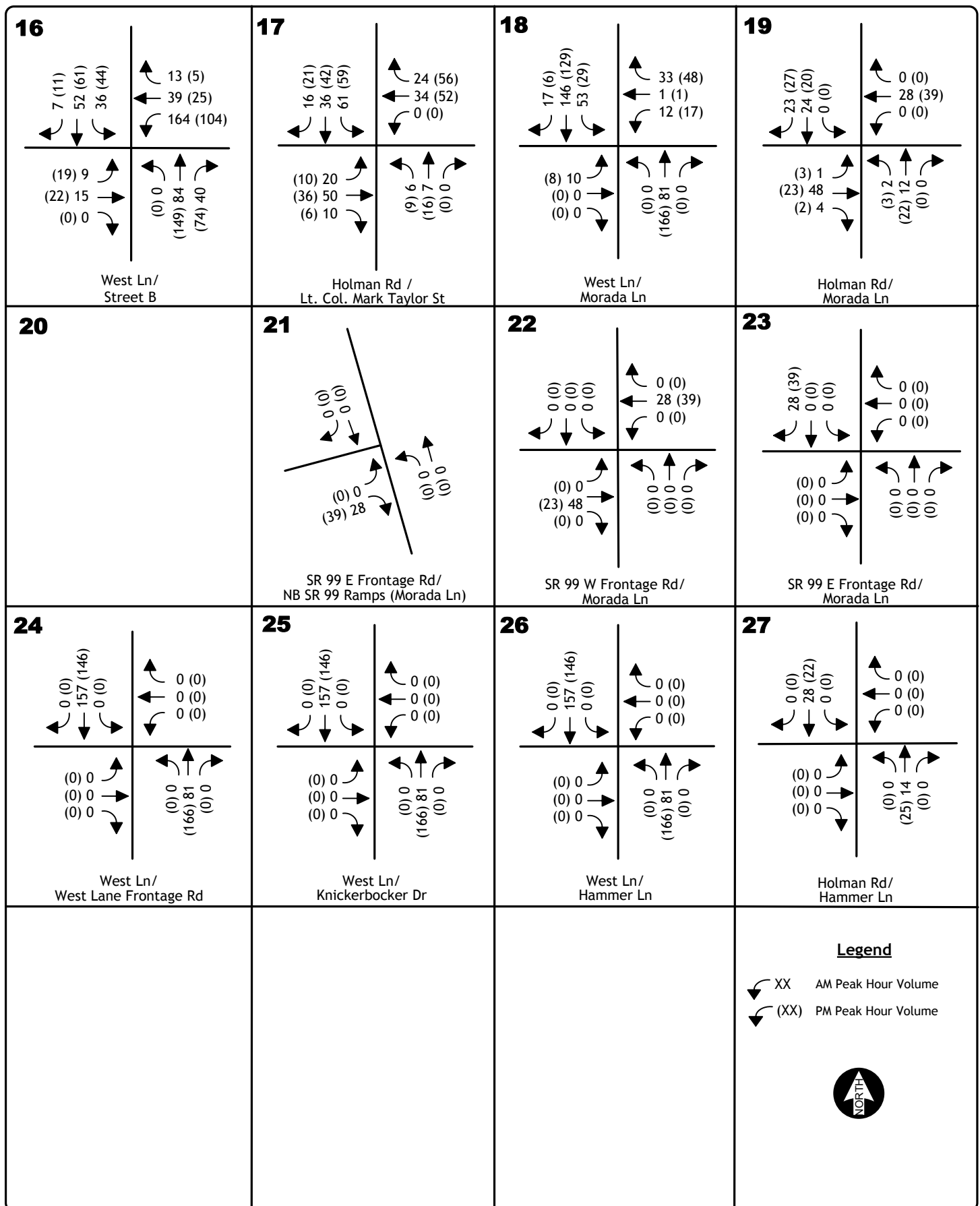


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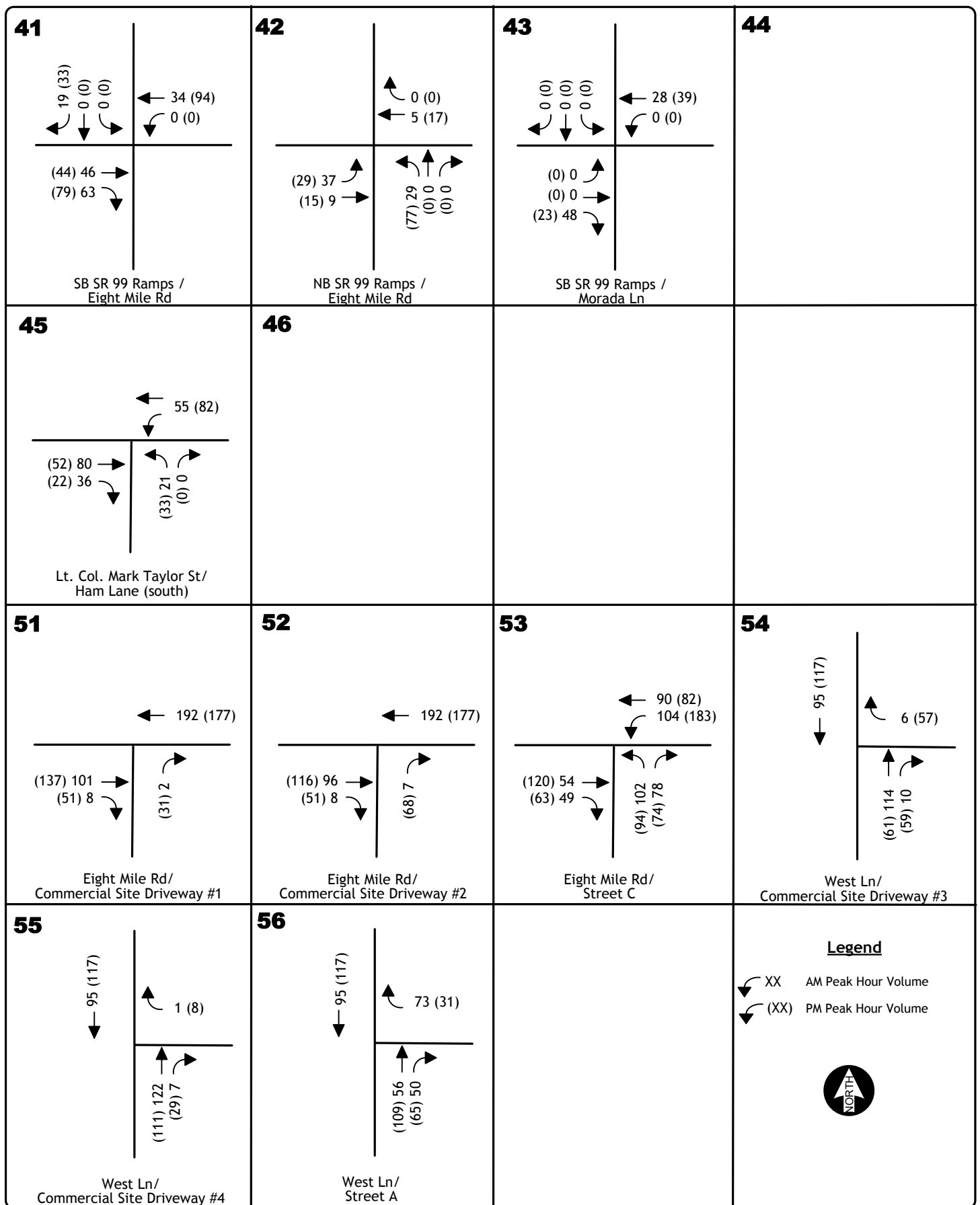
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PROJECT RELATED TRIPS
(CUMULATIVE BACKGROUND)**

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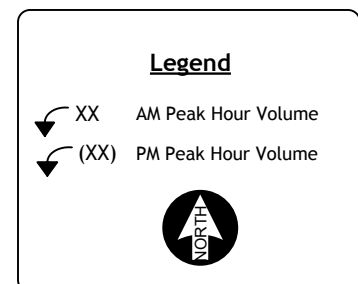
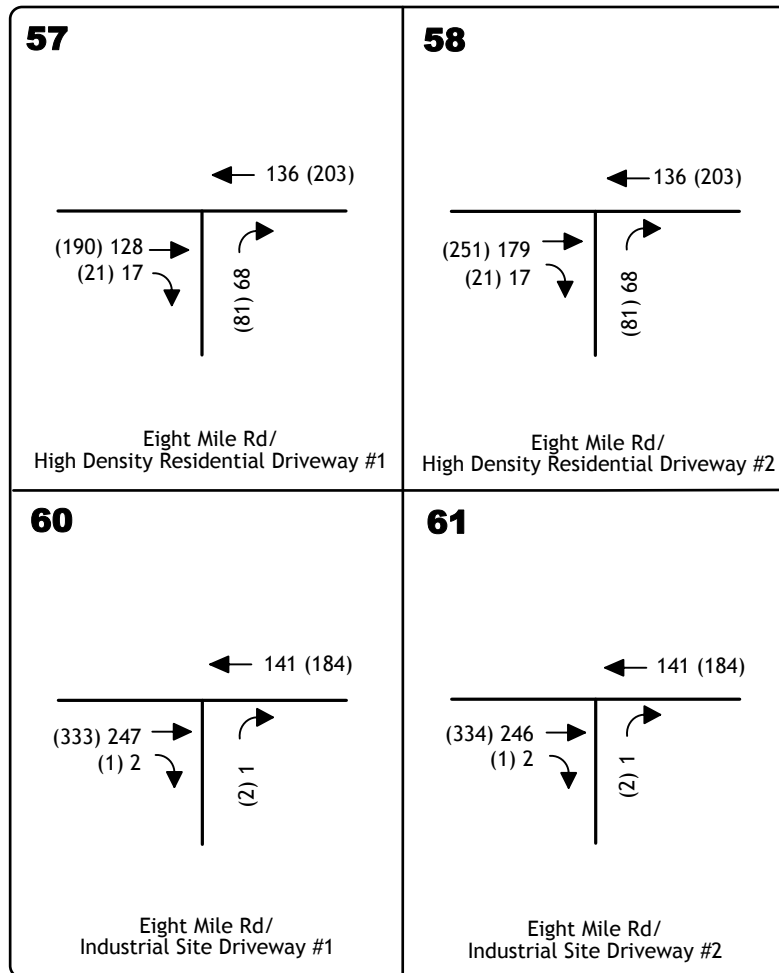
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PROJECT RELATED TRIPS
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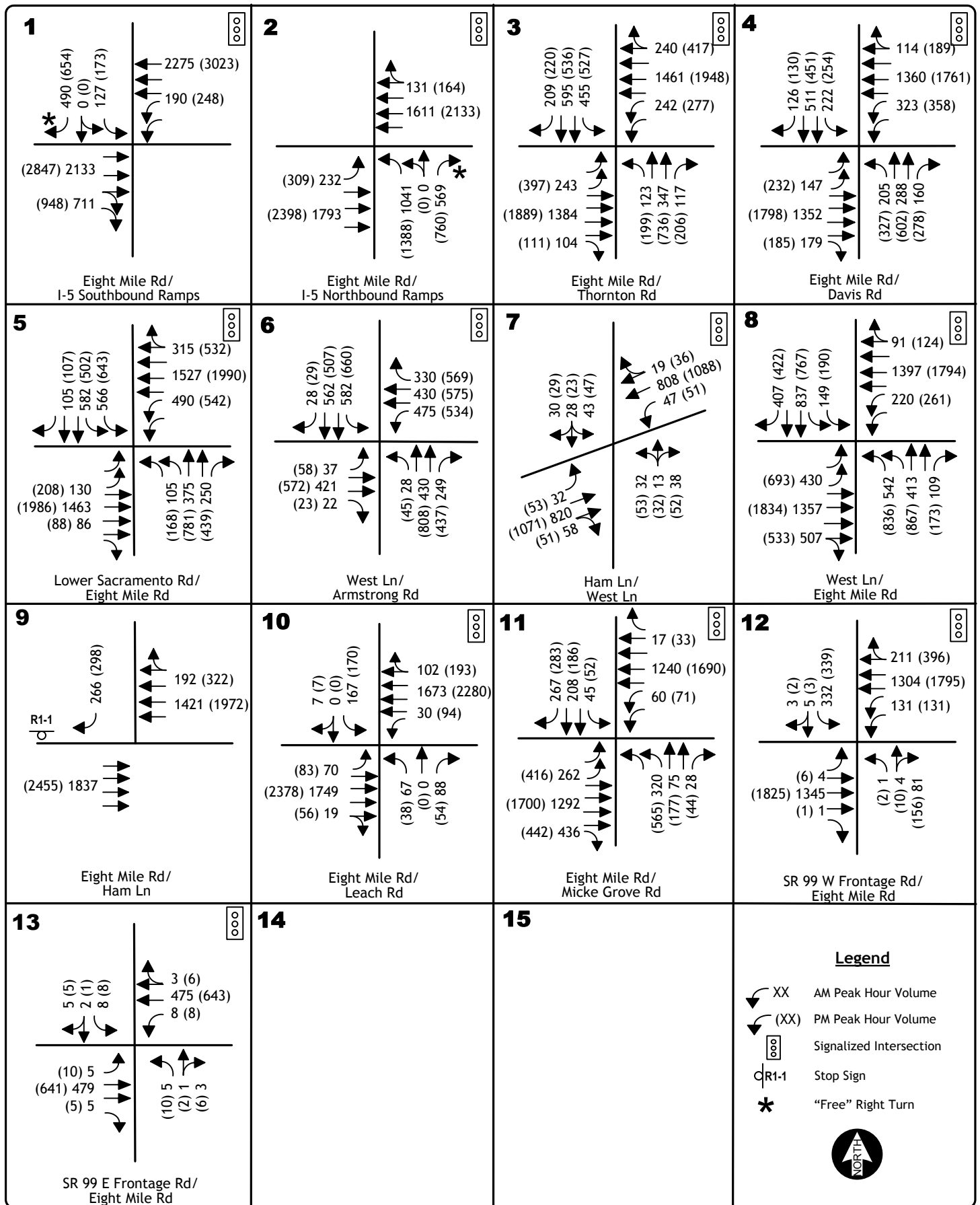


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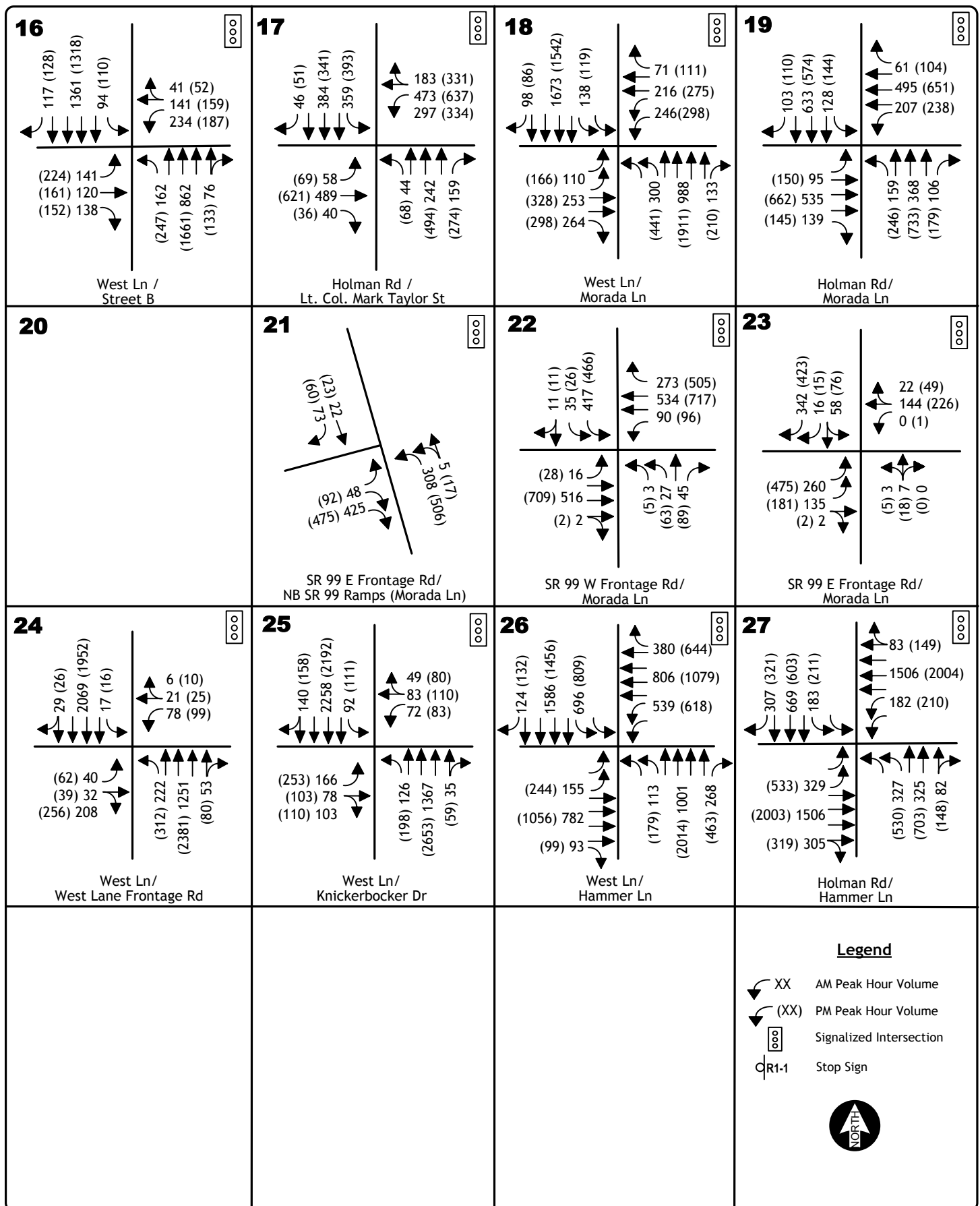
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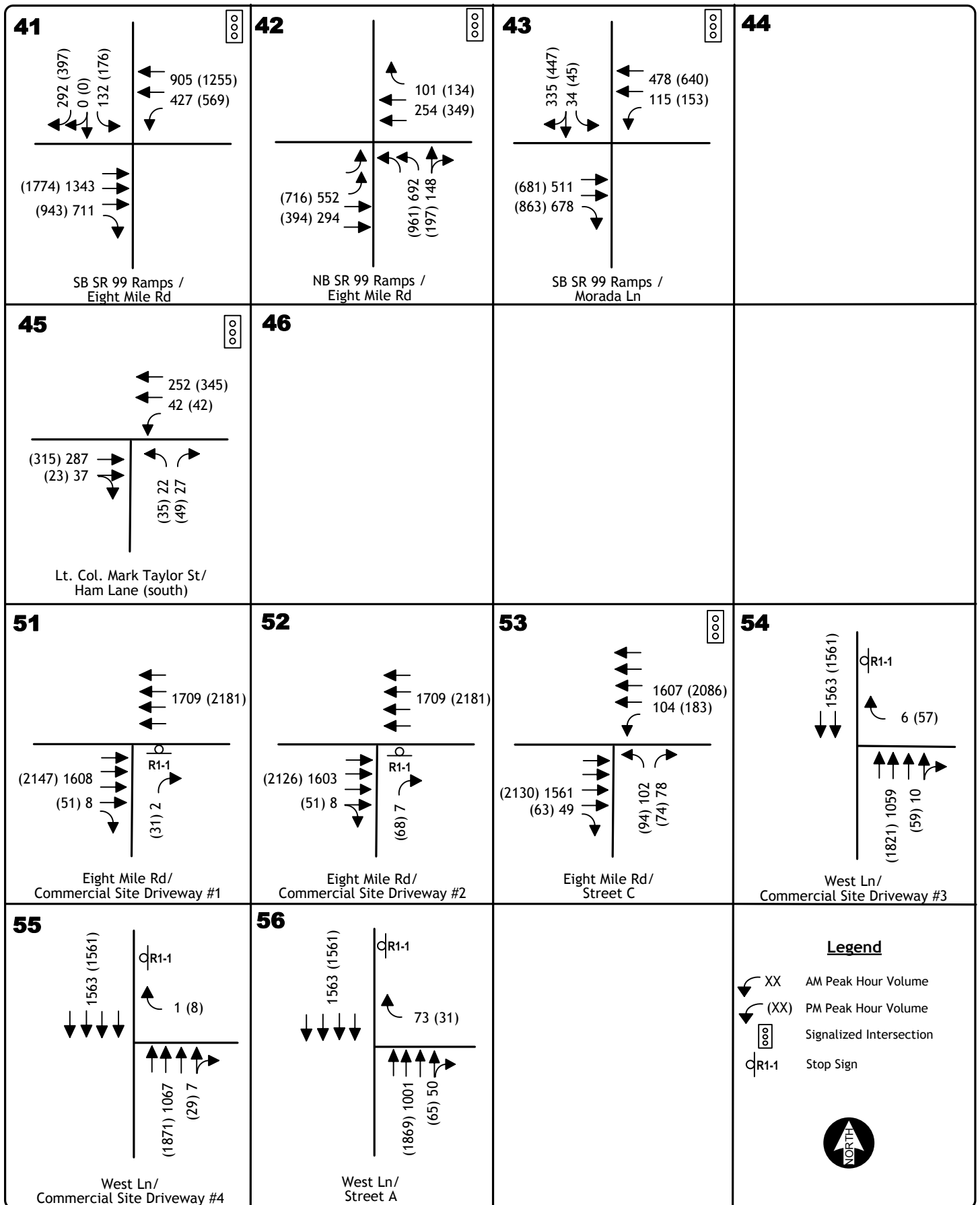
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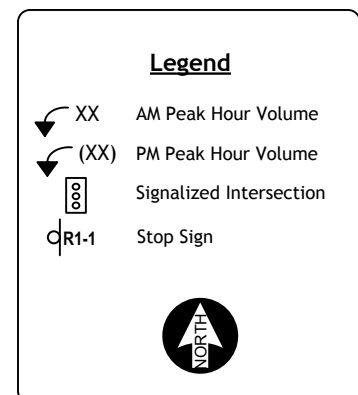
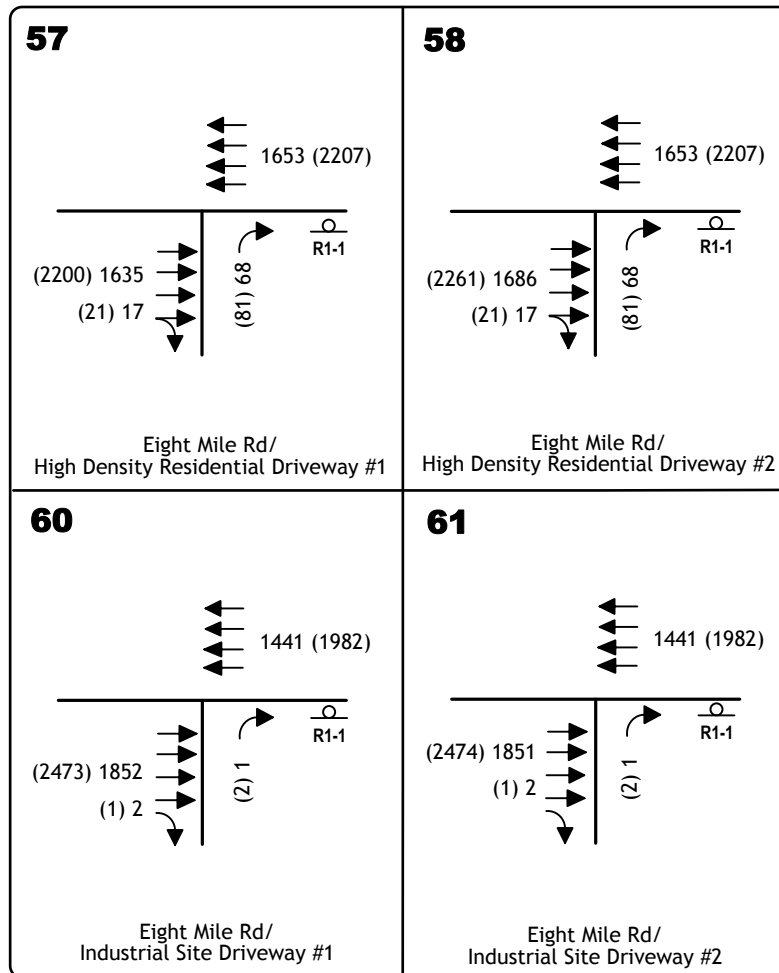
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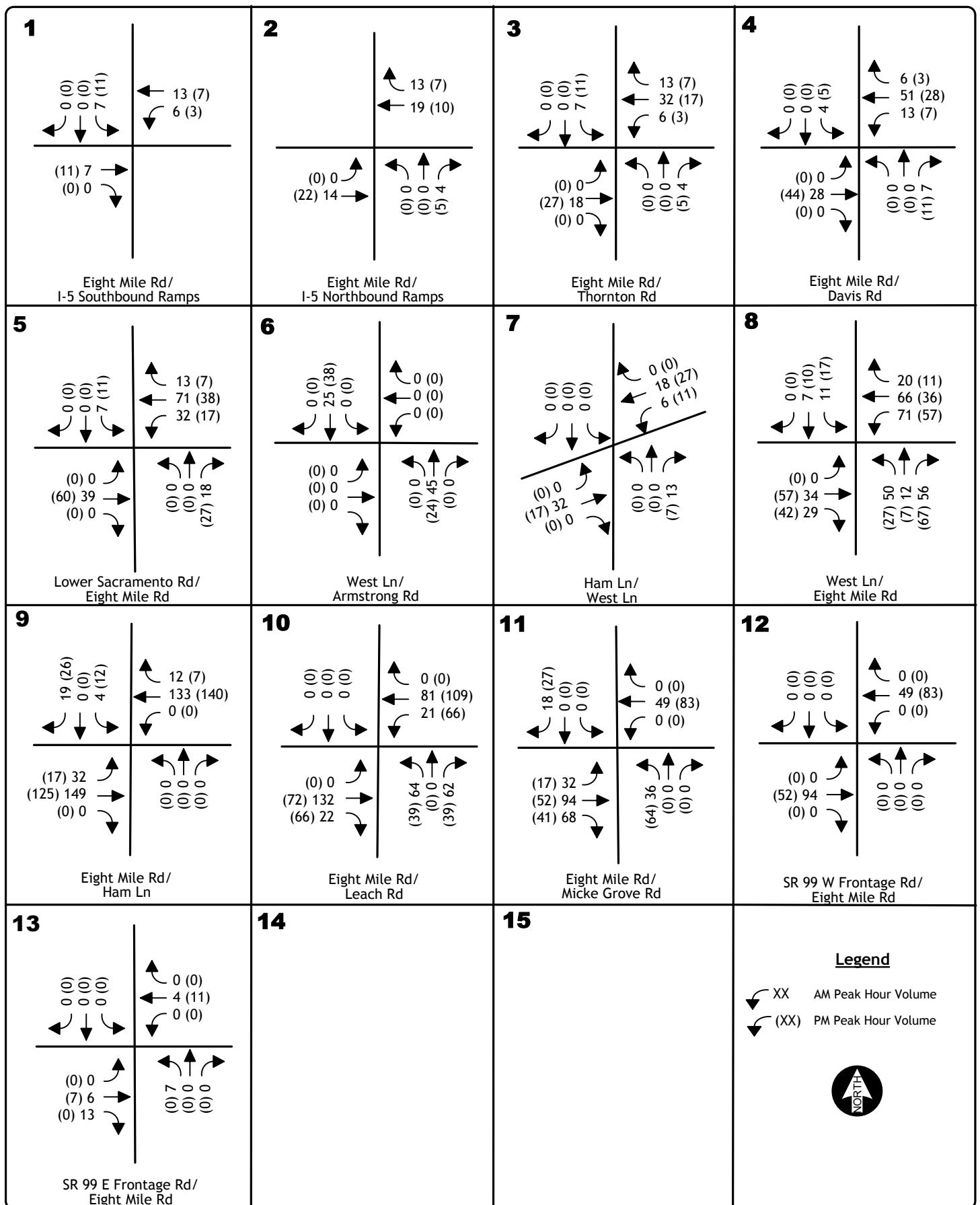
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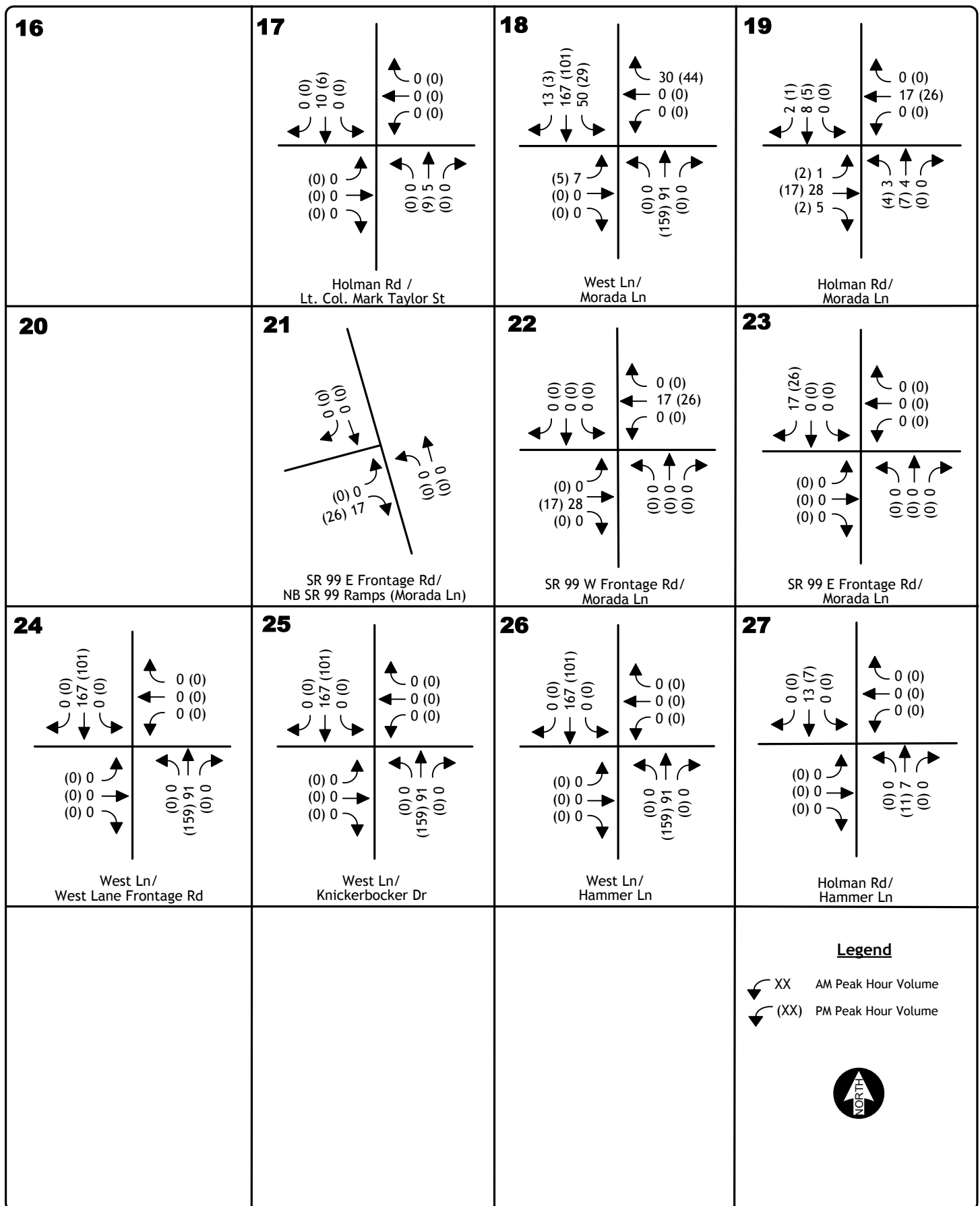
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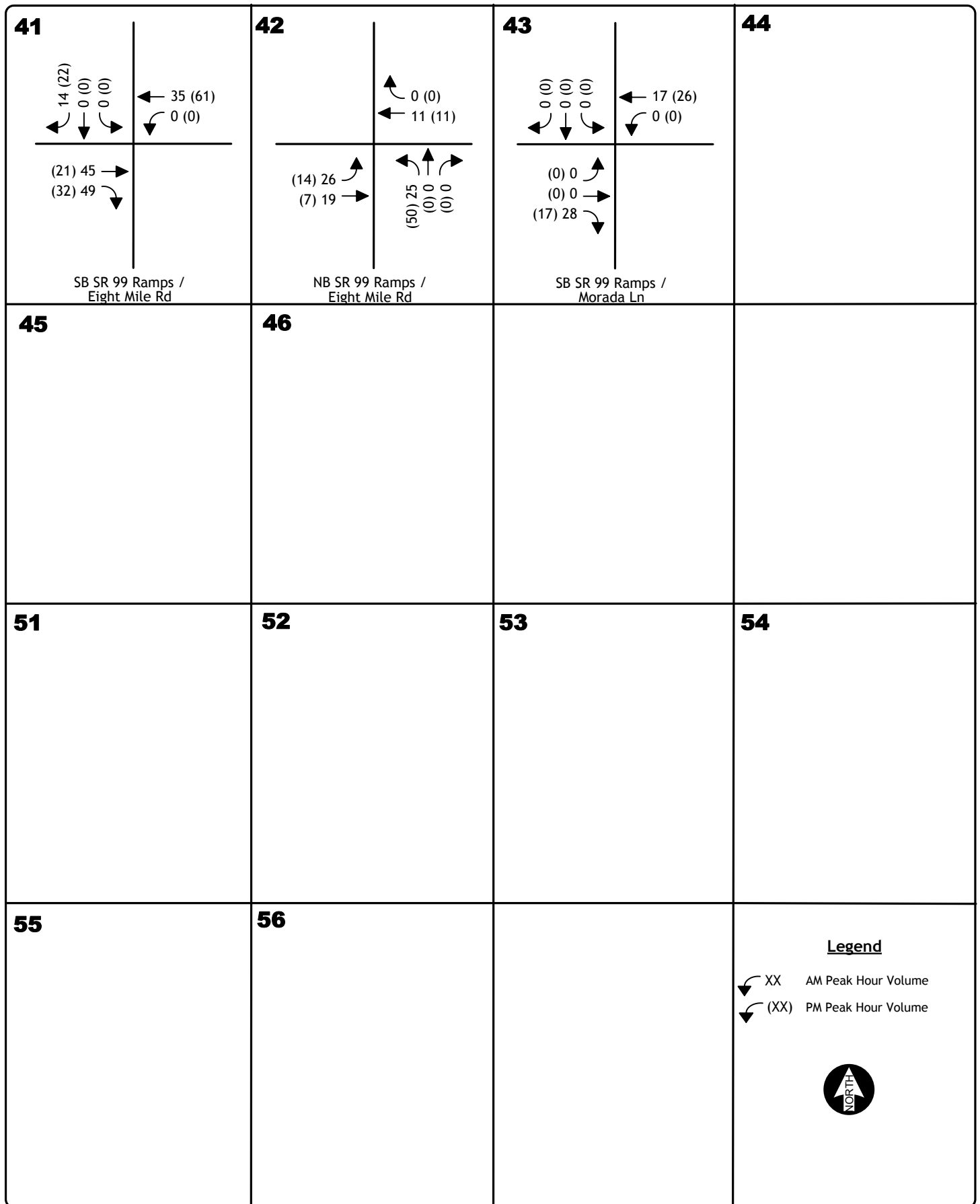
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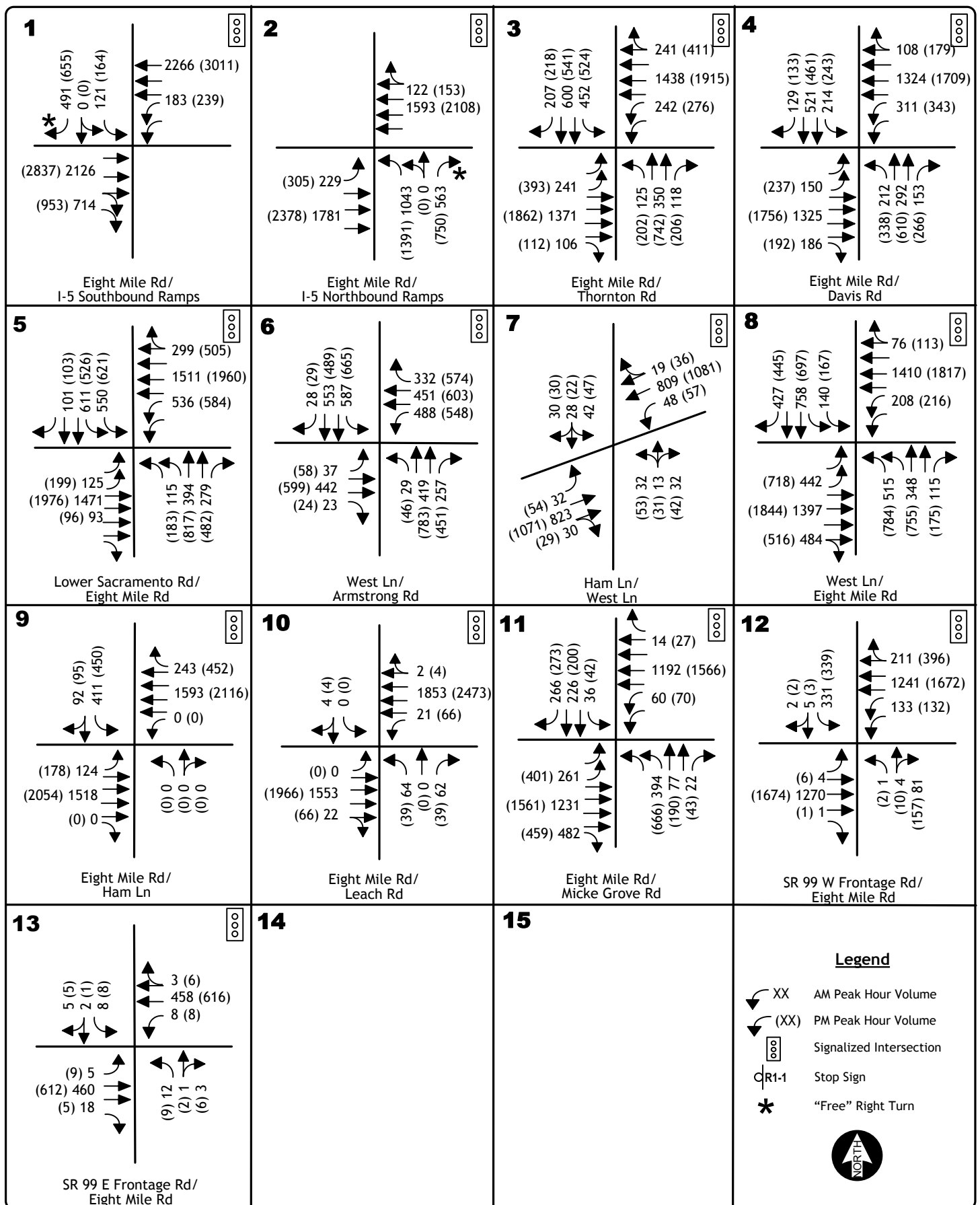
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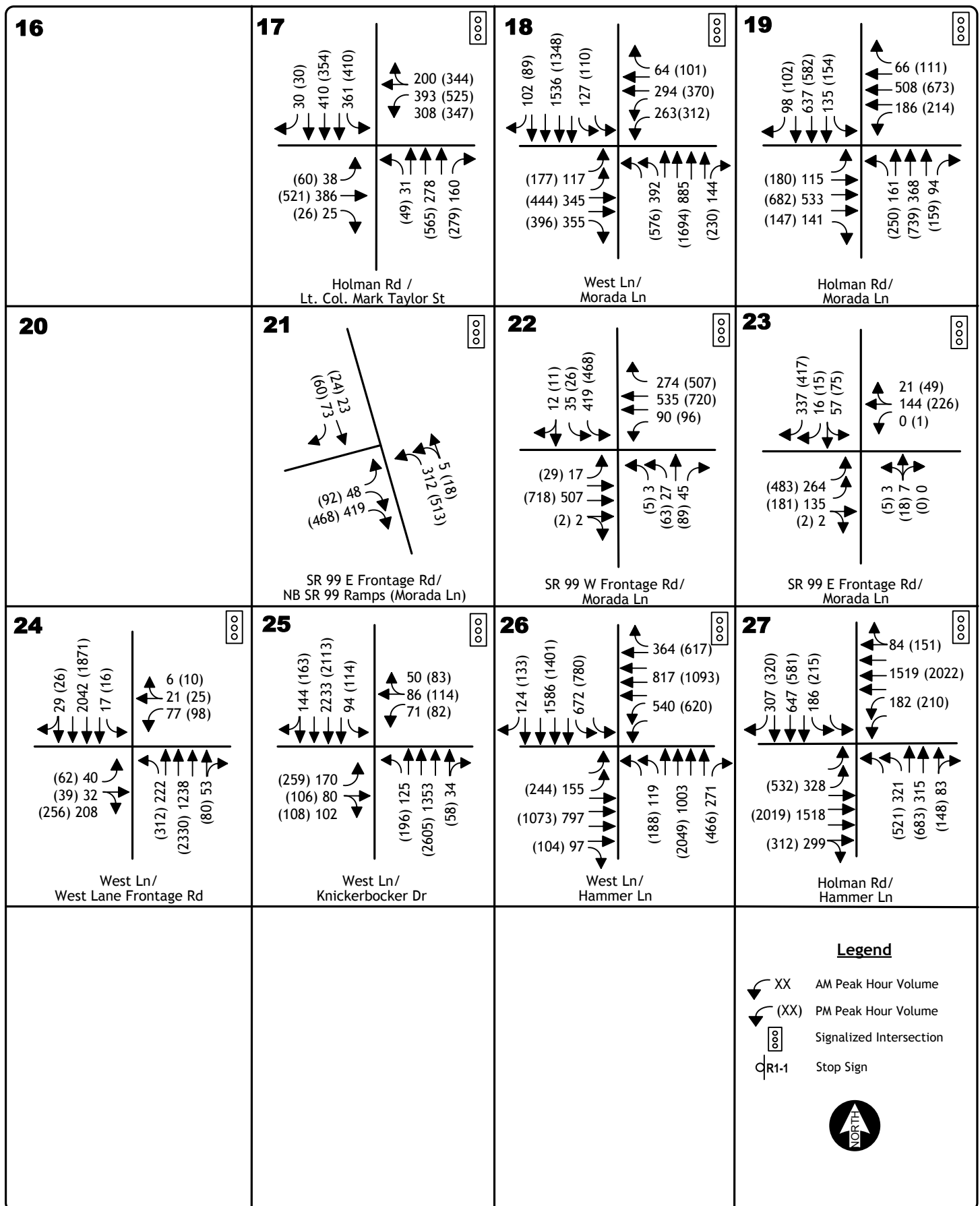


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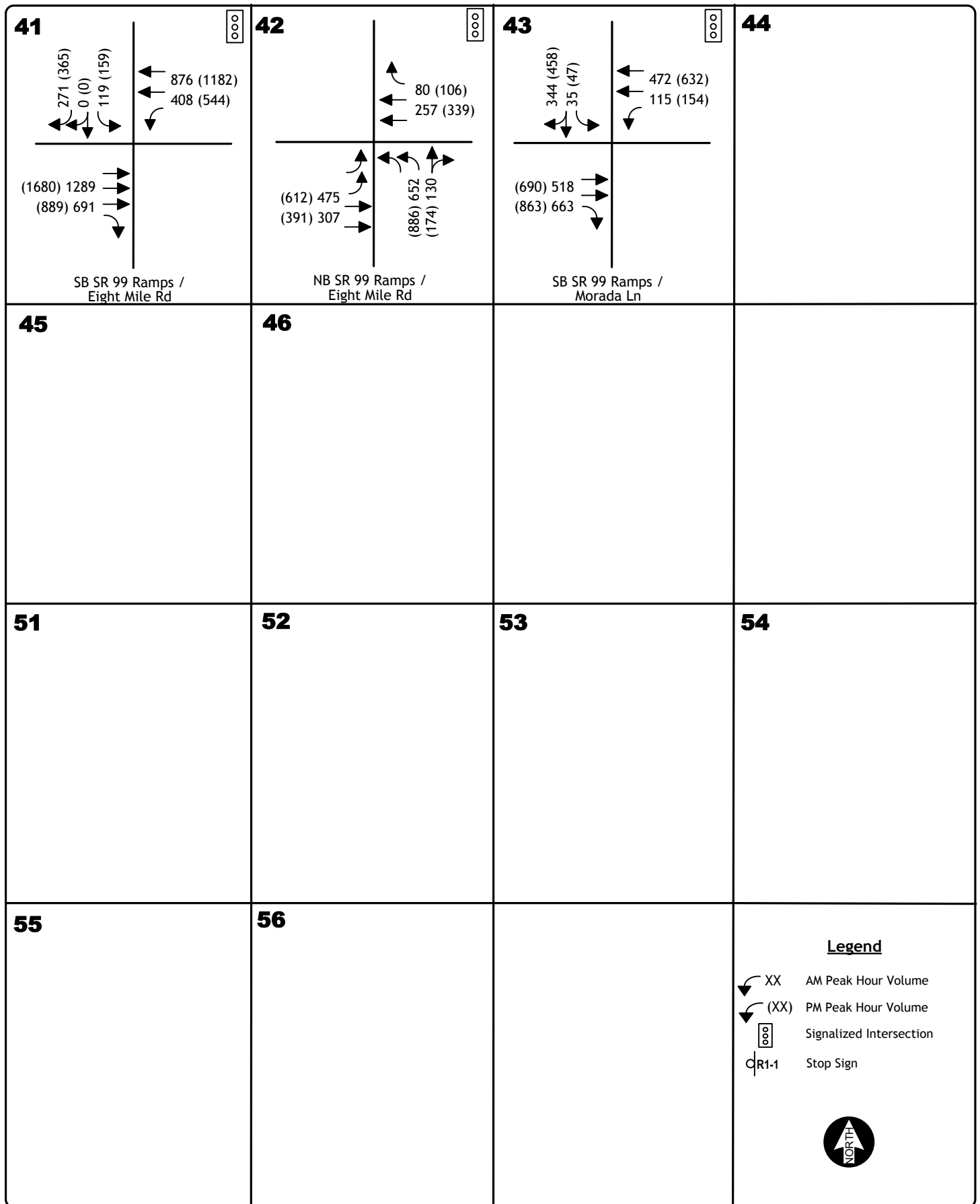
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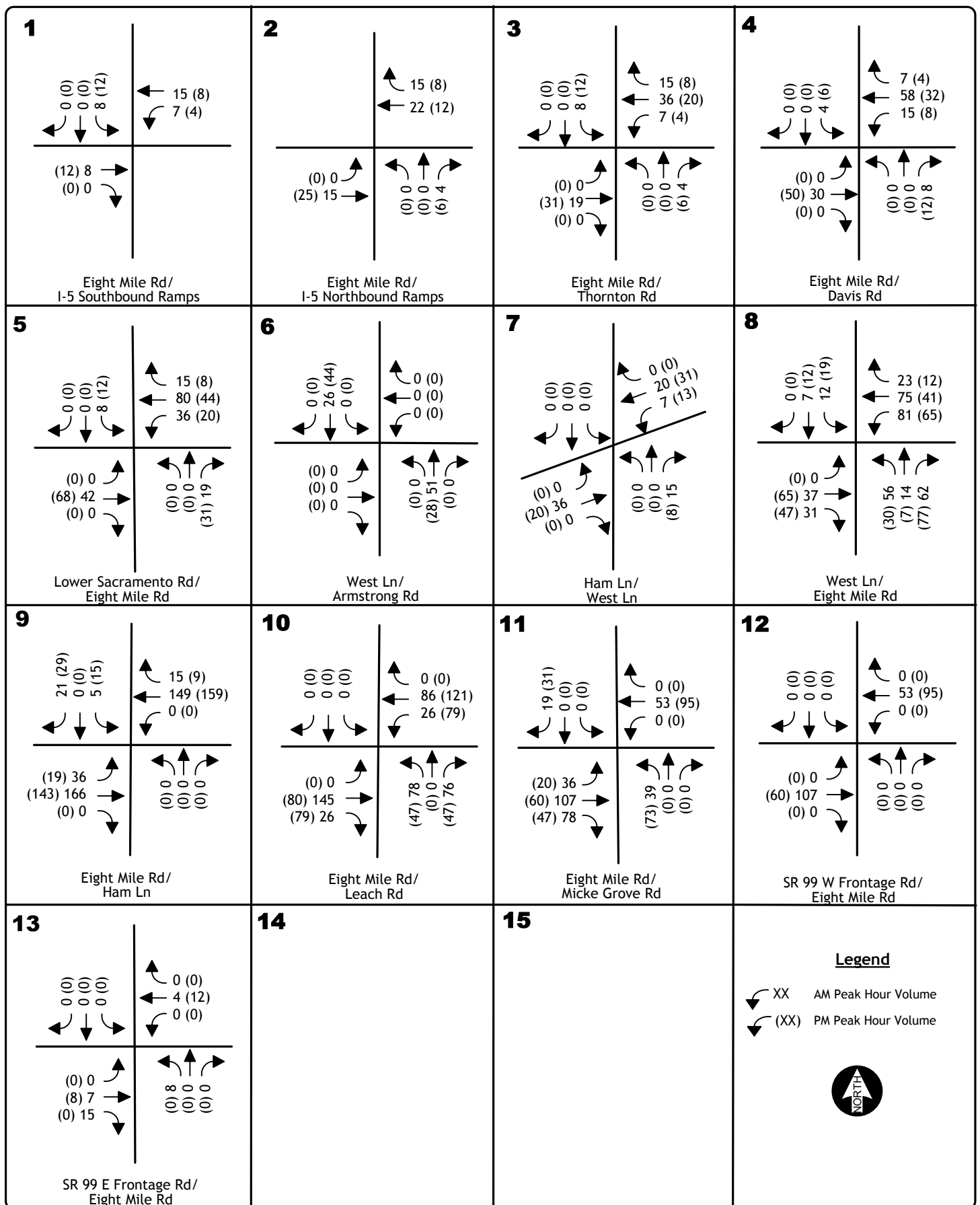
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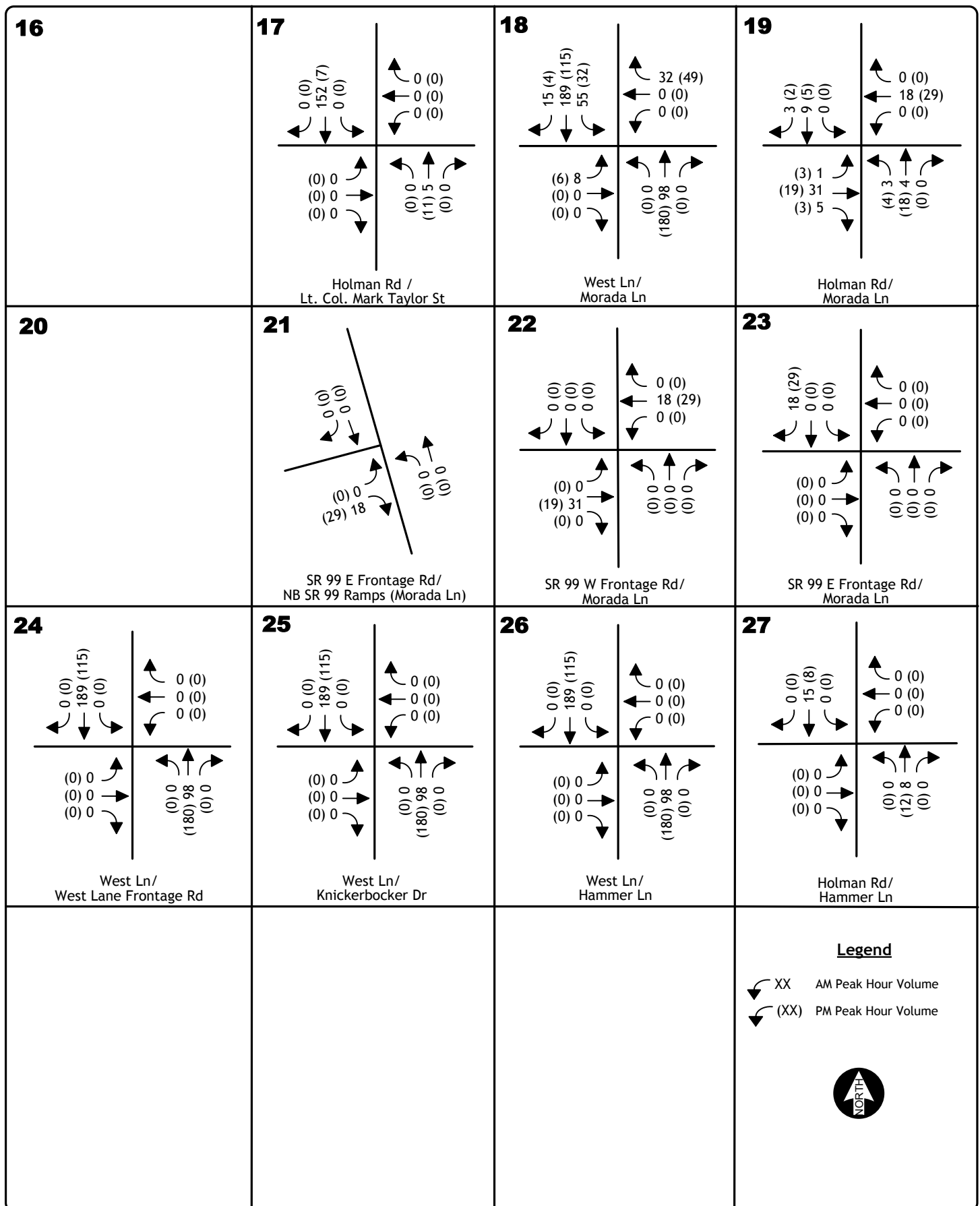


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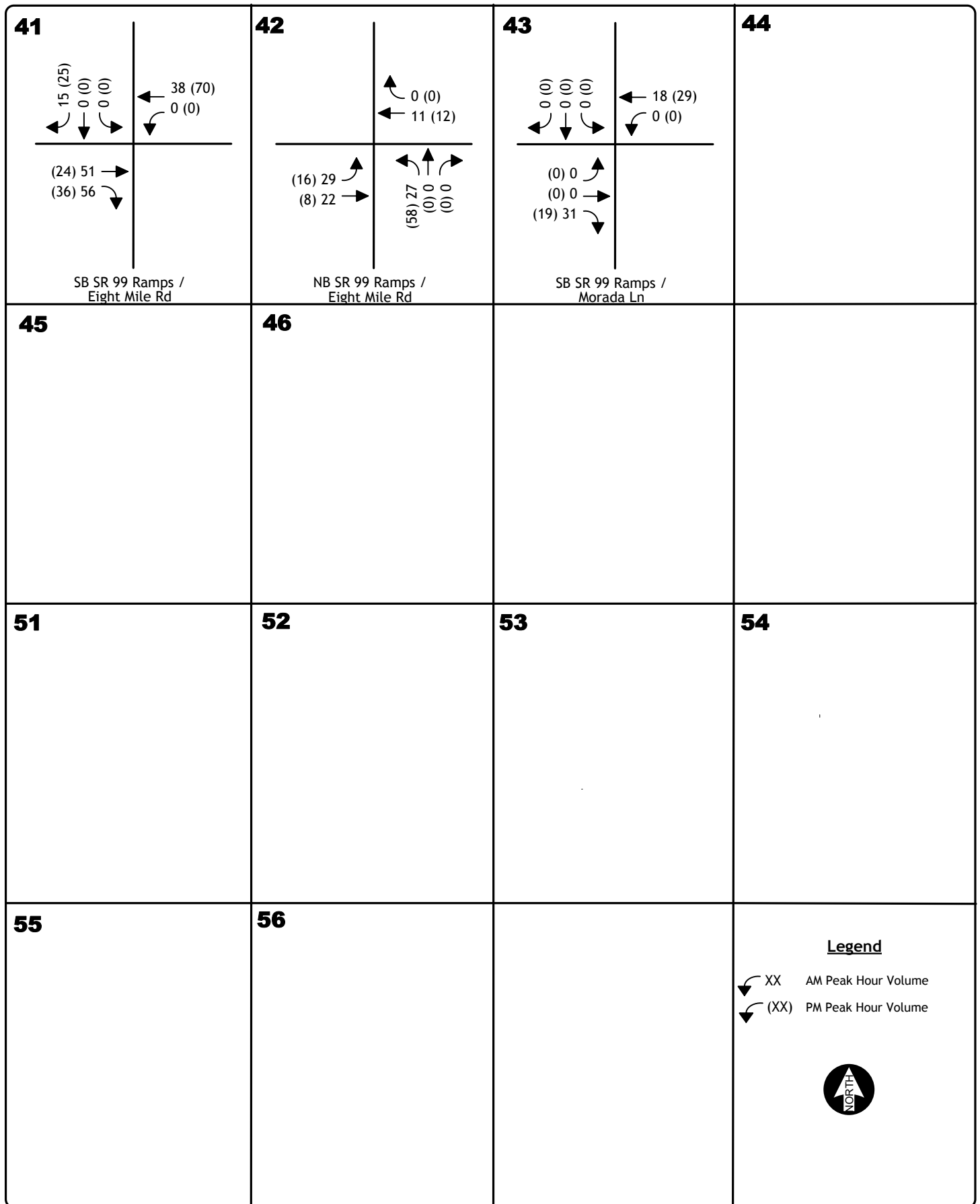
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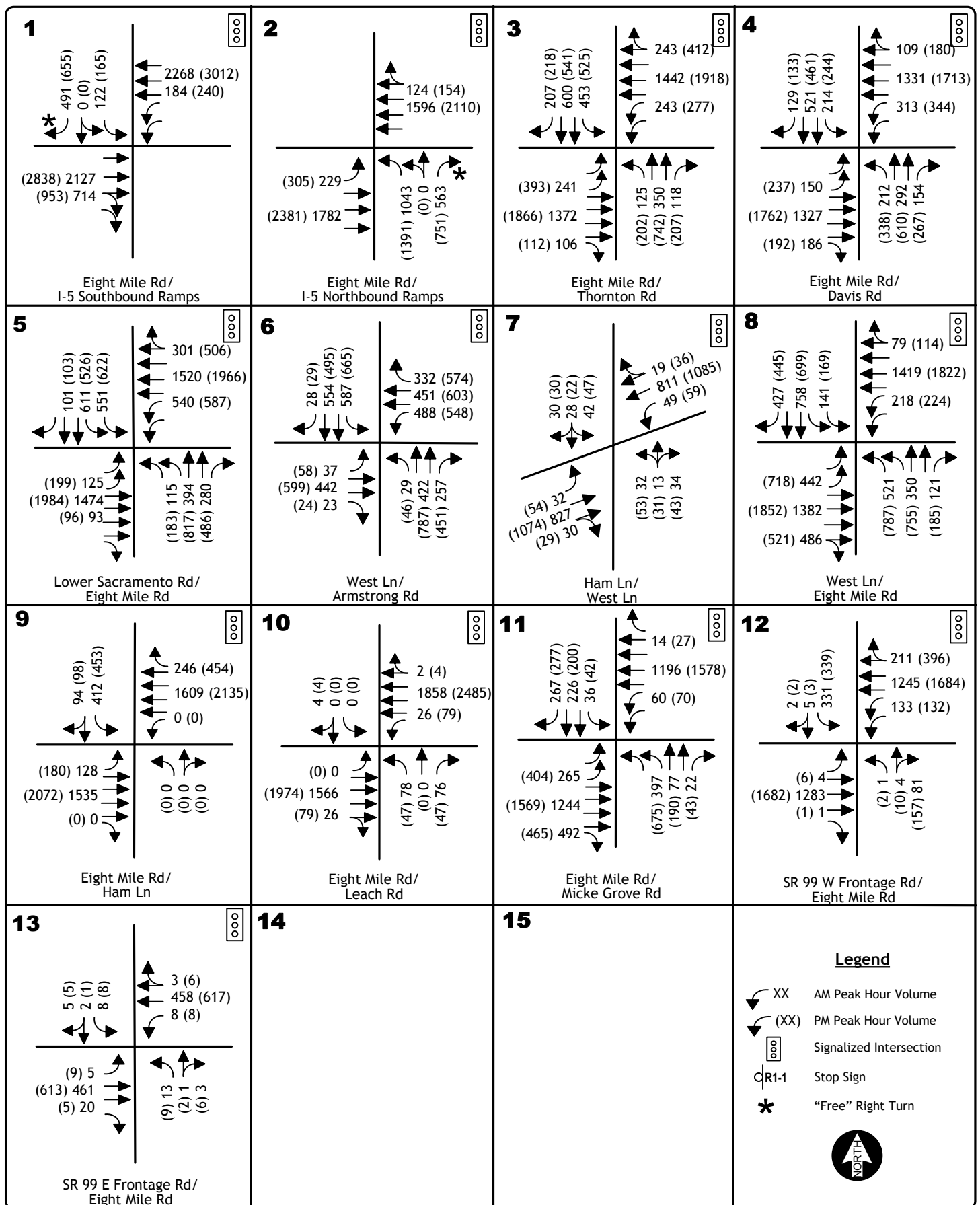
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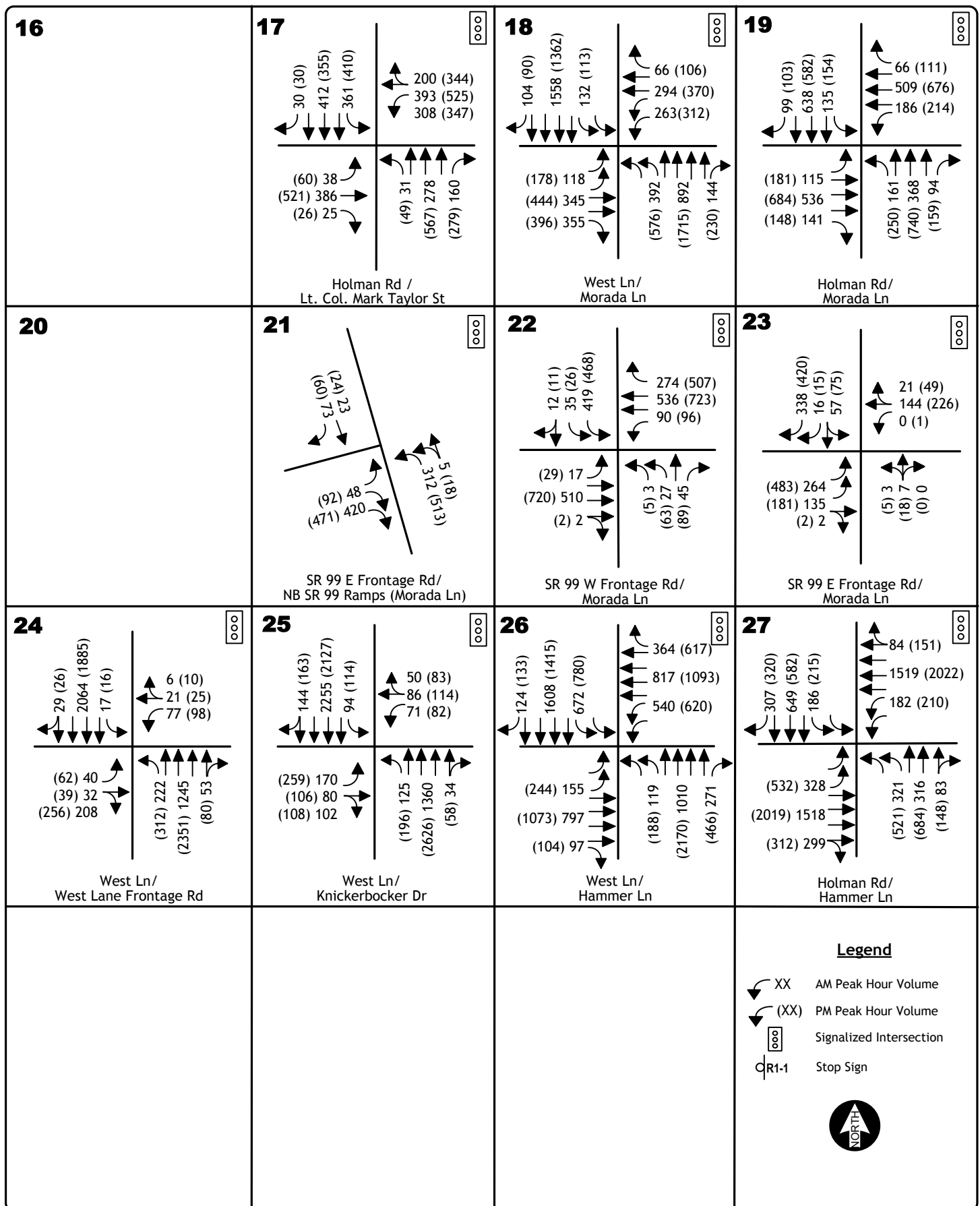
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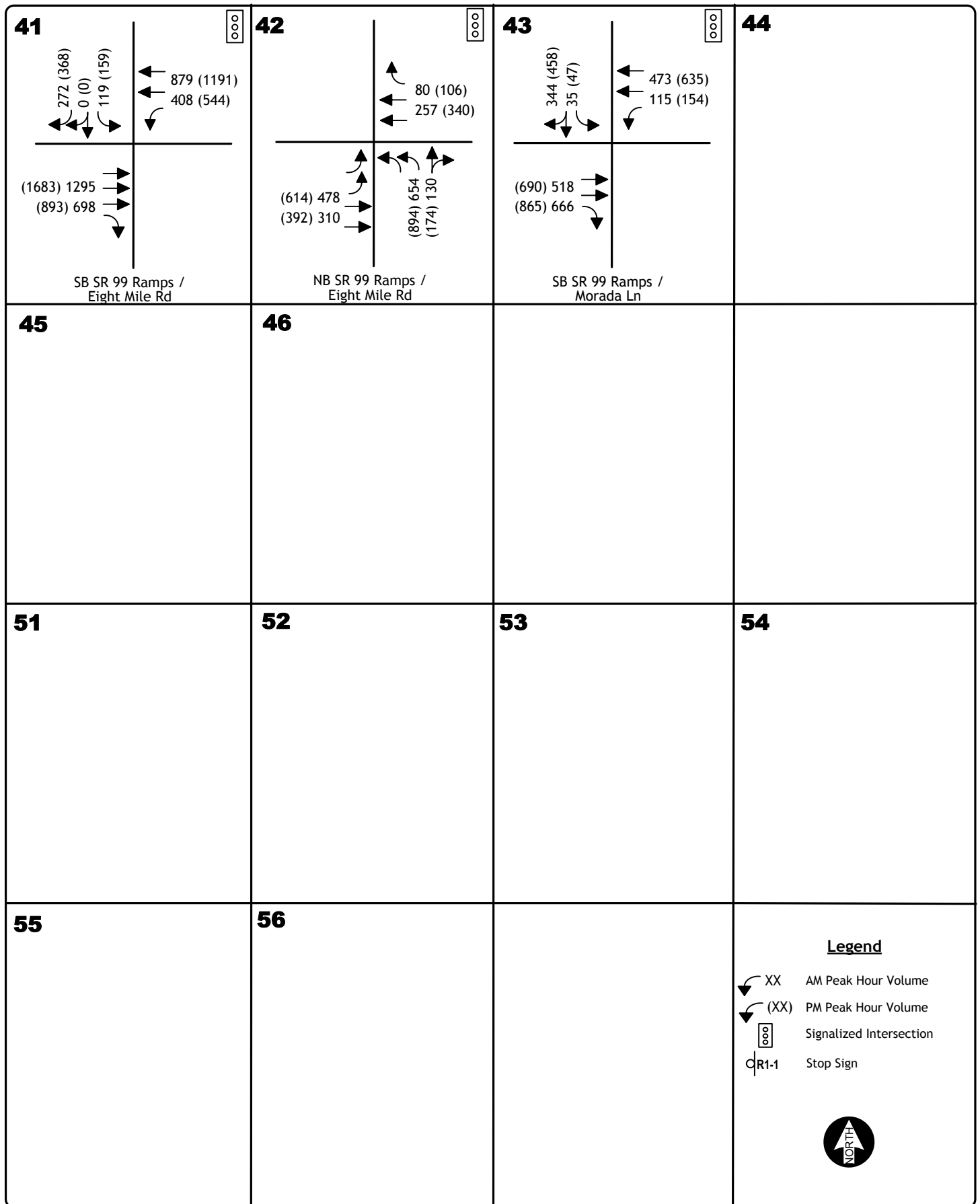
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CUMULATIVE PLUS
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This section describes the regulatory setting, impacts associated with wastewater services, water services, storm drainage, and solid waste disposal that are likely to result from Project implementation, and measures to reduce potential impacts to wastewater, water supplies, storm drainage, and solid waste facilities. This section is based in part on the following documents, reports and studies: *California's Groundwater*, *CalRecycle Solid Waste Information System*, *CalRecycle Jurisdiction Diversion/Disposal Rate Summary*, *City of Stockton 2008 Municipal Service Review* (City of Stockton, 2008), *2010 City of Stockton Urban Water Management Plan* (City of Stockton, 2011), *Water Master Plan* (Stockton, 2008), *City of Stockton Conceptual Storm Drain Master Plan* (City of Stockton, 2008), *City of Stockton NPDES Municipal Stormwater Program Stormwater Management Plan* (2009), *2035 Wastewater Master Plan* (City of Stockton, 2008), and the *Water Supply Assessment for the Tra Vigne (formerly Bear Creek East) Development Project* (Municipal Utilities Department, 2016). There were no comments received during the NOP scoping process related to this environmental topic.

3.14.1 WASTEWATER SERVICES

EXISTING SETTING

Wastewater service is provided by the City of Stockton via their network of collection infrastructure and the Stockton Regional Wastewater Control Facility (RWCF), which is located on Navy Drive in southwest Stockton. The RWCF provides secondary and tertiary treatment of municipal wastewater from throughout the City. The remainder of the City is served by on-site septic systems, or lie outside the urban service area. As of 2008, dry weather flows at the RWCF are estimated to be approximately 35 million gallons per day (mgd), or approximately 80 percent of the current dry weather capacity of the facility. Recent improvements to the RWCF increased the average dry weather flow capacity of the RWCF to 48 mgd.

Wastewater Conveyance

Municipal wastewater treatment and collection services in the Stockton city limits are provided by the City of Stockton Municipal Utilities Department (COSMUD). The existing City of Stockton wastewater collection system is divided into 10 designated sub-areas or "systems." Systems 1 through 7 have been in existence for at least 15 years, and encompass the majority of the City. System 8 was intended to serve southern areas of the City, and has been partially developed; however the majority of the area remains undeveloped. System 9 is intended to serve currently undeveloped areas at the eastern edge of the City along Highway 99; the backbone trunk sewer and pump stations for System 9 were completed in 2007. System 10 is intended to serve northern areas of the City, and has been partially constructed; however, the majority of the area remains undeveloped. Available capacity is greatest in the northern and southern areas of the City, which largely correspond to System 10 and System 8, respectively.

The collection system in the city is comprised of gravity flow pipes sized between 6 and 36 inches. In places where topography is relatively flat or adverse for the use of gravity sewers, force mains ranging in size from 6 to 24 inches.

GRAVITY SEWERS

Current City standards call for all gravity sewers to be designed for full-pipe gravity flow. Surcharging results in sewers that do not meet this criterion under a given flow condition. For planning purposes, the available capacity is zero in gravity sewers with a predicted peak flow equal to or greater than the full-pipe gravity flow capacity. The following standards are used in the design of gravity sewers. Pipes must be sloped to produce a minimum of 2 feet per second at peak flow. Flatter slopes (as low as 0.0006 ft/ft) have been allowed for some designs in Stockton to accommodate project-specific constraints. It can be difficult to maintain the desired grade during construction of pipelines at slopes less than 0.001 ft/ft. Initial flows during the early years will be lower than the design flows, causing velocities to be lower. During design, steeper slopes should be considered where feasible. Additional maintenance or other measures may be required to control odors in sewers with initially low velocities.

FORCE MAINS

Force mains convey flow from pump stations to a downstream gravity sewer. There are approximately 158,000 lineal feet of force mains in the model, representing all city-owned force mains of significant length as well as some private pumping and force main systems. City design standards recommend that force main velocities should be limited to “around 7 feet per second (fps)” for lengths up to 300 ft, and “around 5 fps” for lengths in excess of 1,000 ft.

EXISTING PUMP STATIONS

Wastewater pumping stations are located throughout the City and are integral to the wastewater collection system. Most of the pump stations discharge to pressure sewers (force mains) that convey flow under pressure either directly to the RWCF or to a downstream gravity sewer.

WASTEWATER COLLECTION SYSTEM AT PROJECT SITE

The Project site is located within the City’s Wastewater Collection System 10. The wastewater trunk line serving the System 10 area was constructed in conjunction with the North Stockton Pipelines project. Wastewater mains have been extended north from the trunk sewer in conjunction with development of the La Morada and Villa Antinori projects located east of the UPRR, including an 18-inch line along the Holman Road alignment; this line is expected to be extended north through the Cannery Park project to near Eight Mile Road in conjunction with the development of Cannery Park project.

Wastewater Treatment

Wastewater from the City is currently treated at the City of Stockton RWCF. The City owns and operates the RWCF. The City's *2035 Wastewater Master Plan* (Stockton, 2008), *City of Stockton 2008 Municipal Service Review* (Stockton, 2008), *City of Stockton Sewer System Management Plan (SSMP) (2011-2015)*, and *CRWQCB Central Valley Waste Discharge Requirements for the City of Stockton Regional Wastewater Control Facility* are the primary documents that outline the City’s long term strategy for meeting future discharge and capacity requirements for a planning horizon

that extends to build-out of the General Plan. The RWCF effluent is currently regulated by CVRWQCB Order No. R5-2008-0154, NPDES CA0079138. Currently, the Facility is designed to provide a discharge of up to 55 million gallons per day of tertiary treated wastewater to the San Joaquin River, within the Sacramento-San Joaquin Delta¹. The Facility consists of tertiary level wastewater treatment. After primary and secondary treatment, the wastewater undergoes tertiary treatment in facultative lagoons, constructed wetlands, two nitrifying biotowers, dissolved air flotation, mixed-media filters, and is disinfected using chlorination/dechlorination facilities. It should be noted that an amendment to the Facility's waste discharge requirements was provided in 2014, under Order R5-2008-0154. Under this order, effluent limitations for electrical conductivity are removed.

WASTEWATER QUALITY

The RWCF provides primary treatment consisting of screening, grit removal, and primary sedimentation, and secondary treatment consisting of high rate trickling filters and secondary clarifiers. The secondary treated effluent is piped under the San Joaquin River to the tertiary level treatment facility, which consists of facultative ponds, engineered wetlands, two nitrifying biotowers, dissolved air flotation, mixed-media filters, and chlorination/dechlorination facilities. Several of the ponds are operated in a stand-by mode of operation as necessary, to achieve improved effluent quality by decreasing solids loading on the downstream treatment process, and by maintaining stable ammonia loading to the nitrifying biotowers.

Sludge is removed from the primary and secondary sedimentation processes to gravity thickeners for preliminary water removal, and then pumped to anaerobic digesters. After digestion, the treated sludge is pumped to a lagoon where anaerobic digestion continues. A dredge is used to pump the concentrated material from the bottom of the lagoon to a belt filter press and dewatered biosolids are removed by a private contractor for off-site agricultural reuse. Wastewater is discharged from Discharge Point No. 001 to the San Joaquin River, within the Sacramento-San Joaquin Delta.

The RWCF discharges directly into the southern portion and just upstream of the Stockton Deep Water Ship Channel (DWSC). There are two Water Quality Limited Segments (WQLSs) in this Channel, which are 303(d)-listed for: chlorpyrifos, DDT, Diazinon, Dioxin, EC, exotic species, furan compounds, group A pesticides, mercury, pathogens, PCBs, and unknown toxicity. Effluent limitations for EC, mercury, pathogens, and toxicity are included in the CVRWQCB Order No. R5-2008-0154, NPDES CA0079138.

The Waste Discharge Requirements, under Order No. R5-2008-0154, NPDES CA0079138, specify that effluent from the RWCF shall not exceed the quantities presented in Table 3.14-1 (Effluent Limitations).

¹ See: http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/san_joaquin/r5-2014-0054_res.pdf

TABLE 3.14-1: EFFLUENT LIMITATIONS

CONSTITUENT	UNITS	30 DAY AVERAGE
Aluminum, Total Recoverable	µg/L	311
Ammonia, Total (as N)	mg/L	2
Bis(2-ethylhexyl)phthalate	µg/L	1.8
Chlorodibromomethane	µg/L	5.0
Total Coliform Organisms	MPN/100ml	-
Cyanide, Total Recoverable	µg/L	4.1
Dichlorobromomethane	µg/L	6.8
Manganese, Total Recoverable	µg/L	-
Molybdenum, Total Recoverable	µg/L	-
Nitrate plus Nitrite (as N)	Mg/L	40
pH	s.u.	--
Total Suspended Solids (TSS)	mg/L	10
5-Day CBOD @ 20 degree C	mg/L	10

SOURCE: 2035 WASTEWATER MASTER PLAN, PG 7-2.

Future Demand

Projected wastewater flows and loads to the RWCF at build-out conditions are provided by the Wastewater Master Plan. Domestic/commercial flow projections for average day dry weather conditions based upon a projected buildout population of 580,717 persons and a per capita flow contribution of 112.0 gallons per capita per day. Domestic/commercial BOD and TSS contributions at average conditions were based upon per capita contributions of 0.31 and 0.30 pounds per capita per day, respectively. Average ammonia loads are based upon the current observed influent concentration of 25 mg/l. Peak flows and loads in Table 3.14-2 are based upon the use of existing observed peaking factors applied to the projected average daily loading conditions.

TABLE 3.14-2: PROJECTED WASTEWATER FLOWS AND LOADS GENERATED IN THE MASTER PLAN SERVICE AREA AT BUILDOUT CONDITIONS

PARAMETER	UNITS	AVERAGE DRY WEATHER FLOW	AVERAGE DAY MAX PER MONTH	PEAK DAY MAX PER MONTH	PEAK HOUR WET WEATHER
Flow	mgd				
Domestic/Commercial		6.5	78	126.8	164.1
Wet Industrial		5.0	7.2	11.5	12.6
Recycle		1	1.1	0.9	2.5
Totals		71.0	86.3	139.2	179.2
BOD	Lbs/day				
Domestic/Commercial		180,000	180,000	180,000	NA
Wet Industrial		24,000	62,000	24,000	NA
Recycle		-	12,000	16,000	NA
Totals		204,000	254,000	220,000	NA
TSS	Lbs/day				
Domestic/Commercial		174,000	174,000	183,000	NA
Wet Industrial		6,200	27,000	7,000	NA
Recycle		0	12,000	17,000	NA
Totals		180,200	213,000	207,000	NA
Ammonia-N	Lbs/day				
Domestic/Commercial		13,600	16,300	27,400	NA
Wet Industrial		1000	1200	2,000	NA
Recycle		200	200	300	NA
Totals		14,800	17,700	29,700	NA

SOURCE: 2035 WASTEWATER MASTER PLAN, PG 7-2.

Planned Infrastructure Upgrades

To account for the additional wastewater flows in the project area after the construction of the proposed Project, additions to the existing wastewater infrastructure will be needed. The sanitary sewer collection will be by an underground collection system installed as per the City of Stockton standards and specifications. Sanitary sewer disposal will flow to the City's RWCF for treatment. Improvements include connection to existing sanitary sewer lines located along Eight Mile Road and Beer Creek.

REGULATORY SETTING - WASTEWATER

Clean Water Act (CWA) / National Pollutant Discharge Elimination System (NPDES) Permits

The CWA is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The CWA regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. Section 402 of the Act creates the NPDES regulatory program which makes it illegal to discharge pollutants from a point source to the waters of the United States without a permit. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes EPA, a tribe, or a territory). NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

Permit requirements for treatment are expressed as end-of-pipe conditions. This set of numbers reflects levels of three key parameters: (1) biochemical oxygen demand (BOD), (2) total suspended solids (TSS), and (3) pH acid/base balance. These levels can be achieved by well-operated sewage plants employing "secondary" treatment. Primary treatment involves screening and settling, while secondary treatment uses biological treatment in the form of "activated sludge."

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into a city sewer system, so it eventually goes to a sewage treatment plant. Although not regulated under NPDES, "indirect" discharges are covered by another CWA program called pretreatment. "Indirect" dischargers send their wastewater into a city sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering surface water.

The City's current NPDES Permit, which regulates the wastewater effluent quantity and quality upon discharge, was issued by the Central Valley Regional Water Quality Control Board, Central Valley Region, and is Order R5-2008-0154 and Order CA0079138.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State is required to adopt policies, plans, and objectives that will protect the State's waters for the use by and enjoyment of Californians. In California, the State Water Resources Control Board (SWRCB) has the authority and responsibility for establishing policy related to the State's water quality. Regional authority is delegated by the SWRCB to a Regional Water Quality Control Board (RWQCB). The Porter-Cologne Act authorizes the SWRCB and RWQCB to issue NPDES permits.

Under the Central Valley Regional Water Quality Control Board (CVRWQCB) NPDES permit system, all existing and future municipal and industrial discharges to surface water within the city would be subject to regulation. NPDES permits are required for operators of municipal separate storm sewer systems, construction projects, and industrial facilities. These permits contain limits on the amount of pollutants that can be contained in each facility's discharge.

City of Stockton General Plan

The following policies of the Stockton General Plan related to wastewater are applicable to the proposed Project.

Public Facilities & Services Element

WATER SUPPLY AND DELIVERY POLICY

- PFS-2.3: Water Treatment Capacity. The City shall plan, secure funding for, and procure sufficient water treatment capacity and infrastructure to meet projected water demands.

WASTEWATER POLICIES

- PFS-3.1: Sanitary Sewer Service Area. The City shall require that all new urban development is served by an adequate collection system to avoid possible contamination of groundwater from onsite wastewater disposal (septic) systems.
- PFS-3.2: Wastewater Treatment Standards. The City shall continue to take actions necessary to meet water quality discharge standards in the operation of the regional wastewater treatment plant.
- PFS-3.3: Compliance with Federal Standards for Surface Water Protection. The City shall comply with the requirements of the Clean Water Act with the intent of minimizing the discharge of pollutants to surface waters.
- PFS-3.4: Wastewater Facility Sizing. The City shall ensure through the development review process that public facilities and infrastructure are designed and constructed to meet ultimate capacity needs, pursuant to a master plan, to avoid the need for future replacement to achieve upsizing. For facilities subject to incremental upsizing, initial design shall include adequate land area and any other elements not easily expanded in the future.

- PFS-3.5: Wastewater Collection System Rehabilitation. The City shall ensure that when infrastructure rehabilitation projects are undertaken, upsizing of the facility and cost sharing are considered in order to accommodate upstream planned growth in accordance with an approved master plan.
- PFS-3.6: Wastewater Reuse. The City shall continue to discharge treated effluent to the Delta and reuse that water through the City's California Water Code Section 1485 water right.
- PFS-3.7: Security. City shall seek to minimize vulnerability of its wastewater collection and treatment systems to unauthorized tampering.
- PFS-3.8: Timing of Future Development. Prior to approval of any tentative subdivision map for a proposed residential project, the City shall formally consult with the wastewater system provider that would serve the proposed subdivision to make a factual showing or impose conditions in order to ensure an adequate wastewater removal system necessary for the proposed development. Prior to recordation of any final small lot subdivision map, or prior to City approval of any project-specific discretionary approval or entitlement required for nonresidential land uses, the City or the project applicant shall demonstrate, based on substantial evidence, the availability of a long-term, reliable wastewater collection system for the amount of development that would be authorized by the final subdivision map or project-specific discretionary nonresidential approval or entitlement. Such a demonstration shall consist of a written verification that existing treatment capacity is or will be available and that needed physical improvements for treating wastewater from the Project site will be in place prior to occupancy.

City of Stockton Municipal Code

The City of Stockton Municipal Code, Title 13 (Public Services), Chapter 13.12 (Wastewater User Charges and Fees) contain regulations associated with sewer management. Title 13 (Public Services), Chapter 13.12 (Wastewater User Charges and Fees), Section 13.12.190 (Payment of Fees – Responsible Party – Responsibilities of Property Owner) requires developers of property to pay a sewer facility development fee.

Utility Master Plans

The City of Stockton maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: *2010 City of Stockton Urban Water Management Plan* (Stockton, 2011), *2035 Wastewater Master Plan* (Stockton, 2008), *Water Master Plan* (Stockton, 2008), *City of Stockton Conceptual Storm Drain Master Plan* (Stockton, 2008), and the *City of Stockton NPDES Municipal Stormwater Program Stormwater Management Plan* (2009).

THRESHOLDS OF SIGNIFICANCE - WASTEWATER

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with Utilities if it will:

1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
2. Require or result in the construction of new wastewater treatment and/or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
3. Result in a determination by the wastewater treatment and/or collection provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-1: The proposed Project has the potential to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. (Less than Significant)

WASTE DISCHARGE REQUIREMENTS (WDRs) CVRWQCB ORDER NO. R5-2008-0154, NPDES CA0079138.

Proposed Project:

The City of Stockton owns and operates a wastewater collection, treatment, and disposal system, and provides sanitary sewerage service to the City of Stockton. On October 23, 2008, the RWQCB adopted Waste Discharge Requirements (WDRs) Board Order Number R5-2008-0154, NPDES CA0079138, prescribing waste discharge requirements for the City of Stockton RWCF. This is the most recent WDR Board Order.

The RWCF provides secondary and tertiary treatment of municipal wastewater from throughout the City. The remainder of the City is served by on-site septic systems, or lie outside the urban service area. As of 2008, dry weather flows at the RWCF are estimated to be approximately 35 mgd, or approximately 80 percent of the current dry weather capacity of the facility. Recent improvements to the RWCF increased the average dry weather flow capacity of the RWCF to 48 mgd.

As described previously, the RWCF provides primary treatment consisting of screening, grit removal, and primary sedimentation, and secondary treatment consisting of high rate trickling filters and secondary clarifiers. The secondary treated effluent is piped under the San Joaquin River to the tertiary level treatment facility, which consists of facultative ponds, engineered wetlands, two nitrifying biotowers, dissolved air flotation, mixed-media filters, and chlorination/dechlorination facilities. Several of the ponds are operated in a stand-by mode of operation as necessary, to achieve improved effluent quality by decreasing solids loading on the downstream treatment process, and by maintaining stable ammonia loading to the nitrifying biotowers.

Sludge is removed from the primary and secondary sedimentation processes to gravity thickeners for preliminary water removal, and then pumped to anaerobic digesters. After digestion, the treated sludge is pumped to a lagoon where anaerobic digestion continues. A dredge is used to pump the concentrated material from the bottom of the lagoon to a belt filter press and dewatered biosolids are removed by a private contractor for off-site agricultural reuse. Wastewater is discharged from Discharge Point No. 001 to the San Joaquin River, within the Sacramento-San Joaquin Delta.

The City of Stockton's wastewater treatment system is currently in compliance with the waste discharge requirements of Order Number R5-2008-0154, NPDES CA0079138. The wastewater treatment system options covered under this Order include: City of Stockton RWCF, including discharge to the San Joaquin River. The development of the proposed Project under this permitted option would not exceed the wastewater discharge requirements in this Order. The proposed Project is anticipated to have a **less than significant** impact relative to this topic. The allocation of wastewater service capacity is discussed in the following impact topic.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in new wastewater; thus, the No Build Alternative has no potential to cause an exceedance of wastewater treatment requirements. Under this alternative, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the Project site would be developed with similar land use designations and circulation facilities as the proposed Project. Unlike the proposed Project, this alternative would include construction of the bridge crossing over Bear Creek. This alternative also establishes a site for a school. This alternative would result in the same number of HDR units as the proposed Project and would reduce the number of LDR units compared to the proposed Project. This would result in a reduction of seven units when compared to the proposed Project and, thus, would introduce seven fewer structures to the Project site. Additionally, this alternative would dedicate an equal amount of commercial and non-traditional park areas as the proposed Project, and would increase the amount of traditional park area.

The City of Stockton's wastewater treatment system is currently in compliance with the WDR requirements of Order Number R5-2008-0154, NPDES CA0079138. The wastewater treatment system options covered under this Order include: City of Stockton RWCF, including discharge to the San Joaquin River. The development of the With Bridge Alternative under this permitted option would not exceed the wastewater discharge requirements in this Order. The With Bridge Alternative is anticipated to have a **less than significant** impact relative to this topic. Therefore, compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

Under the General Plan 2035 Alternative, the Project site would be developed with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area and the commercial area would be decreased from as compared to the proposed Project. The balance of the Project site would be developed as proposed under the Project. The Marlette Road extension that is shown on the General Plan 2035 Future Roadways Map would be constructed. A bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project and would ultimately connect with Holman Road.

The City of Stockton's wastewater treatment system is currently in compliance with the WDR requirements of Order Number R5-2008-0154, NPDES CA0079138. The wastewater treatment system options covered under this Order include: City of Stockton RWCF, including discharge to the San Joaquin River. The development of the General Plan 2035 Alternative under this permitted option would not exceed the wastewater discharge requirements in this Order. The General Plan 2035 Alternative is anticipated to have a **less than significant** impact relative to this topic. Therefore, compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, the Project site would be developed with the same components as the proposed Project, but the area utilized for the development would be reduced by approximately 33 percent. The total Project site would be reduced by approximately 100.1 acres, which includes elimination of the existing 15.57-acre industrial area from the Project site. This would result in a reduction of 472 (with or without school) units when compared to the proposed Project. The commercial area in the northwest portion of the Project site would be eliminated, which would in turn would eliminate a 70,000-sf grocery store, 22,000 sf of retail shops, a 3,500-sf quick service restaurant, a 3,500-sf convenience store with attached fueling facility, and a 2,500-sf wine tasting room. This alternative would still establish a site for a K-8 school.

The City of Stockton's wastewater treatment system is currently in compliance with the WDR requirements of Order Number R5-2008-0154, NPDES CA0079138. The wastewater treatment system options covered under this Order include: City of Stockton RWCF, including discharge to the San Joaquin River. The development of the Reduced Project Alternative under this permitted option would not exceed the wastewater discharge requirements in this Order. The Reduced Project Alternative is anticipated to have a **less than significant** impact relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with a reduction in the overall Project intensity/density while maintaining the approximate overall Project footprint. This option considers a 20 percent reduction in the intensity/density of the Project while maintaining the approximately 318.82-acre Project footprint. Typical residential lots

would increase from 5,000 to 6,000 sf to 6,000 to 7,400 sf. This alternative would result in a reduction of 283 (with school) to 301 (without school) units when compared to the proposed Project. The commercial area in the northwest portion of the Project site would be eliminated, which would in turn eliminate a 70,000-sf grocery store, 22,000 sf of retail shops, a 3,500-sf quick service restaurant, a 3,500-sf convenience store with attached fueling facility, and a 2,500-sf wine tasting room. This alternative would still establish a site for K-8 school.

The City of Stockton's wastewater treatment system is currently in compliance with the WDR requirements of Order Number R5-2008-0154, NPDES CA0079138. The wastewater treatment system options covered under this Order include: City of Stockton RWCF, including discharge to the San Joaquin River. The development of the Reduced Intensity/Density Alternative under this permitted option would not exceed the wastewater discharge requirements in this Order. The Reduced Intensity/Density Alternative is anticipated to have a **less than significant** impact relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 3.14-2: The proposed Project has the potential to result in a determination by the wastewater treatment and/or collection provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. (Less than Significant with Mitigation)

Proposed Project:

The City's *2035 Wastewater Master Plan* includes projected wastewater generation factors for residential and commercial land uses. The *Water Master Plan Update* also provides overall projected water demand for the City of Stockton Municipal Utilities District (COSMUD) service area. Based on the data provided, it was determined that the City will have additional water flows totaling approximately 110,000 acre feet/year for the entire City of Stockton Municipal Utilities Department service area, or 98.14 MGD, when full build-out of the 2035 General Plan Area occurs (City of Stockton, 2007). As noted previously, the Stockton RWCF uses approximately 80% of its existing permitted capacity. Future capacity improvements are planned as part of the City's ongoing commitment to provide adequate wastewater capacity for all users within its service area.

As described previously, the existing City of Stockton wastewater collection system is divided into 10 designated sub-areas or "systems." Systems 1 through 7 have been in existence for at least 15 years, and encompass the majority of the City. System 8 was intended to serve southern areas of the City, and has been partially developed; however the majority of the area remains undeveloped. System 9 is intended to serve currently undeveloped areas at the eastern edge of the City along Highway 99; the backbone trunk sewer and pump stations for System 9 were completed in 2007. System 10 is intended to serve northern areas of the City, and has been partially constructed; however, the majority of the area remains undeveloped. Available capacity is greatest in the northern and southern areas of the City, which largely correspond to System 10 and System 8, respectively. The proposed Project would be located within System 10.

According to the City's *2035 Wastewater Master Plan*, the proposed Project's residential uses are estimated to generate a maximum (95th percentile rate) rate of 112.0 gpd/capita (City of Stockton, 2008). Based on U.S. Census data factors (3.17 persons per household), the Project site would have a maximum of approximately 4,765 persons, at full Project build-out, resulting in approximately (4,765 x 112) 533,680 gpd that would be generated by Project residential uses. The proposed Project also includes 10.5 acres of commercial space. According to the City's *2035 Wastewater Master Plan*, commercial land uses generate approximately 1,100 gpd/acre. Using this rate, the proposed commercial uses would generate approximately 11,550 gpd. Combined, the proposed Project would be expected to generate a maximum of approximately 545,230 gpd at full build-out. Industrial uses were not calculated as part of the projection, since the industrial uses already exist, and would only be annexed by the proposed Project.

In conclusion, the proposed Project would increase the amount of wastewater requiring treatment by 545,320 gpd (or 0.55 MGD). The wastewater would be treated at the RWCF. As noted previously, the Stockton RWCF uses approximately 80% of its existing permitted capacity, and the City will have additional wastewater flows totaling approximately 98.14 MGD for the entire City of Stockton Municipal Utilities Department service area when full build-out of the 2035 General Plan Area occurs. The addition of 0.55 MGD of wastewater requiring treatment as a result of the proposed Project accounts for 0.56 percent of the predicted wastewater treatment when full build-out of the 2035 General Plan Area occurs. Additionally, the proposed Project would result in a reduction in units compared to what is allowed by the existing General Plan land uses. As such, the proposed Project would result in a reduction in wastewater treatment demand from what was analyzed in the City's General Plan EIR.

Occupancy of the proposed Project would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity would ensure that there would be a final determination by the wastewater treatment and/or collection provider that there is adequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the RWCF with a subsequent allocation of capacity to the proposed Project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments. Implementation of Mitigation Measure 3.14-1 would reduce this potential impact to a **less than significant** level.

MITIGATION MEASURE

Mitigation Measure 3.14-1: *Prior to occupancy of any building that would require wastewater treatment services, the Project proponent shall secure adequate wastewater treatment capacity/allocation.*

RESULTING LEVEL OF SIGNIFICANCE

Mitigation Measure 3.14-1 requires the Project proponent to secure adequate wastewater treatment capacity/allocation prior to occupancy of any building which would require wastewater

treatment services. With implementation of Mitigation Measure 3.14-1, the proposed Project would have a **less than significant** impact relative to this topic.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in new wastewater; thus, the No Build Alternative does not have the potential to result in a determination that the Project would not have adequate wastewater capacity. Under this alternative, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

According to the City's *2035 Wastewater Master Plan*, the proposed Project's (and all Project Alternatives') residential uses are estimated to generate a maximum (95th percentile rate) rate of 112 gpd/capita (City of Stockton, 2008). Based on U.S. Census data factors (3.17 persons per household), the With Bridge Alternative site would have a maximum of approximately 4,742 persons, at full build-out, resulting in approximately (4,742 x 112) 531,104 gpd that would be generated by residential uses. This Alternative also includes 10.5 acres of commercial space. According to the City's *2035 Wastewater Master Plan*, commercial land uses generate approximately 1,100 gpd/acre. Using this rate, the With Bridge Alternative commercial uses would generate approximately 11,550 gpd. Combined, this Alternative would be expected to generate a maximum of approximately 542,654gpd at full build-out. Industrial uses were not calculated as part of the projection, since the industrial uses already exist, and would only be annexed by this Alternative.

This Alternative would increase the amount of wastewater requiring treatment. The wastewater would be treated at the RWCF. Occupancy of the Project would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve this Project's projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the RWCF with a subsequent allocation of capacity to the Project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. Implementation of Mitigation Measure 3.14-1 would reduce this potential impact to a **less than significant** level. Compared to the proposed Project, this alternative is slightly superior relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan.

Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

According to the City's *2035 Wastewater Master Plan*, the proposed Project's (and all Project Alternatives') residential uses are estimated to generate a maximum (95th percentile rate) rate of 112 gpd/capita (City of Stockton, 2008). Based on U.S. Census data factors (3.17 persons per household), the General Plan 2035 Alternative site would have a maximum of approximately 8,800 persons, at full Project build-out, resulting in approximately (8,800 x 112) 985,600 gpd that would be generated by residential uses. This Alternative also includes 9.0 acres of commercial space (117,612 sf). According to the City's *2035 Wastewater Master Plan*, commercial land uses generate approximately 1,100 gpd/acre. Using this rate, the General Plan 2035 Alternative commercial uses would generate approximately 9,900 gpd. Further, industrial uses were calculated as part of this alternative, since the industrial uses could be expanded under this alternative. Under this alternative, the Project site would support approximately 15.7 acres of industrial use (406,937 sf – 0.6 FAR). According to the City's *2035 Wastewater Master Plan*, industrial land uses are estimated to generate a maximum rate of 1,400 gpd/acre (City of Stockton, 2008). Using the existing 15.7 acres of industrial use, the General Plan 2035 Alternative industrial uses would generate approximately 21,980 gpd. Combined, this Alternative would be expected to generate a maximum of approximately 1,017,480gpd at full build-out.

This Alternative would increase the amount of wastewater requiring treatment. The wastewater would be treated at the RWCF. Occupancy of the Project would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve this Project's projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the RWCF with a subsequent allocation of capacity to the Project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. Implementation of Mitigation Measure 3.14-1 would reduce this potential impact to a **less than significant** level. Compared to the proposed Project, this alternative is inferior relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

According to the City's *2035 Wastewater Master Plan*, the proposed Project's (and all Project Alternatives') residential uses are estimated to generate a maximum (95th percentile rate) rate of

112 gpd/capita (City of Stockton, 2008). Based on U.S. Census data factors (3.17 persons per household), the Reduced Project Alternative site would have a maximum of approximately 3,268 persons, at full build-out, resulting in approximately (3,268 x 112) 366,016 gpd that would be generated by residential uses. As described above, commercial and industrial uses would not be part of this Alternative.

This Alternative would increase the amount of wastewater requiring treatment. The wastewater would be treated at the RWCF. Occupancy of the Project would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve this Project's projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the RWCF with a subsequent allocation of capacity to the Project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. Implementation of Mitigation Measure 3.14-1 would reduce this potential impact to a **less than significant** level. Compared to the proposed Project, this alternative is superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

According to the City's *2035 Wastewater Master Plan*, the proposed Project's (and all Project Alternatives') residential and commercial uses are estimated to generate a maximum (95th percentile rate) rate of 112 gpd/capita (City of Stockton, 2008). Based on U.S. Census data factors (3.17 persons per household), the Reduced Intensity/Density Alternative site would have a maximum of approximately 3,810 persons, at full build-out, resulting in approximately (3,810 x 112) 426,720 gpd that would be generated by residential uses. Commercial areas would not be part of this Alternative. Additionally, industrial uses were not calculated as part of the projection, since the industrial uses already exist, and would only be annexed by this Alternative.

This Alternative would increase the amount of wastewater requiring treatment. The wastewater would be treated at the RWCF. Occupancy of the Project would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve this Project's projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the RWCF with a subsequent allocation of capacity to the Project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. Implementation of

Mitigation Measure 3.14-1 would reduce this potential impact to a **less than significant** level. Compared to the proposed Project, this alternative is superior relative to this topic.

Impact 3.14-3: The proposed Project has the potential to require or result in the construction of new wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

Proposed Project:

Wastewater services would be provided by existing and planned City of Stockton collection and treatment system. Wastewater treatment would be provided at the City's existing RWCF on Navy Drive in southwest Stockton. Wastewater collection would be provided by the City's existing Wastewater Collection System No. 10 (System 10). System 10 facilities were extended into lands in the project vicinity in conjunction with the North Stockton Pipelines project. Within the Project site, the wastewater collection system would consist predominantly of 8-inch to 10-inch lines installed within proposed local streets. Collection System 10 discharges to the 14-Mile Slough Sanitary Sewer Pump Station, located in northwest Stockton. Due to rapid increase in System 10 flows, the City of Stockton Municipal Utilities Department completed an expansion of the pump station in 2008.

The off-site element of the overall proposed Project would involve sewer construction through existing agricultural lands including approximately 3,028 LF of 24-inch sewer main in West Lane, and approximately 3,500 LF of 24-inch sewer main along the north side of Bear Creek to connect to the existing 48-inch trunk sewer main northwest of Ronald McNair High School. The development of the 24-inch sewer main along the north side of Bear Creek is required to comply with the City's Sewer Master Plan.

New wastewater collection and conveyance infrastructure needed for the proposed Project would require trenching/excavation of earth, and placement of pipe within the trenches at specific locations, elevations, and gradients. The general location of the wastewater collection and conveyance infrastructure within the Project site is outlined on the tentative map. The applicant will refine the wastewater collection/conveyance infrastructure design through the development of improvements plans which undergo a review by the Public Works department to ensure consistency with the City's engineering standards. This improvement plan process will include full engineering design (i.e. location, depth, slope, etc.) of all conveyance infrastructure as well as a review of additional new infrastructure, as needed. Ultimately, the sanitary sewer collection system will be an underground collection system installed as per the City of Stockton standards and specifications.

In conclusion, the installation of the wastewater collection and conveyance system infrastructure to serve the proposed Project would be required to conform with City standards and specifications. The wastewater treatment plant (the RWCF) would not require upgrades or improvements in order to serve the proposed Project. Implementation of the proposed Project would have a **less than significant** impact relative to this topic.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in new wastewater; thus, the No Build Alternative does not have the potential to require or result in the construction of new wastewater treatment or collection facilities or expansion of existing facilities. Under this alternative, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

As with the proposed Project, the wastewater collection and conveyance system would consist of engineered infrastructure consistent with the City's existing infrastructure requirements. Sizing of existing infrastructure in the City varies based on location, but is expected to include gravity sewers ranging in size from 8 to 24 inches. The existing facilities have undergone environmental review.

New wastewater collection and conveyance infrastructure needed for this Alternative would require trenching/excavation of earth, and placement of pipe within the trenches at specific locations, elevations, and gradients. The wastewater collection and conveyance infrastructure within the Project site would undergo a review by the Public Works department to ensure consistency with the City's engineering standards. This improvement plan process would include full engineering design (i.e. location, depth, slope, etc.) of all conveyance infrastructure as well as a review of additional new infrastructure, as needed. Ultimately, the sanitary sewer collection system would be an underground collection system installed as per the City of Stockton standards and specifications, irrespective of the Alternative. The installation of the wastewater collection and conveyance system infrastructure to serve this Alternative would have a **less than significant** impact relative to this topic. The wastewater treatment plant (the RWCF) would not require upgrades or improvements in order to serve this Alternative. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

Under the General Plan 2035 Alternative, the entire 318.82-acre Project site would be developed with residential and commercial land uses.

As with the proposed Project, the wastewater collection and conveyance system would consist of engineered infrastructure consistent with the City's existing infrastructure requirements. Sizing of existing infrastructure in the City varies based on location, but is expected to include gravity sewers ranging in size from 8 to 24 inches. The existing facilities have undergone environmental review.

New wastewater collection and conveyance infrastructure needed for this Alternative would require trenching/excavation of earth, and placement of pipe within the trenches at specific locations, elevations, and gradients. The wastewater collection and conveyance infrastructure within the Project site would undergo a review by the Public Works department to ensure consistency with the City's engineering standards. This improvement plan process would include full engineering design (i.e. location, depth, slope, etc.) of all conveyance infrastructure as well as a review of additional new infrastructure, as needed. Ultimately, the sanitary sewer collection system would be an underground collection system installed as per the City of Stockton standards and specifications, irrespective of the Alternative. The installation of the wastewater collection and conveyance system infrastructure to serve this Alternative would have a **less than significant** impact relative to this topic. The wastewater treatment plant (the RWCF) would not require upgrades or improvements in order to serve this Alternative. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

As with the proposed Project, the wastewater collection and conveyance system would consist of engineered infrastructure consistent with the City's existing infrastructure requirements. Sizing of existing infrastructure in the City varies based on location, but is expected to include gravity sewers ranging in size from 8 to 24 inches. The existing facilities have undergone environmental review and have waste discharge permits from the State.

New wastewater collection and conveyance infrastructure needed for this Alternative would require trenching/excavation of earth, and placement of pipe within the trenches at specific locations, elevations, and gradients. The wastewater collection and conveyance infrastructure within the Project site would undergo a review by the Public Works department to ensure consistency with the City's engineering standards. This improvement plan process would include full engineering design (i.e. location, depth, slope, etc.) of all conveyance infrastructure as well as a review of additional new infrastructure, as needed. Ultimately, the sanitary sewer collection system would be an underground collection system installed as per the City of Stockton standards and specifications, irrespective of the Alternative. The installation of the wastewater collection and conveyance system infrastructure to serve this Alternative would have a **less than significant** impact relative to this topic. The wastewater treatment plant (the RWCF) would not require upgrades or improvements in order to serve this Alternative. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

As with the proposed Project, the wastewater collection and conveyance system would consist of engineered infrastructure consistent with the City's existing infrastructure requirements. Sizing of existing infrastructure in the City varies based on location, but is expected to include gravity sewers ranging in size from 8 to 24 inches. The existing facilities have undergone environmental review and have waste discharge permits from the State.

New wastewater collection and conveyance infrastructure needed for this Alternative would require trenching/excavation of earth, and placement of pipe within the trenches at specific locations, elevations, and gradients. The wastewater collection and conveyance infrastructure within the Project site would undergo a review by the Public Works department to ensure consistency with the City's engineering standards. This improvement plan process would include full engineering design (i.e. location, depth, slope, etc.) of all conveyance infrastructure as well as a review of additional new infrastructure, as needed. Ultimately, the sanitary sewer collection system would be an underground collection system installed as per the City of Stockton standards and specifications, irrespective of the Alternative. The installation of the wastewater collection and conveyance system infrastructure to serve this Alternative would have a **less than significant** impact relative to this topic. The wastewater treatment plant (the RWCF) would not require upgrades or improvements in order to serve this Alternative. Compared to the proposed Project, this alternative is equal relative to this topic.

3.14.2 WATER SUPPLIES

EXISTING SETTING

The Project site is located outside of the City of Stockton, but with the City's Sphere of Influence and Urban Services Boundary, as delineated and defined by the 2035 General Plan. As part the proposed Project, the City of Stockton would annex the Project site. The City of Stockton Municipal Utilities Department (COSMUD) would be the retail water provider for the proposed Project. The proposed Project, if approved by the City, is capable of being served by the City from the City's existing and future portfolio of water supplies. The water supply for the proposed Project will have the same water supply reliability and water quality as the water supply available to each of the City's other existing and future water customers.

The following information is contained in the Water Supply Assessment (City of Stockton Municipal Utilities Department, 2017). The City's most recently adopted *Urban Water Management Plan* (UWMP) (the City's 2015 UWMP) was adopted by the City Council on July 12, 2016. The City's 2015 UWMP included existing and projected water demands for existing and projected future land uses to be developed within the City's Sphere of Influence through 2040. The water demand projections in the City's 2015 UWMP included existing City water demands and future water demands within the service area.

Water Service Area

As described in the City's 2015 UWMP, the City is located in the heart of the fertile central valley of California. The climate ranges from summer temperatures routinely exceeding 100°F with low humidity, and winter temperatures dipping into the 30s. Average annual rainfall is approximately 14 inches.

Dense fog is common in the area during the winter. Occasional dust storms, triggered by barren agricultural land coupled with Delta winds gusting to 30 mph, occur primarily from about March through September. Average temperature and precipitation data for Stockton is obtained from the Western Regional Climate Center (WRCC) website (www.wrcc.dri.edu). The WRCC has maintained historical climate records for period of record from 10/1/1948 to 9/30/2010 for the Stockton area.

The City of Stockton Metropolitan Area (COSMA) comprises of the three City of Stockton water retailers (COSMUD, California Water Service Company (Cal-Water), and San Joaquin County) and their respective service areas. The term COSMA is used only for convenience when grouping the water retailers and should not be construed as a legal entity.

The City has provided water service to North Stockton since 1954 and South Stockton since 1984. The City created COSMUD in the late 1970's for purposes of constructing, operating, and maintaining water, wastewater, and drainage facilities within the City service areas. The central Stockton water service area is owned and operated by Cal Water, which is an investor-owned public utility company regulated by the California Public Utilities Commission (CPUC). In addition, there are smaller developed areas served by San Joaquin County as two small maintenance districts within the City boundaries. Over the past 20 years, the City's responsibilities have been focused on providing

adequate wastewater and drainage service within City limits, and water service to growing areas of Stockton outside the franchise boundaries of Cal Water and the County maintenance districts.

The COSMUD currently serves 170,417 residents through approximately 49,387-metered services. Based on the total number of accounts, residential users make up about 95 percent of the total customer base, commercial, industrial and institutional users account for approximately three percent, and the remaining two percent of connections is for landscape irrigation.

Water Demand

PROJECTED WATER DEMAND FOR THE PROJECT

The projected water demand for the proposed Project is shown in Table 3.14-3. As indicated in Table 3.14-3, the total projected annual potable water demand for the proposed Project is projected to be 808.01 acre-feet per year (AFY). The calculation of total water demand for the Project is based on the 2015 UWMP and its use of gallons per connection per day. Given that the unit water demands are presented on a “per-connection” basis, a unit water demand on a “per-acre” basis can be developed using known averages on how many homes are built on a gross acre of residential developed land including arterial streets.

TABLE 3.14-3: PROJECT TOTAL AVERAGE ANNUAL WATER DEMAND

<i>LAND USE</i>	<i>ACREAGES (ACRES)</i>	<i>UNIT WATER DEMAND FACTOR (AF/ACRE/YEAR)</i>	<i>ESTIMATED WATER DEMAND (AFY)</i>
Single Family Residential	232.18	1.65	383.10
Multi-family Residential	11.70	22.33	261.26
Commercial	10.50	1.50	15.75
Industrial	15.57	1.50	23.36
Parks and Recreation	15.07	2.00	30.14
Major Roads	21.09	1.50	31.64
Schools and Institutional Facilities	14.70	1.50	22.05
Open Space/Agriculture	20.36	2.00	40.72
Totals	341.17	--	808.01

NOTE: AFY = ACRE-FEET PER YEAR

SOURCE: WATER SUPPLY ASSESSMENT FOR THE TRA VIGNE DEVELOPMENT PROJECT (CITY OF STOCKTON MUNICIPAL UTILITIES DEPARTMENT, 2017)

Based on the Project’s land use tabulation, total residential units range from 1,413 to 1,503. Of the 1,503 units, up to 340 units would be multi-family residential, and up to 1,163 would be single family residential. Using the maximum number of multi-family residential units, the overall average over the 11.7 acres of multi-family residential uses is approximately 29.0 multi-family residential connections per multi-family residential acre. Using the maximum number of single family residential units, the overall average over the 232.18 acres of single family residential uses is approximately 5.0 single family residential connections per single family residential acre. (Municipal Utilities Department, 2017).

For commercial, industrial, and open space land uses, it is difficult to statistically show how many connections might occur on an acre of land within the Project. Given that demands for these uses

3.14 UTILITIES

are on average low, the unit demand factors applied in previous WSAs will continue to be used. Based on these known parameters, Table 3.14-4 also includes the per-acreage demand factors used within the Water Supply Assessment.

TABLE 3.14-4: UNIT WATER DEMANDS

<i>WATER USE SECTORS</i>	<i>UNIT DEMANDS IN AFY/CONNECTION AS PER 2015 UWMP</i>	<i>UNIT DEMAND IN AF/ACRE/YEAR</i>
Single Family Residential	0.33	1.65
Multi-family Residential	0.77	22.33
Commercial	4.08	1.50
Industrial	124.86	1.50
Open Space	4.21	2.00

NOTE: AFY = ACRE- FEET PER YEAR

SOURCE: WATER SUPPLY ASSESSMENT FOR THE TRA VIGNE DEVELOPMENT PROJECT (CITY OF STOCKTON MUNICIPAL UTILITIES DEPARTMENT, 2017)

CITY PROJECTED WATER DEMAND

The City's 2015 UWMP describes the projected City water demand through 2040. The City has developed potable water demand projections, shown in Table 3.14-5.

TABLE 3.14-5: CITY OF STOCKTON TOTAL WATER DEMAND PROJECTION

<i>YEAR</i>	<i>HISTORICAL DEMAND</i>	<i>PROJECTED DEMAND¹</i>	<i>PROJECTED DEMAND²</i>	<i>PROJECTED DEMAND³</i>
2005	34,149	34,149	--	--
2006	34,806	--	--	--
2007	40,076	--	--	--
2008	38,143	--	--	--
2009	36,646	--	--	--
2010	33,333	--	--	--
2011	N/A	--	--	--
2012	N/A	34,961	34,961	34,961
2013	N/A	34,394	34,394	34,394
2014	N/A	29,627	29,627	29,627
2015	24,843	24,843	24,843	24,843
2016	--	26,510	--	--
2017	--	28,177	--	--
2018	--	29,844	--	--
2019	--	31,511	--	--
2020	--	33,178	34,948	33,178
2021	--	33,618	--	--
2022	--	34,059	--	--
2023	--	34,499	--	--
2024	--	34,940	--	--
2025	--	35,380	37,925	35,380
2026	--	36,147	--	--
2027	--	36,915	--	--
2028	--	37,682	--	--
2029	--	38,450	--	--
2030	--	39,217	39,800	37,743
2031	--	39,723	--	--
2032	--	40,230	--	--
2033	--	40,736	--	--

TABLE 3.14-5: CITY OF STOCKTON TOTAL WATER DEMAND PROJECTION

YEAR	HISTORICAL DEMAND	PROJECTED DEMAND ¹	PROJECTED DEMAND ²	PROJECTED DEMAND ³
2034	--	41,243	--	--
2035	--	41,749	42,473	40,274
2036	--	42,292	--	--
2037	--	42,835	--	--
2038	--	43,379	--	--
2039	--	43,922	--	--
2040	--	44,465	45,325	42,989

NOTES:

(1) DEMANDS BASED ON UNIT WATER DEMANDS AND PROJECTED NUMBER OF CONNECTIONS (AFY), AS PROVIDED BY THE 2015 UWMP. (2) 2015 UWMP VALUES BEFORE SBX7-7 (AFY) (3) 2015 UWMP VALUES AFTER SBX7-7 (AFY).

SOURCE: WATER SUPPLY ASSESSMENT FOR THE TRA VIGNE DEVELOPMENT PROJECT (CITY OF STOCKTON MUNICIPAL UTILITIES DEPARTMENT, 2017)

Several steps, including demand reduction, are being taken to help ensure an adequate water supply for the City. The City's 2015 UWMP provides a discussion of how the City is evaluating and implementing the eight Demand Management Measures (DMM) required by the Urban Water Management Planning Act. These DMMs include water waste prohibition, metering, conservation pricing, public education and outreach, programs to assess and manage COSMUD distribution system real loss, water conservation program coordination and staff support, other demand management measures, and planned implementation to achieve water use targets.

City of Stockton Water Supplies

EXISTING POTABLE WATER SUPPLIES

The City's 2015 UWMP describes the City's available water supplies. The City's water supplies include purchased water, surface water, and groundwater. The City currently receives treated water from Stockton East Water District (SEWD). In addition, a purchase agreement with the Woodbridge Irrigation District (Woodbridge ID) for water supply from the Mokelumne River was executed in 2008. A summary of the actual supply sources and quantities in 2015 is provided in Table 3.14-6.

TABLE 3.14-6: ACTUAL 2015 WATER SUPPLY FOR THE CITY OF STOCKTON (AFY)

WATER SUPPLY	ACTUAL VOLUME	WATER QUALITY	TOTAL RIGHT OR SAFE YIELD
Purchased water (SEWD)	4,159 ¹	Drinking water	6,380
Purchased water (WID)	4,628	Raw water	6,500
Supply from storage	--	--	--
Groundwater	6,628	Raw water	50,000
Surface water	9,428	--	33,600
Recycled water	0	--	0
Desalinated water	0	--	0
Stormwater use	0	--	0
Transfers	0	--	0
Exchanges	0	--	0
Total	24,843	--	96,480

NOTE: ¹ THE 1,486 AFY WATER WHEELED FROM SEWD TO SAN JOAQUIN COUNTY WATER SYSTEMS IS NOT INCLUDED.

SOURCE: STOCKTON 2015 UWMP (2016), TABLE 5-6.

PURCHASED WATER

The City purchases water from SEWD and Woodbridge ID WID as described in the following section.

Stockton East Water District

The City currently receives treated water from SEWD. As described in detail in SEWD's 2015 UWMP, this supply is made up of surface water from New Melones Reservoir and New Hogan Reservoir as well as groundwater. Per the terms of the Second Amended Contract with SEWD, the City's supply allocation from SEWD is based on the amount of water delivered in the previous year. Approximately three months prior to the beginning of the water year, the City reviews their current year SEWD treated water deliveries and determines whether they desire to change the agreement for the upcoming year, compared to what they received in the current water year.

With the commencement of the operation of the Delta Water Supply Project (DWSP) in 2012, the City's planned delivery and allocation of SEWD treated water was 17,500 AFY, which was 37.6 percent of SEWD's total supplies. For 2015, due to the drought and a reduction in the SEWD's supplies, the City's planned SEWD delivery and allocation was amended to 6,380 AFY, which was 31.9 percent of total SEWD supplies. The City used 5,634 AF of the SEWD supply in 2015. The City has entered into another allocation agreement with all of the parties resulting in 6,000 AF for 2016 for the City, or 30 percent of SEWD supplies during 2016. Moving forward the City will use approximately 6,000 AFY from SEWD.

If SEWD is not able to supply the City the total amount requested, the City will be allocated a proportional reduction in the amount of SEWD treated water requested for the subsequent water year.

Woodbridge ID

In 2008, the COSMUD executed a 40 year purchase agreement with WID for 6,500 AFY of water from the Mokelumne River for municipal and industrial water use within the City. This supply will augment the DWSP supply if the San Joaquin River water is not available due to environmental issues. The water is conveyed to the DWSP water treatment plant (WTP) for treatment and pumping to the water distribution system. Under this contract an additional 6,500 AFY of WID supply will become available to the City as WID-served agricultural lands in the northern part of the City are annexed to the City for municipal and industrial use at a rate of 3.0 AFY. For this analysis, it is assumed the WID supply will increase from 6,500 AFY to 13,000 AFY by 2025. It is assumed that the WID supply is cut back by approximately 30 percent in single dry years and the third year of a dry year period, similar to what occurred in 2015.

GROUNDWATER

The City currently has groundwater wells located in the City's North and South systems. Groundwater is used conjunctively with the City's other supply sources. With the DWSP WTP now online, the City uses less groundwater in wet and average years and increases groundwater use in dry years to make up for reductions in surface water deliveries. Groundwater is managed for long-term sustainability and supply through conjunctive use with surface water supplies. The City has

determined that the sustainable groundwater yield is 0.75 AF/acre/yr, equivalent to a groundwater yield of approximately 50,000 AFY. To establish the projected groundwater supply that is reasonably available, COSMUD assumes that the reasonably available groundwater for the current water service area (38,524 acres) is pumped at 0.6 AF/acre/yr, equivalent to an annual groundwater supply of 23,100 AFY.

SURFACE WATER

The City has developed a new surface water supply, Delta water at the DWSP intake facility, from the San Joaquin River. The objective of this supply is to achieve a long-term reliable water supply from the Delta for existing and future customers. The City has rights to Delta water because portions of the COSMA fall within the legally defined Delta and the area of origin. The City's water rights application addressed a long-term planning horizon through the year 2050, requesting an ultimate diversion of 160 million gallons per day (mgd) (125,900 AFY). The State Water Resources Control Board (SWRCB) divided the water rights application into two separate applications, Application 30531A and 30531B. Application 30531A covers the initial phase of the DWSP up to 30 mgd (33,600 AFY) and the place of use is confined to the current 1990 General Plan boundary. The initial phase was granted a water right under California Water Code Section 1485. The City has a permit from the SWRCB issued on March 8, 2006 for a 33,600 AFY supply from the Sacramento/San Joaquin Delta.

The DWSP intake and water treatment plant was operational in 2012 with an initial capacity of 30 mgd (33,600 AFY). The projected capacity of the DWSP by 2035 is 90 mgd with an annual production of approximately 50,000 AFY. The DWSP will expand as needed up to 120 mgd provided water rights are granted.

The City's supply from the San Joaquin River is curtailed annually from February through June of each year due to U.S. Department of Fish and Wildlife Service and Department of Fish and Game restrictions.

California Water Code (CWC) Section 1485 Water Rights allows the City to take out of the Delta as much water as the City's wastewater treatment plant discharges into the Delta. This quantity, which fully covers the 33,600 AFY, is not restricted as long as the same amount of wastewater is discharged into the Delta. Section 1485 water may be subject to pumping restriction in some months due to fish protection.

Summary

The COSMA has and will continue to meet annual demands during differing hydrologic periods with surface water, groundwater, water conservation, and/or other potential water supplies such as non-potable supplies from local communities, raw surface water from local irrigation districts, and/or water from future groundwater storage projects. Currently, the COSMUD, along with the other COSMA retailers, are pursuing an extension of a raw surface water transfer agreement with local irrigation districts and municipalities. The City recently completed a feasibility study and is currently investigating the possible use of tertiary treated recycled water from the City of Lodi for

use as a non-potable source for irrigation of public landscape areas. Any future surface water transfer supplies would be diverted for treatment at the SEWD WTP or the DWSP WTP.

GROUNDWATER BASIN

The groundwater basin underlying San Joaquin County is part of the contiguous Central Valley aquifer system, which supplies groundwater to agricultural, domestic, and industrial water users extending from about Redding to Bakersfield. The basin consists of Pre-Tertiary igneous and metamorphic rocks of the Sierra Nevada that continue west beneath the valley floor. Marine sediments, thousands of feet thick, overlie the basement rocks. Continental deposits overlie the marine rocks and act as the primary freshwater aquifer in the study area. In local areas, fresh water may be present in both marine and continental deposits, and saline water may be found in continental deposits.

DWR Bulletin 146 identifies the usable aquifer in the eastern portion of San Joaquin County as the continental deposits of Miocene and younger age. The usable aquifer is present within the boundaries of the county in distinct geologic formations that include the Mehrten Formation, the Laguna Formation, the Victor Formation, flood basin deposits, and alluvial fan and stream channel deposits. The thickness of the usable aquifer ranges from less than 100 feet in the eastern edge of the county to over 3,000 feet in the southwestern edge, and is approximately 1000 feet beneath Stockton.

Groundwater in the County area moves from sources of recharge to areas of discharge. Most recharge to the aquifer system occurs from the Delta and along active stream channels where extensive sand and gravel deposits exist. Consequently, the highest groundwater elevations typically occur near the Delta, the Stanislaus River, and the Mokelumne River. Other sources of recharge within the project area include subsurface recharge from fractured geologic formations to the east, as well as deep percolation from applied surface water and precipitation.

Municipal and agricultural uses of groundwater within the County contribute to an overall average yield of groundwater estimated to be 761,828 AFY for agricultural uses and 47,493 AFY for municipal and industrial uses (DWR Bulletin 118, 2006). Historically, groundwater elevations have declined from about 40 to 60 feet averaging approximately 1.7 feet per year. As a result, a regional cone of depression has formed in Eastern San Joaquin County creating a gradient that allows saline water underlying the Delta region to migrate northeast within the southern portions of the City. Groundwater underlying the City generally flows to the east due to the regional cone of depression.

COSMUD Groundwater

The COSMUD currently exercises (and will continue to exercise) its rights as an overlying groundwater appropriator to extract groundwater from the groundwater basin underlying the COSMA for delivery to its customers.

Water Reliability

DRY YEAR WATER SUPPLY AVAILABILITY AND RELIABILITY

Water Code section 10910 (c)(4) requires that a WSA include a discussion with regard to “whether total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses, including agricultural and manufacturing uses.” Accordingly, this WSA addresses these three hydrologic conditions.

The Stockton area has experienced drought conditions twice in the past 30 years. The first drought was in 1977, the first year the SEWD Water Treatment Plant (WTP) went on-line. Groundwater supplies were critically overdrafted during this time, raising higher concerns of saline intrusion and pesticide migration. The second was a prolonged drought from 1987 to 1994. During this period, a reduced amount of surface water was available for the City. As a result of the reduced surface water through SEWD, the City’s urban water retailers relied heavily on groundwater to meet customer water demands. The groundwater level during this time dropped approximately 10 to 30 feet at various well sites.

The City Council adopted a Water Conservation Ordinance in 1988. Stockton Municipal Code, Sections 13.28 and 13.32 include both voluntary and mandatory conservation stages. From 1990 to 1992, mandatory water reduction stages were in force due to the prolonged years of drought. The City initiated a voluntary reduction stage in 1993 and has maintained a voluntary reduction stage since that time.

TABLE 3.14-7: SUMMARY OF PROJECTED WATER SUPPLY DURING HYDROLOGIC NORMAL, SINGLE-DRY, AND MULTI-DRY YEARS FOR CITY OF STOCKTON AT 2040 (AFY)

	NORMAL YEAR	SINGLE DRY YEAR	MULTIPLE DRY YEARS – YEAR 1	MULTIPLE DRY YEARS – YEAR 2	MULTIPLE DRY YEARS – YEAR 3
SEWD	6,000	4,000	6,000	6,000	4,000
DWSP	13,000	9,000	13,000	13,000	9,000
DELTA	50,000	50,000	50,000	50,000	50,000
GROUNDWATER	23,100	23,100	23,100	23,100	23,100
RECYCLED WATER	0	0	0	0	0
TOTAL SUPPLY	92,100	86,100	92,100	92,100	86,100
DEMAND TOTAL	44,465	44,465	44,465	44,465	44,465
DIFFERENCE	47,635	41,635	47,635	47,635	41,635

SOURCE: STOCKTON 2015 UWMP (2016), TABLES 6-4, 6-5, AND 6-6.

WATER SUPPLY AND DEMAND COMPARISON

Based on the analysis described above, this WSA demonstrates that the City’s existing and projected potable water supplies are sufficient to meet the City’s existing and projected future potable water demands, including those future water demands associated with the Project, to the year 2040 under all hydrologic conditions.

A comparison of the City's projected water supplies and demands is shown in Table 3.14-8 for Normal, Single Dry, and Multiple Dry Years. As can be seen on Table 3.14-8, there is no projected supply deficit under the projected hydrologic conditions through 2040.

TABLE 3.14-8: CITY OF STOCKTON - NORMAL YEAR PROJECTED WATER SUPPLY AND DEMAND COMPARISON (AFY)

YEAR	2020	2025	2030	2035	2040
<i>WATER DEMAND VERSUS SUPPLY FOR NORMAL HYDROLOGIC YEARS</i>					
Supply Totals	69,200	75,700	75,700	92,100	92,100
Demand Totals	34,564	36,856	39,217	41,749	44,465
Difference	34,546	38,844	36,483	50,351	47,635
<i>WATER DEMAND VERSUS SUPPLY FOR SINGLE-DRY HYDROLOGIC YEARS</i>					
Supply Totals	65,200	69,700	69,700	86,100	86,100
Demand Totals	34,654	36,856	39,217	41,749	44,465
Difference	30,546	32,844	30,483	44,351	41,635
<i>WATER DEMAND VERSUS SUPPLY FOR MULTIPLE-DRY HYDROLOGIC YEARS (YEAR 3)</i>					
Supply Totals	65,200	69,700	69,700	86,100	86,100
Demand Totals	34,654	36,856	39,217	41,749	44,465
Difference	30,546	32,844	30,483	44,351	41,635

SOURCE: STOCKTON 2015 UWMP (2016), TABLES 6-4, 6-5, AND 6-6.

Planned Infrastructure Updates

Water supply will be provided by the City of Stockton, which includes surface and ground water supplies. Water distribution will be by an underground distribution system installed as per the City of Stockton standards and specifications. Underground potable water pipelines (24 inch) would be extended to the Project site. The proposed Project will also be required to provide the city with a well site for the development of a future potable water well to serve area needs.

REGULATORY SETTING – WATER SUPPLIES

Safe Drinking Water Act

The federal Safe Drinking Water Act as passed in 1947 and amended in 1986 and 1996. It is the Country's primary law regulating drinking water quality and is implemented by the United States Environmental Protection Agency (US EPA). The Safe Drinking Water Act authorizes the US EPA to set national health-based standards for drinking water and requires actions to protect drinking water and its sources. Additionally, it provides for treatment, monitoring, sampling, analytical methods, reporting, and public information requirements. Implementation of the Act, in California, is under the jurisdiction of the California Department of Public Health (CDPH), Division of Drinking Water and Environmental Management. Drinking Water regulations are set forth in the California Code of Regulations (CCR), Titles 7 and 22.

Water Conservation Projects Act

California's requirements for water conservation are codified in the Water Conservation Projects Act of 1985 (Water Code Sections 11950 – 11954).

Consistent with California Water Code Sections 11950 – 11954, the City has implemented various water conservation efforts, as well as Water Shortage Contingency Plan that identifies actions that can be taken to respond to catastrophic interruption of water supply.

Senate Bill (SB) 610

Senate Bill (SB) 610 was adopted in 2001 and reflects the growing awareness of the need to incorporate water supply and demand analysis at the earliest possible stage in the land use planning process. SB 610 amended the statutes of the Urban Water Management Planning Act, as well as the California Water Code Section 10910 et seq. The foundation document for compliance with SB 610 is the Urban Water Management Plan (UWMP), which provides an important source of information for cities and counties as they update their general plans. Likewise, planning documents such as general plans and specific plans form the basis for the demand information contained in an UWMP, as well as a Water Supply Assessment (WSA) required under SB 610.

Water Code Section 10910 (c)(4) states “If the city or county is required to comply with this part pursuant to subdivision (b), the water assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses, including agricultural and manufacturing uses.”

Water supply planning under SB 610 requires reviewing and identifying adequate available water supplies necessary to meet the demand generated by a project, as well as the cumulative demand for the general region over the next 20 years, under a broad range of water conditions. This information is typically found in the current UWMP for the project area. SB 610 requires the identification of the public water supplier for a project.

In addition, SB 610 requires the preparation of a WSA if a project meets the definition of a “Project” under Water Code Section 10912 (a). The code defines a “Project” as meeting any of the following criteria:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 sf of floor space;
- A commercial building employing more than 1,000 persons or having more than 250,000 sf of floor space;
- A hotel or motel with more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant, or industrial park, planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 sf of floor area;
- A mixed-use project that includes one or more of these elements; or
- A project creating the equivalent demand of 500 residential units.

Alternately, if a public water system has less than 5,000 service connections, the definition of a “Project” includes any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of service connections for the public water system. The proposed residential development of more than 500 dwelling units as part of a proposed residential uses, therefore, qualifies as a “Project” under Section 10912 (a) of the Water Code. Thus, the City has prepared a Water Supply Assessment (WSA) as required by these criteria under SB 610. The WSA is included in the appendix of this EIR.

City of Stockton General Plan

The following policies of the Stockton General Plan related to water supply are applicable to the proposed Project.

Land Use Element Policies

GENERAL LAND USE POLICY

- LU-1.13. Growth Phasing. The City shall phase growth based on the availability of adequate water supplies, market forces, infrastructure financing capacity, and the timing of the design, approval, and construction of water supply and transportation facilities and other infrastructure.

Public Facilities and Services Policies

WATER SUPPLY AND DELIVERY POLICIES

- PFS-2.1. Water Conservation. The City shall continue to implement water conservation programs that save significant amounts of water at a reasonable cost.
- PFS-2.2. Water Supply. The City shall evaluate long-term water supply strategies, including acquiring or developing additional water supplies that would be available during drought periods, to offset the shortages anticipated from existing supplies, and improved water conservation and re-use. For new development, the City will require the installation of non-potable water infrastructure for irrigation of large landscaped areas where feasible and cost effective. Conditions of approval will require connection and use of non-potable water supplies when available at the site.
- PFS-2.5. Water Quality. The City shall monitor water quality regularly to ensure that safe drinking water standards are met and maintained in accordance with State and EPA regulations and take necessary measures to prevent contamination.
- PFS-2.6. Level of Service. The City shall maintain adequate levels of water service by preserving, improving, and replacing infrastructure as necessary.
- PFS-2.7. Water Supply for New Development. The City shall ensure that water supply capacity and infrastructure are in place prior to granting building permits for new development.
- PFS-2.8. Delta Water Supply. The City shall not approve new development that relies on water from the Delta Water Supply Project until this Delta water is allocated through a water right to the City by the State of Water Resources Control Board or a replacement water supply is secured.

- PFS-2.10. Sustainability of Surface Water Supplies. The City shall work in concert with other water purveyors in the region to seek long-term renewable surface water contracts, and shall take actions to acquire, protect, and expand surface water rights to serve growing water demands.
- PFS-2.11. Sustainability of Groundwater Supplies. The City shall work in concert with other water purveyors in the region to achieve the target yield (0.6 AF/year) of the drinking water aquifer, and shall limit its long-term average groundwater withdrawals to this target yield.
- PFS-2.12. Water for Irrigation. The City shall encourage the use of non-potable water supplies for irrigation of landscape.
- PFS-2.13. Timing of Future Development. Prior to approval of any tentative small lot subdivision map for a proposed residential project of more than 500 dwelling units, the City shall comply with Government Code Section 66473.7. Prior to approval of any tentative small lot subdivision map for a proposed residential project of 500 or fewer units, the City need not comply with Section 66473.7 or formally consult with the public water system that would provide water to a proposed subdivision, but shall nevertheless make a factual showing or impose conditions similar to those required by Section 66473.7 in order to ensure an adequate water supply for development authorized by the map. Prior to recordation of any final small lot subdivision map, or prior to City approval of any project-specific discretionary approval or entitlement required for nonresidential land uses, the City or the project applicant shall demonstrate, based on substantial evidence, the availability of a long-term, reliable water supply from a public water system for the amount of development that would be authorized by the final subdivision map or project-specific discretionary nonresidential approval or entitlement. Such a demonstration shall consist of a written verification that existing sources are or will be available and that needed physical improvements for treating and delivering water to the Project site will be in place prior to occupancy.

Utility Master Plans

The City of Stockton maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: *2010 City of Stockton Urban Water Management Plan* (Stockton, 2011), *2035 Wastewater Master Plan* (Stockton, 2008), *Water Master Plan* (Stockton, 2008), *City of Stockton Conceptual Storm Drain Master Plan* (Stockton, 2008), and the City of Stockton NPDES Municipal Stormwater Program Stormwater Management Plan (2009).

THRESHOLDS OF SIGNIFICANCE - WATER SUPPLY

Consistent with Appendix G of the CEQA Guidelines, the proposed Project may have a significant impact on the environment associated with Utilities if it would:

1. Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or

2. Have insufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements are needed.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-4: The proposed Project has the potential to require construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

Proposed Project:

The construction of onsite and offsite infrastructure improvements would be required to accommodate development of the proposed Project, as described below. Figures 2-11 and 2-12 illustrates the location of offsite infrastructure improvements.

Development areas proposed by the project would be served by a new potable water distribution system. The water system would consist of 24-inch and 30-inch lines along West Lane and Eight Mile Road, respectively, and a looped network of 18-, 16- and 12-inch lines located within the Project site. Local service lines, eight inches in diameter or larger would extend along proposed streets to provide water service to all proposed land uses at their street frontage. The proposed project would include the development of a new City potable water well to be located at the southwest corner of the site, adjacent to Bear Creek and West Lane; the proposed project intends to dedicate the site for well development.

One off-site element of the overall proposed Project would involve potable water pipeline construction. The off-site water pipeline would include extension of a 30-inch water pipeline from the existing 12-inch water line along Eight Mile Road east 1,200 linear feet (LF) to Lower Sacramento Road and along Eight Mile Road to West Lane. This pipeline would ultimately connect to an existing water main at Marlette Road.

The proposed Project would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service. Implementation of the proposed Project would have a **less than significant** impact relative to this topic.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not have the potential to require construction of new water treatment facilities or expansion of existing facilities. Under this alternative, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

This Alternative would require extension of offsite water conveyance infrastructure to the Project site for potable water and irrigation water. All offsite water utility improvements will be in or adjacent to existing roadways along the perimeter of the Project site, thereby limiting any potential impact to areas that were not already disturbed.

The proposed Project would require the construction of new onsite water conveyance infrastructure. All onsite water utility improvements will be within existing agricultural lands, the environmental impacts of which are discussed throughout this EIR.

This Alternative would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service. Implementation of this Alternative would have a **less than significant** impact relative to this topic. Compared to the proposed Project, this Alternative is equal relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

This Alternative would require extension of offsite water conveyance infrastructure to the Project site for potable water and irrigation water. All offsite water utility improvements will be in or adjacent to existing roadways along the perimeter of the Project site, thereby limiting any potential impact to areas that were not already disturbed.

The proposed Project would require the construction of new onsite water conveyance infrastructure. All onsite water utility improvements will be within existing agricultural lands, the environmental impacts of which are discussed throughout this EIR.

This Alternative would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service. Implementation of this Alternative would have a **less than significant** impact relative to this topic. Compared to the proposed Project, this Alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site.

The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

This Alternative would require extension of offsite water conveyance infrastructure to the Project site for potable water and irrigation water. All offsite water utility improvements will be in or adjacent to existing roadways along the perimeter of the Project site, thereby limiting any potential impact to areas that were not already disturbed.

The proposed Project would require the construction of new onsite water conveyance infrastructure. All onsite water utility improvements will be within existing agricultural lands, the environmental impacts of which are discussed throughout this EIR. This Alternative would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service. Implementation of this Alternative would have a **less than significant** impact relative to this topic. Compared to the proposed Project, this Alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

This Alternative would require extension of offsite water conveyance infrastructure to the Project site for potable water and irrigation water. All offsite water utility improvements will be in or adjacent to existing roadways along the perimeter of the Project site, thereby limiting any potential impact to areas that were not already disturbed.

The proposed Project would require the construction of new onsite water conveyance infrastructure. All onsite water utility improvements will be within existing agricultural lands, the environmental impacts of which are discussed throughout this EIR.

This Alternative would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service. Implementation of this Alternative would have a **less than significant** impact relative to this topic. Compared to the proposed Project, this Alternative is equal relative to this topic.

Impact 3.14-5: The proposed Project has the potential to have insufficient water supplies available to serve the Project from existing entitlements and resources. (Less than Significant)**Proposed Project:**

Project Water Demand: The City has adequate water supplies to support existing demand in the City in addition to the proposed Project under average daily and maximum daily demand conditions. Water demand for current and proposed uses in the City of Stockton is approximately 26,319 AFY (in Year 2015). The City has a total supply of 96,480 AFY (Year 2015), leaving 70,161 AFY available. As shown in Table 3.14-3, the proposed Project's water demand would be approximately 808.01 AFY.

A comparison of the City's projected water supplies and demands is shown in Table 3.14-8 for Normal, Single Dry, and Multiple Dry Years. The supply-demand difference in Table 3.14-8 indicates that the City will have sufficient water to meet its customers' needs through 2040.

Conclusion: The Water Supply Assessment completed for the proposed Project demonstrates that the City's existing and additional potable water supplies are sufficient to meet the City's existing and projected future potable water demands to the year 2040 under all hydrologic conditions.

As identified above, the proposed Project would not result in insufficient water supplies available to serve the project from existing entitlements and resources. Therefore, the proposed Project would result in a **less than significant** impact to water supplies.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Therefore, implementation of the No Build Alternative would not have the potential to have insufficient water supplies available to serve the Project. Under this alternative, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this Alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Project Water Demand: The City has adequate water supplies to support existing demand in the City in addition to the proposed Project under this Alternative under average daily and maximum daily demand conditions. Water demand for current and proposed uses in the City of Stockton is approximately 26,319 AFY (in Year 2015). The City has a total supply of 96,480 AFY (Year 2015), leaving 70,161 AFY available. As shown in Table 3.14-9 below, the With Bridge Alternative, if built, is estimated to generate approximately 808.11 AFY. This would be approximately 0.1 AFY more than for the proposed Project. Nonetheless, given the City's projected available supply, there would be sufficient supply to serve this Alternative.

3.14 UTILITIES

It is noted that the With Bridge Alternative would result in a similar number of residential connections per acre as the proposed Project. Therefore, the same unit water demands were used for the proposed Project as for the With Bridge Alternative.

TABLE 3.14-9: WITH BRIDGE ALTERNATIVE - TOTAL AVERAGE ANNUAL WATER DEMAND

LAND USE	ACREAGES (ACRES)	UNIT WATER DEMAND FACTOR (AF/ACRE/YEAR)	ESTIMATED WATER DEMAND (AFY)
Single Family Residential	231.22	1.65	381.51
Multi-family Residential	11.7	22.33	261.26
Commercial	10.5	1.5	15.75
Industrial	15.57	1.5	23.36
Parks and Recreation	15.57	2.0	31.14
Major Roads	21.55	1.5	32.325
Schools and Institutional Facilities	14.7	1.5	22.05
Open Space/Agriculture	20.36	2.0	40.72
Totals	341.17	--	808.11

SOURCE: WATER SUPPLY ASSESSMENT FOR THE TRA VIGNE DEVELOPMENT PROJECT (CITY OF STOCKTON MUNICIPAL UTILITIES DEPARTMENT, 2017); DE NOVO PLANNING GROUP, 2017.

Conclusion: This Alternative would result in a **less than significant** impact to water supplies. Compared to the proposed Project, this Alternative is slightly inferior relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

Project Water Demand: The City has adequate water supplies to support existing demand in the City in addition to the proposed Project under this Alternative under average daily and maximum daily demand conditions. Water demand for current and proposed uses in the City of Stockton is approximately 26,319 AFY (in Year 2015). The City has a total supply of 96,480 AFY (Year 2015), leaving 70,161 AFY available. As shown in Table 3.14-10 below, the General Plan 2035 Alternative, if built, is estimated to generate approximately 1,165.17 AFY. This would be approximately 357.2 AFY more than for the proposed Project. Nonetheless, given the City's projected available supply, there would be sufficient supply to serve this Alternative.

TABLE 3.14-10: GENERAL PLAN 2035 ALTERNATIVE - TOTAL AVERAGE ANNUAL WATER DEMAND

LAND USE	ACREAGES (ACRES)	UNIT WATER DEMAND FACTOR (AF/ACRE/YEAR)	ESTIMATED WATER DEMAND (AFY)
Single Family Residential	262.49	3.10	813.719
Multi-family Residential	10.67	22.33	238.26
Commercial	9.00	1.5	13.50
Industrial	15.57	1.5	23.36
Parks and Recreation	22.35	2.0	44.70
Major Roads	21.09	1.5	31.64
Schools and Institutional Facilities	0	1.5	0
Open Space/Agriculture	0	2.0	0
Totals	341.17	--	1,165.17

SOURCE: WATER SUPPLY ASSESSMENT FOR THE TRA VIGNE DEVELOPMENT PROJECT (CITY OF STOCKTON MUNICIPAL UTILITIES DEPARTMENT, 2017); DE NOVO PLANNING GROUP, 2017.

It is noted that a different unit water demands for the single-family residential use was used for the proposed Project than for the General Plan 2035 Alternative. Based on the land use tabulation for this alternative, total residential units range from 1,978 to 2,776. Of the 2,776 units, up to 309 units would be multi-family residential, and up to 2,467 would be single family residential. Using the maximum number of multi-family residential units, the overall average over the 10.67 acres of multi-family residential uses is approximately 29.0 multi-family residential connections per multi-family residential acre. This is the same as the proposed Project. Therefore, the same unit water demand for the multi-family residential use would apply. Using the maximum number of single family residential units, the overall average over the 262.49 acres of single family residential uses is approximately 9.4 single family residential connections per single family residential acre. The aforementioned number of single-residential connections per acre value was used to calculate the unit water demand for the single-residential portion of the General Plan 2035 Alternative.

Conclusion: This Alternative would result in a **less than significant** impact to water supplies. Compared to the proposed Project, this Alternative is inferior relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

Project Water Demand: The City has adequate water supplies to support existing demand in the City in addition to the proposed Project under this Alternative under average daily and maximum daily demand conditions. Water demand for current and proposed uses in the City of Stockton is approximately 26,319 AFY (in Year 2015). The City has a total supply of 96,480 AFY (Year 2015), leaving 70,161 AFY available. As shown in Table 3.14-11 below, the Reduced Project Alternative, if built, is estimated to generate approximately 493.79 AFY. This estimated demand would be approximately 413.8 AFY less than estimated for the proposed Project. Given the City's projected available supply, there would be sufficient supply to serve this Alternative.

TABLE 3.14-11: REDUCED PROJECT ALTERNATIVE - TOTAL AVERAGE ANNUAL WATER DEMAND

<i>LAND USE</i>	<i>ACREAGES (ACRES)</i>	<i>UNIT WATER DEMAND FACTOR (AF/ACRE/YEAR)</i>	<i>ESTIMATED WATER DEMAND (AFY)</i>
Single Family Residential	140.42	1.65	231.69
Multi-family Residential	7.72	22.33	172.39
Commercial	0	1.5	0
Industrial	0	1.5	0
Parks and Recreation	9.95	2.0	19.90
Major Roads	13.92	1.5	20.88
Schools and Institutional Facilities	14.7	1.5	22.05
Open Space/Agriculture	13.44	2	26.88
Totals	200.15	--	493.79

SOURCE: WATER SUPPLY ASSESSMENT FOR THE TRA VIGNE DEVELOPMENT PROJECT (CITY OF STOCKTON MUNICIPAL UTILITIES DEPARTMENT, 2017); DE NOVO PLANNING GROUP, 2017.

It is noted that the Reduced Project Alternative would result in a similar number of residential connections per acre as the proposed Project. Because the unit water demands are based on the acreage of each land use, the reduced development footprint accounts for the reduced number of units under this Alternative. Therefore, the same unit water demands were used for the proposed Project as for the With Bridge Alternative.

Conclusion: This Alternative would result in a **less than significant** impact to water supplies. Compared to the proposed Project, this Alternative is superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Project Water Demand: The City has adequate water supplies to support existing demand in the City in addition to the proposed Project under this Alternative under average daily and maximum daily demand conditions. Water demand for current and proposed uses in the City of Stockton is approximately 26,319 AFY (in Year 2015). The City has a total supply of 96,480 AFY (Year 2015), leaving 70,161 AFY available. As shown in Table 3.14-12 below, the Reduced Intensity/Density Alternative, if built, is estimated to generate approximately 809.58 AFY. The estimated water demand under this alternative would be approximately 1.57 AFY more than estimated for the proposed Project. Given the City's projected available supply, there would be sufficient supply to serve this Alternative.

It is noted that the Reduced Intensity/Density Alternative would maintain the same development footprint as the proposed Project (318.82 acres). Therefore, the same unit water demands were used for the proposed Project as for the Reduced Intensity/Density Alternative. Because the unit

water demands are based on the acreage of each land use, this Alternative would result in similar water demand as the proposed Project.

TABLE 3.14-12: REDUCED INTENSITY/DENSITY ALTERNATIVE - TOTAL AVERAGE ANNUAL WATER DEMAND

<i>LAND USE</i>	<i>ACREAGES (ACRES)</i>	<i>UNIT WATER DEMAND FACTOR (AF/ACRE/YEAR)</i>	<i>ESTIMATED WATER DEMAND (AFY)</i>
Single Family Residential	242.68	1.65	400.422
Multi-family Residential	11.7	22.33	261.261
Commercial	0	1.5	0
Industrial	15.57	1.5	23.355
Parks and Recreation	15.07	2.0	30.14
Major Roads	21.09	1.5	31.635
Schools and Institutional Facilities	14.7	1.5	22.05
Open Space/Agriculture	20.36	2	40.72
Totals	341.17	--	809.583

SOURCE: WATER SUPPLY ASSESSMENT FOR THE TRA VIGNE DEVELOPMENT PROJECT (CITY OF STOCKTON MUNICIPAL UTILITIES DEPARTMENT, 2017); DE NOVO PLANNING GROUP, 2017.

Conclusion: This Alternative would result in a **less than significant** impact to water supplies. Compared to the proposed Project, this Alternative is equal relative to this topic.

3.14.3 STORM WATER

EXISTING SETTING

The following information was provided in the *City of Stockton Conceptual Storm Drain Master Plan* (2008), the *City of Stockton NPDES Stormwater Management Plan* (2009), the *City of Stockton National Pollutant Discharge Elimination System Municipal Stormwater Program* (2015), the *City of Stockton Municipal Service Review* (2008), and contained in other City resources.

Existing City Facilities

The City of Stockton provides and maintains a system of storm drains, detention basins, and pumping facilities as well as monitoring and control of the operations of the storm drain system. Additionally the City enforces storm drain regulations established by the US EPA and the State of California.

The City of Stockton Stormwater Utility Division operates and maintains 620 miles of pipe, 72 pump stations, and over 100 discharge pipes that collect and route runoff from the City of Stockton's streets and gutters and into local rivers, creeks, and sloughs. The City of Stockton operates under Municipal Stormwater Permit Requirements Order No. R5-2007-0173.

The Stormwater Utility Division also manages the City's National Pollutant Discharge Elimination Permit (NPDES) and all the monitoring, testing, education, and programs required under the permit.

The NPDES Stormwater Program regulates stormwater discharges from three potential sources:

- construction activities,
- industrial activities, and
- municipal stormwater system.

CITY OF STOCKTON MUNICIPAL STORMWATER SYSTEM

The City of Stockton Sphere of Influence (SOI) is situated just east of the Sacramento-San Joaquin Delta, a low-lying region of sloughs and channels connecting local waterways with the Suisan Bay and the San Francisco Bay. The city and surrounding areas within the SOI depend on creeks, rivers, and sloughs to collect and convey storm runoff to the San Joaquin River and the Delta. The primary watercourses that drain the SOI include: San Joaquin River, Bear Creek, Mosher Slough, Five Mile Slough, Fourteen Mile Slough, Calaveras River and Stockton Diverting Canal, Smith Canal, and French Camp and Walker Sloughs. Most storm drains and pump stations within the service area have adequate capacity to collection stormwater drainage (City of Stockton MSR, 2008).

Stormwater runoff occurs when precipitation from rain and snow melts and does not absorb into the ground. As the runoff flows over the land or impervious surfaces (paved streets, parking lots, and building rooftops), it accumulates debris, chemicals, sediment, and other pollutants that could adversely affect water quality. Stockton's stormwater is collected in catch basins and transported,

untreated, directly into our local rivers, creeks, and sloughs, and eventually to the Delta. Best management practices (BMPs) is the primary method to stop contaminants from entering the system.

Municipal Separate Storm Sewer System (MS4) permits are required under the Clean Water Act and require the discharger to develop and implement a Storm Water Management Plan to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP). The management plans specify what BMPs will be used to address certain program areas: such as public education and outreach, illicit discharge detection and elimination, construction and post-construction, and good housekeeping for municipal operations.

Each year the City is required to provide an Annual Report to the State on their Stormwater Program and BMPs.

CONSTRUCTION ACTIVITIES

Operators of construction sites that are one acre or larger, including smaller sites part of a larger common plan of development, are monitored under the State's Construction General Permit. The Stormwater Program also requires specific control measures for post-construction runoff from new developments and redeveloped areas.

The Stormwater Quality Control Criteria Plan (SWQCCP) provides development standards on these controls, including general site control measures, site-specific source control measures, and treatment control measures for the following:

- Home subdivisions with 10 or more housing units
- Commercial developments with impervious areas greater than 5,000 sq. ft.
- Automotive repair shops with impervious areas greater than 5,000 sq. ft.
- Restaurants
- Parking lots greater than 5,000 sq. ft. or with 25 or more parking spaces
- Streets and roads with one acre or more of impervious area
- Retail gas outlets with 5,000 or more sq. ft. of impervious area

INDUSTRIAL ACTIVITIES

The Stormwater Program works with local industries to prevent stormwater pollution using:

- Inspections of industrial sites,
- Record review of Stormwater Pollution Prevention Plans (SWPPPs) annual reports, and conditions of acceptance,
- Wet and dry weather sampling, and
- Complaint investigation.

Industrial companies may require authorization under an NPDES industrial stormwater permit for stormwater discharges.

Existing Flood Concerns

State floodplain legislation (Senate Bill 5) for the San Joaquin River region has resulted in stricter development standards beginning in 2016. Urban areas that depend on levee protection are required to have a 200-year level of flood protection. SB 5 prohibits a city or county within the Central Valley Flood Protection Plan area from approving a development agreement, discretionary permit or entitlement, tentative map or parcel map for any property within a flood hazard zone unless they can demonstrate any of the following:

- the project has already achieved the applicable level of flood protection:
- conditions have been imposed on the project approval that will eventually result in the applicable level of flood protection: or
- adequate progress is being made towards achievement of the applicable level of flood protection.

Adequate progress is defined as meeting all of the following:

1. The project scope, cost and schedule have been developed;
2. In any given year, at least 90% of the revenues scheduled for that year have been appropriated and expended consistent with the schedule;
3. Construction of critical features is progressing as indicated by the actual expenditure of budget funds;
4. The city or county has not been responsible for any significant delay in completion of the system; and
5. The above information has been provided to the DWR and the Central Valley Flood Protection Board and the local flood management agency shall annually report on the efforts to complete the project.

BEAR CREEK

As of 2008, runoff collected in storm drains within the Bear Creek watershed was pumped into Bear Creek from three locations: at Interstate 5, Iron Canyon Court, and Thornton Road. Bear Creek has the capacity to carry the 100-year peak runoff from city lands within its banks and has the additional capacity to carry runoff from developing lands south of Eight Mile Road. This capacity is provided by the SJAFCA Locally-Constructed Flood Control Project that increased flood protection in the Stockton Metropolitan Area.

REGULATORY SETTING - STORM WATER

Clean Water Act

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for “any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters.” Section 404, Title 33, Section 1344 of the CWA in part authorizes the U.S. Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e); Issue permits “for the discharge of dredged or fill material into the navigable waters at specified disposal sites”: subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if “the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas”: subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r);
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s);
- Section 401 certification is required prior to final issuance of Section 404 permits from the U.S. Army Corps of Engineers.

The California State Water Resources Control Board and RWQCBs enforce State of California statutes that are equivalent to or more stringent than the Federal statutes. RWQCBs are responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters including the San Joaquin River, and other waters in the City of Stockton Planning Area. In the Stockton Planning Area the RWQCB is responsible for protecting surface and groundwater from both point and non-point sources of pollution. Water quality objectives for all of the water bodies within the Stockton Planning Area were established by the RWQCB and are listed in its Basin Plan. It is noted that the CWA is also discussed in Section 3.9, Hydrology and Water Quality.

National Pollutant Discharge Elimination System (NPDES)

NPDES permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less, and are therefore to be updated regularly. The rapid and dramatic population and urban growth in the Central Valley Region has caused a significant increase in NPDES permit applications for new waste discharges. To expedite the permit issuance process, the SWRCB has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the Central Valley Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB.

A new Phase II Small Municipal Separate Storm Sewer (MS4) General Permit was adopted by the State Water Resources Control Board on February 5, 2013 became effective July 1, 2013. The Permit has numerous new components and the City is required to implement these components in stages over the five year period of the Permit.

California Water Code

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

(a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:

(1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.

(2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.

(3) A person operating, or proposing to construct, an injection well.

(b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

Water Quality Control Plan for the Central Valley Region

The Water Quality Control Plan for the Central Valley Region (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term “water quality standards,” as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region’s ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the

levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

200-Year Flood Protection in Central Valley

Both State policy and recently enacted State legislation (Senate Bill 5) call for 200-year (0.5% annual chance) flood protection to be the minimum level of protection for urban and urbanizing areas in the Central Valley. Senate Bill 5 (SB5) requires that the 200-year protection be consistent with criteria used or developed by the Department of Water Resources. SB 5 requires all urban and urbanizing areas in the Sacramento and San Joaquin Valleys to achieve 200-year flood protection in order to approve development. The new law restricts approval of development after 2015 if “adequate progress” towards achieving this standard is not met. Urban and urbanizing areas protected by State-Federal project levees cannot use “adequate progress” as a condition to approve development after 2025. Adequate progress is defined as meeting all of the following:

1. The project scope, cost and schedule have been developed;
2. In any given year, at least 90% of the revenues scheduled for that year have been appropriated and expended consistent with the schedule;
3. Construction of critical features is progressing as indicated by the actual expenditure of budget funds;
4. The city or county has not been responsible for any significant delay in completion of the system; and
5. The above information has been provided to the DWR and the Central Valley Flood Protection Board and the local flood management agency shall annually report on the efforts to complete the project.

City of Stockton General Plan

The following policies of the Stockton General Plan related to stormwater are applicable to the proposed Project.

Community Design Element

PUBLIC WORKS POLICY

- CD-6.5. Storm Water Design. The City shall ensure that storm water facilities, such as detention basins, ditches and outfalls, be planned and design to support citywide and district urban design objectives.

Public Facilities Element**STORMWATER POLICIES**

- PFS-4.1: Creek and Slough Capacity. The City shall require detention storage with measured release to ensure that the capacity of downstream creeks and sloughs will not be exceeded.
To this end:
 - Outflow to creeks and sloughs shall be monitored and controlled to avoid exceeding downstream channel capacities;
 - Storage facilities shall be coordinated and managed to prevent problems caused by timing of storage outflows.
- PFS-4.2: Watershed Drainage Plans. The City shall require the preparation of watershed drainage plans for proposed developments within the urban services boundary. These plans shall define needed drainage improvements and estimate construction costs for these improvements. The plans will also identify a range of feasible measures that can be implemented to reduce all public safety and/or environmental impacts associated with the construction, operation, or maintenance of any required drainage improvements (i.e., drainage basins, etc.).
- PFS-4.3: Best Management Practices. The City shall require, as part of watershed drainage plans, Best Management Practices (BMPs), to reduce pollutants to the maximum extent practicable.
 - As of November 25, 2003, the City shall require that all new development and redevelopment projects to comply with the post-construction Best Management Practices (BMPs) called for in the Stormwater Quality Control Criteria Plan (SWQCCP), as outlined in the City's Phase 1 Stormwater NPDES permit issued by the California Water Quality Control Board, Central Valley Region (Order No. R5-20020-0181). Also the owners, developers, and/or successors-in-interest must establish a maintenance entity acceptable to the City to provide funding for the operation, maintenance, and replacement costs of all post-construction BMPs.
 - The City shall require, as part of its Storm Water NPDES Permit and ordinances, to implement the Grading Plan, Erosion Control Plan, and Pollution Prevention Plan (SWPPP) during construction activities of any improvement plans, new development and redevelopment projects for reducing pollutants to the maximum extent practicable.
- PFS-4.4: Regional Basins. The City shall define drainage service areas and encourage and support the use of regional stormwater facilities, including stormwater detention and stormwater quality basins within these service areas.
- PFS-4.5: Public Facilities Fees. The City shall develop a Stormwater Management Utility fee that will financially support the stormwater system operation, the Stormwater Management Plan, and maintenance and management program activities.
- PFS-4.6: Stormwater Facility Sizing. The City shall ensure through the development review process that public facilities and infrastructure are designed to meet ultimate capacity needs, pursuant to a master plan, to avoid the need for future replacement to

achieve upsizing. For facilities subject to incremental sizing, the initial design shall include adequate land area and any other elements not easily expanded in the future.

- PFS-4.7: Storm Water Discharge. The City shall require for new development within the horizontal surface boundary of the Stockton Metropolitan Airport that any storm water detention basin be designed to discharge as rapidly as possible to minimize the attraction of birds in the vicinity of the airport.
- PFS-4.8: Low Impact Development. The City shall incorporate low impact development (LID) alternatives for stormwater quality control into development requirements. LID alternatives will include: (1) conserving natural areas and reducing imperviousness, (2) runoff storage, (3) hydro-modification (to mimic pre-development runoff volume and flow rate), and (4) public education.

City of Stockton Municipal Code

TITLE 13 CHAPTER 13.16 STORM WATER MANAGEMENT AND DISCHARGE CONTROL

This establishes uniform requirements for protecting and enhancing the water quality of our watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Federal Clean Water Act. This chapter is also intended to promote the future health, safety, general welfare, and protection of property of the City citizens by establishing requirements for:

- A. Operating and maintaining the municipal stormwater system.
- B. Eliminating non-stormwater discharges to the municipal separate storm drain.
- C. Controlling the discharge to municipal separate storm drains from spills, dumping, or disposal of materials other than stormwater.
- D. Reducing pollutants in stormwater discharges to the maximum extent practicable. (Prior code § 7-801)

TITLE 13 CHAPTER 13.20 STORMWATER QUALITY CONTROL CRITERIA PLAN

This chapter establishes requirements for:

- A. Selection of post-construction stormwater quality controls (BMPs) that reduce pollutants from new development and redevelopment to the maximum extent practicable (MEP) in a manner that is complimentary to the City's stormwater management program and satisfy the requirements of the California General Construction Activities Stormwater Permit and other regulatory requirements.
- B. Definition of evaluation criteria to ensure that the BMPs can be rated in a comparative manner and that the pollutant reduction credit assigned is consistent with the City's stormwater management goals and objectives.

- C. Definition of eligibility standards, procedures, and administrative practices to ensure that stormwater pollutant prevention credits (SWPPC) resulting from the implementation of the selected BMPs are real, permanent, and surplus.
- D. Provide an administrative mechanism for SWPPC to be created and used as required by City regulations to meet the post-construction water quality objectives of the Stormwater Management Program. (Prior code § 7-859.1)

TITLE 13 CHAPTER 13.24 STORMWATER INDUSTRIAL FACILITIES MONITORING PLAN

This plan:

- A. Establishes guidelines for identifying and ranking of priority industrial facilities (PIFs) for purposes of inspection and monitoring, and for categorizing these facilities as a major or minor PIF.
- B. Defines standards and procedures for the City to issue and enforce conditions of acceptance for stormwater discharge from priority industrial facilities.
- C. Defines standards, procedures, and practices for the inspection of priority industrial facilities.
- D. Defines a progressive enforcement plan designed to ensure industry compliance with the City industrial condition of acceptance.
- E. Establishes the need for an industrial outreach program to educate local industry about stormwater pollution control.
- F. Establishes standards, procedures, and practices for and industrial investigation/compliance monitoring program for priority industrial facilities, and a monitoring exemption certification program. (Prior code § 7-860.1)

Utility Master Plans

The City of Stockton maintains a variety of Master Plan documents that guide the design, development, and maintenance of the utilities within the city limits. These include: *2010 City of Stockton Urban Water Management Plan* (Stockton, 2011), *2035 Wastewater Master Plan* (Stockton, 2008), *Water Master Plan* (Stockton, 2008), *City of Stockton Conceptual Storm Drain Master Plan* (Stockton, 2008), and the *City of Stockton NPDES Municipal Stormwater Program Stormwater Management Plan* (2009).

THRESHOLDS OF SIGNIFICANCE - STORM WATER

Consistent with Appendix G of the CEQA Guidelines, the proposed Project may have a significant impact on the environment associated with Utilities if it would:

1. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

IMPACTS AND MITIGATION MEASURES

Impact 3.14-6: The proposed Project has the potential to require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant with Mitigation)

Proposed Project:

Development of the proposed Project would include construction of a new storm drainage system, including a drainage collection system, and two detention basins (one in the southwestern corner of Tra Vigne West, and one at the southwestern corner of Tra Vigne East). It is anticipated that a pump station that would discharge to Bear Creek would be installed at the Tra Vigne West detention basin.

Proposed storm drain lines would range from 12 inches to 60 inches in diameter. Collection lines would flow generally west and south to the proposed detention basins located in the southwest corners of Tra Vigne East and Tra Vigne West.

The City will require that a maintenance entity be established to provide for the operation, maintenance, and replacement costs of the detention pond system and other water quality features of the Project. The perimeter of the detention facilities will be landscaped to temper and screen views of the detention basins. Additionally, fencing would be constructed around the detention basin areas for safety and security purposes.

Areas of proposed development within the Project site will be required to meet the "volume reduction" requirements of the City's most recent stormwater NPDES permit. Units of development would incorporate design features that would divert storm water to the groundwater system and/or detain runoff before it reaches the collection system. These design features would include measures also described as Low Impact Development (LID) and Volume Reduction Measures, such as grassy swales, porous pavement, rain barrels, and rain gardens, among others. Compliance with the City's stormwater standards will require that storm drainage from new development be reduced below "existing runoff" rates.

Disposal of storm water collected to the Tra Vigne West detention basin would be handled by a new on-site storm water pump station and discharge outfall to Bear Creek. The pump station would operate when storm water quality and detention objectives have been met. The pump station is expected to consist of a concrete sump, trash screen and two or more pumps that would deliver storm water flow over or through the Bear Creek levee to an outfall facility. The pump station facility may include an emergency generator to supply electrical power to the pump station during power outages. Disposal of storm water collected to the Tra Vigne East detention basin would be conveyed to the Tra Vigne West detention basin via a 24- and 30-inch storm drain line.

The outfall structure would consist of two or more pipelines directed southeasterly to a point inside the Bear Creek levee. Outfall pipelines would likely terminate at a concrete headwall and

energy dissipators set into the toe of the Bear Creek levee; storm drainage would be discharged to a concrete, gunite or riprap apron to flow into the Bear Creek channel. Outfall pipes would terminate in a “tideflex” or a comparable check valve system.

The proposed Project includes development of a new storm drainage system to serve the proposed uses as described above. The potential environmental effects resulting from construction of the storm drainage system are analyzed throughout this Draft EIR, and in some cases, there are potentially significant impacts associated with construction of this infrastructure. Where impacts are identified for each environmental topic, mitigation measures are developed to avoid, minimize, or compensate for the impact to the extent practicable. All mitigation measures presented throughout this EIR will be implemented to reduce impacts to the extent practicable. There will not be any significant impacts beyond what is disclosed in the other chapters of this document. In addition to the other mitigation measures presented throughout this document, the following mitigation measure is intended to ensure that the drainage system is designed and constructed to meet the City’s performance standards. With the implementation of mitigation measure presented throughout this EIR, and the following mitigation measure, impacts would be ***less than significant***.

MITIGATION MEASURE

Mitigation Measure 3.14-2: *Prior to the issuance of a building or grading permit, the project applicant shall submit a drainage plan to the City of Stockton for review and approval. The plan shall include an engineered Storm Water Quality Control Criteria Plan (SWQCCP) that demonstrates attainment of pre-project runoff requirements prior to release at the Bear Creek outfall. The plan shall describe the volume reduction measures and treatment controls consistent with City of Stockton requirements.*

RESULTING LEVEL OF SIGNIFICANCE

Mitigation Measure 3.14-2 requires the Project applicant to submit a drainage plan to the City of Stockton. With implementation of Mitigation Measure 3.14-2, the proposed Project would have a ***less than significant*** impact relative to this topic.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Therefore, implementation of the No Build Alternative would not have the potential to require or result in the construction of new storm water drainage facilities or expansion of existing facilities. Under this alternative, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Similar to the proposed project, development of this alternative would include construction of a new storm drainage system, including a drainage collection system, and two detention basins. It is anticipated that a pump station that would discharge to Bear Creek would be installed at the Tra Vigne West detention basin. The proposed storm drain lines would range from 12 inches to 60 inches in diameter. Collection lines would flow generally west and south to the detention basins.

Areas development will be required to meet the "volume reduction" requirements of the City's most recent stormwater NPDES permit. Units of development would incorporate design features that would divert storm water to the groundwater system and/or detain runoff before it reaches the collection system. These design features would include measures also described as LID and Volume Reduction Measures, such as grassy swales, porous pavement, rain barrels, and rain gardens, among others. Compliance with the City's stormwater standards will require that storm drainage from new development be reduced below "existing runoff" rates.

Disposal of storm water collected to the detention basins would be handled by a new on-site storm water pump station and discharge outfall to Bear Creek. The pump station would operate when storm water quality and detention objectives have been met. The pump station is expected to consist of a concrete sump, trash screen and two or more pumps that would deliver storm water flow over or through the Bear Creek levee to an outfall facility. The pump station facility may include an emergency generator to supply electrical power to the pump station during power outages. Disposal of storm water collected to the eastern detention basin would be conveyed to the western detention basin via a 24- and 30-inch storm drain line.

The outfall structure would consist of two or more pipelines directed southeasterly to a point inside the Bear Creek levee. Outfall pipelines would likely terminate at a concrete headwall and energy dissipators set into the toe of the Bear Creek levee; storm drainage would be discharged to a concrete, gunite or riprap apron to flow into the Bear Creek channel. Outfall pipes would terminate in a "tideflex" or a comparable check valve system.

Mitigation Measure 3.14-2 requires the project applicant to install a drainage system that meets this performance standard, and provide a SWQCCP to the City of Stockton for review and approval. With the implementation of this mitigation measure, drainage impacts would be reduced to **less than significant**. This alternative would be equal to the proposed Project, relative to this topic.

General Plan 2035 Alternative:

Under the General Plan 2035 Alternative, the entire 318.82-acre Project site would be developed with residential and commercial land uses.

Similar to the proposed project, development of this alternative would include construction of a new storm drainage system, including a drainage collection system, and two detention basins. It is anticipated that a pump station that would discharge to Bear Creek would be installed at the Tra Vigne West detention basin. The proposed storm drain lines would range from 12 inches to 60 inches in diameter. Collection lines would flow generally west and south to the detention basins.

Areas development will be required to meet the "volume reduction" requirements of the City's most recent stormwater NPDES permit. Units of development would incorporate design features that would divert storm water to the groundwater system and/or detain runoff before it reaches the collection system. These design features would include measures also described as LID and Volume Reduction Measures, such as grassy swales, porous pavement, rain barrels, and rain gardens, among others. Compliance with the City's stormwater standards will require that storm drainage from new development be reduced below "existing runoff" rates.

Disposal of storm water collected to the detention basins would be handled by a new on-site storm water pump station and discharge outfall to Bear Creek. The pump station would operate when storm water quality and detention objectives have been met. The pump station is expected to consist of a concrete sump, trash screen and two or more pumps that would deliver storm water flow over or through the Bear Creek levee to an outfall facility. The pump station facility may include an emergency generator to supply electrical power to the pump station during power outages. Disposal of storm water collected to the eastern detention basin would be conveyed to the western detention basin via a 24- and 30-inch storm drain line.

The outfall structure would consist of two or more pipelines directed southeasterly to a point inside the Bear Creek levee. Outfall pipelines would likely terminate at a concrete headwall and energy dissipators set into the toe of the Bear Creek levee; storm drainage would be discharged to a concrete, gunite or riprap apron to flow into the Bear Creek channel. Outfall pipes would terminate in a "tideflex" or a comparable check valve system.

Mitigation Measure 3.14-2 requires the project applicant to install a drainage system that meets this performance standard, and provide a SWQCCP to the City of Stockton for review and approval. With the implementation of this mitigation measure, drainage impacts would be reduced to **less than significant**. This alternative would be equal to the proposed Project, relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

Similar to the proposed project, development of this alternative would include construction of a new storm drainage system, including a drainage collection system, and two detention basins. It is anticipated that a pump station that would discharge to Bear Creek would be installed at the Tra Vigne West detention basin. The proposed storm drain lines would range from 12 inches to 60 inches in diameter. Collection lines would flow generally west and south to the detention basins.

Areas development will be required to meet the "volume reduction" requirements of the City's most recent stormwater NPDES permit. Units of development would incorporate design features that would divert storm water to the groundwater system and/or detain runoff before it reaches the collection system. These design features would include measures also described as LID and

Volume Reduction Measures, such as grassy swales, porous pavement, rain barrels, and rain gardens, among others. Compliance with the City's stormwater standards will require that storm drainage from new development be reduced below "existing runoff" rates.

Disposal of storm water collected to the detention basins would be handled by a new on-site storm water pump station and discharge outfall to Bear Creek. The pump station would operate when storm water quality and detention objectives have been met. The pump station is expected to consist of a concrete sump, trash screen and two or more pumps that would deliver storm water flow over or through the Bear Creek levee to an outfall facility. The pump station facility may include an emergency generator to supply electrical power to the pump station during power outages. Disposal of storm water collected to the eastern detention basin would be conveyed to the western detention basin via a 24- and 30-inch storm drain line.

The outfall structure would consist of two or more pipelines directed southeasterly to a point inside the Bear Creek levee. Outfall pipelines would likely terminate at a concrete headwall and energy dissipators set into the toe of the Bear Creek levee; storm drainage would be discharged to a concrete, gunite or riprap apron to flow into the Bear Creek channel. Outfall pipes would terminate in a "tideflex" or a comparable check valve system.

Mitigation Measure 3.14-2 requires the project applicant to install a drainage system that meets this performance standard, and provide a SWQCCP to the City of Stockton for review and approval. With the implementation of this mitigation measure, drainage impacts would be reduced to **less than significant**. This alternative would be equal to the proposed Project, relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Similar to the proposed project, development of this alternative would include construction of a new storm drainage system, including a drainage collection system, and two detention basins. It is anticipated that a pump station that would discharge to Bear Creek would be installed at the Tra Vigne West detention basin. The proposed storm drain lines would range from 12 inches to 60 inches in diameter. Collection lines would flow generally west and south to the detention basins.

Areas development will be required to meet the "volume reduction" requirements of the City's most recent stormwater NPDES permit. Units of development would incorporate design features that would divert storm water to the groundwater system and/or detain runoff before it reaches the collection system. These design features would include measures also described as LID and Volume Reduction Measures, such as grassy swales, porous pavement, rain barrels, and rain gardens, among others. Compliance with the City's stormwater standards will require that storm drainage from new development be reduced below "existing runoff" rates.

Disposal of storm water collected to the detention basins would be handled by a new on-site storm water pump station and discharge outfall to Bear Creek. The pump station would operate when storm water quality and detention objectives have been met. The pump station is expected to consist of a concrete sump, trash screen and two or more pumps that would deliver storm water flow over or through the Bear Creek levee to an outfall facility. The pump station facility may include an emergency generator to supply electrical power to the pump station during power outages. Disposal of storm water collected to the eastern detention basin would be conveyed to the western detention basin via a 24- and 30-inch storm drain line.

The outfall structure would consist of two or more pipelines directed southeasterly to a point inside the Bear Creek levee. Outfall pipelines would likely terminate at a concrete headwall and energy dissipators set into the toe of the Bear Creek levee; storm drainage would be discharged to a concrete, gunite or riprap apron to flow into the Bear Creek channel. Outfall pipes would terminate in a “tideflex” or a comparable check valve system.

Mitigation Measure 3.14-2 requires the project applicant to install a drainage system that meets this performance standard and, provide a SWQCCP to the City of Stockton for review and approval. With the implementation of this mitigation measure, drainage impacts would be reduced to **less than significant**. This alternative would be equal to the proposed Project, relative to this topic.

3.14.4 SOLID WASTE

EXISTING SETTING

The City of Stockton Public Works Department (Solid Waste & Recycling Division) provides solid waste hauling service for the City of Stockton. This agency would serve the proposed Project. In Stockton, residents who live in a single-family home, duplex or triplex are supplied with "residential" waste collection services. These services are provided at a fixed rate and include recycling, street sweeping and an annual neighborhood cleanup program at no additional charge. Stockton residents are provided with three wheeled carts - one for trash, one for recycling and one for green/food waste. Waste collection services are provided weekly on a day, as specified by the waste haulers that serve the City, which include Republic Services and Waste Management. Customers with brown-colored carts are served by Republic Services, and those with green-colored carts are served by Waste Management.

Solid waste from Stockton is primarily landfilled at the Forward Sanitary Landfill, located southeast of Stockton. Other landfills used include Foothill Sanitary and North County Landfills. All three landfills are summarized in Table 3.14-13 below. Table 3.14-14 summarizes the City of Stockton's disposal rate targets, as identified by Cal Recycle.

TABLE 3.14-13: CITY OF STOCKTON LANDFILL SUMMARY

LANDFILL	LOCATION	MAXIMUM DAILY THROUGHPUT (TONS/DAY)	REMAINING CAPACITY (CUBIC YARDS)	ANTICIPATED CLOSURE YEAR
Forward Sanitary	Manteca	8,668	22.1 Million	2021
Foothill Sanitary	Linden	1,500	125 Million	2055
North County	Lodi	1,200	35.4 Million	2048

SOURCE: CAL RECYCLE 2017.

TABLE 3.14-14: CITY OF STOCKTON WASTE DISPOSAL RATE TARGETS (POUNDS/DAY)

POPULATION		EMPLOYMENT	
Target	Annual	Target	Annual
6.9	5.1	21.0	16.3

SOURCE: CAL RECYCLE 2015.

REGULATORY SETTING – SOLID WASTE

AB 939: California's Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939) set a requirement for cities and counties to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling and composting. In order to achieve this goal, AB 939 requires that each City and County prepare and submit a Source Reduction and Recycling Element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 939 also established requirements for cities and counties to develop and implement plans for the safe management of household hazardous wastes. In order to achieve this goal, AB 939 requires that each city and county prepare and submit a Household Hazardous Waste Element.

AB 341 (75 Percent Solid Waste Diversion)

AB 341 requires CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the state to divert 75 percent of the solid waste generated in the state from disposal by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by January 1, 2012, and also streamlines various regulatory processes.

SB 1374 (Construction and Demolition Waste Materials Diversion)

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements, requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required the CIWMB to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

AB 2176 (Montanez, Chapter 879, Statutes of 2004)

This law requires the largest venue facilities and events (as defined) in each city and county to plan and implement solid waste diversion programs, and annually report the progress of those upon the request of their local government. In turn, local jurisdictions must report to the CIWMB waste diversion information for the top 10 percent of venues and events by waste generation.

A large event is defined as:

1. Serves an average of more than 2,000 individuals per day of operation (both people attending the event and those working at it—including volunteers—are included in this number); and
2. Charges an admission price or is run by a local agency.

The bill specifically includes public, nonprofit, or privately owned parks, parking lots, golf courses, street systems, or other open space when being used for an event, including, but not limited to, a sporting event or a flea market in addition to events that meet both of the above.

A large venue is defined as:

- A permanent facility that annually seats or serves an average of more than 2,000 individuals within the grounds of the facility per day of operation (both people attending the event and those working at it—including volunteers too—are included in this number).

Venues include, but are not limited to airports, amphitheaters, amusement parks, aquariums, arenas, conference or civic centers, fairgrounds, museums, halls, horse tracks, performing arts centers, racetracks, stadiums, theaters, zoos, and other public attraction facilities.

CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)

CALGreen requires the diversion of at least 50 percent of the construction waste generated during most new construction projects (CALGreen Sections 4.408 and 5.408) and some additions and alterations to nonresidential building projects.

City of Stockton General Plan

The following policies of the Stockton General Plan related to solid waste are applicable to the proposed Project.

Public Facilities and Services Element

SOLID AND HAZARDOUS WASTE POLICIES

- PFS-5.1 Solid Waste Reduction. The City shall promote the maximum feasible use of solid waste reduction, recycling, and composting of wastes and strive to reduce commercial and industrial waste on an annual basis.
- PFS-5.2 Recycling Program. The City shall continue to require recycling in public and private operations to reduce demand for solid waste disposal capacity.
- PFS-5.3 City Usage of Recycled Materials and Products. The City should use recycled materials and products where economically feasible.
- PFS-5.4 Private Usage of Recycled Products. The City shall work with recycling contractors to encourage businesses to use recycled products in their manufacturing processes and encourage consumers to purchase recycled products.
- PFS-5.5 Recycling of Hazardous Materials. The City shall require the proper disposal and recycling of hazardous materials.
- PFS-5.6 Recycling of Construction Debris. The City shall require the recycling of construction debris.
- PFS-5.7 Development Requirements. The City shall ensure that all new development has appropriate provisions for solid waste storage, handling, and collection pickup.

THRESHOLDS OF SIGNIFICANCE- SOLID WASTE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with Utilities if it will:

1. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
2. Comply with federal, State, and local statutes and regulations related to solid waste.

IMPACTS AND MITIGATION MEASURES

Impact 3.14-7: The proposed Project has the potential to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and comply with federal, State, and local statutes and regulations related to solid waste. (Less than Significant)

Proposed Project:

The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. The total permitted capacity of the Forward Landfill is 51.04 million cubic yards, which is expected to accommodate an operational life until January 1, 2021. The remaining capacity is 22,100,000 cubic yards. Solid waste generated by the proposed Project was estimated based on CalRecycle generation rate estimates by use (discussed below). The permitted maximum disposal at the Foothill Landfill is 1,500 tons per day. The remaining capacity is 125,000,000 cubic yards with an anticipated closure year of 2055. The permitted maximum disposal at the North County Landfill is 1,200 tons per day. The remaining capacity is 35,400,000 cubic yards with an anticipated closure year of 2048.

The proposed Project commercial space is estimated to generate roughly five pounds per day per 1,000 sf. For the proposed Project, it is estimated that there would be 10.5 acres of commercial uses. The commercial site is proposed to include a 70,000-sf grocery store, 22,000 sf of retail shops, a 3,500-sf quick service restaurant, a 3,500-sf convenience store with attached fueling facility, and a 2,500-sf wine tasting room, for a total of 101,500 sf. It is estimated that the 101,500 sf of commercial space would generate 507.5 pounds per day of solid waste.

The residential portion of the Project site is estimated to generate roughly 10 pounds per day per household. For the Project site, up to 1,503 residential units are proposed. It should be noted that this number of residential units is the maximum that would be implemented, providing a conservative estimation of total residential units at the Project site. It is estimated that the 1,503 residential units would generate 15,030 pounds per day of solid waste.

In total, the proposed Project would generate approximately 15,537.5 pounds or 7.77 tons per day (9.17 cubic yards per day) of solid waste. Industrial uses were not calculated as part of the projection, since the industrial uses already exist, and would only be annexed by the proposed Project.

The City's solid waste per capita generation has decreased since 2007 due to the waste diversion efforts of the City. The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. The permitted vehicle limit is 620 vehicles per day; however, the landfill averages 212 daily trucks.² The remaining capacity of the landfill is 22.1 million cubic yards. The addition of solid waste associated with the proposed Project, approximately 15,537.5 pounds or 7.77 tons per day (9.17

² San Joaquin County Community Development Department. Draft Environmental Impact Report – Forward Landfill Expansion (SCH#2008052024). September 2012. Page III-13.

cubic yards per day) at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity.

All development in the City of Stockton is required to have solid waste service pursuant to Section 8.04.020 of the City Municipal Code. Solid waste service for the proposed Project would be provided by the City's contracted providers. Therefore, impacts related to solid waste would be **less than significant**.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result generation of landfill waste, thus requiring no need for a landfill to serve the Project. Under this alternative, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

As with the proposed Project, the With Bridge Alternative commercial space is estimated to generate roughly five pounds per day per 1,000 sf. For the With Bridge Alternative, it is estimated that there would be 10.5 acres, or 101,500 sf of commercial space. It is estimated that the 101,500 sf of commercial space would generate 507.5 pounds per day of solid waste.

The residential portion of the With Bridge Alternative is estimated to generate roughly 10 pounds per day per household. For the With Bridge Alternative, up to 1,496 residential units are proposed. It is estimated that the 1,496 residential units would generate 14,960 pounds per day of solid waste.

In total, the With Bridge Alternative would generate approximately 15,467.5 pounds or 7.73 tons per day (9.13 cubic yards per day) of solid waste. Industrial uses were not calculated as part of the projection, since the industrial uses already exist, and would only be annexed by this Alternative.

The addition of solid waste associated with the With Bridge Alternative, approximately 15,467.5 pounds or 7.73 tons per day (9.13 cubic yards per day) at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity.

The With Bridge Alternative would be required to have solid waste service pursuant to Section 8.04.020 of the City Municipal Code. Solid waste service for the With Bridge Alternative would be provided by the City's contracted providers. Solid waste impacts under this Alternative would be **less than significant**. Because this Alternative would decrease solid waste generation as compared to the proposed Project, this alternative is slightly superior relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Based on the existing land use designations, the Project site would support approximately 15.7 acres of industrial use (406,937 sf – 0.6 FAR), approximately 9.0 acres of commercial use (117,612 sf – 0.3 FAR), 1,730 (6.1 units per gross acre) to 2,467 (8.7 units per gross acre) low density residential units, and 248 (23.2 units per gross acre) to 309 (29.0 units per gross acre) high density residential units. This alternative would result in 1,978 to 2,776 residential units (low and high density), which is 475 to 1,273 (without school site) to 565 to 1,363 (with school site) more units than under the proposed Project.

As with the proposed Project, the General Plan 2035 Alternative commercial space is estimated to generate roughly five pounds per day per 1,000 sf. For the General Plan 2035 Alternative, it is estimated that there would be 9.0 acres, or 117,612 sf of commercial space. It is estimated that the 117,612 sf of commercial space would generate 588.06 pounds per day of solid waste.

The residential portion of the General Plan 2035 Alternative is estimated to generate roughly 10 pounds per day per household. For the General Plan 2035 Alternative, up to 2,776 residential units are proposed. It is estimated that the 2,776 residential units would generate 27,760 pounds per day of solid waste.

The industrial portion of the General Plan 2035 Alternative is estimated to generate roughly six pounds per day per 1,000 sf. For the General Plan 2035 Alternative, the 15.7-acre industrial area would accommodate up to 406,937 sf. It is estimated that the 406,937 sf of industrial space would generate 2,441.6 pounds per day of solid waste.

In total, the General Plan 2035 Alternative would generate approximately 30,789.7 pounds or 15.39 tons per day (18.17 cubic yards per day) of solid waste.

The addition of solid waste associated with the General Plan 2035 Alternative, approximately 30,789.7 pounds or 15.39 tons per day (18.17 cubic yards per day) at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity.

The With Bridge Alternative would be required to have solid waste service pursuant to Section 8.04.020 of the City Municipal Code. Solid waste service for the With Bridge Alternative would be provided by the City's contracted providers.

Solid waste impacts under this Alternative would be **less than significant**. Because this Alternative would increase solid waste generation as compared to the proposed Project, this alternative is inferior relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres

under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

The residential portion of the Reduced Project Alternative is estimated to generate roughly 10 pounds per day per household. For the Reduced Project Alternative, 1,031 residential units are proposed. It is estimated that the 1,031 residential units would generate 10,310 pounds per day of solid waste.

In total, the Reduced Project Alternative would generate approximately 10,310 pounds or 5.16 tons per day (6.08 cubic yards per day) of solid waste. Industrial uses were not calculated as part of the projection, since the industrial uses already exist, and would be eliminated from the Project site.

The addition of solid waste associated with the Reduced Project Alternative, approximately 10,310 pounds or 5.16 tons per day (6.08 cubic yards per day) at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity.

The With Bridge Alternative would be required to have solid waste service pursuant to Section 8.04.020 of the City Municipal Code. Solid waste service for the With Bridge Alternative would be provided by the City's contracted providers. Solid waste impacts under this Alternative would be **less than significant**. Because this Alternative would decrease solid waste generation as compared to the proposed Project, this alternative is superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

The residential portion of the Reduced Intensity/Density Alternative is estimated to generate roughly 10 pounds per day per household. For the Reduced Intensity/Density Alternative, 1,202 residential units are proposed. It is estimated that the 1,202 residential units would generate 12,020 pounds per day of solid waste.

In total, the Reduced Intensity/Density Alternative would generate approximately 12,020 pounds or 6.01 tons per day (7.09 cubic yards per day) of solid waste. Industrial uses were not calculated as part of the projection, since the industrial uses already exist, and would only be annexed by this Alternative.

The addition of solid waste associated with the Reduced Intensity/Density Alternative, approximately 12,020 pounds or 6.01 tons per day (7.09 cubic yards per day) at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity.

The With Bridge Alternative would be required to have solid waste service pursuant to Section 8.04.020 of the City Municipal Code. Solid waste service for the With Bridge Alternative would be

provided by the City's contracted providers. Solid waste impacts under this Alternative would be **less than significant**. Because this Alternative would decrease solid waste generation as compared to the proposed Project, this alternative is slightly superior relative to this topic.

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CEQA requires an EIR to evaluate a project's effects in relationship to broader changes occurring, or that are foreseeable to occur, in the surrounding environment. Accordingly, this chapter presents a discussion of CEQA-mandated analysis for cumulative impacts, significant irreversible effects, and significant and unavoidable impacts associated with the proposed Project.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) contain an assessment of the cumulative impacts that could be associated with the proposed Project. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact is:

...the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

1) Either:

- (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,
- (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

4.0 OTHER CEQA-REQUIRED TOPICS

Where a lead agency is examining a project with an incremental effect that is not “cumulatively considerable,” a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

CUMULATIVE SETTING

The cumulative setting uses growth projections listed in the relevant general plans, municipal services reviews, and/or EIRs from the regional jurisdictions as a basis for estimating cumulative growth in the area: Stockton and San Joaquin County. Table 4.0-1 shows growth projections identified for the City of Stockton and San Joaquin County.

TABLE 4.0-1: FUTURE POPULATION AND HOUSING PROJECTIONS

JURISDICTION	POPULATION (2035)	TOTAL HOUSING UNITS (2035)	NEW HOUSING UNITS (2010 TO 2035)
Stockton	418,700	174,137	24,500
San Joaquin County	948,800	317,755	84,000

NOTE: TOTAL HOUSING UNITS (2035) WERE CALCULATED BY ADDING THE NEW HOUSING UNITS (2010 TO 2035) VALUE TO THE 2010 HOUSING UNIT COUNT (PER THE US CENSUS).

SOURCES: SAN JOAQUIN COUNTY GENERAL PLAN DRAFT EIR (TABLE 4.C-7), US CENSUS (2010).

CUMULATIVE EFFECTS OF THE PROJECT

Cumulative settings are identified under each cumulative impact analysis. Cumulative settings vary because the area that the impact may affect is different. For example, noise impacts generally only impact the local surrounding area because noise travels a relatively short distance while air quality impacts affect the whole air basin as wind currents control air flow and are not generally affected by natural or manmade barriers which would affect noise. Cumulative project impacts are addressed and summarized below.

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. State CEQA Guidelines 15130 requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts."

There are two approaches to identifying cumulative projects and the associated impacts. The list approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify potential cumulative impacts. The projection approach uses a summary of projections in adopted General Plans or related planning documents to identify potential cumulative impacts. This EIR uses the projection approach for the cumulative analysis and considers the development anticipated to occur upon buildout of the various General Plans in the area. Table 4.0-2 shows the designated land uses and estimated acreages for each land use

category within the City's Planning Area and Sphere of Influence (SOI)/Urban Service Boundary (USB).

TABLE 4.0-2: DESIGNATED LAND USES UNDER THE CITY'S PREFERRED LAND USE ALTERNATIVE

DESIGNATED LAND USE	PLANNING AREA ACREAGE	USB/SOI ACREAGE (% OF TOTAL)
Residential Estate	2,460	2,460 (3%)
Low Density Residential	26,260	26,260 (31%)
Medium Density Residential	1,980	1,980 (2%)
High Density Residential	1,150	1,150 (1%)
Village	17,500	17,500 (21%)
Administrative Professional	1,030	1,030 (1%)
Commercial	4,780	4,780 (6%)
Mixed Use	1,420	1,420 (2%)
Industrial	17,070	17,070 (20%)
Institutional	7,160	7,160 (8%)
Parks and Recreation	1,800	1,800 (2%)
Open Space / Agriculture	38,380	2,340 (3%)
TOTAL	121,990	84,950 (100%)

NOTE: ACREAGES DO NOT INCLUDE WATERWAYS, RIGHTS-OF-WAYS- OR OTHER NON-DESIGNATED AREAS THAT CANNOT BE DEVELOPED.

SOURCE: CITY OF STOCKTON GENERAL PLAN DRAFT EIR, TABLE 2-4.

The above table represents buildout of the City's General Plan assumed in the following cumulative analysis.

Project Assumptions

The proposed Project's contribution to environmental impacts under cumulative conditions is based on full buildout of the Project site. See Chapter 2, Project Description, for a complete description of the proposed Project.

Cumulative Impacts

Some cumulative impacts for issue areas are not quantifiable and are therefore discussed in qualitative terms as they pertain to development patterns in the surrounding region. Exceptions to this are traffic, utilities, noise and air quality (the latter two of which are associated with traffic volumes), which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the proposed Project may result in the following cumulative impacts.

AESTHETICS AND VISUAL RESOURCES

The cumulative setting for aesthetics is the City of Stockton and surrounding areas of San Joaquin County.

Impact 4.1: The proposed Project may result in cumulative damage to scenic resources within a State Scenic Highway. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

There are no designated State Scenic Highways in the vicinity of the Project site. Additionally, there are no “eligible” highway segments in the vicinity of the Project site that may be included in the State Scenic Highway system. Cumulative development in the City would not impact views from a Designated Scenic Highway. Implementation of the proposed Project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts relative to scenic resources would be a **less than cumulatively considerable contribution** and no mitigation is required.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. As noted above, designated State Scenic Highways are not located in the vicinity of the Project site. Additionally, the Project site is not visible from any other designated scenic routes. Therefore, implementation of the No Build Alternative would not result in cumulative damage to scenic resources within a State Scenic Highway. Implementation of the No Build Alternative would have **no cumulative impact** relative to this environmental topic. Under this alternative, impacts relative to scenic resources would be a **less than cumulatively considerable contribution** and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the Project site would be developed with similar land use designations and circulation facilities as the proposed Project. Unlike the proposed Project, this alternative would include construction of the bridge crossing over Bear Creek. This alternative also establishes a site for a school. This alternative would result in the same number of HDR units as the proposed Project and would reduce the number of LDR units compared to the proposed Project. This would result in a reduction of seven units when compared to the proposed Project and, thus, would introduce seven fewer structures to the Project site. Additionally, this alternative would dedicate an equal amount of commercial and non-traditional park areas as the proposed Project, and would increase the amount of traditional park area.

Similar to the proposed Project, the balance of the Project site would be developed with residential and commercial uses under the With Bridge Alternative. In addition, as noted above, designated State Scenic Highways are not located in the vicinity of the Project site. Additionally, the Project site is not visible from any other designated scenic routes. Implementation of the With Bridge Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, under this alternative, impacts relative to scenic resources would be

a **less than cumulatively considerable contribution** and no mitigation is required. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

Under the General Plan 2035 Alternative, the Project site would be developed with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area and the commercial area would be decreased from the proposed Project. The balance of the Project site would be developed as proposed under the Project. The Marlette Road extension that is shown on the General Plan 2035 Future Roadways Map would be constructed. A bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project and would ultimately connect with Holman Road.

Similar to the proposed Project, the balance of the Project site would be developed with residential and commercial uses under the General Plan 2035 Alternative. In addition, as noted above, designated State Scenic Highways are not located in the vicinity of the Project site. Additionally, the Project site is not visible from any other designated scenic routes. Implementation of the General Plan 2035 Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, under this alternative, impacts relative to scenic resources would be a **less than cumulatively considerable contribution** and no mitigation is required. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, the Project site would be developed with the same components as the proposed Project, but the area utilized for the development would be reduced by approximately 33 percent. The total Project site would be reduced by approximately 100.1 acres, which includes elimination of the existing 15.57-acre industrial area from the Project site. This would result in a reduction of 472 (with or without school) units when compared to the proposed Project. The commercial area in the northwest portion of the Project site would be eliminated, which would in turn would eliminate a 70,000-sf grocery store, 22,000 sf of retail shops, a 3,500-sf quick service restaurant, a 3,500-sf convenience store with attached fueling facility, and a 2,500-sf wine tasting room. This alternative would still establish a site for a K-8 school.

As noted above, designated State Scenic Highways are not located in the vicinity of the Project site. Additionally, the Project site is not visible from any other designated scenic routes. Implementation of the Reduced Project Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, under this alternative, impacts relative to scenic resources would be a **less than cumulatively considerable contribution** and no mitigation is required. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with a reduction in the overall Project intensity/density while maintaining the approximate overall Project footprint. This option considers a 20 percent reduction in the intensity/density of the Project while maintaining the approximately 318.82-acre Project footprint. Typical residential lots would increase from 5,000 to 6,000 sf to 6,000 to 7,400 sf. This alternative would result in a reduction of 283 (with school) to 301 (without school) units when compared to the proposed Project. The commercial area in the northwest portion of the Project site would be eliminated, which would in turn eliminate a 70,000-sf grocery store, 22,000 sf of retail shops, a 3,500-sf quick service restaurant, a 3,500-sf convenience store with attached fueling facility, and a 2,500-sf wine tasting room. This alternative would still establish a site for K-8 school.

As noted above, designated State Scenic Highways are not located in the vicinity of the Project site. Additionally, the Project site is not visible from any other designated scenic routes. Implementation of the Reduced Intensity/Density Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, under this alternative, impacts relative to scenic resources would be a **less than cumulatively considerable contribution** and no mitigation is required. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 4.2: The proposed Project would result in cumulative degradation of the existing visual character of the region. (Cumulatively Considerable and Significant and Unavoidable)

Proposed Project:

As described in Section 3.1, Aesthetics and Visual Resources, implementation of the proposed Project would convert the Project site from its existing agricultural character to developed commercial and residential areas with various buildings, landscaping, parks, and parking areas. Project implementation would alter the existing visual character of the Project site; however, the City's design review process would ensure development that is consistent with the City's vision for the community's identity. Additionally, compliance with Stockton's Zoning District Development Standards for height and bulk, and landscaping requirements found in Chapters 16.56 and 16.72 of the Municipal Code, would reduce visual impacts to the greatest extent feasible.

Under cumulative conditions, buildout of the General Plan for Stockton and the surrounding jurisdictions could result in changes to the visual character and quality of the City of Stockton through development of undeveloped areas and/or changes to the character of existing communities. Development of the proposed Project, in addition to other future projects in the area, would change the existing visual and scenic qualities of the City. The City's General Plan Draft EIR notes that buildout of the General Plan, including the proposed Project site, would result in significant and unavoidable impacts to the existing visual character or quality. There are no mitigation measures that could reduce this impact except a cessation of all future development,

which is not a feasible option. As such, this is a **cumulatively considerable contribution** and a **significant and unavoidable** impact.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in substantial adverse effects on scenic vistas and resources or substantial degradation of the visual character of the Project area. Under this alternative, the significant and unavoidable visual impact identified under the proposed Project would not occur. Implementation of the No Build Alternative would have **no cumulative impact** relative to this environmental topic. Under this alternative, impacts relative to the visual character of the region would be a **less than cumulatively considerable contribution** and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

The With Bridge Alternative would result in the conversion of the undeveloped land from agricultural uses, which would contribute to changes in the regional landscape and visual character of the area. Under this alternative, the significant and unavoidable visual impact identified under the proposed Project would occur. Unlike the proposed Project, this alternative would include a bridge across the Bear Creek corridor. Construction of the bridge would reduce the amount of green space along the Bear Creek corridor, which could result in potentially greater impacts to the visual character of the area as compared to the proposed Project. Nevertheless, similar to the proposed Project, development of the With Bridge Alternative would be subject to the requirements of the General Plan and the Stockton Municipal Code which includes design standards in order to ensure quality and cohesive design of the Project site. Under this alternative, this is a **cumulatively considerable contribution** and a **significant and unavoidable** impact. There is no additional feasible mitigation available that would reduce this impact to a less than significant level. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

The General Plan 2035 Alternative would result in the conversion of the undeveloped land from agricultural uses, which would contribute to changes in the regional landscape and visual character of the area. Under this alternative, the significant and unavoidable visual impact identified under the proposed Project would occur. Unlike the proposed Project, this alternative would include a bridge across the Bear Creek corridor. Construction of the bridge would reduce the amount of green space along the Bear Creek corridor, which could result in potentially greater impacts to the visual character of the area as compared to the proposed Project. Nevertheless, similar to the proposed Project, development of the General Plan 2035 Alternative would be subject to the requirements of the General Plan and the Stockton Municipal Code which includes design standards in order to ensure quality and cohesive design of the Project site. Under this alternative, this is a **cumulatively considerable contribution** and a **significant and unavoidable** impact; however, this alternative would have slightly worse visual impacts than the proposed Project. There is no additional feasible mitigation available that would reduce this impact to a less than significant level. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

The Reduced Project Alternative would result in the conversion of the undeveloped portion of the Project site from agricultural uses to residential uses, which would contribute to changes in the regional landscape and visual character of the area. However, approximately 33 percent of the Project site would remain undeveloped, the number of residential units would be reduced by approximately 472 units, and the commercial component of the proposed Project would be eliminated. The reduced disturbance area would result in slightly less impacts to the visual character of the area as compared to the proposed Project. Nevertheless, similar to the proposed Project, development of the Reduced Project Alternative would be subject to the requirements of the General Plan and the Stockton Municipal Code which includes design standards in order to ensure quality and cohesive design of the Project site. Similar to the proposed Project, this is a **cumulatively considerable contribution** and a **significant and unavoidable** impact. There is no additional feasible mitigation available that would reduce this impact to a less than significant level. Compared to the proposed Project, this alternative is slightly superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

The Reduced Intensity/Density Alternative would result in the conversion of the undeveloped portion of the Project site from agricultural uses to residential uses, which would contribute to changes in the regional landscape and visual character of the area. Although this alternative would reduce the number of residential units by 283 (with school) to 301 (without school) units as compared to the proposed Project, the Reduced Intensity/Density Alternative would require equal disturbance to the Project site compared to the proposed Project. Under this alternative, the significant and unavoidable visual impact identified under the proposed Project would occur. Similar to the proposed Project, development of the Reduced Intensity/Density Alternative would be subject to the requirements of the General Plan and the Stockton Municipal Code which includes design standards in order to ensure quality and cohesive design of the Project site. Similar to the proposed Project, this is a **cumulatively considerable contribution** and a **significant and unavoidable** impact. There is no additional feasible mitigation available that would reduce this impact to a less than significant level. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 4.3: The proposed Project may result in cumulative impacts related to light and glare. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

A detailed lighting plan has not been prepared for the Project, but for the purposes of this analysis, it has been conservatively assumed that nighttime street lighting, exterior residential, outdoor recreational, and safety lighting will be installed throughout areas of the Project site. It is assumed that security lighting will be installed within the various parking areas throughout the general commercial area and the potential school site area.

Section 16.32.070, Light and Glare, of the Stockton Municipal Code states that light or glare from mechanical or chemical processes or from reflective materials used or stored on a site shall be shielded or modified to prevent emission of light or glare beyond the property line, or upward into the sky. Additionally, Section 16.32.070 of the Municipal Code contains standards and provisions related to exterior lighting for both commercial and residential development. The primary purpose of this section is to regulate exterior lighting to balance the safety and security needs for lighting with the City's desire to prevent emissions of light or glare beyond the property line, or upward into the sky. Compliance with the aforementioned requirements would limit light impacts.

Adherence to the design requirements included in Section 16.32.070, Light and Glare, of the Stockton Municipal Code and the subsequent design review of the Project would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. Future projects within Stockton and San Joaquin County would be subject to the light and glare standards established by the individual jurisdictions. These regulations are designed to minimize potential light and glare impacts of new development. Implementation of these regulations, as well as Mitigation Measures 3.1-1 in Section 3.1, Aesthetics and Visual Resources, would ensure that future projects minimize their potential light and glare impacts resulting in a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to nighttime lighting and daytime glare would

be a **less than cumulatively considerable contribution**, and no mitigation is required. It is noted that overall future development in the City of Stockton and San Joaquin County will have a significant and unavoidable impact related to light and glare.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not introduce new sources of light or glare into the Project area. Implementation of the No Build Alternative would have **no cumulative impact** relative to this environmental topic. Under this alternative, impacts relative to the visual character of the region would be a **less than cumulatively considerable contribution** and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Similar to the proposed Project, any lighting included under the With Bridge Alternative would be installed as per the City of Stockton standards and specifications, and would be required to incorporate design features to minimize the effects of light and glare. However, without a detailed lighting plan, increase of nighttime lighting is a potentially significant impact. Adherence to the design requirements included in Section 16.32.070, Light and Glare, of the Stockton Municipal Code and the subsequent design review of the With Bridge Alternative would ensure that excessively reflective building materials are not used, and that the With Bridge Alternative would not result in significant impacts related to daytime glare. Future projects within Stockton and San Joaquin County would be subject to the light and glare standards established by the individual jurisdictions. Implementation of these regulations, as well as Mitigation Measures 3.1-1 in Section 3.1, Aesthetics and Visual Resources, would ensure that future projects minimize their potential light and glare impacts resulting in a **less than significant** cumulative impact relative to this environmental topic. Under this alternative, impacts related to nighttime lighting and daytime glare would be a **less than cumulatively considerable contribution**, and no mitigation is required. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

Under the General Plan 2035 Alternative, the entire 318.82-acre Project site would be developed with residential and commercial land uses.

Similar to the proposed Project, any lighting included under the General Plan 2035 Alternative would be installed as per the City of Stockton standards and specifications, and would be required to incorporate design features to minimize the effects of light and glare. However, without a detailed lighting plan, increase of nighttime lighting is a potentially significant impact. Adherence to the design requirements included in Section 16.32.070, Light and Glare, of the Stockton

Municipal Code and the subsequent design review of the General Plan 2035 Alternative would ensure that excessively reflective building materials are not used, and that the General Plan 2035 Alternative would not result in significant impacts related to daytime glare. Future projects within Stockton and San Joaquin County would be subject to the light and glare standards established by the individual jurisdictions. Implementation of these regulations, as well as Mitigation Measures 3.1-1 in Section 3.1, Aesthetics and Visual Resources, would ensure that future projects minimize their potential light and glare impacts resulting in a **less than significant** cumulative impact relative to this environmental topic. Under this alternative, impacts related to nighttime lighting and daytime glare would be a **less than cumulatively considerable contribution**, and no mitigation is required. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

Similar to the proposed Project, any lighting included under the Reduced Project Alternative would be installed as per the City of Stockton standards and specifications, and would be required to incorporate design features to minimize the effects of light and glare. Under this alternative, approximately 33 percent of the Project site would remain undeveloped, the number of residential units would be reduced by approximately 472 units, and the commercial component of the proposed Project would be eliminated. The reduced disturbance area would result in slightly less impacts related to light and glare in the area as compared to the proposed Project. However, without a detailed lighting plan, increase of nighttime lighting is a potentially significant impact. Adherence to the design requirements included in Section 16.32.070, Light and Glare, of the Stockton Municipal Code and the subsequent design review of the Reduced Project Alternative would ensure that excessively reflective building materials are not used, and that the Reduced Project Alternative would not result in significant impacts related to daytime glare. Future projects within Stockton and San Joaquin County would be subject to the light and glare standards established by the individual jurisdictions. Implementation of these regulations, as well as Mitigation Measures 3.1-1 in Section 3.1, Aesthetics and Visual Resources, would ensure that future projects minimize their potential light and glare impacts resulting in a **less than significant** cumulative impact relative to this environmental topic. Under this alternative, impacts related to nighttime lighting and daytime glare would be a **less than cumulatively considerable contribution**, and no mitigation is required. Compared to the proposed Project, this alternative is slightly superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the

Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Similar to the proposed Project, any lighting included under the Reduced Intensity/Density Alternative would be installed as per the City of Stockton standards and specifications, and would be required to incorporate design features to minimize the effects of light and glare. However, without a detailed lighting plan, increase of nighttime lighting is a potentially significant impact. Adherence to the design requirements included in Section 16.32.070, Light and Glare, of the Stockton Municipal Code and the subsequent design review of the Reduced Intensity/Density Alternative would ensure that excessively reflective building materials are not used, and that the Intensity/Density Project Alternative would not result in significant impacts related to daytime glare. Future projects within Stockton and San Joaquin County would be subject to the light and glare standards established by the individual jurisdictions. Implementation of these regulations, as well as Mitigation Measures 3.1-1 in Section 3.1, Aesthetics and Visual Resources, would ensure that future projects minimize their potential light and glare impacts resulting in a **less than significant** cumulative impact relative to this environmental topic. Under this alternative, impacts related to nighttime lighting and daytime glare would be a **less than cumulatively considerable contribution**, and no mitigation is required. Compared to the proposed Project, this alternative is equal relative to this topic.

AGRICULTURE AND FOREST RESOURCES

The cumulative setting for agriculture and forest resources is all of San Joaquin County. According to the Department of Conservation, the County had 912,596 acres of farmland in 2014, the majority of which is identified as Prime Farmland. Of the total farmland, Prime Farmland represents 42 percent (382,877 acres), Farmland of Statewide importance represents nine percent (82,271 acres), and Unique Farmland represents eight percent (76,415 acres).

Impact 4.4: The proposed Project would result in cumulative impacts on agricultural and forest resources. (Cumulatively Considerable and Significant and Unavoidable)
Proposed Project:

As described in Section 3.2, development of the proposed Project would result in permanent conversion of 78.0 acres of Prime Farmland and 215.57 acres of Farmland of Statewide Importance, as shown on the map prepared under the Farmland Mapping and Monitoring Program (FMMP), to nonagricultural uses. By comparison, the City General Plan Draft EIR notes that buildout of the General Plan would result in the conversion of an estimated 35,520 acres of important farmland to urban and other uses. The loss of Important Farmland as classified under the FMMP is considered a potentially significant environmental impact.

The City's Agricultural Land Mitigation Program requires that projects provide "agricultural mitigation land," on a 1:1 basis for each acre of land converted, including administrative costs of approximately \$1,000 per acre, or pay the established Agricultural Land Mitigation Fee of \$17,808

(SJCOG-SJMSCP Habitat Fees, 2017) per acre. The Project would pay the established Agricultural Land Mitigation Fee of \$17,808 per acre. SJCOG will then use these funds to purchase the conservation easements on agricultural and habitat lands in the Project vicinity. The compensation results in the purchase of conservation easements that are placed over agricultural land, such as alfalfa and row crops. As such, the Project fees paid to SJCOG as administrator of the SJMSCP will result in the preservation of agricultural lands in perpetuity. The purchase of conservation easements and/or deed restrictions through the City's Agricultural Land Mitigation Program and the SJMSCP allows the landowners to retain ownership of the land and continue agricultural operations, and preserves such lands in perpetuity.

While the proposed Project will contribute fees toward the purchase of conservation easements on agricultural lands through the SJMSCP (as required by Mitigation Measure 3.2-1), those fees and conservation easements would not result in the creation of new farmland to offset the loss that would occur with Project implementation. As such, the loss of Important Farmland would be a **cumulatively considerable contribution** and a **significant and unavoidable** impact. This conclusion is consistent with the City's General Plan Draft EIR, which notes that buildout of the General Plan, including the proposed Project site, would result in significant and unavoidable impacts to Important Farmland.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural uses. Under this alternative, the significant and unavoidable visual impact identified under the proposed Project would not occur. Implementation of the No Build Alternative would have **no cumulative impact** relative to this environmental topic. Under this alternative, impacts related to agricultural resources would be a **less than cumulatively considerable contribution** and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

As described in Section 3.2, development of the With Bridge Alternative would result in permanent conversion of 78.0 acres of Prime Farmland and 215.57 acres of Farmland of Statewide Importance to nonagricultural uses. Similar to the proposed Project, the With Bridge Alternative would pay the established Agricultural Land Mitigation Fee of \$13,295 per acre. SJCOG will then use these funds to purchase the conservation easements on agricultural and habitat lands in the Project vicinity. The compensation results in the purchase of conservation easements that are placed over

agricultural land, such as alfalfa and row crops. As such, the fees paid to SJCOG as administrator of the SJMSCP will result in the preservation of agricultural lands in perpetuity.

While the With Bridge Alternative will contribute fees toward the purchase of conservation easements on agricultural lands through the SJMSCP (as required by Mitigation Measure 3.2-1), those fees and conservation easements would not result in the creation of new farmland to offset the loss that would occur with implementation of the alternative. As such, the loss of Important Farmland would be a **cumulatively considerable contribution** and a **significant and unavoidable** impact. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

As described in Section 3.2, development of the General Plan 2035 Alternative would result in permanent conversion of 78.0 acres of Prime Farmland and 215.57 acres of Farmland of Statewide Importance to nonagricultural uses. Similar to the proposed Project, the General Plan 2035 Alternative would pay the established Agricultural Land Mitigation Fee of \$13,295 per acre. SJCOG will then use these funds to purchase the conservation easements on agricultural and habitat lands in the Project vicinity. The compensation results in the purchase of conservation easements that are placed over agricultural land, such as alfalfa and row crops. As such, the fees paid to SJCOG as administrator of the SJMSCP will result in the preservation of agricultural lands in perpetuity.

While the General Plan 2035 Alternative will contribute fees toward the purchase of conservation easements on agricultural lands through the SJMSCP (as required by Mitigation Measure 3.2-1), those fees and conservation easements would not result in the creation of new farmland to offset the loss that would occur with implementation of the alternative. As such, the loss of Important Farmland would be a **cumulatively considerable contribution** and a **significant and unavoidable** impact. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

As described in Section 3.2, development of the Reduced Project Alternative would result in permanent conversion of Prime Farmland and Farmland of Statewide Importance to nonagricultural uses. Similar to the proposed Project, the Reduced Project Alternative would pay the established Agricultural Land Mitigation Fee of \$13,295 per acre. SJCOG will then use these funds to purchase the conservation easements on agricultural and habitat lands in the Project vicinity. The compensation results in the purchase of conservation easements that are placed over agricultural land, such as alfalfa and row crops. As such, the fees paid to SJCOG as administrator of the SJMSCP will result in the preservation of agricultural lands in perpetuity.

While the Reduced Project Alternative will contribute fees toward the purchase of conservation easements on agricultural lands through the SJMSCP (as required by Mitigation Measure 3.2-1), those fees and conservation easements would not result in the creation of new farmland to offset the loss that would occur with implementation of the alternative. As such, the loss of Important Farmland would be a **cumulatively considerable contribution** and a **significant and unavoidable** impact. Compared to the proposed Project, this alternative is equal relative to this topic. Compared to the proposed Project, this alternative is slightly superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

As described in Section 3.2, development of the Reduced Intensity/Density Alternative would result in permanent conversion of 78.0 acres of Prime Farmland and 215.57 acres of Farmland of Statewide Importance to nonagricultural uses. Similar to the proposed Project, the Reduced Intensity/Density Alternative would pay the established Agricultural Land Mitigation Fee of \$13,295 per acre. SJCOG will then use these funds to purchase the conservation easements on agricultural and habitat lands in the Project vicinity. The compensation results in the purchase of conservation easements that are placed over agricultural land, such as alfalfa and row crops. As such, the fees paid to SJCOG as administrator of the SJMSCP will result in the preservation of agricultural lands in perpetuity.

While the Reduced Intensity/Density Alternative will contribute fees toward the purchase of conservation easements on agricultural lands through the SJMSCP (as required by Mitigation Measure 3.2-1), those fees and conservation easements would not result in the creation of new farmland to offset the loss that would occur with implementation of the alternative. As such, the loss of Important Farmland would be a **cumulatively considerable contribution** and a **significant and unavoidable** impact. Compared to the proposed Project, this alternative is equal relative to this topic.

AIR QUALITY

The cumulative setting for air quality impacts is the San Joaquin Valley Air Basin (SJVAB), which consists of eight counties, stretching from Kern County in the south to San Joaquin County in the north. The SJVAB is bounded by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south.

Impact 4.5: The proposed Project would result in cumulative impacts on the region's air quality. (Cumulatively Considerable and Significant and Unavoidable)

Proposed Project:

Under buildout conditions in the San Joaquin County, the SJVAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.3, San Joaquin County has a state designation of nonattainment for ozone, PM₁₀, and PM_{2.5} and is either unclassified or attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone and PM_{2.5}. Table 3.3-2 in Section 3.3 presents the State and Federal attainment status for San Joaquin County.

As discussed under Impact 3.3-1 in Section 3.3, the proposed Project would result in increased emissions primarily from vehicle miles travelled associated with Project implementation. The San Joaquin Valley Air Pollution Control District (SJVAPCD) has established operations related emissions thresholds of significance and it was determined that annual emissions of ROG, NO_x, and PM₁₀ would exceed the SJVAPCD thresholds of significance.

There are limited mitigation inputs available within the California Emission Estimator Model (CalEEMod)TM (v.2016.3.1) to quantify emission reductions. As shown in Table 3.3-8, even with basic mitigation incorporated into the model, the proposed Project would exceed the SJVAPCD thresholds of significance for ROG, NO_x, and PM₁₀ during operation. In addition, it was found that, with basic mitigation incorporated into the model, the proposed Project would not exceed the SJVAPCD thresholds of significance for any criteria pollutant during construction.

The proposed Project is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NO_x and associated ROG emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through Project mitigation commitments. The actual calculations will be determined and finalized by the SJVAPCD and project applicants as individual projects are brought forward for approval under Rule 9510.

The substantial reductions in NO_x (and associated ROG) emissions accomplished by the application of the ISR represent the best achievable mitigation for indirect sources. However, even with the application of these measures, emissions levels would remain above the defined thresholds of significance. As such, implementation of the proposed Project would have a **cumulatively considerable contribution** and **significant and unavoidable** impact from air emissions. This conclusion is consistent with the City's General Plan Draft EIR, which notes that buildout of the

General Plan, including the proposed Project site, would result in significant and unavoidable impacts as a result of NO_x and ROG emissions.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in cumulative impacts to the region's air quality. As such, **no impact** would occur, and no mitigation is required. Impacts related to air quality would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

As noted above, under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

There are limited mitigation inputs available within CalEEMod™ (v.2016.3.1) to quantify emission reductions. As shown in Table 3.3-9, even with basic mitigation incorporated into the model, the With Bridge Alternative would exceed the SJVAPCD thresholds of significance for ROG, NO_x, and PM₁₀ during operation. In addition, it was found that with basic mitigation incorporated into the model, the With Bridge Alternative would not exceed the SJVAPCD thresholds of significance for any criteria pollutant during construction. Compared to the proposed Project, the With Bridge Alternative would result in a decrease in operational and construction emissions of ROG, NO_x, PM₁₀, and PM_{2.5}.

The With Bridge Alternative is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NO_x and associated ROG emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through Project mitigation commitments. The actual calculations will be determined and finalized by the SJVAPCD and project applicants as individual projects are brought forward for approval under Rule 9510.

The substantial reductions in NO_x (and associated ROG) emissions accomplished by the application of the ISR represent the best achievable mitigation for indirect sources. However, even with the application of these measures, emissions levels would remain above the defined thresholds of significance. As such, implementation of the With Bridge Alternative would have a **cumulatively considerable contribution** and **significant and unavoidable** impact from air emissions. Compared to the proposed Project, this alternative is superior relative to this topic.

General Plan 2035 Alternative:

As noted above, the under the General Plan 2035 Alternative, the entire 318.82-acre Project site would be developed with residential and commercial land uses.

There are limited mitigation inputs available within CalEEMod™ (v.2016.3.1) to quantify emission reductions. As shown in Table 3.3-10, even with basic mitigation incorporated into the model, the General Plan 2035 Alternative would exceed the SJVAPCD thresholds of significance for ROG, NO_x, PM₁₀, and PM_{2.5} during operation. In addition, it was found that even with basic mitigation incorporated into the model, the General Plan 2035 Alternative would exceed the SJVAPCD thresholds of significance for ROG and NO_x during construction. Compared to the proposed Project, the General Plan 2035 Alternative would result in an increase in operational and construction emissions of ROG, NO_x, and PM₁₀.

The General Plan 2035 Alternative is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NO_x and associated ROG emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through Project mitigation commitments. The actual calculations will be determined and finalized by the SJVAPCD and project applicants as individual projects are brought forward for approval under Rule 9510.

The substantial reductions in NO_x (and associated ROG) emissions accomplished by the application of the ISR represent the best achievable mitigation for indirect sources. However, even with the application of these measures, emissions levels would remain above the defined thresholds of significance. As such, implementation of the General Plan 2035 Alternative would have a **cumulatively considerable contribution** and **significant and unavoidable** impact from air emissions. Compared to the proposed Project, this alternative is inferior relative to this topic.

Reduced Project Alternative:

As noted above, under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

There are limited mitigation inputs available within CalEEMod™ (v.2016.3.1) to quantify emission reductions. As shown in Table 3.3-11, even with basic mitigation incorporated into the model, the Reduced Project Alternative would exceed the SJVAPCD thresholds of significance for ROG and NO_x during operation. In addition, it was found that with basic mitigation incorporated into the model, the Reduced Project Alternative would not exceed the SJVAPCD thresholds of significance for any criteria pollutant during construction. Compared to the proposed Project, the Reduced Project Alternative would result in a decrease in operational and construction emissions of ROG, NO_x, PM₁₀, and PM_{2.5}.

The Reduced Project Alternative is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NO_x and associated ROG emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of

an Indirect Source Rule fee for any required reductions that have not been accomplished through Project mitigation commitments. The actual calculations will be determined and finalized by the SJVAPCD and project applicants as individual projects are brought forward for approval under Rule 9510.

The substantial reductions in NO_x (and associated ROG) emissions accomplished by the application of the ISR represent the best achievable mitigation for indirect sources. However, even with the application of these measures, emissions levels would remain above the defined thresholds of significance. As such, implementation of the Reduced Project Alternative would have a **cumulatively considerable contribution** and **significant and unavoidable** impact from air emissions. Compared to the proposed Project, this alternative is superior relative to this topic.

Reduced Intensity/Density Alternative:

As noted above, under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

There are limited mitigation inputs available within CalEEMod™ (v.2016.3.1) to quantify emission reductions. As shown in Table 3.3-12, even with basic mitigation incorporated into the model, the Reduced Intensity/Density Alternative would exceed the SJVAPCD thresholds of significance for ROG and NO_x during operation. In addition, it was found that with basic mitigation incorporated into the model, the Reduced Intensity/Density Alternative would not exceed the SJVAPCD thresholds of significance for any criteria pollutant during construction. Compared to the proposed Project, the Reduced Intensity/Density Alternative would result in a decrease in operational and construction emissions of ROG, NO_x, PM₁₀, and PM_{2.5}.

The Reduced Intensity/Density Alternative is subject to the SJVAPCD Rule 9510 (Indirect Source Rule), which could result in substantial mitigation of NO_x and associated ROG emissions. The reductions are accomplished by the incorporation of mitigation measures into projects and/or by the payment of an Indirect Source Rule fee for any required reductions that have not been accomplished through Project mitigation commitments. The actual calculations will be determined and finalized by the SJVAPCD and project applicants as individual projects are brought forward for approval under Rule 9510.

The substantial reductions in NO_x (and associated ROG) emissions accomplished by the application of the ISR represent the best achievable mitigation for indirect sources. However, even with the application of these measures, emissions levels would remain above the defined thresholds of significance. As such, implementation of the Reduced Intensity/Density Alternative would have a **cumulatively considerable contribution** and **significant and unavoidable** impact from air emissions. Compared to the proposed Project, this alternative is superior relative to this topic.

BIOLOGICAL RESOURCES

The cumulative setting for biological resources includes the Project site and the greater San Joaquin County region. Development associated with implementation of the local General Plans (City of Stockton and San Joaquin County General Plans) would contribute to the ongoing loss of natural and agricultural lands in San Joaquin County, including the Project site. Cumulative development would result in the conversion of existing habitat to urban uses. The local General Plan(s), in addition to regional, State and federal regulations, includes policies and measures that mitigate impacts to biological resources associated with General Plan buildout. Additionally, local land use authorities in San Joaquin County require development to participate in the SJMSCP, which is a habitat conservation plan and natural community conservation plan for San Joaquin County that provides a mechanism for compensatory mitigation for habitat and species loss in accordance with federal and State laws.

Impact 4.6: The proposed Project may result in cumulative loss of biological resources, including habitats and special status species. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

Under cumulative conditions, buildout of the General Plan(s) within San Joaquin County will result in impacts to biological resources in the cumulative area through new and existing development. The General Plan(s) includes policies that are designed to minimize impacts to the extent feasible and the SJMSCP has been established to provide a mechanism for compensatory mitigation and standardized avoidance and minimization measures as needed.

As described in Section 3.4 Biological Resources, construction in the Project site has the potential to result in impacts to special-status species in the region. Although there have been no documented sightings within the immediate area in, or near the Project site, the Project site provides potential habitat for several species, including those discussed in Section 3.4.

Mitigation Measure 3.4-1 requires participation with the SJMSCP, which includes fees that will be used to purchase conservation lands for a variety of special status species. The SJMSCP was created and adopted to address both the project and cumulative impacts to biological resources, including special status species. The proposed Project will participate in the SJMSCP, including payment of fees and implementation of all Incidental Take Minimization Measures required by the SICOG through the authorization of SJMSCP coverage.

Mitigation Measure 3.4-2 requires construction activities occurring during the avian breeding season (March 1 – August 31) to conduct pre-construction surveys to prevent impacts to nesting birds.

The ongoing operational phase of the proposed Project requires discharge of stormwater into the City storm drainage system and to Bear Creek, which ultimately discharges into the Delta. The discharge of stormwater could result in indirect impacts to special status fish and wildlife if stormwater was not appropriately treated through BMPs prior to its discharge to the Delta.

Mitigation Measure 3.4-3 requires the project applicant to implement nonstructural BMPs that focus on preventing pollutants from entering stormwater.

Implementation of Mitigation Measures 3.4.1 through 3.4-10 in Section 3.4 would reduce potentially cumulative impacts to a **less than significant** level. As such, impacts to biological resources would be a **less than cumulatively considerable contribution**.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in cumulative impacts to habitats or special-status species. As such, **no impact** would occur, and no mitigation is required. Impacts related to biological resources would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Similar to the proposed Project, construction in the Project site has the potential to result in impacts to special-status species in the region. Although there have been no documented sighting within the immediate area in, or near the Project site, the Project site provides potential habitat for several species, including those discussed in Section 3.4.

Similar to the proposed Project, implementation of Mitigation Measures 3.4.1 through 3.4-10 in Section 3.4 would reduce potentially cumulative impacts to a **less than significant** level. Under this alternative, impacts to biological resources would be a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

Under the General Plan 2035 Alternative, the entire 318.82-acre Project site would be developed with residential and commercial land uses.

Similar to the proposed Project, construction in the Project site has the potential to result in impacts to special-status species in the region. Although there have been no documented sighting within the immediate area in, or near the Project site, the Project site provides potential habitat for several species, including those discussed in Section 3.4.

Similar to the proposed Project, implementation of Mitigation Measures 3.4.1 through 3.4-10 in Section 3.4 would reduce potentially cumulative impacts to a **less than significant** level. Under this alternative, impacts to biological resources would be a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

Similar to the proposed Project, construction in the Project site has the potential to result in impacts to special-status species in the region. Although there have been no documented sighting within the immediate area in, or near the Project site, the Project site provides potential habitat for several species, including those discussed in Section 3.4.

Similar to the proposed Project, implementation of Mitigation Measures 3.4.1 through 3.4-10 in Section 3.4 would reduce potentially cumulative impacts to a **less than significant** level. Under this alternative, impacts to biological resources would be a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Similar to the proposed Project, construction in the Project site has the potential to result in impacts to special-status species in the region. Although there have been no documented sighting within the immediate area in, or near the Project site, the Project site provides potential habitat for several species, including those discussed in Section 3.4.

Similar to the proposed Project, implementation of Mitigation Measures 3.4.1 through 3.4-10 in Section 3.4 would reduce potentially cumulative impacts to a **less than significant** level. Under this alternative, impacts to biological resources would be a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

CULTURAL AND TRIBAL RESOURCES

The geography of cultural and tribal resources impacts can be defined by region, by political subdivision or by the geography of the cultural resources present in an area, where sufficient inventory data is available to define it. The cumulative setting for cultural and tribal resources includes all of the San Joaquin County. There are extensive cultural sites located in the region.

Impact 4.7: The proposed Project may result in cumulative impacts on known and undiscovered cultural or tribal resources. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

Cumulative development anticipated in the City of Stockton, including growth projected by adopted future projects, may result in the discovery and removal of cultural resources, including archaeological, paleontological, historical, and Native American resources and human remains. As discussed in Section 3.5 Cultural Resources, no prehistoric artifacts or evidence of prehistoric use of the survey area was found. No historic resources were recorded. Although human remains were previously found on the Project site, the remains were recently placed into the custody of the local Native American group involved in the previous iteration of the Project and appointed “most likely lineal descendant” in 2005.

Any previously unknown cultural resources which may be discovered during development of the proposed Project would be required to be preserved, either through preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. With implementation of the mitigation measures provided in Section 3.5, the proposed Project is not anticipated to considerably contribute to a significant reduction in cultural resources in the region.

All future projects in the regional vicinity would be subject to their respective General Plans (i.e. City of Stockton and San Joaquin County), each of which have policies and measures that are designed to ensure protection of undiscovered cultural resources. In addition, all discretionary projects in these jurisdictions would require environmental review per regulations established in CEQA.

Implementation of the proposed Project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to cultural resources would result in a **less than cumulatively considerable contribution**.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in cumulative impacts on known or undiscovered cultural resources in the Project area. As noted above, no prehistoric artifacts or evidence of prehistoric use of the survey area was found. No historic resources were recorded. Although human remains were previously found on the Project site, the remains were recently placed into the custody of the local Native American group previously involved in the previous iteration of the Project, and appointed “most likely lineal descendant” in 2005. Implementation of the No Build Alternative would have **no cumulative impact** relative to this environmental topic. Under this alternative, impacts related to cultural resources would be a **less than cumulatively considerable contribution** and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Similar to the proposed Project, the balance of the Project site would be developed with residential and commercial uses under the With Bridge Alternative. In addition, as noted above, no prehistoric artifacts or evidence of prehistoric use of the survey area was found. No historic resources were recorded. Although human remains were previously found on the Project site, the remains were recently placed into the custody of the local Native American group previously involved in the previous iteration of the Project, and appointed “most likely lineal descendant” in 2005. With implementation of the mitigation measures provided in Section 3.5, the With Bridge Alternative is not anticipated to considerably contribute to a significant reduction in cultural resources in the region. Implementation of the With Bridge Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to cultural resources would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. The Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

Similar to the proposed Project, the balance of the Project site would be developed with residential and commercial uses under the General Plan 2035 Alternative. In addition, as noted above, no prehistoric artifacts or evidence of prehistoric use of the survey area was found. No historic resources were recorded. Although human remains were previously found on the Project site, the remains were recently placed into the custody of the local Native American group previously involved in the previous iteration of the Project, and appointed “most likely lineal descendant” in 2005. With implementation of the mitigation measures provided in Section 3.5, the General Plan 2035 Alternative is not anticipated to considerably contribute to a significant reduction in cultural resources in the region. Implementation of the General Plan 2035 Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to cultural resources would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site.

The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and

proposed commercial uses. As noted above, no prehistoric artifacts or evidence of prehistoric use of the survey area was found. No historic resources were recorded. Although human remains were previously found on the Project site, the remains were recently placed into the custody of the local Native American group previously involved in the previous iteration of the Project, and appointed “most likely lineal descendant” in 2005. With implementation of the mitigation measures provided in Section 3.5, the Reduced Project Alternative is not anticipated to considerably contribute to a significant reduction in cultural resources in the region. Implementation of the Reduced Project Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to cultural resources would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is slightly superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Although the Reduced Intensity/Density Alternative would reduce the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative. As noted above, no prehistoric artifacts or evidence of prehistoric use of the survey area was found. No historic resources were recorded. Although human remains were previously found on the Project site, the remains were recently placed into the custody of the local Native American group previously involved in the previous iteration of the Project, and appointed “most likely lineal descendant” in 2005. With implementation of the mitigation measures provided in Section 3.5, the Reduced Intensity/Density Alternative is not anticipated to considerably contribute to a significant reduction in cultural resources in the region. Implementation of the Reduced Intensity/Density Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to cultural resources would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

GEOLOGY AND SOILS

Geology and soils concerns are related to risks, hazards or development constraints that are largely site-specific. However, seismic hazards are regional, and management of seismic hazards is vested with the local planning and building authority. For these reasons, the potential for cumulative geology and soils impacts are considered in the context of the City of Stockton and vicinity.

Impact 4.8: The proposed Project may result in cumulative impacts on geologic and soils resources. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

As discussed in Section 3.6 Geology and Soils, the Project site does not have a significant risk of becoming unstable as a result landslide, subsidence, or soil collapse. However, the on-site soils are clayey and are subject to slow permeability and low strength limitations for development. Additionally, the soils on the Project site have a high shrink-swell potential. However, mitigation measures provided in Section 3.6 ensure this impact will be less than significant. While the Project site is not within an Alquist-Priolo Special Study Zone, there will always be a potential for groundshaking caused by seismic activity anywhere in California, including the Project site. Seismic activity could come from a known active fault such as the Greenville fault, or any number of other faults in the region. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. Additionally, the City of Stockton has incorporated numerous policies relative to seismicity to ensure the health and safety of all people. Design in accordance with these standards and policies would reduce any potential impact to a less than significant level.

Geologic and soils impacts tend to be site-specific and project-specific. With the mitigation measures presented in Section 3.6, implementation of the proposed Project would not result in increased risks or hazards related to geologic conditions in the cumulative setting area, nor would it result in any off-site or indirect impacts. Implementation of the proposed Project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to geologic and soil resources would result in a **less than cumulatively considerable contribution**.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not create substantial risks to life or property related to geology and soils. Under this alternative, **no impact** would occur, and no mitigation is required. As such, impacts related to geologic and soil resources would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

As noted above, the on-site soils are clayey and are subject to slow permeability and low strength limitations for development. Additionally, the soils on the Project site have a high shrink-swell potential. However, mitigation measures provided in Section 3.6 ensure this impact will be less than significant. While the Project site is not within an Alquist-Priolo Special Study Zone, there will

always be a potential for groundshaking caused by seismic activity anywhere in California, including the Project site.

Geologic and soils impacts tend to be site-specific and project-specific. With the mitigation measures presented in Section 3.6, implementation of the With Bridge Alternative would not result in increased risks or hazards related to geologic conditions in the cumulative setting area, nor would it result in any off-site or indirect impacts. Implementation of the With Bridge Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to geologic and soil resources would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan.

As noted above, the on-site soils are clayey and are subject to slow permeability and low strength limitations for development. Additionally, the soils on the Project site have a high shrink-swell potential. However, mitigation measures provided in Section 3.6 ensure this impact will be less than significant. While the Project site is not within an Alquist-Priolo Special Study Zone, there will always be a potential for groundshaking caused by seismic activity anywhere in California, including the Project site.

Geologic and soils impacts tend to be site-specific and project-specific. With the mitigation measures presented in Section 3.6, implementation of the General Plan 2035 Alternative would not result in increased risks or hazards related to geologic conditions in the cumulative setting area, nor would it result in any off-site or indirect impacts. Implementation of the General Plan 2035 Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to geologic and soil resources would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

As noted above, the on-site soils are clayey and are subject to slow permeability and low strength limitations for development. Additionally, the soils on the Project site have a high shrink-swell potential. However, mitigation measures provided in Section 3.6 ensure this impact will be less than significant. While the Project site is not within an Alquist-Priolo Special Study Zone, there will

always be a potential for groundshaking caused by seismic activity anywhere in California, including the Project site.

Geologic and soils impacts tend to be site-specific and project-specific. With the mitigation measures presented in Section 3.6, implementation of the Reduced Project Alternative would not result in increased risks or hazards related to geologic conditions in the cumulative setting area, nor would it result in any off-site or indirect impacts. Implementation of the Reduced Project Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to geologic and soil resources would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

As noted above, the on-site soils are clayey and are subject to slow permeability and low strength limitations for development. Additionally, the soils on the Project site have a high shrink-swell potential. However, mitigation measures provided in Section 3.6 ensure this impact will be less than significant. While the Project site is not within an Alquist-Priolo Special Study Zone, there will always be a potential for groundshaking caused by seismic activity anywhere in California, including the Project site.

Geologic and soils impacts tend to be site-specific and project-specific. With the mitigation measures presented in Section 3.6, implementation of the Reduced Intensity/Density Alternative would not result in increased risks or hazards related to geologic conditions in the cumulative setting area, nor would it result in any off-site or indirect impacts. Implementation of the Reduced Intensity/Density Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to geologic and soil resources would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

GREENHOUSE GASES AND CLIMATE CHANGE

The cumulative setting for greenhouse gas (GHG) emissions and climate change impacts for this analysis is San Joaquin County, which is the boundary for the California Air Resources Board's regional GHG emissions reduction targets.

Impact 4.9: The proposed Project may result in cumulative impacts related to climate change from increased Project-related greenhouse gas emissions. (Significant and Unavoidable and Less than Cumulatively Considerable)

Proposed Project:

GHG emissions from a single project will not cause global climate change; however, GHG emission from multiple projects throughout a region or state could result in a cumulative impact with respect to global climate change.

In California, there has been extensive legislation passed with the goal of reducing GHG emissions. The legislative goals are as follows: 1) 2000 levels by 2010, 2) 1990 levels by 2020 and 3) 80 percent below the 1990 levels by the year 2050.¹ To achieve these goals, the California Air Resources Board (CARB) has developed regional GHG emission reduction targets for the automobile and light truck sectors (the largest single source of GHG emissions) for 2020 and 2035. The regional GHG emission reduction targets for each region in California were established by the CARB.

As described in Impact 3.7-2 in Section 3.7, implementation of the proposed Project will still generate GHG emissions that wouldn't otherwise exist without the proposed Project. Given the length of construction activities for a Project of this size, the construction emissions would be a long-term release of approximately 7,670 MTCO₂e. The operational emissions would be a long-term release totaling approximately 26,797 MTCO₂e. The City of Stockton must weigh the economic and social benefits of development against the environmental impacts associated with development. The City of Stockton's planning efforts including targeted growth that accommodates the economic and social needs of the community, while recognizing and seeking to mitigate environmental impacts when growth occurs.

The City adopted a Climate Action Plan in 2014. As described under Impact 3.7-1, the proposed Project is consistent with the adopted Stockton CAP. Section 15183.5 of the CEQA Guidelines allows for the tiering and streamlining of GHG emissions analysis, allowing lead agencies to analyze and mitigate the significant effects of GHG emissions if a qualified GHG reduction plan or Climate Action Plan is made available. In addition to being consistent with the Stockton CAP, the proposed Project is consistent with the SJCOG RTP/SCS in that it uses the same land use assumptions used by SJCOG in that document. The CARB has indicated that implementation of the RTP/SCS would enable SJCOG to achieve the GHG reduction targets for 2020 and 2035. Cumulative development within the City of Stockton would be evaluated for their consistency with the Stockton CAP and SJCOG RTP/SCS, which would include adherence to the GHG reduction measures that have been established. The proposed Project, and all cumulative projects would have the benefits of the States GHG reduction measures that broadly affect the State (i.e. Pavely, Low Carbon Fuels, CalGreen, LGWP refrigerant standards, etc.). The proposed project is consistent with local plans that are specifically designed to contribute to a reduction in GHG emissions. However, even with

¹ As per Executive Order S-3-05.

consistency with the Stockton CAP, the SJCOG RTP/SCS, and all state regulations, there would be a net increase in GHG emissions. As such, the proposed Project would have a **significant and unavoidable** impact and **cumulatively considerable** contribution to this topic.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not generate GHG emissions that may have a significant impact on the environment. Under this Alternative, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this Alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

As described in Impact 3.7-2, implementation of the With Bridge Alternative will still generate GHG emissions that wouldn't otherwise exist without the With Bridge Alternative. Given the length of construction activities for a Project of this size, the construction emissions would be a long-term release of approximately 7,653 MTCO₂e. The operational emissions would be a long-term release totaling approximately 26,694 MTCO₂e. Compared to the proposed Project, the With Bridge Alternative would result in fewer GHG emissions during construction and operation.

The City of Stockton must weigh the economic and social benefits of development against the environment impacts associated with development. The City of Stockton's planning efforts included targeted growth that accommodates the economic and social needs of the community, while recognizing and seeking to mitigate environmental impacts when growth occurs. The City also adopted a Climate Action Plan in 2014. The With Bridge Alternative is consistent with local plans that are specifically designed to contribute to a reduction in GHG emissions. However, even with consistency with the Stockton CAP, the SJCOG RTP/SCS, and all state regulations, there would be a net increase in GHG emissions. As such, the With Bridge Alternative would have a **significant and unavoidable** impact and **cumulatively considerable** contribution to this topic. Compared to the proposed project, this alternative is slightly superior relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

As described in Impact 3.7-2, implementation of the General Plan 2035 Alternative will still generate GHG emissions that wouldn't otherwise exist without the General Plan 2035 Alternative. Given the length of construction activities for a Project of this size, the construction emissions would be a long-term release of approximately 13,781 MTCO₂e. The operational emissions would be a long-term release totaling approximately 29,357 MTCO₂e. Compared to the proposed Project, the General Plan 2035 Alternative would result in greater GHG emissions during construction and operation.

The City of Stockton must weigh the economic and social benefits of development against the environment impacts associated with development. The City of Stockton's planning efforts included targeted growth that accommodates the economic and social needs of the community, while recognizing and seeking to mitigate environmental impacts when growth occurs. The City also adopted a Climate Action Plan in 2014. The General Plan 2035 Alternative is consistent with local plans that are specifically designed to contribute to a reduction in GHG emissions. However, even with consistency with the Stockton CAP, the SJCOG RTP/SCS, and all state regulations, there would be a net increase in GHG emissions. As such, the General Plan 2035 Alternative would have a **significant and unavoidable** impact and **cumulatively considerable** contribution to this topic. Compared to the proposed Project, this alternative is inferior relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

As described in Impact 3.7-2, implementation of the Reduced Project Alternative will still generate GHG emissions that wouldn't otherwise exist without the Reduced Project Alternative. Given the length of construction activities for a Project of this size, the construction emissions would be a long-term release of approximately 5,697 MTCO₂e. The operational emissions would be a long-term release totaling approximately 17,017 MTCO₂e. Compared to the proposed Project, the Reduced Project Alternative would result in fewer GHG emissions during construction and operation.

The City of Stockton must weigh the economic and social benefits of development against the environment impacts associated with development. The City of Stockton's planning efforts included targeted growth that accommodates the economic and social needs of the community, while recognizing and seeking to mitigate environmental impacts when growth occurs. The City also adopted a Climate Action Plan in 2014. The Reduced Project Alternative is consistent with local plans that are specifically designed to contribute to a reduction in GHG emissions. However, even with consistency with the Stockton CAP, the SJCOG RTP/SCS, and all state regulations, there would be a net increase in GHG emissions. As such, the Reduced Project Alternative would have a

significant and unavoidable impact and **cumulatively considerable** contribution to this topic. Compared to the proposed Project, this alternative is superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

As described in Impact 3.7-2, implementation of the Reduced Intensity/Density Alternative will still generate GHG emissions that wouldn't otherwise exist without the Reduced Intensity/Density Alternative. Given the length of construction activities for a Project of this size, the construction emissions would be a long-term release of approximately 6,289 MTCO₂e. The operational emissions would be a long-term release totaling approximately 17,415 MTCO₂e. Compared to the proposed Project, the Reduced Intensity/Density Alternative would result in fewer GHG emissions during construction and operation.

The City of Stockton must weigh the economic and social benefits of development against the environment impacts associated with development. The City of Stockton's planning efforts included targeted growth that accommodates the economic and social needs of the community, while recognizing and seeking to mitigate environmental impacts when growth occurs. The City also adopted a Climate Action Plan in 2014. The Reduced Intensity/Density Alternative is consistent with local plans that are specifically designed to contribute to a reduction in GHG emissions. However, even with consistency with the Stockton CAP, the SJCOG RTP/SCS, and all state regulations, there would be a net increase in GHG emissions. As such, the Reduced Intensity/Density Alternative would have a **significant and unavoidable** impact and **cumulatively considerable** contribution to this topic. Compared to the proposed Project, this alternative is superior relative to this topic.

HAZARDS AND HAZARDOUS MATERIALS

The cumulative context for the analysis of cumulative hazards and human health impacts is San Joaquin County, including all cumulative growth therein, as represented by full implementation of each respective General Plan (i.e. Stockton and San Joaquin County). As discussed in Section 3.8 Hazards and Hazardous Materials, implementation of the proposed Project would not result in any significant impacts related to this environmental topic with the implementation of the mitigation measures provided in Section 3.8.

Impact 4.10: The proposed Project may result in cumulative impacts related to hazards and hazardous materials. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

The proposed Project, in conjunction with cumulative development in the region, would include areas designated for a variety of urban, agricultural, and open space uses as defined by the applicable General Plan. Cumulative development would include continued operation or development of new facilities as allowed under each land use designation. New development would inevitably increase the use of hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. For the most part, potential impacts associated with new and future development would be confined to commercial and industrial areas and would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers). Hazard-related impacts tend to be site-specific and project-specific. The Project site is not associated with any existing hazardous materials spills; however, there are numerous areas throughout the County where hazardous conditions are present.

Implementation of the proposed Project would not result in significant increased risks of hazards in the cumulative setting area, nor would it result in any significant off-site or indirect impacts. Mitigation measures have been included to reduce the risk of on-site hazards associated with the use of on-site hazardous materials. Implementation of the proposed Project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to hazards and hazardous materials would result in a **less than cumulatively considerable contribution**.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As such, **no impact** would occur, and no mitigation is required. Impacts related to hazards and hazardous materials would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Implementation of the With Bridge Alternative would not result in significant increased risks of hazards in the cumulative setting area, nor would it result in any significant off-site or indirect impacts. Mitigation measures have been included to reduce the risk of on-site hazards associated with the use of on-site hazardous materials. Implementation of the With Bridge Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to hazards and hazardous materials would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan.

Implementation of the General Plan 2035 Alternative would not result in significant increased risks of hazards in the cumulative setting area, nor would it result in any significant off-site or indirect impacts. Mitigation measures have been included to reduce the risk of on-site hazards associated with the use of on-site hazardous materials. Implementation of the General Plan 2035 Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to hazards and hazardous materials would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

Implementation of the Reduced Project Alternative would not result in significant increased risks of hazards in the cumulative setting area, nor would it result in any significant off-site or indirect impacts. Mitigation measures have been included to reduce the risk of on-site hazards associated with the use of on-site hazardous materials. Implementation of the Reduced Project Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to hazards and hazardous materials would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the

Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Implementation of the Reduced Intensity/Density Alternative would not result in significant increased risks of hazards in the cumulative setting area, nor would it result in any significant off-site or indirect impacts. Mitigation measures have been included to reduce the risk of on-site hazards associated with the use of on-site hazardous materials. Implementation of the Reduced Intensity/Density Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to hazards and hazardous materials would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

HYDROLOGY AND WATER QUALITY

Potential cumulative issues associated with surface waters can be addressed on a watershed basis, or in the case of groundwater, in the context of a groundwater basin. Because water resources are highly interconnected, the cumulative setting is based on San Joaquin County which is located in the San Joaquin River Hydrological Region. Cumulative development in this region, including the proposed Project, would impact the water quality and hydrological features of the San Joaquin River Hydrologic Region. The City of Stockton and much of the surrounding area is located in the Eastern San Joaquin River Groundwater Basin. This groundwater basin covers approximately 1,105 square miles. The Project site is located in the San Joaquin River watershed within the Lower Cosumnes- hydrologic area, Bear Creek and Lower Bear Creek hydrologic sub-areas. Any matter that may affect water quality draining from the Project site will eventually end up in the Delta or within the groundwater basin.

Impact 4.11: The proposed Project may result in cumulative increases in peak stormwater runoff from the Project site. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

Implementation of the proposed Project would increase the amount of impervious surfaces in the Project site, which could increase peak stormwater runoff rates and volumes on and downstream of the Project site. However, the proposed Project includes an extensive system of on-site stormwater collection facilities to accommodate the increased stormwater flows that would originate in the Project site.

Proposed storm drain lines would range from 12 inches to 60 inches in diameter. Collection lines would flow generally west and south to the proposed detention basin located in the southwest corner of the Project site. Detained and treated storm water in the detention pond located in the southwestern park/basin area will be discharged (pumped) into Bear Creek. This detention pond has been designed with a surface area and volume in compliance with City standards.

Disposal of storm water collected to the detention basin would be handled by a new on-site storm water pump station and discharge outfall to Bear Creek. The pump station would operate when

storm water quality and detention objectives have been met. The pump station is expected to consist of a concrete sump, trash screen and two or more pumps that would deliver storm water flow over or through the Bear Creek levee to an outfall facility. The pump station facility may include an emergency generator to supply electrical power to the pump station during power outages.

The outfall structure would consist of two or more pipelines directed southeasterly to a point inside the Bear Creek levee. Outfall pipelines would likely terminate at a concrete headwall and energy dissipators set into the toe of the Bear Creek levee; storm drainage would be discharged to a concrete, gunite or riprap apron to flow into the Bear Creek channel. Outfall pipes would terminate in a “tideflex” or a comparable check valve system.

A pump station as shown in the City’s Storm Drainage Master Plan will be constructed in phases as the project develops. When 50 percent of the lots are mapped, 100 percent of the pump station will be constructed and in operation. Pumped discharge from the dual use pond into Bear Creek will be regulated and designed in accordance with City of Stockton standards as well as in accordance with National and State agency regulations.

The ongoing operational phase of the proposed Project requires the final discharge of stormwater into Bear Creek. As stated previously, the discharge of stormwater must be treated through BMPs prior to its discharge. The City of Stockton implements best management practices to the extent they are technologically achievable to prevent and reduce pollutants. Under the City’s standard practices, the owner or operator of a commercial establishment shall provide reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses.

With the design and construction of the stormwater control infrastructure identified above and detailed in Section 3.9, the proposed Project would not increase peak stormwater runoff. Implementation of the proposed Project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to stormwater runoff would result in a **less than cumulatively considerable contribution**.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in cumulative impacts related to stormwater runoff. As such, **no impact** would occur, and no mitigation is required. Impacts related to hydrology and water quality would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Similar to the proposed Project, the With Bridge Alternative would result in permanent urbanization of the Project site, which would result in changes to land use, natural vegetation, and infiltration characteristics, and would introduce new sources of water pollutants, producing urban runoff. Development of the proposed Project, and the With Bridge Alternative would be subject to the storm water pollution control measures that are part of the City's SWMP.

However, as noted above, a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project and ultimately connecting with Holman Road. During operation, the improvements made could increase the overall amount of roadway runoff into Bear Creek. Bridge projects also create an opportunity to constrict or block natural streamflows that may result in increased erosion. Special considerations must be addressed when construction is performed in or near creeks, such as limiting fill placed in creeks and minimizing alteration of the stream channel and banks to the extent feasible.

While the With Bridge Alternative would result in similar alterations of the existing drainage pattern related to urban development and would result in a **less than significant** impact, the additional creek crossing provides additional potential for erosion and subsequent water quality concerns during construction and operational activities. As such, impacts related to stormwater runoff would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is inferior relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

Similar to the proposed Project, the General Plan 2035 Alternative would result in permanent urbanization of the Project site, which would result in changes to land use, natural vegetation, and infiltration characteristics, and would introduce new sources of water pollutants, producing urban runoff. Development of the proposed Project, and the General Plan 2035 Alternative would be subject to the storm water pollution control measures that are part of the City's SWMP.

However, as noted above, a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project and ultimately connecting with Holman Road. During operation, the improvements made could increase the overall amount of roadway runoff into Bear Creek. Bridge projects also create an opportunity to constrict or block natural streamflows that may result in increased erosion. Special considerations must be addressed when construction is performed in or near creeks, such as limiting fill placed in creeks and minimizing alteration of the stream channel and banks to the extent feasible.

While the General Plan 2035 Alternative would result in similar alterations of the existing drainage pattern related to urban development and would result in a **less than significant** impact, the additional creek crossing provides additional potential for erosion and subsequent water quality concerns during construction and operational activities. As such, impacts related to stormwater runoff would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is inferior relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

Approximately 33 percent of the Project site would remain undeveloped under the Reduced Project Alternative. The Reduced Project Alternative would be subject to the requirements of the General Plan, and the Stockton SWMP. Drainage characteristics including the proposed detention basins would be similar to the proposed Project. However, Under the Reduced Project Alternative, the increased areas of undeveloped land will would reduce drainage requirements, and would facilitate groundwater recharge and the natural biofiltration of stormwater. Similar to the proposed Project, impacts to drainage patterns would remain a **less than significant** impact relative to this topic. As such, impacts related to stormwater runoff would result in a **less than cumulatively considerable contribution**. However, because this alternative would provide greater portions of the site as pervious surfaces, this alternative is slightly superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Under this alternative, as with the proposed Project, similar areas of land will remain impervious to precipitation, which will result in similar impacts to the existing drainage pattern. Similar to the proposed Project, impacts to the existing drainage pattern would remain a **less than significant impact** relative to this topic. As such, impacts related to stormwater runoff would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 4.12: The proposed Project may result in cumulative impacts related to degradation of water quality. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

The proposed Project, along with several of the related projects within the City of Stockton, would ultimately discharge stormwater runoff to the nearby Delta waterways. This could potentially degrade the water quality of the system.

Construction of the proposed Project would contribute to a cumulative increase in urban pollutant loading, which could adversely affect water quality. Cumulative development in the Stockton area, including the proposed Project, would also result in increased impervious surfaces that could increase the rate and amount of runoff, thereby potentially adversely affecting existing surface water quality through increased erosion and sedimentation. The primary sources of water pollution include: runoff from roadways and parking lots; runoff from landscaping areas; non-stormwater connections to the drainage system; accidental spills; and illegal dumping. Runoff from roadway and parking lots could contain oil, grease, and heavy metals; additionally, runoff from landscaped areas could contain elevated concentrations of nutrients, fertilizers, and pesticides.

The proposed Project will be required to comply with Mitigation Measure 3.6-1 which requires the development and approval of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will include Best Management Practices (BMPs) to regulate stormwater quality for the Project site which will be designed in accordance with the City of Stockton's National Pollutant Discharge Elimination System Permit (NPDES) issued by the RWQCB.

Several of the projects within the City of Stockton would phase out existing agricultural runoff discharges from their respective sites and, similar to the proposed Project, could provide some level of water quality improvement. Also, each related project that would discharge stormwater runoff would be required to comply with NPDES discharge permits from the RWQCB, which adjusts requirements on a case-by-case basis to avoid significant degradation of water quality. Therefore, while a greater quantity of urban runoff may be discharged to the Delta system with implementation of the related projects, because of an increase in impervious surfaces, the associated surface water quality impacts would be expected to be less than significant because of improved or similar quality of runoff compared to existing conditions.

Compliance with City and County water quality protection regulations and approval from the RWQCB would ensure that the proposed Project minimizes impacts to surface water quality. Implementation of the proposed Project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to water quality would result in a **less than cumulatively considerable contribution**.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not

result in cumulative impacts related to degradation of water quality. As such, **no impact** would occur, and no mitigation is required. Impacts related to hydrology and water quality would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

The With Bridge Alternative would result in additional urban development which would include construction grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. Construction impacts would be required to implement standard requirements and mitigation as mentioned previously, thus construction impacts compared to the proposed Project, would be equal relative to this topic.

Grading and site preparation involved in construction of the bridge across Bear Creek would require the stripping of vegetation, and earth movement/excavation, both of which would increase the potential for soil erosion. Increased soil erosion could increase suspended solids in runoff and local receiving waters, which ultimately could increase sedimentation impacts to the hydrologic system.

Operational impacts would be required to implement standard requirements and mitigation as mentioned previously, thus impacts compared to the proposed Project, would be roughly equal relative to this topic.

While the With Bridge Alternative would result in similar construction impacts related to urban development, the additional creek crossing provides additional potential for water quality concerns during construction activities. Compliance with City and County water quality protection regulations and approval from the RWQCB would ensure that the With Bridge Alternative minimizes impacts to surface water quality. Implementation of the With Bridge Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to water quality would result in a **less than cumulatively considerable contribution**. However, additional requirements would need to be included, including additional BMPs to address bridge construction. Therefore, compared to the proposed Project, this alternative is inferior relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under

the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

The General Plan 2035 Alternative would result in additional urban development which would include construction grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. Construction impacts would be required to implement standard requirements and mitigation as mentioned previously, thus construction impacts compared to the proposed Project, would be equal relative to this topic.

Grading and site preparation involved in construction of the bridge across Bear Creek would require the stripping of vegetation, and earth movement/excavation, both of which would increase the potential for soil erosion. Increased soil erosion could increase suspended solids in runoff and local receiving waters, which ultimately could increase sedimentation impacts to the hydrologic system.

Operational impacts would be required to implement standard requirements and mitigation as mentioned previously, thus impacts compared to the proposed Project, would be roughly equal relative to this topic.

While the General Plan 2035 Alternative would result in similar construction impacts related to urban development, the additional creek crossing provides additional potential for water quality concerns during construction activities. Compliance with City and County water quality protection regulations and approval from the RWQCB would ensure that the General Plan 2035 Alternative minimizes impacts to surface water quality. Implementation of the General Plan 2035 Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to water quality would result in a **less than cumulatively considerable contribution**. However, additional requirements would need to be included, including additional BMPs to address bridge construction. Therefore, compared to the proposed Project, this alternative is inferior relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

Operational impacts would be required to implement standard requirements and mitigation as mentioned previously, thus impacts compared to the proposed Project, would be roughly equal relative to this topic.

Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The increased areas of undeveloped land under the Reduced Project Alternative will remain pervious to precipitation, which will facilitate the natural biofiltration of stormwater. This alternative will still include a stormwater detention/basin, and provide natural BMPs to reduce pollutants in stormwater runoff.

Similar to the proposed Project, the potential to violate water quality standards or waste discharge requirements during construction would remain a **less than significant** impact relative to this topic. As such, impacts related to water quality would result in a **less than cumulatively considerable contribution**. It is noted that this alternative would have slightly less impacts related to this topic than the proposed Project because less land would be converted to urban uses and areas of disturbance would be reduced. Compared to the proposed Project, this alternative is slightly superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Operational impacts would be required to implement standard requirements and mitigation as mentioned previously, thus impacts compared to the proposed Project, would be roughly equal relative to this topic.

Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. Construction under this alternative, as with the proposed Project, would require ground disturbances on over the entire 318.82-acre footprint. Construction impacts would be required to implement standard requirements and mitigation as mentioned previously, thus construction impacts compared to the proposed Project, would be equal relative to this topic.

Similar to the proposed Project, the potential to violate water quality standards or waste discharge requirements during construction would remain a **less than significant** impact relative to this topic. As such, impacts related to water quality would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 4.13: The proposed Project may result in cumulative impacts related to degradation of groundwater supply or recharge. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

The proposed Project would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potential; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

The Project site has soils with a hydrologic group of “D”, which is indicative of soils having a very slow infiltration rate when thoroughly wet, and soils with a hydrologic group of “C”, which is indicative of soils having a slow infiltration rate when thoroughly wet. The infiltration rate of the soils on the Project site is considered low to very low.

Development of the proposed Project will cover at roughly 40 percent of the existing Project site with impervious surfaces and could reduce rainwater infiltration and groundwater recharge further. The park areas and open space buffers along Bear Creek will remain largely pervious. The collection of rainwater for those areas of impervious surfaces will be routed into the proposed Project’s storm drainage system which is eventually pumped after treatment into Bear Creek.

The COSMUD prepared a Water Supply Assessment (WSA) for the proposed Project (COSMUD, 2017). This WSA determined that the COSMUD can support the Project based on the 2015 UWMP. COSMUD has shown that sufficient water supplies exist to meet the Project’s build-out water demand as well as all existing and reasonably foreseeable water demands. COSMUD makes this determination based on the information provided in this WSA and on the following specific facts:

- The existing near-term and long-term reliable supplies of surface water supplies and indigenous groundwater supplies can deliver a sustainable reliable water supply to meet existing and foreseeable water demands without impacting environmental values and/or impacting the current stabilization of the groundwater basin underlying the COSMA.
- The Project water demands will be positively affected by the implementation of COSMUD’s eight Demand Management Measure and adherence to SB7-7 (i.e., required statewide 20 percent reduction on a per capita basis by 2020).
- The existing and future use of groundwater supplies has been extensively described in the 2015 UWMP which includes the Groundwater Management Plan for Eastern San Joaquin Groundwater Basin as Appendix “H”. All studies show that sufficient groundwater supplies exist.

While the Project site's soils have a low infiltration rate based on the relative percentage of sands, much of the groundwater recharge in the basin occurs in the sand and gravels along the San Joaquin River from Sierra snowmelt flowing downstream. Precipitation in the region is 13.81 inches, most of which falls between November through April. A portion of this annual rainfall infiltrates the soil and groundwater basin, while a portion is discharged downstream into the Delta. While the proposed Project would reduce the amount of pervious surfaces within the Project site, it will retain at approximately 60 percent of the site as a pervious surface. Additionally, the existing near-term and long-term reliable supplies of surface water supplies and indigenous groundwater supplies can deliver a sustainable reliable water supply to meet existing and foreseeable water demands without impacting environmental values and/or impacting the current stabilization of the underlying groundwater basin.

For the reasons mentioned above, the proposed Project would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge. Implementation of the proposed Project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in cumulative impacts related to groundwater recharge or groundwater quality. As such, **no impact** would occur, and no mitigation is required. Impacts related to hydrology and water quality would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Under this alternative, as with the proposed Project, similar areas of land will remain impervious to precipitation, which will result in similar impacts groundwater recharge. Additionally, due to the slight reduction in the number of units (and subsequent service population) as described previously, this alternative would require less potable water supplies. Similar to the proposed Project, impacts to groundwater supplies and groundwater recharge would remain a **less than significant** impact relative to this topic. As such, impacts related to hydrology and water quality would result in a **less than cumulatively considerable contribution**. However, because this alternative would require less water consumption, compared to the proposed Project, this alternative is slightly superior relative to this topic.

General Plan 2035 Alternative:

Under the General Plan 2035 Alternative, the entire 318.82-acre Project site would be developed with residential and commercial land uses.

While the General Plan 2035 Alternative would have roughly similar impacts to groundwater recharge due to similar development throughout the Project site, the additional units and subsequent additional population would increase potable water demands, a portion of which would come from groundwater. Similar to the proposed Project, impacts to groundwater supplies and groundwater recharge would remain a **less than significant** impact relative to this topic. As such, impacts related to hydrology and water quality would result in a **less than cumulatively considerable contribution**. However, because this alternative would require additional water consumption, compared to the proposed Project, this alternative is inferior relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

Under the Reduced Project Alternative, the increased areas of undeveloped land will remain pervious to precipitation, which will facilitate groundwater recharge and the natural biofiltration of stormwater. Additionally, due to the reduced number of units as described previously, this alternative would require less potable water supplies. Similar to the proposed Project, impacts to groundwater supplies and groundwater recharge would remain a **less than significant** impact relative to this topic. As such, impacts related to hydrology and water quality would result in a **less than cumulatively considerable contribution**. However, because this alternative would require less water consumption, and provide more opportunities for groundwater recharge, compared to the proposed Project, this alternative is slightly superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Under this alternative, as with the proposed Project, similar areas of land will remain impervious to precipitation, which will result in similar impacts groundwater recharge. Additionally, due to the reduced number of units (and subsequent service population) as described previously, this alternative would require less potable water supplies. Similar to the proposed Project, impacts to groundwater supplies and groundwater recharge would remain a **less than significant** impact relative to this topic. As such, impacts related to hydrology and water quality would result in a **less than cumulatively considerable contribution**. However, because this alternative would require less water consumption, compared to the proposed Project, this alternative is slightly superior relative to this topic.

Impact 4.14: The proposed Project may result in cumulative impacts related to flooding. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

As shown on Figure 3.9-3, the Project site is not within a 100-year flood zone as delineated by FEMA. Development of the proposed Project would not place housing or structures in a 100-year flood hazard area. While the project site is not within the 100-year flood hazard area, it does lie within the 200-year flood hazard area as identified on the San Joaquin County Public Works 200-year floodplain viewer (PBI Engineering, March 2015).

As noted in Section 3.9, state floodplain legislation (Senate Bill 5) for the San Joaquin River region has resulted in stricter development standards beginning in 2016. Urban areas that depend on levee protection are required to have a 200-year level of flood protection.

The City has completed Zoning Code Amendments in May 2016 to reflect SB-5 requirements. Building and zoning code changes apply to all permits issued after July 2, 2016. These changes include increased building setbacks for flood fighting along levees and requirements to elevate buildings above the floodplain or use flood resistant building materials for development in areas identified as flood hazard zones on federal flood maps, while streamlining the process of making specific findings for development of residential and commercial land uses.

Pursuant to the revised City floodplain regulations contained in Chapter 16.90 of the City Municipal Code, the proposed Project would be required to comply with SB-5 requirements. Through compliance with these existing regulations, the proposed Project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in cumulative impacts related to flooding. As such, **no impact** would occur, and no mitigation is required. Impacts related to hydrology and water quality would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

As shown on Figure 3.9-3, the Project site is not within a 100-year flood zone as delineated by FEMA. While the project site is not within the 100-year flood hazard area, it does lie within the 200-year flood hazard area as identified on the San Joaquin County Public Works 200-year floodplain viewer (PBI Engineering, March 2015).

As noted above, state floodplain legislation (Senate Bill 5) for the San Joaquin River region has resulted in stricter development standards beginning in 2016. Urban areas that depend on levee protection are required to have a 200-year level of flood protection. Pursuant to the revised City floodplain regulations contained in Chapter 16.90 of the City Municipal Code, the With Bridge Alternative would be required to comply with SB-5 requirements. Through compliance with these existing regulations, the With Bridge Alternative would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

As shown on Figure 3.9-3, the Project site is not within a 100-year flood zone as delineated by FEMA. While the project site is not within the 100-year flood hazard area, it does lie within the 200-year flood hazard area as identified on the San Joaquin County Public Works 200-year floodplain viewer (PBI Engineering, March 2015).

As noted above, state floodplain legislation (Senate Bill 5) for the San Joaquin River region has resulted in stricter development standards beginning in 2016. Urban areas that depend on levee protection are required to have a 200-year level of flood protection. Pursuant to the revised City floodplain regulations contained in Chapter 16.90 of the City Municipal Code, the General Plan 2035 Alternative would be required to comply with SB-5 requirements. Through compliance with these existing regulations, the General Plan 2035 Alternative would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

As shown on Figure 3.9-3, the Project site is not within a 100-year flood zone as delineated by FEMA. While the project site is not within the 100-year flood hazard area, it does lie within the 200-year flood hazard area as identified on the San Joaquin County Public Works 200-year floodplain viewer (PBI Engineering, March 2015).

As noted above, state floodplain legislation (Senate Bill 5) for the San Joaquin River region has resulted in stricter development standards beginning in 2016. Urban areas that depend on levee protection are required to have a 200-year level of flood protection. Pursuant to the revised City floodplain regulations contained in Chapter 16.90 of the City Municipal Code, the Reduced Project Alternative would be required to comply with SB-5 requirements. Through compliance with these existing regulations, the Reduced Project Alternative would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

As shown on Figure 3.9-3, the Project site is not within a 100-year flood zone as delineated by FEMA. While the project site is not within the 100-year flood hazard area, it does lie within the 200-year flood hazard area as identified on the San Joaquin County Public Works 200-year floodplain viewer (PBI Engineering, March 2015).

As noted above, state floodplain legislation (Senate Bill 5) for the San Joaquin River region has resulted in stricter development standards beginning in 2016. Urban areas that depend on levee protection are required to have a 200-year level of flood protection. Pursuant to the revised City floodplain regulations contained in Chapter 16.90 of the City Municipal Code, the Reduced Intensity/Density Alternative would be required to comply with SB-5 requirements. Through compliance with these existing regulations, the Reduced Intensity/Density Alternative would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

LAND USE AND POPULATION

The cumulative setting for land use and population impacts is the City of Stockton.

Impact 4.15: The proposed Project may result in cumulative impacts to communities and local land uses. (Less than Significant and Less than Cumulatively Considerable)
Proposed Project:

STOCKTON GENERAL PLAN

Cumulative land use impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site- and project-specific. Prior to project authorization, City approval of the proposed Project would require approval of a General Plan amendment to the Land Use Element to change land uses on the Project site, and to the Circulation Element to remove an unbuilt bridge crossing over Bear Creek. Changes to the Land

Use Element would include changing approximately 1.5 acres of LDR to C uses; changing approximately 1.03 acres of LDR to HDR uses; and changing 20.36 acres of LDR to Open Space/Agriculture (OSA) along Bear Creek. Changes to the Circulation Element would include the removal of a bridge crossing over Bear Creek associated with what is shown on the Future Roadways Map as an extension of Marlette Road from the west through the Project site and ultimately traveling eastward through the Bear Creek South project to Holman Road. The current and proposed General Plan land uses are shown in Section 2.0, Figures 2-6 and 2-9, respectively.

The Project is located within the City's SOI and Urban Services Boundary. The Project will provide for housing opportunities and employment-generating uses that will promote employment and economic development, and a mix of land uses, while providing an attractive, sustainable neighborhood. The Project is consistent with the General Plan land use policies that encourage an orderly pattern of development that is contiguous with the City boundary, require growth to contribute to a diversified economic base and balance between employment and housing opportunities, and allowing for recreation uses. The Project is included in the City's Municipal Service Review

The land uses as proposed are not consistent with the General Plan. When land uses are not consistent with a General Plan there are two courses of action: 1) the uses are not allowed due to the inconsistency, or 2) the land uses are changed through an amendment to the General Plan to create consistency. As noted above, the proposed Project includes a General Plan amendment to change land uses on the northwestern and southern portions of the Project site. Changes to the Land Use Element and Circulation Element are summarized above.

In the cumulative context, these changes to the General Plan would not have adverse cumulative impacts. The Project would slightly decrease the amount of LDR planned for the Project site and would slightly increase the amount of HDR. Additionally, the decrease in LDR is partly due to a change in the land use along the Bear Creek from LDR to open space. This would cumulatively add more designated open space area to the General Plan than was previously anticipated. Approval of the General Plan amendment would ensure that the proposed Project would be substantially consistent with the Stockton General Plan land use requirements and would have a **less than significant** and **less than cumulatively considerable** impact. It is noted that consistency with Stockton General Plan policies and programs related to environmental topics other than land use (aesthetics, biological resources, cultural resources, geology/soils, hazards, hydrology/water quality, noise, public services, transportation, and utilities) are discussed in the relevant sections of this EIR. Additionally, not all General Plan policies and programs are adopted for the purpose of avoiding or mitigating an environmental effect.

STOCKTON MUNICIPAL CODE

The Stockton Municipal Code implements the General Plan. As noted above, the San Joaquin LAFCo will require the Project site to be pre-zoned by the City of Stockton in conjunction with the proposed annexation. The City's pre-zoning will include the following zoning designations: RL, RH, IL, CG, and OS. The pre-zoning would go into effect upon annexation into the City of Stockton. The proposed pre-zoning for the Project site is shown on Figure 2-10 in Section 2.0. These proposed

zone changes would ensure that zoning would be consistent with the proposed General Plan designations within the Project site. The City's Development Code establishes permitted uses, development densities and intensities, and development standards for each zone to ensure that public health, safety, and general welfare are protected, consistent with the purpose of the Municipal Code. All existing City development standards and zoning requirements for the proposed zoning are applicable to any activities on the Project site. The City will review each component of the proposed Project as plans (improvement plans, building plans, site plans, etc.) are submitted for final approval to ensure that they are consistent with the City's Municipal Code. Approval of the pre-zoning would ensure that the proposed Project would be consistent with the Municipal Code and will have a **less than significant** and **less than cumulatively considerable** relative to this topic.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted to avoid or mitigate an environmental effect. Implementation of the No Build Alternative would have **no cumulative impact** relative to this environmental topic. Under this alternative, impacts related to land use would be a **less than cumulatively considerable contribution** and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

STOCKTON GENERAL PLAN

Under the With Bridge Alternative, the entire 318.82-acre Project site would be developed with residential and commercial land uses. The land uses as included for the With Bridge Alternative are not consistent with the General Plan. Therefore, the With Bridge Alternative would require a General Plan Amendment to the Land Use Element to change land uses on the Project site. Changes to the Land Use Element would be identical to the proposed Project. Because this alternative includes construction of the Bear Creek bridge crossing, an amendment to the Circulation Element would not be required. Similar to the proposed Project, approval of the General Plan amendment would ensure that With Bridge Alternative would be substantially consistent with the Stockton General Plan land use requirements and would have a **less than significant** and **less than cumulatively considerable** impact relative to the Stockton General Plan. Compared to the proposed Project, this alternative is equal relative to this topic.

STOCKTON MUNICIPAL CODE

The Stockton Municipal Code implements the General Plan. As noted above, the San Joaquin County LAFCo will require the Project site to be pre-zoned by the City of Stockton in conjunction

with the annexation. The pre-zoning under the With Bridge Alternative would be identical to the proposed Project. The pre-zoning would go into effect upon annexation into the City of Stockton. The zone changes would ensure that zoning would be consistent with the General Plan designations within the Project site. The zoning ordinance establishes permitted uses, development densities and intensities, and development standards for each zone to ensure that public health, safety, and general welfare are protected, consistent with the purpose of the Municipal Code. All existing City development standards and zoning requirements for the zoning are applicable to any activities on the Project site. The City would review each component of the With Bridge Alternative as plans (improvement plans, building plans, site plans, etc.) are submitted for final approval to ensure that they are consistent with the City's Municipal Code. Under this alternative, approval of the pre-zoning would ensure that the With Bridge Alternative would be consistent with the Municipal Code and will have a **less than significant** and **less than cumulatively considerable** relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

STOCKTON GENERAL PLAN

Cumulative land use impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site- and project-specific. Unlike the proposed Project, a General Plan amendment would not be required for the General Plan 2035 Alternative. The General Plan 2035 Alternative will provide for housing opportunities and employment-generating uses that will promote employment and economic development, and a mix of land uses, while providing an attractive, sustainable neighborhood. The General Plan 2035 Alternative is consistent with the General Plan land use policies that encourage an orderly pattern of development that is contiguous with the City boundary, require growth to contribute to a diversified economic base and balance between employment and housing opportunities, and allowing for recreation uses. The General Plan 2035 Alternative would be substantially consistent with the Stockton General Plan land use requirements and would have a **less than significant** and **less than cumulatively considerable** impact relative to the Stockton General Plan. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

STOCKTON MUNICIPAL CODE

The Stockton Municipal Code implements the General Plan. Similar to the proposed Project, the General Plan 2035 Alternative includes pre-zoning by the City in conjunction with the proposed annexation. The City's pre-zoning will include the following zoning designations: R/L, R/H, I/L, C/G,

and OS. The pre-zoning would go into effect upon annexation into the City of Stockton. The pre-zoning would ensure that zoning would be consistent with the General Plan designations within the Project site. The zoning ordinance establishes permitted uses, development densities and intensities, and development standards for each zone to ensure that public health, safety, and general welfare are protected, consistent with the purpose of the Municipal Code. All existing City development standards and zoning requirements for the proposed zoning are applicable to any activities on the Project site. The City will review each component of the proposed Project as plans (improvement plans, building plans, site plans, etc.) are submitted for final approval to ensure that they are consistent with the City's Municipal Code. Approval of the pre-zoning would ensure that the General Plan 2035 Alternative would be consistent with the Municipal Code and will have a **less than significant** and **less than cumulatively considerable** relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

STOCKTON GENERAL PLAN

The land uses as included for the Reduced Project Alternative are not consistent with the General Plan. Therefore, the Reduced Project Alternative would require a General Plan Amendment to change land uses on the northwest, north-central, and southern portions of the Project site. Changes to the Land Use Element would include changing the northwest portion of the Project site from C to LDR and HDR, and changing 24.2 acres of LDR to OSA along Bear Creek. Similar to the proposed Project, approval of the General Plan amendment would ensure that the Reduced Project Alternative would be substantially consistent with the Stockton General Plan land use requirements and would have a **less than significant** and **less than cumulatively considerable** impact relative to the Stockton General Plan. Compared to the proposed Project, this alternative is equal relative to this topic.

STOCKTON MUNICIPAL CODE

The Stockton Municipal Code implements the General Plan. As noted above, the San Joaquin County LAFCo will require the Project site to be pre-zoned by the City of Stockton in conjunction with the annexation. The pre-zoning under the Reduced Project Alternative would include the following zoning designations: RL, RH, and OS. The pre-zoning would go into effect upon annexation into the City of Stockton. The zone changes would ensure that zoning would be consistent with the General Plan designations within the Project site. The zoning ordinance establishes permitted uses, development densities and intensities, and development standards for each zone to ensure that public health, safety, and general welfare are protected, consistent with the purpose of the Municipal Code. All existing City development standards and zoning requirements for the zoning are applicable to any activities on the Project site. The City would

review each component of the Reduced Project Alternative as plans (improvement plans, building plans, site plans, etc.) are submitted for final approval to ensure that they are consistent with the City's Municipal Code. Under this alternative, approval of the pre-zoning would ensure that the proposed Project would be consistent with the Municipal Code and will have a **less than significant** and **less than cumulatively considerable** relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

STOCKTON GENERAL PLAN

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The land uses as included for the Reduced Intensity/Density Alternative are not consistent with the General Plan. Therefore, the Reduced Intensity/Density Alternative would require a General Plan Amendment to the Land Use Element to change land uses on the Project site, and to the Circulation Element to remove an unbuilt bridge crossing over Bear Creek. Changes to the Land Use Element would include changing the northwest portion of the Project site from C to LDR and HDR, and changing 24.2 acres of LDR to OSA along Bear Creek. Similar to the proposed Project, approval of the General Plan amendment would ensure that the Reduced Intensity/Density Alternative would be substantially consistent with the Stockton General Plan land use requirements and would have a **less than significant** and **less than cumulatively considerable** impact relative to the Stockton General Plan. Compared to the proposed Project, this alternative is equal relative to this topic.

STOCKTON MUNICIPAL CODE

The Stockton Municipal Code implements the General Plan. As noted above, the San Joaquin County LAFCo will require the Project site to be pre-zoned by the City of Stockton in conjunction with the annexation. The pre-zoning under the Reduced Intensity/Density Alternative would include the following zoning designations: RL, RH, IL, and OS. The pre-zoning would go into effect upon annexation into the City of Stockton. The zone changes would ensure that zoning would be consistent with the General Plan designations within the Project site. The zoning ordinance establishes permitted uses, development densities and intensities, and development standards for each zone to ensure that public health, safety, and general welfare are protected, consistent with the purpose of the Municipal Code. All existing City development standards and zoning requirements for the zoning are applicable to any activities on the Project site. The City would review each component of the Reduced Intensity/Density Alternative as plans (improvement plans, building plans, site plans, etc.) are submitted for final approval to ensure that they are consistent with the City's Municipal Code. Under this alternative, approval of the pre-zoning would ensure that the Reduced Intensity/Density Alternative would be consistent with the Municipal

Code and will have a **less than significant** and **less than cumulatively considerable** relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 4.16: The proposed Project may result in cumulative impacts on population and housing. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

As described in Section 3.10, the proposed Project would add residential housing structures in the Project site, and would directly increase the population of the City. Residential structures are not located on the Project site. One residence formerly located within the southwestern portion of the Project site has been vacated and demolished. Therefore, the proposed Project would not displace existing persons or housing.

The Housing Element of the Stockton General Plan identifies that the City has capacity for 7,966 residential units on vacant and underutilized sites. The proposed Project would not result in indirect population growth beyond the City's capacity that is planned in the General Plan; rather, it would result in a reduction of the total number of units anticipated under the General Plan by approximately 475 to 1,363 units. The net population reduction associated with the reduction of units is anticipated to be 1,506 to 4,321 persons.

While the proposed Project will result in growth, it is not anticipated to significantly induce growth beyond the levels analyzed in the City's General Plan and Housing Element, or displace substantial numbers of housing or people. Implementation of the proposed Project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to population and housing would result in a **less than cumulatively considerable contribution**.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in substantial population growth in the area. As such, **no cumulative impact** relative to this environmental topic would occur. Under this alternative, impacts related to population and housing would be a **less than cumulatively considerable contribution** and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

As described in Section 3.10, the Reduced Intensity/Density Alternative would add residential housing structures in the Project site, and would directly increase the population of the City. Residential structures are not located on the Project site. One residence formerly located within

the southwestern portion of the Project site has been vacated and demolished. Therefore, the With Bridge Alternative would not displace existing persons or housing.

The Housing Element of the Stockton General Plan identifies that the City has capacity for 7,966 residential units on vacant and underutilized sites. The With Bridge Alternative would not result in indirect population growth beyond the City's capacity that is planned in the General Plan; rather, it would result in a reduction of the total number of units anticipated under the General Plan by approximately 482 to 1,370 units. The net population reduction associated with the reduction of units is anticipated to be 1,528 to 4,343 persons. It is noted that the With Bridge Alternative could increase the population of the City by an estimated 4,742 persons, as compared to 4,765 persons under the proposed Project.

While the With Bridge Alternative will result in growth, it is not anticipated to significantly induce growth beyond the levels analyzed in the City's General Plan and Housing Element, or displace substantial numbers of housing or people. Implementation of the With Bridge Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to population and housing would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is slightly superior relative to this topic.

General Plan 2035 Alternative:

Under the General Plan 2035 Alternative, the entire 318.82-acre Project site would be developed with residential and commercial land uses.

As described in Section 3.10, the General Plan 2035 Alternative would add residential housing structures in the Project site, and would directly increase the population of the City. Residential structures are not located on the Project site. One residence formerly located within the southwestern portion of the Project site has been vacated and demolished. Therefore, the General Plan 2035 Alternative would not displace existing persons or housing.

The Housing Element of the Stockton General Plan identifies that the City has capacity for 7,966 residential units on vacant and underutilized sites. Because the General Plan 2035 Alternative would develop the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan, the alternative would not result in indirect population growth beyond the City's planned capacity. Therefore, the General Plan 2035 Alternative is not anticipated to exceed the planned growth (directly or indirectly) in the area beyond what is anticipated in the City of Stockton General Plan. It is noted that the General Plan 2035 Alternative could increase the population of the City by an estimated 8,800 persons, as compared to 4,765 persons under the proposed Project.

While the General Plan 2035 Alternative will result in growth, it is not anticipated to significantly induce growth beyond the levels analyzed in the City's General Plan and Housing Element, or displace substantial numbers of housing or people. Implementation of the General Plan 2035 Alternative would have a **less than significant** cumulative impact relative to this environmental

topic. As such, impacts related to population and housing would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is inferior relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

As described in Section 3.10, the Reduced Project Alternative would add residential housing structures in the Project site, and would directly increase the population of the City. Residential structures are not located on the Project site. One residence formerly located within the southwestern portion of the Project site has been vacated and demolished. Therefore, the Reduced Project Alternative would not displace existing persons or housing.

The Housing Element of the Stockton General Plan identifies that the City has capacity for 7,966 residential units on vacant and underutilized sites. The Reduced Project Alternative would not result in indirect population growth beyond the City's capacity that is planned in the General Plan; rather, it would result in a reduction of the total number of units anticipated under the General Plan by approximately 947 to 1,745 units. The net population reduction associated with the reduction of units is anticipated to be 3,002 to 5,532 persons. It is noted that the Reduced Project Alternative could increase the population of the City by an estimated 3,268 persons, as compared to 4,765 persons under the proposed Project.

While the Reduced Project Alternative will result in growth, it is not anticipated to significantly induce growth beyond the levels analyzed in the City's General Plan and Housing Element, or displace substantial numbers of housing or people. Implementation of the Reduced Project Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to population and housing would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is slightly superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

As described in Section 3.10, the Reduced Intensity/Density Alternative would add residential housing structures in the Project site, and would directly increase the population of the City.

Residential structures are not located on the Project site. One residence formerly located within the southwestern portion of the Project site has been vacated and demolished. Therefore, the Reduced Intensity/Density Alternative would not displace existing persons or housing.

The Housing Element of the Stockton General Plan identifies that the City has capacity for 7,966 residential units on vacant and underutilized sites. The Reduced Intensity/Density Alternative would not result in indirect population growth beyond the City's capacity that is planned in the General Plan; rather, it would result in a reduction of the total number of units anticipated under the General Plan by approximately 776 to 1,646 units. The net population reduction associated with the reduction of units is anticipated to be 2,460 to 5,218 persons. It is noted that the Reduced Intensity/Density Alternative could increase the population of the City by an estimated 3,810 persons, as compared to 4,765 persons under the proposed Project.

While the Reduced Intensity/Density Alternative will result in growth, it is not anticipated to significantly induce growth beyond the levels analyzed in the City's General Plan and Housing Element, or displace substantial numbers of housing or people. Implementation of the Reduced Intensity/Density Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to population and housing would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is slightly superior relative to this topic.

NOISE

The cumulative setting for noise impacts consists of the existing and future noise sources that could affect the Project site or surrounding uses.

Impact 4.17: The proposed Project may result in cumulative exposure of existing and future noise-sensitive land uses to increased noise resulting from cumulative development. (Less than Significant and Less than Cumulatively Considerable)
Proposed Project:

The cumulative context for noise impacts associated with the proposed Project consists of the existing and future noise sources that could affect the Project or surrounding uses. Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. The total noise impact of the proposed Project would be fairly small and would not be a substantial increase to the existing future noise environment. Thus, the proposed Project would result in a less-than-significant cumulative impact.

TRAFFIC: Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the proposed Project and on-site activities resulting from operation of the proposed Project. Some noise sensitive receptors located along the Project-area roadways are currently exposed to exterior traffic noise levels exceeding the City of Stockton 60 dB L_{dn} exterior noise level standard for residential uses. Table 3.11-8 in Section 3.11, Noise, shows cumulative traffic noise levels with and without the proposed Project. As shown in Table 3.11-8, these

receptors will continue to experience elevated exterior noise levels with implementation of the proposed Project. The proposed Project's contribution to traffic noise is predicted to range between -1 dBA L_{dn} and +2 dBA L_{dn} . This will not exceed the City's substantial increase criteria of 3 dB. Therefore, the Project would not result in significant increases in traffic noise levels at existing sensitive receptors.

Table 3.11-16 in Section 3.11 shows the predicted cumulative traffic noise levels at the proposed residential uses adjacent to the major Project-area arterial roadways. Table 3.11-16 data indicate that noise barriers 10-feet in height along Eight Mile Road and West Lane, which are adjacent to proposed residential uses, would be sufficient to achieve compliance with the City of Stockton 60 dB L_{dn} exterior noise level standard for the proposed residential uses. New residential uses will be constructed to comply with the applicable City of Stockton exterior and interior noise level standards. As discussed in Section 3.11, with implementation of mitigation, the Project would not result in significant increases in traffic noise levels at future sensitive receptors. Implementation of the proposed Project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to traffic noise would result a **less than cumulatively considerable contribution**.

CONSTRUCTION NOISE: Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. Implementation of the proposed project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to construction noise would result a **less than cumulatively considerable contribution**.

CUMULATIVE CONCLUSION: With implementation of mitigation included in Section 3.11, the traffic noise generated from the proposed Project is not expected to produce noise levels that would exceed City standards. Increased Project related traffic would increase traffic noise levels by less than the City's 3 dB increase criteria, at existing sensitive receptors. Consequently, the total noise impact of the proposed Project would not be a substantial increase to the future noise environment. The proposed Project would result in a **less-than-significant cumulative impact**.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. Table 3.11-9 in Section 3.11 shows the predicted traffic noise level increases on the local roadway network for Existing and Cumulative Project and No Project conditions, for the No Build Alternative.

As noted previously, some noise sensitive receptors located along the Project-area roadways are currently exposed to exterior traffic noise levels exceeding the City of Stockton 60 dB L_{dn} exterior noise level standard for residential uses, as shown in Table 3.11-9. As shown in Table 3.11-9, these receptors will continue to experience elevated exterior noise levels with implementation of the No Build Alternative. The No Build Alternative would not contribute to traffic noise increases. As such, **no impact** would occur, and no mitigation is required. Compared to the proposed Project, this

alternative is environmentally superior relative to this topic. Impacts related to noise would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

TRAFFIC: Similar to the proposed Project, cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the With Bridge Alternative and on-site activities resulting from operation of the alternative. Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the With Bridge Alternative and on-site activities resulting from operation of the alternative. Table 3.11-10 in Section 3.11 shows the predicted traffic noise level increases on the local roadway network for Cumulative Bridge Alternative and No Project conditions, for the Bridge Alternative. As noted previously, some noise sensitive receptors located along the Project-area roadways are currently exposed to exterior traffic noise levels exceeding the City of Stockton 60 dB L_{dn} exterior noise level standard for residential uses. As shown in Table 3.11-10, these receptors will continue to experience elevated exterior noise levels with implementation of the With Bridge Alternative. The Bridge Alternative contribution to traffic noise increases is predicted to range between 0 dBA L_{dn} and +2 dBA L_{dn} . This will not exceed the City's substantial increase criteria of 3 dB. Therefore, the With Bridge Alternative would not result in significant increases in traffic noise levels at existing sensitive receptors. Compared to the proposed Project, this alternative is equal relative to this topic.

Table 3.11-17 in Section 3.11 shows the predicted cumulative traffic noise levels at the proposed residential uses adjacent to the major Project-area arterial roadways. Table 3.11-17 data indicate that noise barriers 10-feet in height along Eight Mile Road and West Lane, which are adjacent to proposed residential uses, would be sufficient to achieve compliance with the City of Stockton 60 dB L_{dn} exterior noise level standard for the proposed residential uses. New residential uses will be constructed to comply with the applicable City of Stockton exterior and interior noise level standards. As discussed in Section 3.11, with implementation of mitigation, the With Bridge Alternative would not result in significant increases in traffic noise levels at future sensitive receptors. Implementation of the With Bridge Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to traffic noise would result a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is slightly inferior relative to this topic.

CONSTRUCTION NOISE: Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. Implementation of the With Bridge Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to construction noise would result a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

CUMULATIVE CONCLUSION: With implementation of mitigation, the traffic noise from the With Bridge Alternative is not expected to produce noise levels that would exceed City standards. Increased traffic resulting from this alternative would increase traffic noise levels by less than the City's 3 dB increase criteria, at existing sensitive receptors. Consequently, the total noise impact of the With Bridge Alternative would not be a substantial increase to the future noise environment. The With Bridge Alternative would result in a **less-than-significant cumulative impact**. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

Under the General Plan 2035 Alternative, the entire 318.82-acre Project site would be developed with residential and commercial land uses.

TRAFFIC: Similar to the proposed Project, cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the General Plan 2035 Alternative and on-site activities resulting from operation of the alternative. Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the General Plan 2035 Alternative and on-site activities resulting from operation of the alternative. Table 3.11-11 in Section 3.11 shows the predicted traffic noise level increases on the local roadway network for Existing and Cumulative Project and No Project conditions for the General Plan 2035 Alternative. As noted previously, some noise sensitive receptors located along the Project-area roadways are currently exposed to exterior traffic noise levels exceeding the City of Stockton 60 dB L_{dn} exterior noise level standard for residential uses. As shown in Table 3.11-11, these receptors will continue to experience elevated exterior noise levels with implementation of the General Plan 2035 Alternative. The General Plan 2035 Alternative contribution to traffic noise increases is predicted to range between +1 dBA L_{dn} and +2 dBA L_{dn} . This will not exceed the City's substantial increase criteria of 3 dB. Therefore, the General Plan 2035 Alternative would not result in significant increases in traffic noise levels at existing sensitive receptors. Compared to the proposed Project, this alternative is equal relative to this topic.

Table 3.11-18 in Section 3.11 shows the predicted cumulative traffic noise levels at the proposed residential uses adjacent to the major Project-area arterial roadways. Table 3.11-18 data indicate that noise barriers 11-feet in height along Eight Mile Road and 10-feet in height along West Lane, which are adjacent to proposed residential uses would be sufficient to achieve compliance with the City of Stockton 60 dB L_{dn} exterior noise level standard for the proposed residential uses. New residential uses will be constructed to comply with the applicable City of Stockton exterior and interior noise level standards. Implementation of the General Plan 2035 Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to traffic noise would result a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is inferior relative to this topic.

CONSTRUCTION NOISE: Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. Implementation of the General Plan 2035 Alternative would have a **less than significant**

cumulative impact relative to this environmental topic. As such, impacts related to construction noise would result a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

CUMULATIVE CONCLUSION: With implementation of mitigation, the traffic noise from the General Plan 2035 Alternative is not expected to produce noise levels that would exceed City standards. Increased traffic resulting from this alternative would increase traffic noise levels by less than the City's 3 dB increase criteria, at existing sensitive receptors. Consequently, the total noise impact of the General Plan 2035 Alternative would not be a substantial increase to the future noise environment. It is noted that the sound walls along Eight Mile Road would be increased from 10 feet under the proposed Project to 11 feet under the General Plan 2035 Alternative. The General Plan 2035 Alternative would result in a **less-than-significant cumulative impact**. Compared to the proposed Project, this alternative is slightly inferior relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

TRAFFIC: Similar to the proposed Project, cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the Reduced Project Alternative and on-site activities resulting from operation of the alternative. Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the Reduced Project Alternative and on-site activities resulting from operation of the alternative. Table 3.11-12 in Section 3.11 shows the predicted traffic noise level increases on the local roadway network for Existing and Cumulative Project and No Project conditions for the Reduced Project Alternative. As noted previously, some noise sensitive receptors located along the Project-area roadways are currently exposed to exterior traffic noise levels exceeding the City of Stockton 60 dB L_{dn} exterior noise level standard for residential uses. As shown in Table 3.11-12, these receptors will continue to experience elevated exterior noise levels with implementation of the Reduced Project Alternative. The Reduced Project Alternative contribution to traffic noise increases is predicted to range between -1 dBA L_{dn} and +1 dBA L_{dn}. This will not exceed the City's substantial increase criteria of 3 dB. Therefore, the Reduced Project Alternative would not result in significant increases in traffic noise levels at existing sensitive receptors. Compared to the proposed Project, this alternative is equal relative to this topic.

Table 3.11-19 in Section 3.11 shows the predicted cumulative traffic noise levels at the proposed residential uses adjacent to the major Project-area arterial roadways. Table 3.11-19 data indicate that noise barriers 11-feet in height along Eight Mile Road and 10-feet in height along West Lane, which are adjacent to proposed residential uses would be sufficient to achieve compliance with the City of Stockton 60 dB L_{dn} exterior noise level standard for the proposed residential uses. New

residential uses will be constructed to comply with the applicable City of Stockton exterior and interior noise level standards. As discussed in Section 3.11, with implementation of mitigation, the Reduced Project Alternative would not result in significant increases in traffic noise levels at future sensitive receptors. Implementation of the Reduced Project Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to traffic noise would result a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is slightly inferior relative to this topic.

CONSTRUCTION NOISE: Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. Implementation of the Reduced Project Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to construction noise would result a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

CUMULATIVE CONCLUSION: With implementation of mitigation, the traffic noise from the Reduced Project Alternative is not expected to produce noise levels that would exceed City standards. Increased traffic resulting from this alternative would increase traffic noise levels by less than the City's 3 dB increase criteria, at existing sensitive receptors. Consequently, the total noise impact of the Reduced Project Alternative would not be a substantial increase to the future noise environment. It is noted that the sound walls along Eight Mile Road would be increased from 10 feet under the proposed Project to 11 feet under the Reduced Project Alternative. The Reduced Project Alternative would result in a **less-than-significant cumulative impact**. Compared to the proposed Project, this alternative is slightly inferior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

TRAFFIC: Similar to the proposed Project, cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the Reduced Intensity/Density Alternative and on-site activities resulting from operation of the alternative. Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the Reduced Intensity/Density Alternative and on-site activities resulting from operation of the alternative. Table 3.11-13 in Section 3.11 shows the predicted traffic noise level increases on the local roadway network for existing and cumulative Project and no Project conditions for the Reduced Intensity/Density Alternative. As noted previously, some noise sensitive receptors located along the Project-area roadways are currently exposed to exterior traffic noise levels exceeding the City of Stockton 60 dB L_{dn} exterior noise level standard for residential uses. As shown in Table 3.11-13, these receptors will continue to experience elevated exterior noise levels with implementation of

the Reduced Intensity/Density Alternative. The Reduced Intensity/Density Alternative contribution to traffic noise increases is predicted to range between -1 dBA L_{dn} and +1 dBA L_{dn} . This will not exceed the City's substantial increase criteria of 3 dB. Therefore, the Reduced Intensity/Density Alternative would not result in significant increases in traffic noise levels at existing sensitive receptors. Compared to the proposed Project, this alternative is equal relative to this topic.

Table 3.11-20 in Section 3.11 shows the predicted cumulative traffic noise levels at the proposed residential uses adjacent to the major Project-area arterial roadways. Table 3.11-20 data indicate that noise barriers 11-feet in height along Eight Mile Road and 10-feet in height along West Lane, which are adjacent to proposed residential uses would be sufficient to achieve compliance with the City of Stockton 60 dB L_{dn} exterior noise level standard for the proposed residential uses. New residential uses will be constructed to comply with the applicable City of Stockton exterior and interior noise level standards. As discussed in Section 3.11, with implementation of mitigation, the Reduced Intensity/Density Alternative would not result in significant increases in traffic noise levels at future sensitive receptors. Implementation of the Reduced Intensity/Density Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to traffic noise would result a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is slightly inferior relative to this topic.

CONSTRUCTION NOISE: Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. Implementation of the Reduced Intensity/Density Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to construction noise would result a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

CUMULATIVE CONCLUSION: With implementation of mitigation, the traffic noise from the Reduced Intensity/Density Alternative is not expected to produce noise levels that would exceed City standards. Increased traffic resulting from this alternative would increase traffic noise levels by less than the City's 3 dB increase criteria, at existing sensitive receptors. Consequently, the total noise impact of the Reduced Intensity/Density Alternative would not be a substantial increase to the future noise environment. It is noted that the sound walls along Eight Mile Road would be increased from 10 feet under the proposed Project to 11 feet under the Reduced Intensity/Density Alternative. The Reduced Intensity/Density Alternative would result in a **less-than-significant cumulative impact**. Compared to the proposed Project, this alternative is slightly inferior relative to this topic.

PUBLIC SERVICES AND RECREATION

Cumulative setting would include all areas covered in the service areas of the City of Stockton Fire Department, Police Department, Parks and Recreation facilities, the LUSD, and any other relevant public services.

Impact 4.18: The proposed Project may result in cumulative impacts on public services and recreation. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

Implementation of the proposed Project would contribute toward an increased demand for public services and facilities within the City of Stockton. It has been determined that the impacts to the Stockton Police, and Fire Departments, and the park and recreational facilities would be less-than-significant. Additionally, it has been determined that the impacts to the LUSD would be less-than-significant.

The proposed Project, like all cumulative projects, would be subject to all impact fees that are paid toward the enhancement of public services within the region. Impact fees are collected to ensure that the public service providers, including fire, police, schools, parks, and other services, are adequately compensated for the anticipated impacts to their facilities and equipment. Tax funds are then collected on an annual basis and provided to the public service providers to ensure adequate public service. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the proposed Project, would assist in maintaining existing fire, police, schools, parks, and other services. These fees and other revenues resulting from the proposed Project and all cumulative projects in the services areas listed above would ensure that service levels are adequate. Implementation of the proposed Project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to public services would result in a **less than cumulatively considerable contribution**.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. The No Build Alternative would not result in an increase in population to the area. Implementation of the No Build Alternative would not require the construction of public facilities which may cause substantial adverse physical environmental impacts. As such, **no impact** would occur, and no mitigation is required. Impacts related to public services would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Implementation of the With Bridge Alternative would contribute toward an increased demand for public services and facilities within the City of Stockton. It has been determined that the impacts to the Stockton Police, and Fire Departments, and the park and recreational facilities would be less-than-significant. Additionally, it has been determined that the impacts to the LUSD would be less-than-significant. The With Bridge Alternative would be subject to all fees that are paid toward the

enhancement of public services within the region. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the With Bridge Alternative, would assist in maintaining existing fire, police, schools, and park services. Implementation of the With Bridge Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to public services would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

Implementation of the General Plan 2035 Alternative would contribute toward an increased demand for public services and facilities within the City of Stockton. It has been determined that the impacts to the Stockton Police, and Fire Departments, and the park and recreational facilities would be less-than-significant. Additionally, it has been determined that the impacts to the LUSD would be less-than-significant. The General Plan 2035 Alternative would be subject to all fees that are paid toward the enhancement of public services within the region. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the General Plan 2035 Alternative, would assist in maintaining existing fire, police, schools, and park services. Implementation of the General Plan 2035 Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to public services would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

Implementation of the Reduced Project Alternative would contribute toward an increased demand for public services and facilities within the City of Stockton. It has been determined that the impacts to the Stockton Police, and Fire Departments, and the park and recreational facilities would be less-than-significant. Additionally, it has been determined that the impacts to the LUSD

would be less-than-significant. The Reduced Project Alternative would be subject to all fees that are paid toward the enhancement of public services within the region. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the Reduced Project Alternative, would assist in maintaining existing fire, police, schools, and park services. Implementation of the Reduced Project Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to public services would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Implementation of the Reduced Intensity/Density Alternative would contribute toward an increased demand for public services and facilities within the City of Stockton. It has been determined that the impacts to the Stockton Police, and Fire Departments, and the park and recreational facilities would be less-than-significant. Additionally, it has been determined that the impacts to the LUSD would be less-than-significant. The Reduced Intensity/Density Alternative would be subject to all fees that are paid toward the enhancement of public services within the region. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the Reduced Intensity/Density Alternative, would assist in maintaining existing fire, police, schools, and park services. Implementation of the Reduced Intensity/Density Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to public services would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

TRANSPORTATION AND CIRCULATION

A detailed definition of the Cumulative traffic condition is provided in Section 3.13, Transportation and Circulation, of this Draft EIR. In short, the City of Stockton requires use of their General Plan traffic model for Cumulative traffic analysis. The traffic model assumes land use development out to the year 2035 using land use designations consistent with the City's General Plan.

Long-term future Cumulative conditions with the City of Stockton General Plan are a background condition with future year traffic forecasts, based on development of surrounding land uses and the roadway network. This set of scenarios assumes 2035 conditions with future development consistent with the City of Stockton General Plan.

With the combination of background conditions, and development of proposed Project and Project alternative land uses on the Project site, the transportation system was analyzed for the long-term following scenarios:

- Cumulative No Project (General Plan 2035 Alternative);
- Cumulative Plus Project (as proposed);
- Cumulative Plus No Build Alternative;
- Cumulative Plus With Bridge Alternative;
- Cumulative Plus Reduced Project Alternative; and
- Cumulative Plus Reduced Intensity/Density Alternative.

Cumulative No Project conditions represent a long-term future background condition. Development of land uses and roadway improvements associated with the City of Stockton General Plan in the year 2035 are assumed in this condition. The Cumulative No Project condition, therefore, serves as the baseline condition used to assess the significance of long-term Project-related traffic impacts associated with the proposed Project and the Project alternatives.

The Cumulative No Project condition assumes buildout of the City of Stockton General Plan. The sources of information on the land use and roadway improvements assumed in the analysis of Cumulative No Project condition are:

- The City of Stockton internet website for the General Plan Update;²
- Documentation of the City's travel demand model, in particular the General Plan Update Preferred Alternative 2035 model (City of Stockton, 2004b); and
- Consultation with City of Stockton staff, providing clarification, updates, and details on assumed roadway widths.

See Section 3.13.9 of Section 3.13 for more information regarding the Cumulative traffic impact analysis.

Impact 4.19: Under Cumulative Plus Project conditions, the proposed Project may result in a significant impact at the Eight Mile Road & Lower Sacramento Road intersection. (Less than Significant and Less than Cumulatively Considerable)
Proposed Project:

Under Cumulative Plus Project conditions, the Eight Mile Road & Lower Sacramento Road intersection would operate at level of service (LOS) D with 36.0 seconds of delay during the a.m. peak hour, and LOS F with 90.8 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant.

² Available at: <http://www.stocktongov.com/government/departments/communityDevelop/cdPlanGen.html>

Implementation of Mitigation Measure 3.13-1 in Section 3.13 would reduce potential cumulative impacts to a **less than significant** level. As such, impacts to the Eight Mile Road & Lower Sacramento Road intersection would result in a **less than cumulatively considerable contribution**.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. Using methods specified in the *City of Stockton Transportation Impact Analysis Guidelines*, the impacts of the proposed Project and the Project alternatives are identified by comparing “plus Project” or “plus alternative” conditions to “no Project” conditions. EPAP No Project conditions assume no development of the Project site. Conversely, as specified by the *City of Stockton Transportation Impact Analysis Guidelines*, Cumulative No Project conditions assume “General Plan Build Out Conditions” on the Project site (City of Stockton, 2003). Therefore, EPAP No Project conditions represent EPAP Plus No Build Alternative conditions, and Cumulative No Project conditions represent Cumulative Plus General Plan 2035 Alternative conditions. To identify the impacts of each project alternative, transportation conditions assuming each project alternative are compared to conditions under the No Project condition. The difference between the project alternative condition and the No Project condition is a direct result of that project alternative.

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. At the following nine intersections, LOS under Cumulative Plus No Build Alternative conditions would be unacceptable LOS E or F. However, compared to LOS under Cumulative No Project conditions, the Project-related increase in vehicle delay would not be greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these nine intersections is considered **less than significant**:

- #2 Eight Mile Road & the I-5 Northbound Ramps
- #3 Eight Mile Road & Thornton Road
- #5 Eight Mile Road & Lower Sacramento Road
- #6 West Lane & Armstrong Road
- #8 Eight Mile Road & West Lane
- #17 Holman Road & Lt. Col. Mark Taylor Street
- #26 West Lane & Hammer Lane
- #41 Eight Mile Road & SR 99 Southbound Ramps
- #43 Morada Lane & SR 99 Southbound Ramps

Impacts related to the Eight Mile Road & Lower Sacramento Road intersection would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Table 3.13-67 in Section 3.13 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under Cumulative Plus With Bridge Alternative conditions. Under Cumulative Plus With Bridge Alternative conditions, the Eight Mile Road & Lower Sacramento Road intersection would operate at LOS D with 35.8 seconds of delay during the a.m. peak hour, and LOS F with 89.9 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. Similar to the proposed Project, mitigation is required to achieve acceptable LOS and reduce the impact to a **less than significant** level. With this mitigation measure, this intersection would operate at LOS C with 35.0 seconds of delay during the a.m. peak hour and LOS E with 73.2 seconds of delay during the p.m. peak hour. LOS E is considered acceptable at this intersection under Cumulative conditions.

As such, impacts related to the Eight Mile Road & Lower Sacramento Road intersection would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is superior relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

Using methods specified in the *City of Stockton Transportation Impact Analysis Guidelines*, the impacts of the proposed Project and the Project alternatives are identified by comparing “plus Project” or “plus alternative” conditions to “no Project” conditions. As specified by the *City of Stockton Transportation Impact Analysis Guidelines*, Cumulative No Project conditions assume “General Plan Build Out Conditions” on the Project site (City of Stockton, 2003). In this case, “General Plan Build Out Conditions” for the proposed Project site is identical to the buildout conditions assumed for the General Plan 2035 Alternative. Therefore, Cumulative No Project conditions represent Cumulative Plus General Plan 2035 Alternative conditions.

Table 3.13-55 in Section 3.13 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under Cumulative No Project conditions. Traffic volumes under Cumulative No Project conditions would be generally higher than under Existing conditions and under EPAP No Project conditions. As a result, vehicle delay at study intersections under Cumulative No Project conditions are generally higher than under Existing conditions and EPAP No Project Conditions.

Under Cumulative No Project conditions, the Eight Mile Road & Lower Sacramento Road intersection would operate at LOS C with 34.9 seconds of delay during the a.m. peak hour, and LOS F with 82.4 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Section 3.13 includes Recommended Improvement 14 in order to reduce the potential impact. With Recommended Improvement 14, this intersection would operate at LOS C with 34.2 seconds of delay during the a.m. peak hour and LOS E with 69.0 seconds of delay during the p.m. peak hour. LOS E is considered acceptable at this intersection under Cumulative conditions.

Implementation of the General Plan 2035 Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to the Eight Mile Road & Lower Sacramento Road intersection would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is inferior relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

Table 3.13-68 in Section 3.13 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under Cumulative Plus Reduced Project Alternative conditions. Under Cumulative Plus Reduced Project Alternative conditions, the Eight Mile Road & Lower Sacramento Road intersection would operate at LOS D with 37.2 seconds of delay during the a.m. peak hour, and LOS F with 94.3 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. Similar to the proposed Project, mitigation is required to achieve acceptable LOS and reduce the impact to a **less than significant** level. With this mitigation measure, this intersection would operate at LOS D with 36.5 seconds of delay during the a.m. peak hour and LOS E with 79.5 seconds of delay during the p.m. peak hour. LOS E is considered acceptable at this intersection under Cumulative conditions.

As such, impacts related to the Eight Mile Road & Lower Sacramento Road intersection would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Table 3.13-71 in Section 3.13 presents the a.m. peak hour and p.m. peak hour LOS at each study intersection under Cumulative Plus Reduced Intensity/Density Alternative conditions. Under Cumulative Plus Reduced Intensity/Density Alternative conditions, this intersection would operate at LOS D with 37.4 seconds of delay during the a.m. peak hour, and LOS F with 95.9 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant. Similar to the proposed Project, mitigation is required to achieve acceptable LOS and reduce the impact to a **less than significant** level. With this mitigation measure, this intersection would operate at LOS D with 36.0 seconds of delay during the a.m. peak hour and LOS E with 78.1 seconds of delay during the p.m. peak hour. LOS E is considered acceptable at this intersection under Cumulative conditions.

As such, impacts related to the Eight Mile Road & Lower Sacramento Road intersection would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is superior relative to this topic.

Impact 4.20: Under Cumulative Plus Project conditions, the proposed Project would result in a significant impact at the West Lane & Armstrong Road intersection. (Significant and Unavoidable and Cumulatively Considerable)

Proposed Project:

Under Cumulative Plus Project conditions, the West Lane & Armstrong Road intersection would operate at LOS E with 71.0 seconds of delay during the a.m. peak hour, and LOS F with 150.8 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable. Based on criteria presented in the *Level of Service Significance Threshold* section of this EIR, this impact is considered significant.

Implementation of Mitigation Measure 3.13-5 in Section 3.13 would result in LOS C with 32.2 seconds of delay during the a.m. peak hour and LOS D with 50.5 seconds of delay during the p.m. peak hour. These LOS are considered to be acceptable. However, this intersection is located within San Joaquin County. The land surrounding this intersection is designated for General Agricultural uses by the San Joaquin County General Plan (2017). Additionally, expansion of this area would not be consistent with the adopted SJCOG RTP/SCS (adopted in 2014). As such, urban growth within the vicinity of this intersection would not occur in the future.

This improvement would cost approximately \$432,500. This intersection is not within the City of Stockton. Therefore, implementing this mitigation measure would require approval by the County of San Joaquin. If the mitigation measure is approved by the County and constructed, the unacceptable LOS would be improved to an acceptable LOS, and the impact would be reduced to a less-than-significant level. If the improvements are not approved by the County, the LOS would remain unacceptable and the impact would be **significant and unavoidable** and **cumulatively considerable**. This conclusion is consistent with the City's General Plan Draft EIR, which notes that buildout of the General Plan, including the proposed Project site, would result in significant and unavoidable impacts related to substantial increases in vehicular traffic.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. At the following nine intersections, LOS under Cumulative Plus No Build Alternative conditions would be unacceptable LOS E or F. However, compared to LOS under Cumulative No Project conditions, the Project-related increase in vehicle delay would not be greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these nine intersections is considered **less than significant**:

- #2 Eight Mile Road & the I-5 Northbound Ramps
- #3 Eight Mile Road & Thornton Road
- #5 Eight Mile Road & Lower Sacramento Road
- #6 West Lane & Armstrong Road
- #8 Eight Mile Road & West Lane
- #17 Holman Road & Lt. Col. Mark Taylor Street
- #26 West Lane & Hammer Lane
- #41 Eight Mile Road & SR 99 Southbound Ramps
- #43 Morada Lane & SR 99 Southbound Ramps

Impacts related to the West Lane & Armstrong Road intersection would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

At the following seven intersections, LOS under Cumulative Plus With Bridge Alternative conditions would be unacceptable LOS E or F. However, compared to LOS under Cumulative No Project conditions, the Project-related increase in vehicle delay would not be greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these six intersections is considered less than significant:

- #2 Eight Mile Road & the I-5 Northbound Ramps
- #3 Eight Mile Road & Thornton Road
- #6 West Lane & Armstrong Road
- #17 Holman Road & Lt. Col. Mark Taylor Street
- #26 West Lane & Hammer Lane
- #41 Eight Mile Road & SR 99 Southbound Ramps
- #43 Morada Lane & SR 99 Southbound Ramps

As such, impacts related to the West Lane & Armstrong Road intersection would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is superior relative to this topic.

General Plan 2035 Alternative:

Under Cumulative No Project conditions, the West Lane & Armstrong Road intersection would operate at LOS E with 67.8 seconds of delay during the a.m. peak hour, and LOS F with 144.6 seconds of delay during the p.m. peak hour. LOS F is considered unacceptable.

Section 3.13 includes Recommended Improvement 15 in order to reduce the potential impact. With Recommended Improvement 15, this intersection would operate at LOS C with 32.0 seconds of delay during the a.m. peak hour and LOS D with 48.0 seconds of delay during the p.m. peak hour. These LOS are considered acceptable.

Implementation of the General Plan 2035 Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to the West Lane & Armstrong Road intersection would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is inferior relative to this topic.

Reduced Project Alternative:

At the following seven intersections, LOS under Cumulative Plus Reduced Project Alternative conditions would be unacceptable LOS E or F. However, compared to LOS under Cumulative No Project conditions, the Project-related increase in vehicle delay would not be greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these six intersections is considered less than significant:

- #2 Eight Mile Road & the I-5 Northbound Ramps
- #3 Eight Mile Road & Thornton Road
- #6 West Lane & Armstrong Road
- #17 Holman Road & Lt. Col. Mark Taylor Street
- #26 West Lane & Hammer Lane
- #41 Eight Mile Road & SR 99 Southbound Ramps
- #43 Morada Lane & SR 99 Southbound Ramps

As such, impacts related to the West Lane & Armstrong Road intersection would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is superior relative to this topic.

Reduced Intensity/Density Alternative:

At the following seven intersections, LOS under Cumulative Plus Reduced Intensity/Density Alternative conditions would be unacceptable LOS E or F. However, compared to LOS under Cumulative No Project conditions, the Project-related increase in vehicle delay would not be

greater than five seconds. Therefore, based on approaches described in the *Level of Service Significance Thresholds* section of this EIR, the impact at these six intersections is considered less than significant:

- #2 Eight Mile Road & the I-5 Northbound Ramps
- #3 Eight Mile Road & Thornton Road
- #6 West Lane & Armstrong Road
- #17 Holman Road & Lt. Col. Mark Taylor Street
- #26 West Lane & Hammer Lane
- #41 Eight Mile Road & SR 99 Southbound Ramps
- #43 Morada Lane & SR 99 Southbound Ramps

As such, impacts related to the West Lane & Armstrong Road intersection would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is superior relative to this topic.

Impact 4.21: Impacts related to roadway segment levels of service under Cumulative Plus Project conditions. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

Table 3.13-58 in Section 3.13 presents a summary of LOS on the 13 study roadway segments under Cumulative Plus Project conditions. Eleven of the roadway segments would operate at acceptable LOS D or better. The impact on these roadway segments is considered to be less than significant, and no mitigation measures are needed at these 11 roadway segments.

One roadway segment, Eight Mile Road from Lower Sacramento Road to West Lane, would operate at LOS E under Cumulative Plus Project conditions. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable on this roadway segment under Cumulative conditions. The impact on this roadway segment is considered to be less than significant, and no mitigation measures are required.

One roadway segment, SR 99 from Morada Lane to Hammer Lane, would operate at LOS E under Cumulative Plus Project conditions. However, the Project-related change in traffic volumes on this roadway segment would not exceed five percent. Therefore, based on the approach described in the *Level of Service Significance Thresholds* section of this EIR, the impact on this roadway segment is considered to be **less than significant**, and no mitigation measures are required. As such, impacts to roadway segment levels of service would result in a **less than cumulatively considerable contribution**.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. Table 3.13-64 in Section 3.13 presents a summary of LOS on the 13 study roadway segments under Cumulative Plus No Build Alternative conditions.

Eleven of the roadway segments would operate at acceptable LOS D or better. The impact on these roadway segments is considered to be less than significant, and no mitigation measures are needed at these 11 roadway segments.

One roadway segment, Eight Mile Road from Lower Sacramento Road to West Lane, would operate at LOS E under Cumulative Plus No Build Alternative conditions. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable on this roadway segment under Cumulative conditions. The impact on this roadway segment is considered to be less than significant, and no mitigation measures are required.

One roadway segment, SR 99 from Morada Lane to Hammer Lane, would operate at LOS E under Cumulative Plus No Build Alternative conditions. However, the Project-related change in traffic volumes on this roadway segment would not exceed five percent. Therefore, based on the approach described in the *Level of Service Significance Thresholds* section of this EIR, the impact on this roadway segment is considered to be **less than significant** and **less than cumulatively considerable**, and no mitigation measures are required. Compared to the proposed Project, this alternative is superior relative to this topic.

With Bridge Alternative:

Table 3.13-67 in Section 3.13 presents a summary of LOS on the 13 study roadway segments under Cumulative Plus With Bridge Alternative conditions. Eleven of the roadway segments would operate at acceptable LOS D or better. The impact on these roadway segments is considered to be less than significant, and no mitigation measures are needed at these 11 roadway segments.

One roadway segment, Eight Mile Road from Lower Sacramento Road to West Lane, would operate at LOS E under Cumulative Plus With Bridge Alternative conditions. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable on this roadway segment under Cumulative conditions. The impact on this roadway segment is considered to be less than significant, and no mitigation measures are required.

One roadway segment, SR 99 from Morada Lane to Hammer Lane, would operate at LOS E under Cumulative Plus With Bridge Alternative conditions. However, the Project-related change in traffic volumes on this roadway segment would not exceed five percent. Therefore, based on the approach described in the *Level of Service Significance Thresholds* section of this EIR, the impact on this roadway segment is considered to be **less than significant** and **less than cumulatively considerable**, and no mitigation measures are required. Compared to the proposed Project, this alternative is superior relative to this topic.

General Plan 2035 Alternative:

Table 3.13-55 in Section 3.13 presents a summary of LOS on the 13 study roadway segments under Cumulative No Project conditions. Eleven of the roadway segments would operate at acceptable LOS D or better. No improvements are needed on these 11 roadway segments to achieve acceptable LOS.

One roadway segment, Eight Mile Road from Lower Sacramento Road to West Lane, would operate at LOS E under Cumulative No Project conditions. As previously noted in the *Level of Service Significance Thresholds* section of Section 3.13, LOS E is considered acceptable on this roadway segment under Cumulative conditions.

Under Cumulative No Project conditions, the State Route 99 – Morada Lane to Hammer Lane roadway segment would operate at LOS F. LOS F is considered unacceptable. Under Cumulative No Project conditions, this roadway segment is assumed to be 10 lanes wide (five lanes in each direction). As a result, this roadway segment is considered to be at the maximum feasible size. Improvements to this roadway segment are not considered feasible. As a result, LOS at this roadway segment would be considered unacceptable. As such, impacts related to the State Route 99 – Morada Lane to Hammer Lane roadway segment would result in a **significant and unavoidable** and **cumulatively considerable** impact. Compared to the proposed Project, this alternative is inferior relative to this topic.

Reduced Project Alternative:

Table 3.13-70 in Section 3.13 presents a summary of LOS on the 13 study roadway segments under Cumulative Plus Reduced Project Alternative conditions. Eleven of the roadway segments would operate at acceptable LOS D or better. The impact on these roadway segments is considered to be less than significant, and no mitigation measures are needed at these 11 roadway segments.

One roadway segment, Eight Mile Road from Lower Sacramento Road to West Lane, would operate at LOS E under Cumulative Plus Reduced Project Alternative conditions. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable on this roadway segment under Cumulative conditions. The impact on this roadway segment is considered to be less than significant, and no mitigation measures are required.

One roadway segment, SR 99 from Morada Lane to Hammer Lane, would operate at LOS E under Cumulative Plus Reduced Project Alternative conditions. However, the Project-related change in traffic volumes on this roadway segment would not exceed five percent. Therefore, based on the approach described in the *Level of Service Significance Thresholds* section of this EIR, the impact on this roadway segment is considered to be **less than significant** and **less than cumulatively considerable**, and no mitigation measures are required. Compared to the proposed Project, this alternative is superior relative to this topic.

Reduced Intensity/Density Alternative:

Table 3.13-74 in Section 3.13 presents a summary of LOS on the 13 study roadway segments under Cumulative Plus Reduced Intensity/Density Alternative conditions. Eleven of the roadway segments would operate at acceptable LOS D or better. The impact on these roadway segments is considered to be less than significant, and no mitigation measures are needed at these 11 roadway segments.

One roadway segment, Eight Mile Road from Lower Sacramento Road to West Lane, would operate at LOS E under Cumulative Plus Reduced Intensity/Density Alternative conditions. As previously noted in the *Level of Service Significance Thresholds* section of this EIR, LOS E is considered acceptable on this roadway segment under Cumulative conditions. The impact on this roadway segment is considered to be less than significant, and no mitigation measures are required.

One roadway segment, SR 99 from Morada Lane to Hammer Lane, would operate at LOS E under Cumulative Plus Reduced Intensity/Density Alternative conditions. However, the Project-related change in traffic volumes on this roadway segment would not exceed five percent. Therefore, based on the approach described in the *Level of Service Significance Thresholds* section of this EIR, the impact on this roadway segment is considered to be **less than significant** and **less than cumulatively considerable**, and no mitigation measures are required. Compared to the proposed Project, this alternative is superior relative to this topic.

Impact 4.22: Impacts related to ramp junction levels of service under Cumulative Plus Project conditions. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

Table 3.13-61 in Section 3.13 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under Cumulative Plus Project conditions. The worksheets presenting the calculation of LOS are included in Appendix F.

Under Cumulative Plus Project conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. No mitigation measures are needed at these ramp junctions to achieve acceptable LOS. As such, impacts related to ramp junction LOS would be **less than significant** and the Project would result in a **less than cumulatively considerable** contribution.

No Build Alternative:

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current condition. Table 3.13-65 in Section 3.13 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under Cumulative Plus No Build Alternative conditions.

Under Cumulative Plus No Build Alternative conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. This impact is considered **less than significant**, and this alternative would result in a **less than cumulatively considerable** contribution. No mitigation measures are needed at these ramp junctions to achieve acceptable LOS. Compared to the proposed Project, this alternative is superior relative to this topic.

With Bridge Alternative:

Table 3.13-69 in Section 3.13 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under Cumulative Plus With Bridge Alternative conditions. Under Cumulative Plus With Bridge Alternative conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. This impact is considered **less than significant**, and this alternative would result in a **less than cumulatively considerable** contribution. No mitigation measures are needed at these ramp junctions to achieve acceptable LOS. Compared to the proposed Project, this alternative is superior relative to this topic.

General Plan 2035 Alternative:

Table 3.13-57 in Section 3.13 presents a summary of a.m. peak hour and p.m. peak hour LOS at the eight ramp junctions under Cumulative No Project conditions. All of the ramp junctions would operate at acceptable LOS D or better. No improvements are needed at these ramp junctions to achieve acceptable LOS. Implementation of the General Plan 2035 Alternative would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to roadway segments would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is inferior relative to this topic.

Reduced Project Alternative:

Table 3.13-73 in Section 3.13 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under Cumulative Plus Reduced Project Alternative conditions. Under Cumulative Plus Reduced Project Alternative conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. This impact is considered **less than significant**, and this alternative would result in a **less than cumulatively considerable** contribution. No mitigation measures are needed at these ramp junctions to achieve acceptable LOS. Compared to the proposed Project, this alternative is superior relative to this topic.

Reduced Intensity/Density Alternative:

Table 3.13-77 presents the a.m. peak hour and p.m. peak hour LOS at each study ramp junction under Cumulative Plus Reduced Intensity/Density Alternative conditions. Under Cumulative Plus Reduced Intensity/Density Alternative conditions, LOS at all eight of the study ramp junctions would be at acceptable LOS D or better during both the a.m. peak hour and the p.m. peak hour. This impact is considered **less than significant**, and this alternative would result in a **less than cumulatively considerable** contribution. No mitigation measures are needed at these ramp junctions to achieve acceptable LOS. Compared to the proposed Project, this alternative is superior relative to this topic.

Impact 4.23: Impacts related to traffic queuing and intersection spacing under Cumulative Plus Project conditions.

(Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

Table 3.13-62 in Section 3.13 presents a comparison of the available on-site queuing storage distance and the forecasted length of vehicle queues at the four major Project site points. The worksheets presenting the calculation of 95th percentile vehicle queue lengths are included in Appendix K.

Under Cumulative Plus Project conditions, vehicle queues at all four major Project site access points would be less than the available on-site queuing storage distance. Therefore, this impact is considered **less than significant** and **less than cumulatively considerable**. No mitigation measures are needed to provide adequate vehicle storage distance and intersection spacing.

With Bridge Alternative

Table 3.13-62 in Section 3.13 shows queuing distances for the proposed Project and With Bridge Alternative because these are the two Project site configurations with detailed on-site roadway networks. For other Project alternatives, which lack detailed on-site roadway networks, it is not possible to determine the length of available queuing storage distances. While the Project site access locations for the other Project alternatives are generally known, the location of the first internal cross-street is not known and, therefore, the distance from the Project site access point to the first internal cross-street cannot be known.

Under Cumulative Plus With Bridge Alternative conditions, vehicle queues at all four major project site access points would be less than the available on-site queuing storage distance. Therefore, this impact is considered **less than significant** and **less than cumulatively considerable**. No mitigation measures are needed to provide adequate vehicles storage distance and intersection spacing. Compared to the proposed Project, this alternative is equal relative to this topic.

UTILITIES

The cumulative setting includes all areas covered in the service areas of the City's wastewater system, water system, stormwater system, and the solid waste collection and disposal services. Under General Plan buildout conditions, the City would see an increased demand for water service, sewer service, solid waste disposal services, and stormwater infrastructure needs.

Impact 4.24: The proposed Project may result in cumulative impacts on wastewater utilities. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

The City of Stockton owns and operates a wastewater collection, treatment, and disposal system, and provides sanitary sewerage service to the City of Stockton. On October 23, 2008, the RWQCB adopted Waste Discharge Requirements (WDRs) Board Order Number R5-2008-0154, NPDES

CA0079138, prescribing waste discharge requirements for the City of Stockton Regional Wastewater Control Facility (RWCF).

The RWCF provides secondary and tertiary treatment of municipal wastewater from throughout the City. The remainder of the City is served by on-site septic systems, or lie outside the urban service area. As of 2008, dry weather flows at the RWCF are estimated to be approximately 35 million gallons per day (mgd), or approximately 80 percent of the current dry weather capacity of the facility. Recent improvements to the RWCF increased the average dry weather flow capacity of the RWCF to 48 mgd.

The City of Stockton's wastewater treatment system is currently in compliance with the waste discharge requirements of Order Number R5-2008-0154, NPDES CA0079138. The wastewater treatment system options covered under this Order include: City of Stockton RWCF, including discharge to the San Joaquin River. The development of the proposed Project under this permitted option would not exceed the wastewater discharge requirements in this Order as described under Impact 3.14-1 in Section 3.14. Implementation of the proposed Project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

According to the City's *2035 Wastewater Master Plan*, the proposed Project's residential uses are estimated to generate a maximum (95th percentile rate) rate of 112.0 gpd/capita (City of Stockton, 2008). Based on U.S. Census data factors (3.17 persons per household), the Project site would have a maximum of approximately 4,765 persons, at full Project build-out, resulting in approximately (4,765 x 112) 533,680 gpd that would be generated by Project residential uses. The proposed Project also includes 10.5 acres of commercial space. According to the City's *2035 Wastewater Master Plan*, commercial land uses generate wastewater at a rate of approximately 1,100 gpd/acre. Using this rate, the proposed Project's commercial uses would generate approximately 11,550 gpd. Combined, the proposed Project would be expected to generate a maximum of approximately 545,230 gpd at full build-out. Industrial uses were not calculated as part of the projection, since the industrial uses already exist, and would remain in place with no change in their level of operation as part of the proposed Project.

The proposed Project would increase the amount of wastewater requiring treatment. The wastewater would be treated at the RWCF. The Stockton RWCF uses approximately 80% of its existing permitted capacity, and the City will have additional wastewater flows totaling approximately 98.14 MGD for the entire City of Stockton Municipal Utilities Department service area when full build-out of the 2035 General Plan Area occurs. The addition of 0.55 MGD of wastewater requiring treatment as a result of the proposed Project accounts for 0.56 percent of the predicted wastewater treatment when full build-out of the 2035 General Plan Area occurs. This level of increased demand is not expected to materially affect the effective capacity of the RWCF. Additionally, the proposed Project would result in a reduction in units compared to what is allowed by the existing General Plan land uses. As such, the proposed Project would result in a reduction in wastewater treatment demand from what was analyzed in the City's General Plan EIR.

Occupancy of the proposed Project would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity would ensure that there would be a determination by the wastewater treatment and/or collection provider that there is adequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the RWCF with a subsequent allocation of capacity to the proposed Project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the proposed Project's projected demand in addition to the provider's existing commitments. It is noted that the City does not have any planned expansions of the RWCF at this time. Implementation of the proposed project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in cumulative wastewater impacts. Implementation of the No Build Alternative would have **no cumulative impact** relative to this environmental topic. Under this alternative, impacts related to utilities would be a **less than cumulatively considerable contribution** and no mitigation is required. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

The City of Stockton's wastewater treatment system is currently in compliance with the waste discharge requirements of Order Number R5-2008-0154, NPDES CA0079138. The wastewater treatment system options covered under this Order include: City of Stockton RWCF, including discharge to the San Joaquin River. The development of the With Bridge Alternative under this permitted option would not exceed the wastewater discharge requirements in this Order. Similar to the proposed Project, impacts related to wastewater would remain a **less than significant** impact relative to this topic. As such, impacts related to wastewater would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Similar to the proposed Project, this Alternative would increase the amount of wastewater requiring treatment. This Alternative would be expected to generate a maximum of approximately 564,592 gpd at full build-out, as compared to 567,168 gpd under the proposed Project. The wastewater would be treated at the RWCF. Occupancy of the Project would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve this Project's projected demand in addition to the

provider's existing commitments. Additionally, any planned expansion to the RWCF with a subsequent allocation of capacity to the Project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. Similar to the proposed Project, impacts related to wastewater would remain a **less than significant** impact relative to this topic. As such, impacts related to wastewater would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

Given the greater development as compared with the proposed Project, the General Plan 2035 Alternative would have a greater potential to cause an RWCF exceedance of waste discharge requirements.

The City of Stockton's wastewater treatment system is currently in compliance with the waste discharge requirements of Order Number R5-2008-0154, NPDES CA0079138. The wastewater treatment system options covered under this Order include: City of Stockton RWCF, including discharge to the San Joaquin River. The development of the General Plan 2035 Alternative under this permitted option would not exceed the wastewater discharge requirements in this Order. Similar to the proposed Project, impacts related to wastewater would remain a **less than significant** impact relative to this topic. As such, impacts related to wastewater would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Similar to the proposed Project, this Alternative would increase the amount of wastewater requiring treatment. This Alternative would be expected to generate a maximum of approximately 1,046,332 gpd at full build-out, as compared to 567,168 gpd under the proposed Project. The wastewater would be treated at the RWCF. Occupancy of the Project would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve this Project's projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the RWCF with a subsequent allocation of capacity to the Project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the Project's projected demand in addition to the provider's existing

commitments. Similar to the proposed Project, impacts related to wastewater would remain a **less than significant** impact relative to this topic. As such, impacts related to wastewater would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

The City of Stockton's wastewater treatment system is currently in compliance with the waste discharge requirements of Order Number R5-2008-0154, NPDES CA0079138. The wastewater treatment system options covered under this Order include: City of Stockton RWCF, including discharge to the San Joaquin River. The development of the Reduced Project Alternative under this permitted option would not exceed the wastewater discharge requirements in this Order. Similar to the proposed Project, impacts related to wastewater would remain a **less than significant** impact relative to this topic. As such, impacts related to wastewater would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Similar to the proposed Project, this Alternative would increase the amount of wastewater requiring treatment. This Alternative would be expected to generate a maximum of approximately 366,016 gpd at full build-out, as compared to 567,168 gpd under the proposed Project. The wastewater would be treated at the RWCF. Occupancy of the Project would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve this Project's projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the RWCF with a subsequent allocation of capacity to the Project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. Similar to the proposed Project, impacts related to wastewater would remain a **less than significant** impact relative to this topic. As such, impacts related to wastewater would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the

Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

The City of Stockton's wastewater treatment system is currently in compliance with the waste discharge requirements of Order Number R5-2008-0154, NPDES CA0079138. The wastewater treatment system options covered under this Order include: City of Stockton RWCF, including discharge to the San Joaquin River. The development of the Reduced Intensity/Density Alternative under this permitted option would not exceed the wastewater discharge requirements in this Order. Similar to the proposed Project, impacts related to wastewater would remain a **less than significant** impact relative to this topic. As such, impacts related to wastewater would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Similar to the proposed Project, this Alternative would increase the amount of wastewater requiring treatment. This Alternative would be expected to generate a maximum of approximately 246,720 gpd at full build-out, as compared to 567,168 gpd under the proposed Project. The wastewater would be treated at the RWCF. Occupancy of the Project would be prohibited without sewer allocation. An issuance of sewer allocation from the City's available capacity would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve this Project's projected demand in addition to the provider's existing commitments. Additionally, any planned expansion to the RWCF with a subsequent allocation of capacity to the Project would ensure that there would not be a determination by the wastewater treatment and/or collection provider that there is inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. Similar to the proposed Project, impacts related to wastewater would remain a **less than significant** impact relative to this topic. As such, impacts related to wastewater would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 4.25: The proposed Project may result in cumulative impacts on water utilities. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

The construction of onsite and offsite infrastructure improvements would be required to accommodate development of the proposed Project. All offsite water utility improvements will be in or adjacent to existing roadways, thereby limiting any potential impact to areas that were not already disturbed. Construction of the offsite water infrastructure would not have the potential to indirectly induce growth beyond the direct population growth that would result from Project approval, given that extension of water infrastructure utilities would not provide water service to an area outside of the Project site that is not currently served.

The proposed Project would require the construction of new onsite water infrastructure. Construction of the onsite water infrastructure would not result in the extension of water utilities

to an area of the City not currently served by water utilities, and as such, would not have the potential to indirectly induce population growth.

The City's General Plan anticipates that agricultural lands to the north, south, and west of the Project site would develop with urban uses upon full buildout of the General Plan land uses. While the agricultural land owners of the properties to the north, south, and west of the Project site would be closer to urban water utilities once the Project is constructed, the Project in and of itself would not induce population growth to these adjacent lands. The proposed water utilities would be located on land which was planned for urban development by the City's General Plan.

The proposed Project would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service. The City has adequate water supplies to support existing demand in the City in addition to the proposed Project under average daily and maximum daily demand conditions. Water demand for current and proposed uses in the City of Stockton is approximately 26,319 AFY (in Year 2015). The City has a total supply of 96,480 AFY (Year 2015), leaving 70,161 AFY available. As shown in Table 3.14-3, the proposed Project's water demand would be approximately 808.01 AFY.

The Water Supply Assessment completed for the proposed Project demonstrates that the City's existing and available water supplies are sufficient to meet the City's existing and projected future water demands to the year 2040 under all hydrologic conditions. Implementation of the proposed Project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in cumulative impacts related to water supply or water utilities quality. As such, **no impact** would occur, and no mitigation is required. Impacts related to utilities would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

The construction of onsite and offsite infrastructure improvements would be required to accommodate development of the With Bridge Alternative. All offsite water utility improvements will be in or adjacent to existing roadways, thereby limiting any potential impact to areas that were not already disturbed. Construction of the offsite water infrastructure would not have the potential to indirectly induce growth beyond the direct population growth that would result from approval of the With Bridge Alternative, given that extension of water infrastructure utilities would not provide water service to an area outside of the Project site that is not currently served.

The With Bridge Alternative would require the construction of new onsite water infrastructure. Construction of the onsite water infrastructure would not result in the extension of water utilities to an area of the City not currently served by water utilities, and as such, would not have the potential to indirectly induce population growth.

The With Bridge Alternative would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service. The City has adequate water supplies to support existing demand in the City in addition to the proposed Project under this Alternative under average daily and maximum daily demand conditions. Water demand for current and proposed uses in the City of Stockton is approximately 26,319 AFY (in Year 2015). The City has a total supply of 96,480 AFY (Year 2015), leaving 70,161 AFY available. As shown in Table 3.14-9 below, the With Bridge Alternative, if built, is estimated to generate approximately 808.11 AFY. This would be approximately 0.1 AFY more than for the proposed Project. Nonetheless, given the City's projected available supply, there would be sufficient supply to serve this Alternative.

Implementation of the With Bridge Alternative would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic. Compared to the proposed Project, this Alternative is slightly inferior relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

The construction of onsite and offsite infrastructure improvements would be required to accommodate development of the General Plan 2035 Alternative. All offsite water utility improvements will be in or adjacent to existing roadways, thereby limiting any potential impact to areas that were not already disturbed. Construction of the offsite water infrastructure would not have the potential to indirectly induce growth beyond the direct population growth that would result from approval of the General Plan 2035 Alternative, given that extension of water infrastructure utilities would not provide water service to an area outside of the Project site that is not currently served.

The General Plan 2035 Alternative would require the construction of new onsite water infrastructure. Construction of the onsite water infrastructure would not result in the extension of water utilities to an area of the City not currently served by water utilities, and as such, would not have the potential to indirectly induce population growth.

The General Plan 2035 Alternative would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service. The City has

adequate water supplies to support existing demand in the City in addition to the proposed Project under this Alternative under average daily and maximum daily demand conditions. Water demand for current and proposed uses in the City of Stockton is approximately 26,319 AFY (in Year 2015). The City has a total supply of 96,480 AFY (Year 2015), leaving 70,161 AFY available. As shown in Table 3.14-10 below, the General Plan 2035 Alternative, if built, is estimated to generate approximately 1,165.17 AFY. This would be approximately 357.2 AFY more than for the proposed Project. Nonetheless, given the City's projected available supply, there would be sufficient supply to serve this Alternative.

Implementation of the General Plan 2035 Alternative would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic. Compared to the proposed Project, this Alternative is inferior relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

The construction of onsite and offsite infrastructure improvements would be required to accommodate development of the Reduced Project Alternative. All offsite water utility improvements will be in or adjacent to existing roadways, thereby limiting any potential impact to areas that were not already disturbed. Construction of the offsite water infrastructure would not have the potential to indirectly induce growth beyond the direct population growth that would result from approval of the Reduced Project Alternative, given that extension of water infrastructure utilities would not provide water service to an area outside of the Project site that is not currently served.

The Reduced Project Alternative would require the construction of new onsite water infrastructure. Construction of the onsite water infrastructure would not result in the extension of water utilities to an area of the City not currently served by water utilities, and as such, would not have the potential to indirectly induce population growth.

The Reduced Project Alternative would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service. The City has adequate water supplies to support existing demand in the City in addition to the proposed Project under this Alternative under average daily and maximum daily demand conditions. Water demand for current and proposed uses in the City of Stockton is approximately 26,319 AFY (in Year 2015). The City has a total supply of 96,480 AFY (Year 2015), leaving 70,161 AFY available. As shown in Table 3.14-11 below, the Reduced Project Alternative, if built, is estimated to generate approximately 493.79 AFY. This estimated demand would be approximately 413.8 AFY less than

estimated for the proposed Project. Given the City's projected available supply, there would be sufficient supply to serve this Alternative.

Implementation of the Reduced Project Alternative would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic. Compared to the proposed Project, this Alternative is superior relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

The construction of onsite and offsite infrastructure improvements would be required to accommodate development of the Reduced Intensity/Density Alternative. All offsite water utility improvements will be in or adjacent to existing roadways, thereby limiting any potential impact to areas that were not already disturbed. Construction of the offsite water infrastructure would not have the potential to indirectly induce growth beyond the direct population growth that would result from approval of the Reduced Intensity/Density Alternative, given that extension of water infrastructure utilities would not provide water service to an area outside of the Project site that is not currently served.

The Reduced Intensity/Density Alternative would require the construction of new onsite water infrastructure. Construction of the onsite water infrastructure would not result in the extension of water utilities to an area of the City not currently served by water utilities, and as such, would not have the potential to indirectly induce population growth.

The Reduced Intensity/Density Alternative would not require the construction of new water treatment facilities or expansion of existing water treatment facilities for water service. The City has adequate water supplies to support existing demand in the City in addition to the proposed Project under this Alternative under average daily and maximum daily demand conditions. Water demand for current and proposed uses in the City of Stockton is approximately 26,319 AFY (in Year 2015). The City has a total supply of 96,480 AFY (Year 2015), leaving 70,161 AFY available. As shown in Table 3.14-12 below, the Reduced Intensity/Density Alternative, if built, is estimated to generate approximately 809.58 AFY. The estimated water demand under this alternative would be approximately 1.57 AFY more than estimated for the proposed Project. Given the City's projected available supply, there would be sufficient supply to serve this Alternative.

Implementation of the Reduced Intensity/Density Alternative would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic. Compared to the proposed Project, this Alternative is equal relative to this topic.

Impact 4.26: The proposed Project may result in cumulative impacts on stormwater facilities. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

Development of the proposed Project would include construction of a new storm drainage system, including a drainage collection system, and two detention basins (one in the southwestern corner of Tra Vigne West, and one at the southwestern corner of Tra Vigne East). It is anticipated that a pump station that would discharge to Bear Creek would be installed at the Tra Vigne West detention basin.

Proposed storm drain lines would range from 12 inches to 60 inches in diameter. Collection lines would flow generally west and south to the proposed detention basins located in the southwest corners of Tra Vigne East and Tra Vigne West.

Disposal of storm water collected to the Tra Vigne West detention basin would be handled by a new on-site storm water pump station and discharge outfall to Bear Creek. The pump station would operate when storm water quality and detention objectives have been met. The pump station is expected to consist of a concrete sump, trash screen and two or more pumps that would deliver storm water flow over or through the Bear Creek levee to an outfall facility. The pump station facility may include an emergency generator to supply electrical power to the pump station during power outages. Disposal of storm water collected to the Tra Vigne East detention basin would be conveyed to the Tra Vigne West detention basin via a 24- and 30-inch storm drain line.

The outfall structure would consist of two or more pipelines directed southeasterly to a point inside the Bear Creek levee. Outfall pipelines would likely terminate at a concrete headwall and energy dissipators set into the toe of the Bear Creek levee; storm drainage would be discharged to a concrete, gunite or riprap apron to flow into the Bear Creek channel. Outfall pipes would terminate in a “tideflex” or a comparable check valve system.

The drainage systems would provide for short-term storm water detention, storm water conveyance for storm waters. The design of such infrastructure considers the drainage volume that flows through the drainage from the entire watershed to ensure that there isn’t flooding. Implementation of the proposed Project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in cumulative impacts related to stormwater. As such, **no impact** would occur, and no mitigation is required. Impacts related to utilities would result in a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

Similar to the proposed project, development of this alternative would include construction of a new storm drainage system, including a drainage collection system, and two detention basins. It is anticipated that a pump station that would discharge to Bear Creek would be installed at the Tra Vigne West detention basin. The proposed storm drain lines would range from 12 inches to 60 inches in diameter. Collection lines would flow generally west and south to the detention basins.

Disposal of storm water collected to the detention basins would be handled by a new on-site storm water pump station and discharge outfall to Bear Creek. The pump station would operate when storm water quality and detention objectives have been met. The pump station is expected to consist of a concrete sump, trash screen and two or more pumps that would deliver storm water flow over or through the Bear Creek levee to an outfall facility. The pump station facility may include an emergency generator to supply electrical power to the pump station during power outages. Disposal of storm water collected to the eastern detention basin would be conveyed to the western detention basin via a 24- and 30-inch storm drain line.

The outfall structure would consist of two or more pipelines directed southeasterly to a point inside the Bear Creek levee. Outfall pipelines would likely terminate at a concrete headwall and energy dissipators set into the toe of the Bear Creek levee; storm drainage would be discharged to a concrete, gunite or riprap apron to flow into the Bear Creek channel. Outfall pipes would terminate in a “tideflex” or a comparable check valve system.

Similar to the proposed Project, the drainage systems would provide for short-term storm water detention, storm water conveyance for storm waters. The design of such infrastructure considers the drainage volume that flows through the drainage from the entire watershed to ensure that there isn't flooding. Implementation of the Reduced Project Alternative would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

Similar to the proposed project, development of this alternative would include construction of a new storm drainage system, including a drainage collection system, and two detention basins. It is

anticipated that a pump station that would discharge to Bear Creek would be installed at the Tra Vigne West detention basin. The proposed storm drain lines would range from 12 inches to 60 inches in diameter. Collection lines would flow generally west and south to the detention basins.

Disposal of storm water collected to the detention basins would be handled by a new on-site storm water pump station and discharge outfall to Bear Creek. The pump station would operate when storm water quality and detention objectives have been met. The pump station is expected to consist of a concrete sump, trash screen and two or more pumps that would deliver storm water flow over or through the Bear Creek levee to an outfall facility. The pump station facility may include an emergency generator to supply electrical power to the pump station during power outages. Disposal of storm water collected to the eastern detention basin would be conveyed to the western detention basin via a 24- and 30-inch storm drain line.

The outfall structure would consist of two or more pipelines directed southeasterly to a point inside the Bear Creek levee. Outfall pipelines would likely terminate at a concrete headwall and energy dissipators set into the toe of the Bear Creek levee; storm drainage would be discharged to a concrete, gunite or riprap apron to flow into the Bear Creek channel. Outfall pipes would terminate in a “tideflex” or a comparable check valve system.

Similar to the proposed Project, the drainage systems would provide for short-term storm water detention, storm water conveyance for storm waters. The design of such infrastructure considers the drainage volume that flows through the drainage from the entire watershed to ensure that there isn’t flooding. Implementation of the General Plan 2035 Alternative would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

Similar to the proposed project, development of this alternative would include construction of a new storm drainage system, including a drainage collection system, and two detention basins. It is anticipated that a pump station that would discharge to Bear Creek would be installed at the Tra Vigne West detention basin. The proposed storm drain lines would range from 12 inches to 60 inches in diameter. Collection lines would flow generally west and south to the detention basins.

Disposal of storm water collected to the detention basins would be handled by a new on-site storm water pump station and discharge outfall to Bear Creek. The pump station would operate when storm water quality and detention objectives have been met. The pump station is expected to consist of a concrete sump, trash screen and two or more pumps that would deliver storm water flow over or through the Bear Creek levee to an outfall facility. The pump station facility

may include an emergency generator to supply electrical power to the pump station during power outages. Disposal of storm water collected to the eastern detention basin would be conveyed to the western detention basin via a 24- and 30-inch storm drain line.

The outfall structure would consist of two or more pipelines directed southeasterly to a point inside the Bear Creek levee. Outfall pipelines would likely terminate at a concrete headwall and energy dissipators set into the toe of the Bear Creek levee; storm drainage would be discharged to a concrete, gunite or riprap apron to flow into the Bear Creek channel. Outfall pipes would terminate in a “tideflex” or a comparable check valve system.

Similar to the proposed Project, the drainage systems would provide for short-term storm water detention, storm water conveyance for storm waters. The design of such infrastructure considers the drainage volume that flows through the drainage from the entire watershed to ensure that there isn’t flooding. Implementation of the Reduced Project Alternative would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

Similar to the proposed project, development of this alternative would include construction of a new storm drainage system, including a drainage collection system, and two detention basins. It is anticipated that a pump station that would discharge to Bear Creek would be installed at the Tra Vigne West detention basin. The proposed storm drain lines would range from 12 inches to 60 inches in diameter. Collection lines would flow generally west and south to the detention basins.

Disposal of storm water collected to the detention basins would be handled by a new on-site storm water pump station and discharge outfall to Bear Creek. The pump station would operate when storm water quality and detention objectives have been met. The pump station is expected to consist of a concrete sump, trash screen and two or more pumps that would deliver storm water flow over or through the Bear Creek levee to an outfall facility. The pump station facility may include an emergency generator to supply electrical power to the pump station during power outages. Disposal of storm water collected to the eastern detention basin would be conveyed to the western detention basin via a 24- and 30-inch storm drain line.

The outfall structure would consist of two or more pipelines directed southeasterly to a point inside the Bear Creek levee. Outfall pipelines would likely terminate at a concrete headwall and energy dissipators set into the toe of the Bear Creek levee; storm drainage would be discharged to a concrete, gunite or riprap apron to flow into the Bear Creek channel. Outfall pipes would terminate in a “tideflex” or a comparable check valve system.

Similar to the proposed Project, the drainage systems would provide for short-term storm water detention, storm water conveyance for storm waters. The design of such infrastructure considers the drainage volume that flows through the drainage from the entire watershed to ensure that there isn't flooding. Implementation of the Reduced Intensity/Density Alternative would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic. Compared to the proposed Project, this alternative is equal relative to this topic.

Impact 4.27: The proposed Project may result in cumulative impacts on solid waste facilities. (Less than Significant and Less than Cumulatively Considerable)

Proposed Project:

Solid waste generated in the City is primarily disposed at the Forward Landfill. The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. The total permitted capacity of the Forward Landfill is 51.04 million cubic yards, which is expected to accommodate an operational life until January 1, 2021. The permitted maximum disposal at the Foothill Landfill is 1,500 tons per day. The remaining capacity is 125,000,000 cubic yards with an anticipated closure year of 2055. The permitted maximum disposal at the North County Landfill is 1,200 tons per day. The remaining capacity is 35,400,000 cubic yards with an anticipated closure year of 2048.

Once the Forward Landfill closes, the City can utilize the Foothill Landfill and/or the North County Landfill as locations for solid waste disposal. The City's solid waste per capita generation has decreased since 2007 due to the waste diversion efforts of the City. The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. Currently (2018), the permitted vehicle limit is 620 vehicles per day; however, the landfill averages 212 daily trucks.³ The remaining capacity of the landfill is 22.1 million cubic yards. The addition of solid waste associated with the proposed Project, approximately 15,537.5 pounds or 7.77 tons per day at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity.

Implementation of Mitigation Measure 3.14-3 would ensure the site is provided solid waste collection service and that the applicant would pay the fair share fee towards solid waste collection. As such, implementation of the proposed Project would have a **less than significant** cumulative impact relative to this environmental topic. Thus, impacts related to solid waste facilities would be a **less than cumulatively considerable contribution**.

No Build Alternative:

Development of the Project site would not occur under the No Build Alternative, and the Project site would remain in its current condition. Implementation of the No Build Alternative would not result in cumulative impacts related to solid waste. As such, **no impact** would occur, and no mitigation is required. Impacts related to utilities would result in a **less than cumulatively**

³ San Joaquin County Community Development Department. Draft Environmental Impact Report – Forward Landfill Expansion (SCH#2008052024). September 2012. Page III-13.

considerable contribution. Compared to the proposed Project, this alternative is environmentally superior relative to this topic.

With Bridge Alternative:

Under the With Bridge Alternative, the entire Project site would be developed with similar land use designations and circulation facilities as the proposed Project.

As noted previously, solid waste generated in the City is primarily disposed at the Forward Landfill. The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. The total permitted capacity of the landfill is 51.04 million cubic yards, which is expected to accommodate an operational life until January 1, 2021. At that time, the City can utilize the Foothill Landfill as a location for solid waste disposal. The City's solid waste per capita generation has decreased since 2007 due to the waste diversion efforts of the City. The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. Currently (2018), the permitted vehicle limit is 620 vehicles per day; however, the landfill averages 212 daily trucks. The remaining capacity of the landfill is 22.1 million cubic yards. The addition of solid waste associated with the With Bridge Alternative, approximately 15,467.5 pounds or 7.73 tons per day at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity. The City will need to secure a new location of disposal of all solid waste generated in the City when the Forward landfill is ultimately closed. There are several options that the City will have to consider for solid waste disposal at that time which is estimated to be 2021.

Implementation of Mitigation Measure 3.14-3 would ensure the site is provided solid waste collection service and that the applicant would pay the fair share fee towards solid waste collection. As such, implementation of the With Bridge Alternative would have a **less than significant** cumulative impact relative to this environmental topic. Thus, impacts related to solid waste facilities would be a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is slightly superior relative to this topic because it would result in less solid waste generated.

General Plan 2035 Alternative:

As noted above, the General Plan 2035 Alternative includes development of the Project site with the same land use designations and circulation facilities as described in the Stockton General Plan. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres, the Marlette Road extension would be constructed, and a bridge would be constructed across Bear Creek to extend Marlette Road into the Bear Creek South project.

As noted previously, solid waste generated in the City is primarily disposed at the Forward Landfill. The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. The total permitted capacity of the landfill is 51.04 million cubic yards, which is expected to accommodate an operational life until January 1, 2021. At that time, the City can utilize the Foothill Landfill as a

location for solid waste disposal. The City's solid waste per capita generation has decreased since 2007 due to the waste diversion efforts of the City. The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. Currently (2018), the permitted vehicle limit is 620 vehicles per day; however, the landfill averages 212 daily trucks. The remaining capacity of the landfill is 22.1 million cubic yards. The addition of solid waste associated with the General Plan 2035 Alternative, approximately 30,789.7 pounds or 15.39 tons per day at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity. The City will need to secure a new location of disposal of all solid waste generated in the City when the Forward landfill is ultimately closed. There are several options that the City will have to consider for solid waste disposal at that time which is estimated to be 2021.

Implementation of Mitigation Measure 3.14-3 would ensure the site is provided solid waste collection service and that the applicant would pay the fair share fee towards solid waste collection. As such, implementation of the General Plan 2035 Alternative would have a **less than significant** cumulative impact relative to this environmental topic. Thus, impacts related to solid waste facilities would be a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is environmentally inferior relative to this topic because it would result in significantly more solid waste generated.

Reduced Project Alternative:

Under the Reduced Project Alternative, approximately 33 percent of the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. The Reduced Project Alternative would reduce the amount of site disturbance from 318.82 acres under the proposed Project to 200.15 acres and would eliminate the existing industrial uses and proposed commercial uses.

As noted previously, solid waste generated in the City is primarily disposed at the Forward Landfill. The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. The total permitted capacity of the landfill is 51.04 million cubic yards, which is expected to accommodate an operational life until January 1, 2021. At that time, the City can utilize the Foothill Landfill as a location for solid waste disposal. The City's solid waste per capita generation has decreased since 2007 due to the waste diversion efforts of the City. The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. Currently (2018), the permitted vehicle limit is 620 vehicles per day; however, the landfill averages 212 daily trucks. The remaining capacity of the landfill is 22.1 million cubic yards. The addition of solid waste associated with the Reduced Project Alternative, approximately 10,310 pounds or 5.16 tons per day at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity. The City will need to secure a new location of disposal of all solid waste generated in the City when the Forward landfill is ultimately closed. There are several options that the City will have to consider for solid waste disposal at that time which is estimated to be 2021.

Implementation of Mitigation Measure 3.14-3 would ensure the site is provided solid waste collection service and that the applicant would pay the fair share fee towards solid waste

collection. As such, implementation of the Reduced Project Alternative would have a **less than significant** cumulative impact relative to this environmental topic. Thus, impacts related to solid waste facilities would be a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is superior relative to this topic because it would result in less solid waste generated.

Reduced Intensity/Density Alternative:

Under the Reduced Intensity/Density Alternative, the Project site would be developed with residential uses and 14.7 acres would be reserved for a potential K-8 school site. Although the Reduced Intensity/Density Alternative would eliminate the proposed commercial portion of the Project, the entire Project site would be developed with urban uses under the Reduced Intensity/Density Alternative.

As noted previously, solid waste generated in the City is primarily disposed at the Forward Landfill. The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. The total permitted capacity of the landfill is 51.04 million cubic yards, which is expected to accommodate an operational life until January 1, 2021. At that time, the City can utilize the Foothill Landfill as a location for solid waste disposal. The City's solid waste per capita generation has decreased since 2007 due to the waste diversion efforts of the City. The permitted maximum disposal at the Forward Landfill is 8,668 tons per day. Currently (2012), the permitted vehicle limit is 620 vehicles per day; however, the landfill averages 212 daily trucks. The remaining capacity of the landfill is 22.1 million cubic yards. The addition of solid waste associated with the Reduced Intensity/Density Alternative, approximately 12,020 pounds or 6.01 tons per day at total buildout, to the Forward Landfill would not exceed the landfill's remaining capacity. The City will need to secure a new location of disposal of all solid waste generated in the City when the Forward landfill is ultimately closed. There are several options that the City will have to consider for solid waste disposal at that time which is estimated to be 2021.

Implementation of Mitigation Measure 3.14-3 would ensure the site is provided solid waste collection service and that the applicant would pay the fair share fee towards solid waste collection. As such, implementation of the Reduced Intensity/Density Alternative would have a **less than significant** cumulative impact relative to this environmental topic. Thus, impacts related to solid waste facilities would be a **less than cumulatively considerable contribution**. Compared to the proposed Project, this alternative is superior relative to this topic because it would result in less solid waste generated.

4.2 SIGNIFICANT IRREVERSIBLE EFFECTS

LEGAL CONSIDERATIONS

CEQA Section 15126.2(c) and Public Resources Code Sections 21100(b)(2) and 21100.1(a) require that the EIR include a discussion of significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Determining whether the proposed Project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Analysis

Implementation of the proposed Project would result in the conversion of 283.68 acres of land currently used for agricultural uses for the development of residential and commercial uses. The existing 15.57 acres of industrial uses would remain as part of the Project, and 14.5 acres of open space uses would be provided along Bear Creek. Development of the proposed Project would constitute a long-term commitment to these uses. It is unlikely that circumstances would arise that would justify the return of the land to its existing condition as agricultural or vacant rural land.

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed for the initial construction, infrastructure installation and connection to existing utilities, and its continued operations and maintenance. Construction of the proposed Project would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing operation and life of the proposed Project. The introduction of residential and commercial uses to the Project site will result in an increase in area traffic over existing conditions. Fossil fuels are the principal source of energy and the proposed Project will increase consumption of available supplies, including gasoline and diesel. These energy resource demands relate to initial Project construction, Project operation and site maintenance and the transport of people and goods to and from the Project site.

4.3 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the proposed Project are discussed in Sections 3.1 through 3.14 and previously in this chapter (cumulative-level). Refer to

those discussions for further details and analysis of the significant and unavoidable impact identified below:

- Impact 3.1-1: Project implementation would result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character.
- Impact 3.2-1: The proposed Project would result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses.
- Impact 3.3-1: Project operation would conflict with or obstruct implementation of an applicable air quality plan.
- Impact 3.3-2: Project operation would cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation.
- Impact 3.7-2: The proposed Project has the potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Impact 3.12-3: The proposed Project would require the construction of school facilities which may cause substantial adverse physical environmental impacts.
- Impact 3.12-5: The proposed Project would require the construction of park and recreational facilities which may cause substantial adverse physical environmental impacts.
- Impact 3.13-2: Under EPAP Plus Project conditions, the proposed Project would result in a significant impact at the Eight Mile Road & SR 99 East Frontage Road intersection.
- Impact 3.13-3: Under EPAP Plus Project conditions, the proposed Project would result in a significant impact on the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane.
- Impact 3.13-4: Under EPAP Plus Project conditions, the proposed Project would result in a significant impact on the roadway segment of Morada Lane East of West Lane.
- Impact 3.13-45: Under Cumulative Plus Project conditions, the proposed Project would result in a significant impact at the West Lane & Armstrong Road intersection.
- Impact 4.2: The proposed Project would result in cumulative degradation of the existing visual character of the region.
- Impact 4.4: The proposed Project would result in cumulative impacts on agricultural and forest resources.
- Impact 4.5: The proposed Project would result in cumulative impacts on the region's air quality.
- Impact 4.9: The proposed Project may result in cumulative impacts related to climate change from increased Project-related greenhouse gas emissions.
- Impact 4.20: Under Cumulative Plus Project conditions, the proposed Project would result in a significant impact at the West Lane & Armstrong Road intersection.

5.1 CEQA REQUIREMENTS

CEQA requires that an EIR analyze a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a “rule of reason” that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

PROJECT OBJECTIVES

The principal objective of the proposed Project is the approval and subsequent implementation of the Tra Vigne Development Project (the proposed Project). The quantifiable objectives of the proposed Project include Annexation of 318.82 acres of land into the Stockton city limits, and the subsequent development of land, which will include: General Commercial, Low Density Residential housing, High Density Residential Housing, and Open Space Parkland.

The Tra Vigne Development Project identifies the following objectives:

- Commercial: Establish a commercial site that strategically maximizes the high visual exposure of Eight Mile Road and West Lane to capitalize on commuter traffic, while also catering to the neighborhood needs of the residents within the development.
- Low Density Residential: Provide low density residential housing in accordance with the General Plan land use map, while ensuring that there is flexibility in the lot and housing size to accommodate real market demands throughout the housing cycle. Ensure that all housing is designed with architectural form that is visually attractive.
- High Density Residential: Provide high density residential housing in accordance with the General Plan land use map in order to provide a mix of housing types and accommodate real market demands throughout the housing cycle. Ensure that all housing is designed with architectural form that is visually attractive.
- School: Provide a site that could accommodate a K-8 school in the event that the School District desires to build a school within the Project site. Alternatively, if the School District chooses not to build a school within the Project site, ensure that there is a design alternative that would accommodate low density residential housing consistent with the form and design of the residential units planned throughout the balance of the Project site.
- Industrial: Retain the existing industrial uses within the Project site.

- Phasing: Establish a logical phasing plan designed to ensure that each phase of development would include necessary public improvements required to meet city standards.

ALTERNATIVES NOT SELECTED FOR FURTHER ANALYSIS

A Notice of Preparation was circulated to the public to solicit recommendations for a reasonable range of alternatives to the proposed project. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed project. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review process.

The City of Stockton considered alternative locations early in the public scoping process. The City's key considerations in identifying an alternative location were as follows:

- Is there an alternative location where significant effects of the project would be avoided or substantially lessened?
- Is there a site available within the City's Sphere of Influence with the appropriate size and characteristics such that it would meet the basic project objectives?

The availability of an alternative site that would support the amount and types of development sought by the Project was considered (i.e., a site in the range of 160 to 320 acres or larger and located in the north Stockton area). Acquisition of an alternative site of comparable size is not considered feasible. The Project developer has obtained control of the proposed Project site and has prepared the proposed Project specific to the proposed location.

North Stockton is surrounded by undeveloped lands that would otherwise be suitable for development. All of these lands are, however, subject to constraints that would prevent development by the Project developers. Lands west of the City and west of San Joaquin River are located in the Delta Primary Zone; these lands are under state resource protection and are not available for urban development. The Shima Tract and Atlas Tract areas are located west of the City limits, but outside of the Primary Zone. Sphere of influence on these properties has been controlled by development interests that have received urban development approvals from the City of Stockton.

Lands north of the existing City limits that are potentially available for development include lands within the City's General Plan 2035 area. The lands that are within the City's existing planning area are approved for development or controlled by development interests, and being processed for urban development approval. These projects include the Bear Creek West and Bear Creek South projects. Land within the General Plan 2035 area and north of Eight Mile Road that could support development of the project are also controlled by development interests and are not presently available. Lands north of Eight Mile Road are typically less contiguous to the City and would not result in a compact urban form.

Lands to the east of the existing City limits include the Morada rural community, the Origone Ranch project, and extensive areas between the Calaveras River and Farmington Road that are in rural uses. The Morada community and rural areas south of the Calaveras River are extensively subdivided into rural residential and small-scale agricultural uses. Neither of these areas is in close proximity to the City boundary or is large enough to support a development the size of the proposed Project. The Origone Ranch site consists of over 400 acres; however, this site is controlled by development interests, is actively being processed, and is not available as an alternative location for development of the proposed Project.

In addition, as discussed in *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553 (*Goleta II*), where a project is consistent with an approved general plan, no off-site alternative need be analyzed in the EIR. The EIR “is not ordinarily an occasion for the reconsideration or overhaul of fundamental land-use policy.” (*Goleta II*, supra, 52 Cal.3d at p. 573.) In approving a general plan, the local agency has already identified and analyzed suitable alternative sites for particular types of development and has selected a feasible land use plan. “Informed and enlightened regional planning does not demand a project EIR dedicated to defining alternative sites without regard to feasibility. Such ad hoc reconsideration of basic planning policy is not only unnecessary, but would be in contravention of the legislative goal of long-term, comprehensive planning.” (*Goleta II*, supra, 52 Cal.3d at pp. 572-573.) Here, the proposed Project is generally consistent with the types of uses considered in the 2035 Stockton General Plan and associated EIR. For example, the 2035 Stockton General Plan designated the Project site for commercial, low density residential, high density residential, industrial, and open space uses. Implementation of the proposed Project would result in commercial, low density residential, high density residential, industrial, and open space uses. Therefore, although a General Plan Amendment is proposed as part of the Project, the proposed Project uses are generally consistent with the types of uses considered in the 2035 Stockton General Plan and associated EIR. Thus, in addition to the reasons discussed above, an off-site alternative need not be further discussed in this EIR

In addition to the Alternative Location, the City contemplated including a previously proposed project that included the development of the project site under a different land use mix. This potential alternative was eliminated from consideration based on several facts: 1) the previous project was denied by the Planning Commission under its previous application 2) the previous application would have resulted in considerably more development due to its higher density/intensity, 3) the previous application resulted in two bridges across Bear Creek resulting in considerable long-term operations and maintenance costs for the City. For these reasons, the City of Stockton determined that the previous development proposed is not a feasible alternative.

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

Five alternatives to the proposed project were developed based on input from City staff and the technical analysis performed to identify the environmental effects of the proposed project. The

alternatives analyzed in this EIR include the following five alternatives in addition to the proposed Project that is described in Section 2.0 Project Description.

- No Build Alternative
- With Bridge Alternative
- General Plan 2035 Alternative
- Reduced Project Alternative
- Reduced Intensity/Density Alternative

A comparison of the alternatives to the proposed Project is shown in Table 5.0-1.

TABLE 5.0-1: ALTERNATIVES COMPARISON

RESIDENTIAL DEVELOPMENT ASSUMPTIONS	NON-RESIDENTIAL DEVELOPMENT ASSUMPTIONS	DEVELOPMENT AREA ACREAGE
PROPOSED PROJECT		
LDR: 1,073 units (w/ school site), 1,163 units (w/o school site)	C: 101,500 sf	318.82
HDR: 340 units	I: N/A	
Total: 1,413 units (w/ school site), (1,503 w/o school site)	Total: 101,5800 sf commercial	
WITH BRIDGE ALTERNATIVE		
LDR: 1,066 units (w/ school site), 1,156 units (w/o school site)	C: 101,500 sf	318.82
HDR: 340 units	I: N/A	
Total: 1,406 units (with school site), 1,496 (w/o school site)	Total: 101,5800 sf	
GENERAL PLAN 2035 ALTERNATIVE		
LDR: 2,467 (no school site included)	C: 117,612 sf	318.82
HDR: 309 (no school site included)	I: 406,937 sf	
Total: 2,776 units	Total: 524,549 sf	
REDUCED PROJECT ALTERNATIVE		
LDR: 715 units (w/ school site), 805 units (w/o school site)	N/A	200.15
HDR: 226 units		
Total: 941 units (w/ school site), 1,031 (w/o school site)		
REDUCED INTENSITY/DENSITY ALTERNATIVE		
LDR: 858 units (w/ school site), 930 (w/o school site)	N/A	318.82
HDR: 272 units		
Total: 1,130 units (with school site), 1,202 (w/o school site)		

NO BUILD ALTERNATIVE

Under the No Build Alternative, development of the Project site would not occur, and the Project site would remain in its current existing agricultural condition. It is noted that the No Build Alternative would fail to meet the project objectives identified by the City of Stockton.

WITH BRIDGE ALTERNATIVE

Under the With Bridge Alternative, the Project site would be developed with similar land use designations and circulation facilities as the proposed Project. However, unlike the proposed Project, this alternative would include construction of the bridge crossing over Bear Creek associated with what is shown on the Future Roadways Map as an extension of Marlette Road from the west through the Project site and ultimately traveling eastward through the Bear Creek South project to Holman Road.

This alternative would result in the same number of HDR units as the proposed Project (340 units), and would reduce the number of LDR units from 1,073 under the proposed Project to 1,066 units, for a total of 1,406 units. This would result in a reduction of seven units when compared to the proposed Project. Additionally, this alternative would dedicate an equal amount of commercial and non-traditional park areas as the proposed Project, and would increase the amount of traditional park area from 15.07 acres under the proposed Project to 15.37 acres. The anticipated commercial uses and utility improvements under the With Bridge Alternative would be similar to the proposed Project.

This alternative also establishes a site for a 14.7-acre K-8 school to be developed by the LUSD at their discretion. If the LUSD decides to not pursue building a school at this site then the site would be developed for residential in accordance with the General Plan land use designation which would result in the construction an additional 90 units in place of the school. Under this variation, the total residential units would increase from 1,406 to 1,496 units. The balance of the Project site would be developed as proposed under the Proposed Project.

Figures 5-1 and 5-2 illustrate the With Bridge Alternative site plan, both with and without the school.

GENERAL PLAN 2035 ALTERNATIVE

Under the General Plan 2035 Alternative, the Project site would be developed with the same land use designations and circulation facilities as described in the City's General Plan 2035. This alternative would not require a General Plan amendment. The balance of the Project site would be developed as proposed under the proposed Project. Under this alternative, the high density residential area would be decreased from 11.7 acres under the proposed Project to 10.67 acres. Additionally, the commercial area would be decreased from 10.5 acres under the proposed Project to 9.0 acres. This alternative would not include dedication of a K-8 school site. This alternative would include construction of the bridge crossing over Bear Creek, which is currently reflected in the Circulation Element of the General Plan 2035. The bridge crossing would change the trip distribution when compared to the proposed Project by providing an alternative access way to the south.

Based on the existing land use designations, the Project site would support approximately 15.7 acres of industrial use (406,937 sf – 0.6 FAR), approximately 9.0 acres of commercial use (117,612 sf – 0.3 FAR), 1,730 (6.1 units per gross acre) to 2,467 (8.7 units per gross acre) low density residential units, and 248 (23.2 units per gross acre) to 309 (29.0 units per gross acre) high density residential units. This alternative would result in 1,978 to 2,776 residential units (low and high density), which is 475 to 1,273 (without school site) to 565 to 1,363 (with school site) more units than under the proposed Project. These are considered maximum development assumptions and would likely be less due to the need for parks, roadways, detention basins, etc. This alternative is illustrated on Figure 2-6 in Section 2.0.

REDUCED PROJECT ALTERNATIVE

Under the Reduced Project Alternative, the Project site would be developed with the same components as the proposed Project, but the area utilized for the development would be reduced by approximately 33 percent. The total Project site would be reduced by approximately 100.1 acres, which includes elimination of the existing 15.57-acre industrial area from the Project site. This approximately 200.15-acre alternative would result in up to 715 LDR units (with school) to 805 LDR units (without school) and up to 226 HDR units (with or without school), for a total of 941 units (with school) to 1,031 units (without school). This would result in a reduction of 472 (with or without school) units when compared to the proposed Project. The 10.5-acre commercial area in the northwest portion of the Project site would be eliminated. This would eliminate a 70,000-sf grocery store, 22,000 sf of retail shops, a 3,500-sf quick service restaurant, a 3,500-sf convenience store with attached fueling facility, and a 2,500-sf wine tasting room. This alternative would still establish a site for a 14.7-acre K-8 school to be developed by the LUSD. However, if the LUSD decides against the K-8 school siting, the area will instead include the development of single family residential units.

REDUCED INTENSITY/DENSITY ALTERNATIVE

Under this alternative, the Project site would be developed with a reduction in the overall Project intensity/density while maintaining the approximate overall Project footprint. For the purposes of discussion, this option considers a 20 percent reduction in the intensity/density of the Project while maintaining the approximately 318.82-acre Project footprint. Typical residential lots would increase from 5,000 to 6,000 sf to 6,000 to 7,400 sf. This alternative would result in up to 858 LDR units (with school) to 930 LDR units (without school) and up to 272 HDR units (with or without school), for a total of 1,130 units (with school) to 1,202 units (without school). This would result in a reduction of 283 (with school) to 301 (without school) units when compared to the proposed Project. The 10.5-acre commercial area in the northwest portion of the Project site would be eliminated. This would eliminate a 70,000-sf grocery store, 22,000 sf of retail shops, a 3,500-sf quick service restaurant, a 3,500-sf convenience store with attached fueling facility, and a 2,500-sf wine tasting room. This alternative would still establish a site for a 14.7-acre K-8 school to be developed by the LUSD. However, if the LUSD decides against the K-8 school siting, the area will instead include the development of single family residential units.

5.3 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact levels of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. The environmental analysis for each of the alternatives is included at the project-level within each impact statement following the analysis for the proposed Project within Sections 3.1 through 3.14. The environmental analysis for each of the alternatives was completed at an equal level to the proposed Project. The cumulative analysis for each alternative is included in Chapter 4.0. Table 5.0-2 summarizes the comparative effects of each alternative.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed project. As shown in Table 5.0-2, the No Project Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified.

The No Build Alternative would reduce impacts in 106 areas, increase impacts in zero areas, and would have equal impacts to the project in six areas. The With Bridge Alternative would reduce impacts in 27 areas, increase impacts in 20 areas, and would have equal impacts to the project in 66 areas. The General Plan 2035 Alternative would reduce impacts in zero areas, increase impacts in 51 areas, and would have equal impacts to the project in 61 areas. The Reduced Project Alternative would reduce impacts in 60 areas, increase impacts in three areas, and would have equal impacts to the project in 49 areas. The Reduced Intensity/Density Alternative would reduce impacts in 39 areas, increase impacts in three areas, and would have equal impacts to the project in 70 areas. In conclusion, the Reduced Project Alternative ranks higher than the proposed Project and the other alternatives, and is the Environmentally Superior Alternative.

5.0 ALTERNATIVES TO THE PROPOSED PROJECT

TABLE 5.0-2: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT

<i>ENVIRONMENTAL IMPACT</i>	<i>NO BUILD ALTERNATIVE</i>	<i>WITH BRIDGE ALTERNATIVE</i>	<i>GENERAL PLAN 2035 ALTERNATIVE</i>	<i>REDUCED PROJECT ALTERNATIVE</i>	<i>REDUCED INTENSITY/DENSITY ALTERNATIVE</i>
AESTHETICS AND VISUAL RESOURCES					
Impact 3.1-1: Project implementation would result in substantial adverse effects on scenic vistas and resources or substantial degradation of visual character.	Less	Slightly Greater	Greater	Slightly Less	Equal
Impact 3.1-2: Project implementation may substantially damage scenic resources within a State Scenic Highway.	Equal	Equal	Equal	Equal	Equal
Impact 3.1-3: Project implementation may result in light and glare impacts.	Less	Equal	Greater	Slightly Less	Slightly Less
AGRICULTURAL RESOURCES					
Impact 3.2-1: The proposed Project would result in the conversion of Farmlands, including Prime Farmland and Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses.	Less	Equal	Equal	Slightly Less	Equal
Impact 3.2-2: The proposed Project may conflict with existing zoning for agricultural use, or Williamson Act Contracts.	Less	Equal	Equal	Slightly Less	Equal
Impact 3.2-3: The proposed Project may result in conflicts with adjacent agricultural lands or indirectly cause conversion of agricultural lands.	Less	Slightly Greater	Slightly Greater	Slightly Less	Slightly Less

ALTERNATIVES TO THE PROPOSED PROJECT

5.0

<i>ENVIRONMENTAL IMPACT</i>	<i>NO BUILD ALTERNATIVE</i>	<i>WITH BRIDGE ALTERNATIVE</i>	<i>GENERAL PLAN 2035 ALTERNATIVE</i>	<i>REDUCED PROJECT ALTERNATIVE</i>	<i>REDUCED INTENSITY/DENSITY ALTERNATIVE</i>
AIR QUALITY					
Impact 3.3-1: Project operation would conflict with or obstruct implementation of an applicable air quality plan.	Less	Equal	Greater	Less	Less
Impact 3.3-2: Project operation would cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation.	Less	Less	Greater	Less	Less
Impact 3.3-3: Project construction has the potential to cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation.	Less	Equal	Equal	Less	Less
Impact 3.3-4: The proposed Project would not result in carbon monoxide hotspot impacts.	Less	Equal	Equal	Slightly Less	Slightly Less
Impact 3.3-5: The proposed Project would not result in public exposure to toxic air contaminants.	Less	Equal	Equal	Equal	Equal
Impact 3.3-6: The proposed Project would not result in exposure to odors.	Less	Equal	Equal	Slightly Less	Slightly Less
BIOLOGICAL RESOURCES					
Impact 3.4-1: The proposed Project has the potential to have a direct or indirect effect on special-status invertebrate species.	Less	Greater	Greater	Equal	Equal
Impact 3.4-2: The proposed Project has the potential to have direct or indirect effects on special-status reptile and amphibian species.	Less	Greater	Greater	Equal	Equal

5.0 ALTERNATIVES TO THE PROPOSED PROJECT

<i>ENVIRONMENTAL IMPACT</i>	<i>NO BUILD ALTERNATIVE</i>	<i>WITH BRIDGE ALTERNATIVE</i>	<i>GENERAL PLAN 2035 ALTERNATIVE</i>	<i>REDUCED PROJECT ALTERNATIVE</i>	<i>REDUCED INTENSITY/DENSITY ALTERNATIVE</i>
Impact 3.4-3: The proposed Project has the potential to have direct or indirect effects on special-status bird species.	Less	Greater	Greater	Less	Equal
Impact 3.4-4: The proposed Project has the potential to result in direct or indirect effects on special-status mammal species.	Less	Greater	Greater	Less	Equal
Impact 3.4-5: The proposed Project has the potential for direct or indirect effects on candidate, sensitive, or special-status plant species.	Equal	Greater	Greater	Equal	Equal
Impact 3.4-6: Effects on Protected Wetlands and Jurisdictional Waters.	Less	Greater	Greater	Equal	Equal
Impact 3.4-7: Adverse Effects on Riparian Habitat or Sensitive Natural Community.	Less	Greater	Greater	Equal	Equal
Impact 3.4-8: Interference with the Movement of Native Fish or Wildlife Species or with Established Wildlife Corridors, or Impede the Use of Native Wildlife Nursery Sites.	Less	Greater	Greater	Less	Equal
Impact 3.4-9: Conflict with an Adopted Habitat Conservation Plan.	Less	Greater	Greater	Less	Equal
Impact 3.4-10: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less	Greater	Greater	Less	Equal

ALTERNATIVES TO THE PROPOSED PROJECT

5.0

<i>ENVIRONMENTAL IMPACT</i>	<i>NO BUILD ALTERNATIVE</i>	<i>WITH BRIDGE ALTERNATIVE</i>	<i>GENERAL PLAN 2035 ALTERNATIVE</i>	<i>REDUCED PROJECT ALTERNATIVE</i>	<i>REDUCED INTENSITY/DENSITY ALTERNATIVE</i>
CULTURAL AND TRIBAL RESOURCES					
Impact 3.5-1: Project implementation has the potential to cause a substantial adverse change to a significant historical resource, as defined in CEQA Guidelines §15064..5.	Less	Equal	Equal	Equal	Equal
Impact 3.5-2: Project implementation has the potential to cause a substantial adverse change to a significant archaeological resource, as defined in CEQA Guidelines §15064.5.	Less	Equal	Equal	Equal	Equal
Impact 3.5-3: Project implementation has the potential to directly or indirectly destroy a unique paleontological resource.	Less	Equal	Equal	Equal	Equal
Impact 3.5-4: Project implementation has the potential to disturb human remains, including those interred outside of formal cemeteries.	Less	Equal	Equal	Equal	Equal
GEOLOGY AND SOILS					
Impact 3.6-1: The proposed Project may expose people or structures to potential substantial adverse effects involving strong seismic ground shaking or seismic related ground failure.	Less	Equal	Equal	Equal	Equal
Impact 3.6-2: Implementation and construction of the proposed Project may result in substantial soil erosion or the loss of topsoil.	Less	Equal	Equal	Slightly Less	Equal

5.0 ALTERNATIVES TO THE PROPOSED PROJECT

<i>ENVIRONMENTAL IMPACT</i>	<i>NO BUILD ALTERNATIVE</i>	<i>WITH BRIDGE ALTERNATIVE</i>	<i>GENERAL PLAN 2035 ALTERNATIVE</i>	<i>REDUCED PROJECT ALTERNATIVE</i>	<i>REDUCED INTENSITY/DENSITY ALTERNATIVE</i>
Impact 3.6-3: The proposed Project may be located on a geologic unit or soil that is unstable, or that would become unstable as a result of project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse.	Less	Equal	Equal	Equal	Equal
Impact 3.6-4: The proposed Project may be located on expansive soil, creating substantial risks to life or property.	Less	Equal	Equal	Equal	Equal
GREENHOUSE GASES AND CLIMATE CHANGE					
Impact 3.7-1: The proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less	Equal	Equal	Less	Less
Impact 3.7-2: The proposed Project has the potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less	Slightly Less	Greater	Less	Less
Impact 3.7-3: The proposed Project would not result in a cumulative impact on climate change from increased Project-related greenhouse gas emissions.	Less	Slightly Less	Greater	Greater	Greater
Impact 3.7-4: Implementation of the proposed Project would not result in the inefficient, wasteful, or unnecessary use of energy resources.	Less	Equal	Greater	Less	Less

ALTERNATIVES TO THE PROPOSED PROJECT

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HAZARDS AND HAZARDOUS MATERIALS					
Impact 3.8-1: Potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Less	Equal	Equal	Slightly Less	Slightly Less
Impact 3.8-2: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Less	Equal	Equal	Slightly Less	Slightly Less
Impact 3.8-3: Potential to result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.	Equal	Equal	Equal	Equal	Equal
Impact 3.8-4: Potential for the Project to result in a safety hazard for people residing or working on the Project site as a result of public airport or public use airport.	Equal	Equal	Equal	Equal	Equal
Impact 3.8-5: Potential for the Project to result in safety hazards for people residing or working on the Project site as a result of a private airstrip.	Equal	Equal	Equal	Equal	Equal
Impact 3.8-6: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less	Equal	Equal	Equal	Equal
Impact 3.8-7: Potential to expose people or structures to a risk of loss, injury or death from wildland fires.	Less	Equal	Equal	Equal	Equal

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HYDROLOGY AND WATER QUALITY					
Impact 3.9-1: The proposed Project has the potential to violate water quality standards or waste discharge requirements during construction.	Less	Greater	Greater	Slightly Less	Equal
Impact 3.9-2: The proposed Project has the potential to violate water quality standards or discharge requirements during operation.	Less	Greater	Greater	Slightly Less	Equal
Impact 3.9-3: The proposed Project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge.	Less	Slightly Less	Greater	Slightly Less	Slightly Less
Impact 3.9-4: The proposed Project has the potential to alter the existing drainage pattern in a manner which would result in substantial erosion, siltation, flooding, or polluted runoff.	Less	Greater	Greater	Slightly Less	Equal
Impact 3.9-5 The proposed Project has the potential to otherwise substantially degrade water quality.	Less	Equal	Equal	Slightly Less	Equal
Impact 3.9-6 Place housing or structures that would impede/redirect flows within a 100-year, or 200-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.	Less	Equal	Equal	Equal	Equal
Impact 3.9-7 The proposed Project has the potential to expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, seiche, tsunami, or mudflow.	Slightly Less	Slightly Less	Greater	Slightly Less	Slightly Less

ALTERNATIVES TO THE PROPOSED PROJECT

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LAND USE AND POPULATION					
Impact 3.10-1: The proposed Project would not physically divide an established community.	Less	Equal	Equal	Equal	Equal
Impact 3.10-2: The proposed Project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project adopted to avoid or mitigate an environmental effect.	Less	Equal	Equal	Equal	Equal
Impact 3.10-3: The proposed Project would not significantly conflict with an applicable habitat conservation plan or natural community conservation plan.	Less	Equal	Equal	Equal	Equal
Impact 3.10-4: The proposed Project would not induce substantial population growth in an area.	Less	Slightly Less	Greater	Slightly Less	Slightly Less
Impact 3.10-5: The proposed Project would not displace substantial numbers of people or existing housing.	Equal	Equal	Equal	Equal	Equal
NOISE					
Impact 3.11-1: The proposed Project will not result in a significant increase in traffic noise levels at existing receptors.	Less	Equal	Equal	Equal	Equal
Impact 3.11-2: The proposed Project has the potential to result in a significant temporary or periodic increase in ambient noise levels in the Project vicinity existing without the Project during construction activities.	Less	Equal	Equal	Equal	Equal

5.0 ALTERNATIVES TO THE PROPOSED PROJECT

<i>ENVIRONMENTAL IMPACT</i>	<i>NO BUILD ALTERNATIVE</i>	<i>WITH BRIDGE ALTERNATIVE</i>	<i>GENERAL PLAN 2035 ALTERNATIVE</i>	<i>REDUCED PROJECT ALTERNATIVE</i>	<i>REDUCED INTENSITY/DENSITY ALTERNATIVE</i>
Impact 3.11-3: The proposed Project has the potential to increase vibration association with construction activities.	Less	Equal	Equal	Equal	Equal
Impact 3.11-4: The proposed Project has the potential to result in a significant substantial permanent increase in ambient noise levels at new sensitive receptors as a result of excessive traffic noise.	Less	Slightly Greater	Greater	Greater	Greater
Impact 3.11-5: The proposed Project may result in a significant temporary or periodic increase in ambient noise levels in the Project vicinity from proposed park or school uses.	Less	Equal	Equal	Equal	Equal
Impact 3.11-6: The proposed Project has the potential to result in a significant substantial permanent increase in ambient noise levels at new sensitive receptors as a result of excessive railroad noise.	Less	Equal	Equal	Equal	Equal
Impact 3.11-7: The proposed Project has the potential to result in a substantial permanent increase in ambient noise levels at new sensitive receptors as a result of existing industrial noise levels.	Less	Equal	Equal	Equal	Equal
Impact 3.11-8: The proposed Project has the potential to result in a substantial permanent increase in ambient noise levels at new sensitive receptors as a result of proposed commercial development noise.	Less	Equal	Equal	Less	Less

ALTERNATIVES TO THE PROPOSED PROJECT

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PUBLIC SERVICES AND RECREATION					
Impact 3.12-1: The proposed Project would not require the construction of police department facilities which may cause substantial adverse physical environmental impacts.	Less	Equal	Equal	Equal	Equal
Impact 3.12-2: The proposed Project would not require the construction of fire department facilities which may cause substantial adverse physical environmental impacts.	Less	Equal	Equal	Equal	Equal
Impact 3.12-3: The proposed Project has the potential to require the construction of school facilities which may cause substantial adverse physical environmental impacts.	Less	Slightly Less	Greater	Slightly Less	Slightly Less
Impact 3.12-4: The proposed Project has the potential to have effects on other public facilities	Less	Equal	Equal	Equal	Equal
Impact 3.12-5: The proposed Project has the potential to require the construction of park and recreational facilities which may cause substantial adverse physical environmental impacts.	Less	Equal	Equal	Equal	Equal
Impact 3.12-6: The Project would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated.	Less	Equal	Equal	Equal	Equal

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<i>ENVIRONMENTAL IMPACT</i>	<i>NO BUILD ALTERNATIVE</i>	<i>WITH BRIDGE ALTERNATIVE</i>	<i>GENERAL PLAN 2035 ALTERNATIVE</i>	<i>REDUCED PROJECT ALTERNATIVE</i>	<i>REDUCED INTENSITY/DENSITY ALTERNATIVE</i>
TRANSPORTATION AND CIRCULATION					
Impact 3.13-1: Under EPAP Plus Project conditions, the proposed Project would result in a significant impact at the Eight Mile Road & Lower Sacramento Road intersection.	Less	Slightly Less	Greater	Less	Less
Impact 3.13-2: Under EPAP Plus Project conditions, the proposed Project would result in a significant impact at the Eight Mile Road & SR 99 East Frontage Road intersection.	Less	Slightly Less	Greater	Less	Less
Impact 3.13-3: Under EPAP Plus Project conditions, the proposed Project would result in a significant impact on the roadway segment of Eight Mile Road from Lower Sacramento Road to West Lane.	Less	Less	Greater	Less	Less
Impact 3.13-4: Under EPAP Plus Project conditions, the proposed Project would result in a significant impact on the roadway segment of Morada Lane East of West Lane.	Less	Less	Greater	Less	Less
Impact 3.13-5: Impacts related to ramp junction levels of service under EPAP Plus Project conditions.	Less	Equal	Equal	Less	Less
Impact 3.13-6: Impacts related to an increase in demand for transit.	Less	Equal	Equal	Equal	Equal
Impact 3.13-7: Impacts related to an increase in demand for bicycle and pedestrian facilities.	Less	Equal	Equal	Equal	Equal
Impact 3.13-8: Impacts related to an increase in the demand for park-and-ride facilities.	Less	Greater	Greater	Less	Less

ALTERNATIVES TO THE PROPOSED PROJECT

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Impact 3.13-44: Under Cumulative Plus Project conditions, the proposed Project would result in a significant impact at the Eight Mile Road & Lower Sacramento Road intersection.	Less	Less	Greater	Less	Less
Impact 3.13-45: Under Cumulative Plus Project conditions, the proposed Project would result in a significant impact at the West Lane & Armstrong Road intersection.	Less	Less	Greater	Less	Less
Impact 3.13-46: Impacts related to roadway segment levels of service under Cumulative Plus Project conditions.	Less	Less	Greater	Less	Less
Impact 3.13-47: Impacts related to ramp junction levels of service under Cumulative Plus Project conditions.	Less	Less	Greater	Less	Less
UTILITIES					
Impact 3.14-1: The proposed Project has the potential to exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board	Less	Equal	Equal	Equal	Equal
Impact 3.14-2: The proposed Project has the potential to result in a determination by the wastewater treatment and/or collection provider which serves or may serve the project that is does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments	Less	Slightly Less	Greater	Less	Less
Impact 3.14-3: The proposed Project has the potential to require or result in the construction of new wastewater treatment or collection facilities or expansion of existing	Less	Equal	Equal	Equal	Equal

5.0 ALTERNATIVES TO THE PROPOSED PROJECT

<i>ENVIRONMENTAL IMPACT</i>	<i>NO BUILD ALTERNATIVE</i>	<i>WITH BRIDGE ALTERNATIVE</i>	<i>GENERAL PLAN 2035 ALTERNATIVE</i>	<i>REDUCED PROJECT ALTERNATIVE</i>	<i>REDUCED INTENSITY/DENSITY ALTERNATIVE</i>
facilities, the construction of which could cause significant environmental effects					
Impact 3.14-4: The proposed Project has the potential to require construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	Less	Equal	Equal	Equal	Equal
Impact 3.14-5: The proposed Project has the potential to have insufficient water supplies available to serve the project from existing entitlements and resources	Less	Greater	Greater	Less	Less
Impact 3.14-6: The proposed Project has the potential to require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	Less	Equal	Equal	Equal	Equal
Impact 3.14-7: The proposed Project has the potential to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and comply with federal, State, and local statutes and regulations related to solid waste	Less	Slightly Less	Greater	Less	Slightly Less
CUMULATIVE IMPACTS					
Impact 4.1: The proposed Project may result in cumulative damage to scenic resources within a State Scenic Highway.	Less	Equal	Equal	Equal	Equal
Impact 4.2: The proposed Project would result in cumulative degradation of the existing visual character of the region.	Less	Equal	Equal	Slightly Less	Equal

ALTERNATIVES TO THE PROPOSED PROJECT

5.0

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Impact 4.3: The proposed Project may result in cumulative impacts related to light and glare.	Less	Equal	Equal	Slightly Less	Equal
Impact 4.4: The proposed Project would result in cumulative impacts on agricultural and forest resources.	Less	Equal	Equal	Slightly Less	Equal
Impact 4.5: The proposed Project would result in cumulative impacts on the region's air quality.	Less	Less	Greater	Less	Less
Impact 4.6: The proposed Project may result in cumulative loss of biological resources, including habitats and special status species.	Less	Equal	Equal	Equal	Equal
Impact 4.7: The proposed Project may result in cumulative impacts on known and undiscovered cultural or tribal resources.	Less	Equal	Equal	Slightly Less	Equal
Impact 4.8: The proposed Project may result in cumulative impacts on geologic and soils resources.	Less	Equal	Equal	Equal	Equal
Impact 4.9: The proposed Project may result in cumulative impacts related to climate change from increased Project-related greenhouse gas emissions.	Less	Less	Greater	Less	Less
Impact 4.10: The proposed Project may result in cumulative impacts related to hazards and hazardous materials.	Less	Equal	Equal	Equal	Equal
Impact 4.11: The proposed Project may result in cumulative increases in peak stormwater runoff from the Project site.	Less	Greater	Greater	Slightly Less	Equal

5.0 ALTERNATIVES TO THE PROPOSED PROJECT

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Impact 4.12: The proposed Project may result in cumulative impacts related to degradation of water quality.	Less	Greater	Greater	Slightly Less	Equal
Impact 4.13: The proposed Project may result in cumulative impacts related to degradation of groundwater supply or recharge.	Less	Slightly Less	Greater	Slightly Less	Slightly Less
Impact 4.14: The proposed Project may result in cumulative impacts related to flooding.	Less	Equal	Equal	Equal	Equal
Impact 4.15: The proposed Project may result in cumulative impacts to communities and local land uses.	Less	Equal	Equal	Equal	Equal
Impact 4.16: The proposed Project may result in cumulative impacts on population and housing.	Less	Slightly Less	Greater	Slightly Less	Slightly Less
Impact 4.17: The proposed Project may result in cumulative exposure of existing and future noise-sensitive land uses to increased noise resulting from cumulative development.	Less	Equal	Greater	Slightly Greater	Slightly Greater
Impact 4.18: The proposed Project may result in cumulative impacts on public services and recreation.	Less	Equal	Equal	Equal	Equal
Impact 4.19: Under Cumulative Plus Project conditions, the proposed Project may result in a significant impact at the Eight Mile Road & Lower Sacramento Road intersection.	Less	Less	Greater	Less	Less
Impact 4.20: Under Cumulative Plus Project conditions, the proposed Project would result in a significant impact at the West Lane & Armstrong Road intersection.	Less	Less	Greater	Less	Less

ALTERNATIVES TO THE PROPOSED PROJECT

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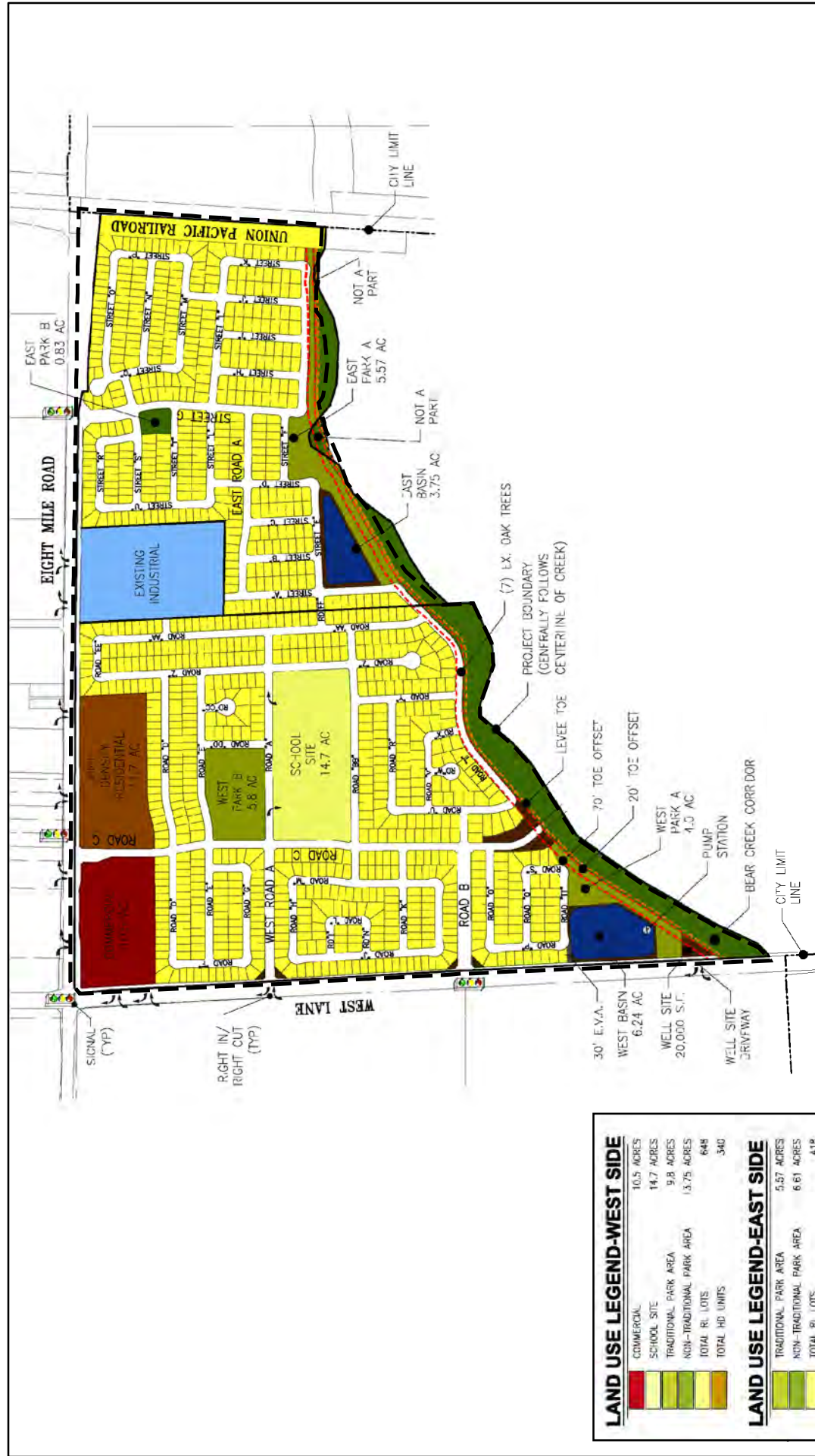
<i>ENVIRONMENTAL IMPACT</i>	<i>NO BUILD ALTERNATIVE</i>	<i>WITH BRIDGE ALTERNATIVE</i>	<i>GENERAL PLAN 2035 ALTERNATIVE</i>	<i>REDUCED PROJECT ALTERNATIVE</i>	<i>REDUCED INTENSITY/DENSITY ALTERNATIVE</i>
Impact 4.21: Impacts related to roadway segment levels of service under Cumulative Plus Project Conditions.	Less	Less	Greater	Less	Less
Impact 4.22: Impacts related to ramp junction levels of service under Cumulative Plus Project Conditions.	Less	Less	Greater	Less	Less
Impact 4.23: Impacts related to traffic queuing and intersection spacing under Cumulative Plus Project conditions.	N/A	Equal	N/A	N/A	N/A
Impact 4.24: The proposed Project may result in cumulative impacts on wastewater utilities.	Less	Equal	Equal	Equal	Equal
Impact 4.25: The proposed Project may result in cumulative impacts on water utilities.	Less	Slightly Less	Greater	Less	Equal
Impact 4.26: The proposed Project may result in cumulative impacts on stormwater facilities.	Less	Equal	Equal	Equal	Equal
Impact 4.27: The proposed Project may result in cumulative impacts on solid waste facilities.	Less	Slightly Less	Greater	Less	Less

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT

LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT

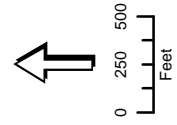
EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT

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TRA VIGNE

Figure 5-1: With Bridge and School
Alternative Site Plan



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